**Summary of Discussions of the**

**Ninth Meeting of the**

**Cross Polar Trans East Air Traffic Management Providers Working Group**

**(CPWG/9)**

**28-30 April 2010 – Montreal, Canada**

# **Background**

## The Ninth Meeting of the Cross Polar Trans East Air Traffic Management Providers Working Group (CPWG/9) was held at the Fairmont, The Queen Elizabeth Hotel in Montreal, Canada from 28-30 April 2010. 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 and Russian Trans East (RTE) routes.

## Leah Moebius, Federal Aviation Administration (FAA), facilitated the meeting. Forty-four participants attended, representing the air navigation service providers (ANSPs) from Canada, Iceland, Japan, Norway, Russia, and the United States; the International Air Transport Association (IATA); international airlines and industry. A list of participants is at **Appendix A**.

# **Welcome and Opening Remarks**

1. Leah Moebius opened the meeting by thanking NAV CANADA for hosting this meeting. She welcomed all participants and welcomed the representatives from the Japan Civil Aviation Bureau (JCAB). Self –introductions were made by all attendees.
2. Butch March, NAV CANADA, also welcomed participants and invited them to join him at a hosted dinner at the hotel’s Beaver Club on Wednesday evening, 28 April.

# **Agenda Item 1: Review and approve agenda**

1. Leah proposed the following meeting agenda, noting that adjustments would be made as necessary to accommodate the needs of meeting participants.

Agenda Item 1: Review and approve agenda

Agenda Item 2: Administrative Matters (CPWG/8 Report)

Agenda Item 3: Summary of Pertinent Issues from the ANSPs Meetings

Agenda Item 4: Provide Status on CPWG/8 Actions

Agenda Item 5: 2010-2011 Cross Polar Work Program

Agenda Item 6: Communications, Navigation, Surveillance (CNS) and Air Traffic Management (ATM) issues

Agenda Item 7: Other Business

Agenda Item 8: Next meetings

1. The agenda and proposed timetable were approved by the meeting.

# **Agenda Item 2: Administrative Matters (CPWG/8 Report)**

1. The Summary of Discussions from CPWG/8 was accepted without change. It was noted during the course of the meeting, however, that an Action Item was needed to address the discussions summarized in the Summary of Discussions from CPWG/8, paragraph 6.99. A new Action Item CP09-01 was developed in this regard.
2. CPWG/9 considered 17 working papers and 11 information papers which are listed below. All working and information papers, as well as presentations made during the meeting would be available following the meeting on the CPWG web site: <http://www.faa.gov/about/office_org/headquarters_offices/ato/service_units/enroute/oceanic/cross_polar/>

| **IP/ WP** | **Agenda Item** | **Action Item** | **Title** | **Presented by** |
| --- | --- | --- | --- | --- |
| WP/01 | 1 |  | Proposed Meeting Agenda and Timetable | FAA |
| WP/02 | 4 | CP03-30 | Implementation of RNP 10 in the Anchorage Arctic Flight Information Region | FAA |
| WP/03 | 5 |  | Review and Update of CPWG Planning Chart | FAA |
| WP/04 | 4 | CP06-01 | Global Interface Control Document (ICD) | FAA |
| WP/05 |  |  | WITHDRAWN |  |
| WP/06 | 4 | CP01-18 | Managing Gateway Reservation List Compliance | FAA |
| WP/07 | 6 |  | Integrating Space Weather Observations and Forecasts into Aviation Operations | Space Weather SG |
| WP/08 | 4 | CP08-12 | Status of Restrictions within the Anchorage Flight Information Region | FAA |
| WP/09 | 4 |  | CPWG/8 Action Item List | FAA |
| WP/10 | 4 | CP02-27 | Air Traffic Management Operational Contingency Plan | FAA |
| WP/11 | 4 | CP08-13 | Cruise Climb Procedures Trial with NAV CANADA | Emirates/IATA |
| WP/12 | 6 |  | Transition between Polar Routes within Russia | United/IATA |
| WP/13 | 4 | CP08-08 | New Russian Entry and Exit Points West of Bamok | United/IATA |
| WP/14 | 4 | CP05-42 | Optional Routing from ORVIT to JAPAN | Continental/IATA |
| WP/15 | 4 | CP08-03 | Proposed Cross Polar Working Group ATS Route Catalog | State ATM |
| WP/16 | 4 | CP05-38 | Mixed Fleet Capabilities | IATA |
| WP/17 | 4 | CP06-12 | Tactical Re-Routes prior to Entering Russian Airspace | United/IATA |
| WP/18 | 4 |  | Proposal For Reducing Longitudinal Separation On B932 | JCAB |
| IP/01 | 1 |  | List of Papers | FAA |
| IP/02 | 2 |  | Summary of Discussions from CPWG/8 | FAA |
| IP/03 | 4 | CP08-05 | Reduction of Restrictions for Aircraft Filing via PILUN OR LISKI | FAA |
| IP/04 | 7 |  | Development of a Global Air Traffic Flow Management Manual | FAA |
| IP/05 | 4 | CP08-07 | Current Status of DOTS+ | FAA |
| IP/06 | 4 | CP08-02 | Implementation of Volcanic Ash Operational Teleconferences (TELCONS) between State ATM Corporation of Russia and FAA ATCSCC | State ATM and FAA |
| IP/07 | 4 | CP05-44 | Route Development and Coordination with China | IATA |
| IP/08 | 4 | CP08-10 | Pacific Project | IATA |
| IP/09 | 4 | CP01-15B | Communication Issues between Anchorage ARTCC and Russian ACCs | State ATM |
| IP/10 | 4 | CP01-02 | Reduced Vertical Separation Minimum Implementation in Russia and the Commonwealth of Independent States | State ATM |
| IP/11 | 4 | CP02-27 | Implement Operational Planning Teleconference Between FAA Air Traffic Control System Command Center And JCAB Air Traffic Management Center | JCAB |

# **Agenda Item 3: Summary of Pertinent Issues from the ANSPs Meetings**

1. The meeting was informed that the ANSPs had met on 27 April 2010 in preparation for the plenary meeting. Details of the discussions would be provided under the applicable action items.
2. The ANSPs had agreed that Agenda Item 4 discussions would be structured to follow the CPWG Capacity Enhancement Goals: Administration, Reduce Separation Standards, Improve Communication, and Improve Efficiencies in order to provide better continuity.

# **Agenda Item 4: Provide Status on CPWG/8 Actions**

Administration

*CP1-08C: Status of FAA/State ATM Agreement*

1. The FAA had agreed to the recent comments submitted by State ATM, and the agreement was expected to be signed this week, after which it would be forwarded for final signature by State ATM.

*CP06-11: Statistics on Time/Fuel Savings*

1. IATA provided information regarding their Distance/Time Calculator. The calculator serves as a means for measuring fuel and was based on data provided by Airbus and Boeing. It allows the user to select a phase of flight, fuel flow per minute or nautical mile (NM), pounds or kilograms, and the fuel price. Given that information, the calculator determines the fuel savings for a particular reduction in time or distance. It is also possible to calculate the fuel penalties for being above or below an optimal flight level using this tool. Although the calculator only provides an approximate figure, it would still be useful. IATA offered to make the calculator available to interested members of the group; however they requested that it not be posted on any public web site.
2. Anchorage Air Route Traffic Control Center (ZAN) expressed appreciation for the tool which would be helpful to raise controller awareness of how fuel and emissions are affected by even a brief delay.

*CP08-11: TRASAS/3 Update*

1. The meeting was advised that the Third Meeting of the Trans-Regional Airspace and Supporting ATM Systems Steering Group (TRASAS/3) had been rescheduled to 19-20 October 2010 at the International Civil Aviation Organization (ICAO) European and North Atlantic (EUR/NAT) Office in Paris, France. The official invitation was expected to be sent soon.

Reduce Separation Standards

*CP1-02: Reduced Vertical Separation Minimum (RVSM) in the Russian Oceanic Flight Information Regions (FIRs)*

1. State ATM updated the meeting on the progress toward RVSM implementation in Russia, the Central Asia States and Mongolia on 17 November 2011.
2. The Second Meeting of the Task Force on RVSM Implementation in the Eastern Part of the ICAO EUR Region (EURASIA RVSM TF/2) met in December 2009 in Paris. The task force developed a single master plan for RVSM implementation in EURASIA (Afghanistan, Kazakhstan, Kyrgyzstan, Mongolia, the Russian Federation, Tajikistan, Turkmenistan and Uzbekistan).
3. An RVSM workshop was held on 4-5 February 2010 in St. Petersburg, Russia. The workshop, arranged by ICAO, provided assistance and guidance to directors of ATM services on RVSM implementation in Russia. The workshop reviewed issues pertaining to personnel RVSM training, learning from the RVSM operational experience in Kaliningrad Area Control Centre (ACC), facets of the ICAO EURASIA master plan as well as details of RVSM implementation in Russia.
4. The Russian Federation was accomplishing the following actions:
5. Proposed Government Decree “On RVSM implementation in the airspace of the Russian Federation” was developed and undergoing internal coordination;
6. There is a continued modernization effort in the framework of the Government-approved ATM modernization program set until year 2015;
7. RVSM training for ATC personnel will be conducted in certified international training institutions;
8. 481 of 968 aircraft registered in Civil Aircraft Registry of the Russian Federation have been approved for RVSM; and
9. The Russian industry continues fitting additional number of aircraft with necessary RVSM equipment.
10. The proposed RVSM flight level table for the Russian Federation was provided. ATC will assign flight levels, which will eliminate the need for transition from feet to meters.
11. The United States (US) Air Force reported that Afghanistan was planning to implement RVSM in October 2011.

*CP03-30: Standardize Polar Region Separation Standards*

1. FAA reported that the implementation of 50 nautical mile (NM) lateral separation between aircraft authorized for required navigation performance (RNP) 10 operations in the Anchorage Arctic FIR was on schedule for implementation on 18 November 2010. NAV CANADA advised that their risk analysis has been completed; however, the implementation date may be challenging due to the implementation of the Canadian Automated Air Traffic System (CAATS) at Edmonton ACC a few days later. NAV CANADA agreed to coordinate the delays with the FAA in order that arrangements for the implementation could be finalized.
2. The airlines would like further reduced separation applied between targets of opportunity with RNP 4 approval; however, ZAN does not have approval to reduce separation below 50NM at this time. Application of separation based RNP 4 would also be subject to constraints of the satellites north of 82N. The Ocean21 automation system could accommodate further reductions in separation, but the FAA would need to complete safety risk management studies and make necessary software changes prior to gaining approval. Once approval was given, operational implementation would take a minimum of 18 months. It was also noted that 50NM distance based longitudinal separation would be of limited value without adjacent FIRs being able to apply the same standard. NAV CANADA/CAATS will apply a time based standard only (not a distance based standard) until CPDLC is implemented at a later date.

*CP05-38: Mixed environment, capabilities & benefits to be gained*

1. IATA provided status regarding their survey on mixed fleet operations. During the first phase of the survey, they had received a limited response with about 28 airlines responding. The second phase of the survey collection was in progress, and results were expected from about 50 airlines, which comprised approximately 50 percent of the global traffic flows, by late August 2010. IATA will provide the results to CPWG/10.
2. IATA also presented an overview of an in-house scheduling tool that includes a six-month data base of all scheduled flights by region. The data can be sorted in a variety of ways by using an Excel spreadsheet. The data had been used in West Atlantic Route System (WATRS) RNP10 study.
3. JCAB advised the meeting that the Asia Pacific Air Navigation Planning and Implementation Regional Group (APANPIRG) concluded last year to survey RNP 4 aircraft equipage and approvals because some airlines had not contracted with IATA. The survey was expected to be completed by end of 2010, with the data available next year. IATA noted that several surveys of RNP 4 were ongoing, including one through the ICAO EUR/NAT Office Traffic Forecasting Group. The elimination of older aircraft has changed the statistics. In addition, there were cases in which aircraft were capable of RNP 4, but the operator or State of Registry had not completed the approval process.
4. State ATM, FAA and JCAB have been working cooperatively to improve and realign ATS route B932 including the provision of 24 hour usage and bi-directional traffic. Agreement had been reached among the ANSPs to reduce the longitudinal separation standard on B932 from 15 minutes to 10 minutes. However, the longitudinal separation on B932 between Sapporo ACC and Yuzhno-Sakhalinsk ACC was still 15 minutes, whereas 10 minutes longitudinal separation was applied between the State ATM and FAA.
5. JCAB provided information to the meeting on a proposal for reducing longitudinal separation on B932. JCAB proposed to apply 10 minutes longitudinal separation on B932 between Sapporo ACC and Yuzhno-Sakhalinsk ACC. State ATM expressed their willingness to work toward reducing separation to 10 minutes, and agreed to try to coordinate a bilateral meeting between the two ANSPs in the near future. This was a matter between JCAB and State ATM, but was of interest to the CPWG.

Improve Communications

*CP01-15B: Automated flight data exchange between ZAN and Magadan ACC*

*CP01-15C: Automated flight data exchange between ZAN and Edmonton ACC*

*CP06-01: Harmonized flight data exchange between facilities*

1. State ATM reported that they had completed installation of the automation system at Magadan ACC. The system will be operational in August 2010, and the decision is firm that they will use On-Line Data Interchange (OLDI), which is the standard data exchange protocol used in Europe.
2. ZAN advised that their facility has two automation systems, and neither would currently support the OLDI protocol to be used by Magadan ACC. ZAN already uses the North American (NAM) Interface Control Document (ICD) and the Pacific ICD depending on the adjacent ANSP. This creates additional workload and the need for additional controller training. ISAVIA reported that they use both OLDI and the NAT ICD. Avinor only uses OLDI, but will be adding the NAT ICD once their automation system is updated. FAA Headquarters had asked ZAN to prepare an engineering paper for consideration in making the decision whether to implement OLDI. FAA agreed to provide an update on the FAA position on OLDI at CPWG/10.
3. FAA solicited comments on a consolidated draft Global ICD for the North Atlantic and Asia/Pacific Regions, which would provide for harmonized Air Traffic Service Interfacility Data Communications (AIDC). The Global ICD was developed to preserve the common base standard set out in the ICAO Automatic Dependent Surveillance (ADS) Panel Guidance Material, while allowing for regional differences as required. This draft document had been presented to the NAT CNS Group in March 2010, with members asked to comment by June 2010. Similarly, the CPWG was asked to review and comment on the draft by 30 June. Questions and comments should be submitted to Karen Chiodini, e-mail: [Karen.L.Chiodini@faa.gov](mailto:Karen.L.Chiodini@faa.gov).
4. State ATM reported that work had been done to establish a communication circuit between ZAN and ACCs at Anadyr, Magadan and Petropavlovsk-Kamchatsky (PK) in the RFE. The communications were arranged via a telecommunications satellite. In order to make extensive use of the circuit between Anchorage and ACCs in the Russian Far East, the Federal Air Transport Authority (FATA) suggested discussing the following items:
5. Arrange a message exchange via the aeronautical fixed telecommunication network (AFTN). In order to implement AFTN messaging, the Russian ACCs at Anadyr, Magadan and PK and Anchorage ARTCC must be fitted with end-user equipment.
6. Arrange an automated OLDI exchange. The Russian ACCs at Anadyr, Magadan and PK and Anchorage ARTCC must be fitted with end-user equipment.
7. Include Murmansk ACC into the communication plan. The necessary equipment was installed and ready for operation in Murmansk ACC.
8. Establish connection between Magadan ACC and the ARINC CNS/ATM Gateway in Annapolis.
9. FAA noted that once the agreement is signed, the new communications circuit would provide more reliable voice communication between ZAN and Russian ACCs. The features suggested by FATA would be additional changes requiring bilateral technical meetings and negotiation. There is provision in the agreement to hold periodic meetings for these purposes, and a meeting was already being planned between experts for the second half of 2010.
10. The meeting agreed to continue to work all matters related to automated flight data exchange through Action Item CP06-01, and to close Action Items CP01-15B and CP01-15C.

*CP03-29: High Frequency Air-Ground Data Link (HFDL)*

1. ZAN provided an update on the Oakland Air Route Traffic Control Center (ZOA) HFDL trial. The trial had been temporarily suspended while ZOA resolved some automation problems. FAA will update at CPWG/10.

*CP06-13: Lost Communication Procedures*

1. The proposed amendment to the North American (NAM) lost communication procedures agreed at the last meeting had been submitted to the ICAO North American, Central American and Caribbean (NACC) Regional Office in Mexico City. ICAO had replied with suggested changes, which were reviewed by the meeting. All ANSPs concurred with the changes as proposed by ICAO. One question was raised regarding paragraph 9.3.2. The new proposed wording was “squawk 7600; in appropriate Mode A and/or ADS-B emergency and/or urgency mode…” It was suggested that ADS-C should also be included. FAA will respond to ICAO, and include the proposal to add ADS-C. An update will be provided to CPWG/10.

*CP07-03: Improve Communications N. of 80° North*

1. Dave Rose, Chairman of the Comm North of 80N Task Force, advised the meeting that a Task Force meeting was held in January 2010 to prepare for TRASAS/3. Since the TRASAS/3 meeting had been postponed, preparation had not been completed; however, now that the meeting was rescheduled, it would be necessary to resume work. The Task Force will develop a more substantial report including the information provided to recent CPWG meetings and updates on various available satellite systems. Future work of the Task Force will be accomplished in a collaborative mode using the FAA Knowledge Sharing Network (KSN) web site in lieu of telephone conference calls due to the time zone spread.
2. ANSPs and airlines were urged to nominate appropriate communications experts by 31 May 2010 to Dave Rose, e-mail: [rosed@navcanada.ca](mailto:rosed@navcanada.ca) and copy Leslie McCormick, e-mail: [LMcCormick@cssiinc.com](mailto:LMcCormick@cssiinc.com).
3. The Canadian Space Agency (CSA) presented information on polar communication and weather issues. CSA’s mission objectives are to provide reliable communications and navigation services north of 60N, provide high temporal/spatial resolution meteorological data north of 50N and to monitor space weather. In addition, they will have the capability to provide broadband communications services, Global Navigation and Surveillance Satellite (GNSS) augmentation, ATM communications, weather/climate monitoring and volcanic ash detection/monitoring. They plan to have two satellites in a Highly Elliptical Orbit (HEO) with 24/7 two-way data rate.
4. CSA completed the mission requirements review in Feb 2010. They plan to launch the first satellite in August 2016 and the second in November 2016 in order to be operational in January 2017. The ATM capabilities supported are Europe-driven; the system will be compatible with the European Geostationary Navigation Overlay Service (EGNOS) and will be paid for by European Space Agency and European Commission. It was noted that there are some compatibility issues with US satellite systems.
5. During the ANSPs Meeting, NAV CANADA indicated that they had not yet made a decision to use the CSA satellites, and that further information for short, medium and long term options needed to be collected and analyzed by the Comm North of 80N Task Force.

Improve Efficiencies

*CP01-18: Manage Gateway Reservation List (GRL) Compliance*

1. FAA reminded the airlines that they should be following the procedures in the *Track Advisory User’s Guide for Dispatchers*. ZAN Traffic Management Unit (TMU) is responsible for conflict resolution on the RTE routes for boundary fixes PILUN and south, and could be reached by phone at +1 907-269-1840; the FAA Air Traffic Control System Command Center (ATCSCC) manages the cross-polar routes and could be reached by phone at +1 703-925-5312. Operators were asked to brief dispatchers and flight crews on the new procedures, and emphasize that the GRL is a tool used to assist dispatchers in their flight planning and to provide air traffic facilities early intent information.
2. In regard to updating the GRL data, it should be understood that if operators update the information, the ANSPs will be better able to manage the traffic flows.  When necessary, NAV CANADA TMU West coordinates with the ATCSCC and other ATC facilities to determine an appropriate conflict resolution decision(s). NAV CANADA identified conflicting wording in the FAA’s presentation on Managing Gateway Reservation List Compliance. Although, Article 2.1a (2) states that the GRL does not offer or establish priority, Edmonton ACC does consider the GRL in their decision process for “tie breaking”, therefore, flights that are on time will normally be given altitude priority (Article 2.2). Overall, data was available to show that a 95 percent of flights were getting their requested altitude at the FIR boundary fixes.
3. ZAN will coordinate with NAV CANADA to ensure that accurate information is published in a revision to the Track Advisory Users Guide.
4. ZAN reported on the 60 day trial to reduce the 20 minute track load requirement for RTE fixes FRENK, KUTAL, VALDA, and ERNIK to 10 minutes. Staffing issues had been a concern, particularly on the midnight shifts. Once the trial is complete, they will hold discussions with the other ANSPs and assess the outcome. It may be necessary to increase the track loading, possibly to 15 minutes. An update will be provided to CPWG/10. United Airlines thanked ZAN for implementing the trial.

*CP04-31: Implement use of radar procedures between Magadan ACC and Anchorage ARTCC*

1. State ATM advised the meeting that it had been necessary to revise the target date for Providenia Radar Coverage to 2012 due to financial issues. A further update will be provided to the next meeting.

*CP04-35: Update on Form “R”*

1. State ATM reported that work was still underway by FATA. Changes would be published in the aeronautical information publication (AIP); however, no target date had been set for publication.

*CP05-42: Focal Point for Airline Route Proposals*

1. IATA reminded the meeting of the discussions from CPWG/8 and confirmed that they would consider airline route proposals through their Regional Coordinating Groups. At the request of IATA, the meeting agreed to close this action item.
2. Continental Airlines proposed that the Russian Federation consider a new optional routing from ORVIT to Japan. They have used Polar 4 or the routing ORVIT.G494.LURET.B933.ODEPI.B223. LUMIN approximately 164 times for their New York to Tokyo flight. It was noted that the shortest route is not always the most efficient when prevailing winds are taken into account. State ATM agreed to consider the proposal and reply in due course. A new Action Item CP09-02 was opened to reflect this.

*CP05-44: Route Development and Coordination with China*

1. IATA updated the meeting on their continuing discussions with the Chinese Air Traffic Management Bureau (ATMB) to improve routes into and out of Chinese airspace. They have proposed 12 entry/exit points that would add flexibility for daily operations. IATA will report on the progress to the next meeting.
2. State ATM reported that they met with ATMB in Beijing in September 2009. Updates on route proposals, as well as an additional RFE entry/exit fix were requested, and a target date of late 2009/early 2010 was set; however, no further information regarding implementation had been received from ATMB.
3. CPWG will continue to invite China to participate in meetings. The importance of TRASAS was also emphasized as a means to encourage China to improve their route system.

*CP06-02: Ocean 21/Arctic FIR*

1. ZAN updated the meeting on the status of the Ocean21 automation system. It was hoped that Ocean 21 could be expanded to cover more airspace, but there were a number of issues yet to resolve. An update will be provided to CPWG/10.
2. There have been reports of problems with the Russian logon transferring to PAZA. In some cases this is a result of a lack of communications between the systems. It was noted that transfer would be lost north of 82N due to satellites. If the transfer is done 30 minutes before the FIR boundary, it might be possible to transfer before losing satellite coverage. The Comm North of 80N Task Force will consider this issue.
3. A discussion was held regarding controller pilot data link communication (CPDLC) processing, which begins with an ATS Facilities Notification (AFN) logon. The IATA address for PAZA is ANCXFXA. ATC clearances automatically update the flight profile, and position reports automatically update flight times. The controllers do not know by what means (SATCOM, HF or VHF) that a CPDLC message is being transmitted. PAZA does provide address forwarding of the AFN logon; once the Russian FIRs and Edmonton ACC begin to use CPDLC, this automated feature will be used.

*CP06-12: Tactical Reroutes Prior to Entering Russian Airspace*

1. United Airlines advised the meeting that a paper trial for tactical reroutes was conducted on 7 April 2010 between United Airlines, ZAN TMU, and the Russian Main Air Traffic Management Center (MATMC). The paper trial was based on UAL803, a B777-200ER operating from Washington Dulles (KIAD) Airport to Tokyo Narita (RJAA) Airport. The following procedures were established:
2. This would be a paper test only and no aircraft would be rerouted.
3. Approximately one hour prior to crossing ERNIK, United Airlines Flight Dispatch would simulate having a SATCOM discussion with UAL803 and a desire to make a tactical reroute to another Russian entry fix and ATS route.
4. United Dispatch would call the ZAN TMU to discuss route concerns and obtain their opinion of reroute options.
5. United Dispatch would send a SITA message to the MATMC (MOWYWYA) with a “TEST ONLY” FPL of the new route, requesting approval for tactical reroute.
6. United Dispatch would make a direct telephone call to the MATMC Duty Officer (7 495 601 0776) to confirm that the SITA message had been received.
7. After checking with various ACCs, MATMC would send a SITA response when approval was obtained to United Dispatch.
8. United Dispatch would call ZAN TMU and confirm the approval from MATMC and their desire to reroute to FRENK.
9. United Dispatch would advise UAL803 to accept the tactical reroute and the release would be amended.
10. A new FPL would be sent to PAZAZQ and MATFMC AFTN address and the appropriate Japanese FIR addresses for UAL803.
11. The test was initiated at approximately 2300 UTC with the United Dispatcher contacting ZAN TMU regarding flight UAL803. After some discussion, the reroute request to FRENK was agreed. The Dispatcher sent a SITA message to MATMC and followed this up with a direct phone call. The approval came back via SITA message 12 minutes after the initial test reroute message was sent by the dispatcher. The dispatcher called the ZAN TMU to confirm approval.
12. In summary, this process would have worked for an actual tactical reroute, although it would be somewhat labor intensive and time consuming. AIDC may in fact alleviate most of this process, and reduce the transfer of control time. The process to tactically reroute flights into Russian airspace could be accomplished with some modification to the paper trial procedures used on 7 April. The goal would be to simplify the procedure and eliminate most of the labor intensive process, while still pre-coordinating with the MATMC for the reroute approvals.
13. United Airlines thanked the Russian delegation for supporting the paper trial.
14. ZAN commented that the tactical reroute trial went smoothly from their viewpoint. They would like to hold additional paper trials before implementation. It was noted that these procedures had been working successfully between ZAN and JCAB for many years.
15. State ATM also stated that the paper trial went smoothly and agreed that further trials should be conducted before putting the procedure into practice. It would be necessary to determine the process for live situations and determine the timelines for notifying field facilities.
16. IATA raised a concern that some airlines do not have dispatch and rely on the pilot to serve that function. The procedure could be much more difficult without dispatch, and consideration would need to be given to workable procedures.
17. It was agreed that additional paper trials would be conducted and the outcomes would be presented to the next meeting.

*CP07-02: Additional Entry/Exit Fixes on FIR boundaries*

1. State ATM proposed the following boundary fixes on the cross polar routes:
2. 8630.0N 16858.6W
3. 8530.0N 16858.6W
4. 8330.0N 16858.6W or 8230.0N 16858.6W
5. 7600.0N 16858.6W
6. 7300.0N 16858.6W
7. NIKIN (8100.0N 16858.6W) keep the existing latitude/longitude coordinates (lat/long)
8. LISKI (7000.0N 16858.6W) keep the existing lat/long
9. They also proposed new fixes on the RTE routes:
10. NUZAN – 5141.4N 16140.1E – RIMLI
11. NYMPH - 5312.1N 16637.2E – RIMLI
12. 5005.2N 15900.8E - 4947.6N 15355.4E
13. NIPPI - 4947.6N 15355.4E
14. State ATM would transition aircraft from feet to meters over these fixes until RVSM is implemented in Russian airspace. ZAN and the airlines requested further details on the proposed fixes as well as information as to whether associated ATS routes would be one-way or bidirectional. State ATM noted that the fixes were more than 60NM apart, so they could be used for the implementation of 30NM lateral separation in the future.

*CP07-06: Update on new Routes South of ABERI*

1. State ATM reported that new ATS routes R706 and R705 would be implemented 1 Jul 2010. Further details would be provided to all participants via e-mail as soon as possible.

*CP08-03: Establish ATS Route Catalog*

1. CPWG/8 had agreed that an ATS Route Catalog would be a useful resource for the ANSPs in the Polar Region to manage the route proposals submitted by IATA. The catalog would be a living document updated from meeting to meeting. Each ANSP would be expected to identify a point of contact to maintain the catalog by adding proposed routes within their airspace. Once proposed routes were implemented, they would remain in the catalog until the next meeting when they would be deleted. Route proposals that had not been implemented would be published along with the reasons for disapproval. This would preclude repeat proposals. A proposed format was presented to the meeting by State ATM for consideration. The FAA suggested that the document could be made available on the interactive CPWG KSN web site.
2. NAV CANADA, ISAVIA and Avinor reported that they accept random routings using lat/long, so no published routes were required. IATA supported this and reminded the meeting that CPWG should be thinking less of published routes and more toward flexible use of airspace.
3. IATA suggested that the catalog could include two sections: one that would be routes proposed by the airlines, and a second that would include routes proposed by the ANSPs. IATA would coordinate the airline requirements and submit proposals to the appropriate ANSP for inclusion.
4. Because it would be important to continuously review the catalog to be sure that it reflected the current requirements of users and ANSPs, the meeting agreed to make this a standing agenda item at each CPWG meeting. During this agenda item, each ANSP would provide updates on open proposals. Any further comments regarding the format of the ATS Route Catalog should be submitted to Alexey Buevich, e-mail: [matcc@aviacom.ru](mailto:matcc@aviacom.ru).

*CP08-05: Modify Restrictions for PILUN and LISKI*

1. ZAN notified the meeting that several events were underway that would help maintain separation of LISKI and PILUN traffic, and reduce or eliminate the corresponding restrictions. As of 1 April 2010 the following NOTAMed restrictions were in place for westbound traffic:
2. Aircraft filed over PILUN must cross 141W at or north of TAYTA and cross 157W at or north of 72N
3. Aircraft filed over LISKI must cross 141W at or south of VOLOB and cross 157W at or south of 7030N
4. NCA32 is closed
5. Eastbound traffic using these fixes has the same 157W restriction as westbound traffic, but no 141W crossing restriction.
6. For westbound traffic, ZAN hopes to reduce the 141W crossing restrictions, reduce or eliminate the 157W crossing restrictions, and reopen NCA32. For eastbound traffic, ZAN plans to reduce the 157W crossing restriction. Specific reductions will be delineated at the conclusion of negotiations with Magadan ACC, and upon the implementation of RNP 10 in the Arctic.
7. ZAN has negotiated with Gander Radio to change their letter of agreement (LOA) so that ZAN receives reports of 141W, in addition to improving the LOA with Edmonton ACC. The international NOTAM has been modified to request that reports go to Gander or SFO ARINC, and charts will also be amended. As a result, ZAN reported that there have been fewer complaints from controllers and better compliance from pilots.
8. During the CPWG/8 meeting, FAA had agreed to issue a Safety Alert for Operations (SAFO) reminding pilots of the requirement to report 141W. Following the meeting, FAA determined that this was not appropriate for a SAFO, and other methods of dissemination were identified. The International Federation of Air Line Pilots’ Associations (IFALPA), issued a bulletin to remind crews of the required 141W position report. A trial was conducted with United Airlines and San Francisco ARINC using Barrow Radio. Backup facilities were available even when Barrow frequencies were not available. The communication situation was not considered to be a major problem as long as crews are flexible and know what facilities to contact as backups. CPDLC logon would also help to improve the coordination.
9. The FAA thanked United Airlines for their assistance.

*CP08-06: Additional Connections to Current Airways*

1. Based on discussions during CPWG/8, State ATM agreed to look into a connection directly from KURAK to ODANA or from KURAK to KONIK that might offer more efficiency, and provide an update on this action item at the next meeting.

*CP08-07: Implement Online Track Advisory (OLTA)*

1. During the discussions on Action Item CP01-18, a number of issues were raised relating to the use of OLTA. Those issues are summarized under this action item.
2. Edmonton ACC advised the meeting that they had not been using OLTA as they had been waiting for FAA to provide logon information. The requested information was received at the beginning of April, but they had not yet connected. Continental Airlines stated that they had made efforts to connect to OLTA, but without success. Their dispatchers more often used ABERI due to GRL problems, and Russia was providing service without the GRL. United Airlines felt that the FAA Telecommunications Infrastructure (FTI) was unworkable. UPS did not feel that the support had been as good as it was prior to FAA taking responsibility. Additional information on how to connect to OLTA was requested by all airlines.
3. Airlines that were connected to OLTA indicated that their dispatchers don’t update post-departure data because of concerns that the update would result in changes to their flights’ routes or altitude. In general, the airlines were disillusioned about the GRL, which they had expected to be a good tool to help them maintain situational awareness. In addition, pilots were not getting climbs when they requested them. The airlines would like consistency for both oceanic facilities, and raised questions as to why ZOA was not using OLTA. The FAA agreed to look into this further.
4. The FAA advised the meeting that OLTA was still under an operational demonstration, and not a fully implemented program. ZAN explained that the majority of flights got their GRL or subsequently requested altitude regardless of the traffic density on a given day. The controllers and TMU staff had made every effort to ensure this happened.
5. The FAA presented information on the overall status of the Dynamic Ocean Tracking System Plus (DOTS+) program in view of the upcoming contract expiration with the vendor. The decision had been made that all current program sustainment, maintenance and management would be transferred to the FAA William J. Hughes Technical Center on 1 October 2010. Once the program responsibility is moved to the WJHTC, the issues that many of the airlines had with connectivity with the FTI will be resolved. During the transition, there will not be any disruption or change to the services provided by this program.
6. Following the presentation, a number of further questions were raised regarding the FTI. Specifically, the airlines wanted to know how the FTI issues would be resolved, and whether airlines would have total access to OLTA as of 1 October. They requested a status update prior to the 1 October transition.
7. FAA advised that no changes to DOTS+ or OLTA would be made until after the transition. All questions regarding the transition and OLTA should be directed to Bill Waldron, FAA DOTS+ Program Manager, e-mail: [William.Waldron@faa.gov](mailto:William.Waldron@faa.gov). The airlines were asked to copy [Leah.Moebius@faa.gov](mailto:Leah.Moebius@faa.gov) and [Susan.E.Horn@faa.gov](mailto:Susan.E.Horn@faa.gov) on any correspondence in order that it can be tracked for response prior to CPWG/10.

*CP08-08: Additional Fixes West of BAMOK*

1. United Airlines reported that they are seeing potential benefits from various user preferred route (UPR) scenarios, and suggested the addition of several new entry and exit points along the Petropavlovsk- Kamchatsky, Yuzhno-Sakhalinsk, Anchorage, and Fukuoka FIR boundaries. Russia is unable, due to Russian law, to support UPRs that are dynamic on a day by day operation. By providing additional entry and exit points along these FIR boundaries, operators could take advantage of day to day wind scenarios that closely resemble unrestricted UPR routings. The following proposals were presented:
2. Transition routes from North Pacific (NOPAC) R220 at waypoints NYMPH, NUZAN, and west of NIPPI to join B932 east and west of waypoint RIMLI (N51 42.3 E158 06.8) would optimize access to B932
3. An extension of G215 from OLCOT, at R580, was proposed to join and cross R220 at NUZAN and continue to transition to B932 at RIMLI.
4. A transition from B932 to ATS routes G73 and B915, at Ust Bolsherestsk (N52 49.0 E156 16.0), would support operations onward towards China
5. An extension was also proposed for ATS route G103 from LATEK (N46 56.0 E146 45.4) to join and cross B932 at NETRI (UHSS and UHPP FIR N47 39.3 E150 00.0) and cross NOPAC R220 at a point to be determined west of NIPPI (N49 42.6 E159 20.8) and join ATS route R451 at OGDEN (N49 29.2 E161 02.3). This routing was proposed to be bi-directional with various restrictions on eastbound operations based on traffic and crossing restrictions of NOPAC R220 and R580
6. An addition westbound to transition from B932 at NETRI was proposed to re-join NOPAC R220 at NODAN (N40 25.3 E144 59.8)
7. JCAB noted that the NOPAC routes were very busy and congested. The proposals to cross R220 and R580 were interesting, as the ANSPs are always considering how to improve options. However, if this were to be implemented, capacity would have to be limited. Flexing into the NOPAC should be a topic for the coming Informal Pacific Air Traffic Control Coordination Group (IPACG) meeting in May.
8. The airlines considered that advantages could be gained by going farther west at lower altitudes. Airlines and ANSPs have been encouraged to look at various options to save fuel and reduce emissions. ZAN has been working with JCAB to overcome some of the restrictions. MITRE was conducting a study to look at flexing farther to the west.
9. FAA, State ATM and JCAB agreed to consider the proposals and respond to CPWG/10.
10. United Airlines also proposed to add transitions between the various Polar routes to enable optimization of winds and provide increased efficiency of operations. By adding transitions between the Polar routes, operators would gain significant flexibility in optimizing operations based on day to day winds. Operations between the North American Midwest/East Coast and Asia in both directions would benefit from these transitions. Specific transitions State ATM was asked to consider were:

# DEVID B480

* Transition route from DEVID to join G493 and G491 at GIKSI (N71 41.7 E128 54.0)

# RAMEL G491

* Transition from RAMEL to TAKUN (G226)
* Transition from PETUL to RUTIN (G226)
* Transition from UNELI to HA (G226)

# NIKIN G226

* Transition from NIKIN to UNELI (G491)
* Transition from TAKUN to TIGLA (G491)
* Transition from HA to TETKA (G491)

# ORVIT G494

# Transition from ORVIT to TAKUN (G226)

# Transition from DILSA to RUTIN (G226)

1. State ATM agreed to look into this, taking into consideration their proposal for new entry/exit fixes.

*CP08-09: Expansion of westbound use of FL360*

1. Edmonton ACC presented their perspective on the westbound use of FL360 at RAMEL, which had been very positively accepted by Edmonton controllers because it allowed more options for planning traffic flows. The requirement to climb to FL380 after RAMEL instead of before RAMEL, had been the difference between reaching and not reaching FL380 for some flights.
2. The transitions from FL360 to FL381/11600m were not normally a problem when dispatch filed FL360 over RAMEL, but had been a problem when flights previously planned at FL340 had been tactically moved to FL360. In some cases, these flights were unable to climb higher after RAMEL, resulting in the unplanned use of FL364/11100m (normally an eastbound altitude) when available, or flights at FL360 descending to FL348/10600m and flights below at FL340 descending to FL315/9600m.
3. Edmonton was opposed to combining FL340 and FL360 at RAMEL/NIKIN because FL348/10600m is popular, and would become more crowded. If FL340/FL360 would have been combined, some aircraft would have been pushed down to FL300/FL320, and flights that would usually transition to FL381/11600m would be forced to FL348/10600m, only to climb to FL381/11600m shortly thereafter. This is especially true for B772/B773 aircraft. There would be increased use of FL300/FL320 as a result of flights descending from FL360 to FL340.
4. For these reasons, Edmonton supported the “status quo” in regards to combining FL360 with FL380, and supported the inclusion of NIKIN in the FL360 trial. The awareness of the need for pilots at FL360 to transition to 11,600m was emphasized.
5. State ATM reminded the meeting that once RVSM is implemented, this would all be eliminated. They had included the NIKIN trial in the proposed LOA with ZAN. ZAN will be ready to set an effective date for NIKIN trial with State ATM and Edmonton in the near future. Results of the trial will be briefed to CPWG/10.

*CP08-10: Pacific Project*

1. IATA updated the meeting on the status of the Pacific Project. The objective of the project supports the ICAO Global ATM Concept to integrate and harmonizing gate-to-gate operations. Benefits to be achieved would be related to the length of flight and moving away from fixed route structure, and was expected to show more than two percent savings in fuel and reduced emissions.
2. IATA envisioned all stakeholders participating in a single informal focus group to manage the work. The scope of the project will require a larger structure than CPWG, with the key stakeholders being the airlines and the ANSPs from the US, Japan, Russia, China, Philippines, and the Republic of Korea. IATA intends to invite the expected key stakeholders to a meeting in mid-2010 to formally establish the Pacific Project. IATA was also working with the ICAO Regional Offices for endorsement, and planned to present a paper to TRASAS/3 recommending their endorsement of the project. A brochure has been designed which will be distributed to CPWG members in due course.

*CP08-12: Eliminate restrictions where possible*

1. ZAN presented information regarding restrictions within the Anchorage FIR which detailed the improvements that had been made, the restrictions that still existed, and changes that could be implemented. The presentation highlighted changes to the restrictions for BAMOK, BESAT and RUSOR, and explained that ZAN was unable to reduce restrictions for ORVIT and NIKIN as requested by the airlines. An overview of the 10 minute track loading trial for fixes ERNIK, VALDA, KUTAL and FRENK was provided. Since State ATM has agreed to transition aircraft over PILUN and LISKI, ZAN would review those restrictions, as well as any changes that could be made as a result of the planned RNP 10 implementation. An update on the restrictions will be presented to CPWG/10.

*CP08-13: Conduct trial of step climb procedure*

1. NAV CANADA and Emirates Airlines agreed at the CPWG/8 meeting to conduct a six-month trial and evaluation of cruise climb procedures within the Edmonton FIR. The trial procedure was conducted with flights UAE215 between Dubai and Los Angeles and UAE225 between Dubai and San Francisco. The trial commenced 21 December 2009.
2. NAV CANADA had specified certain procedural requirements concerning the commencement of the climb, the level off altitude, and time to cross a down-line fix. Emirates passed on these requirements to their crews via a crew briefing sheet. Emirates explained that the proposed cruise climb technique provided an optimum fixed rate of climb and a certain number of intermediate altitude steps from initial to final block altitude, which leads the vertical flight profile to remain as close as possible around the optimum flight level. The maximum fuel burn savings are obtained through 400 ft intermediate steps, using a 100 fpm rate of climb between the steps. In this case, fuel savings from 70 kg to 110 kg would be expected, depending on weight, International Standard Atmosphere (ISA) deviation, winds and altitudes.
3. Not all flights took advantage of the procedure. It was also apparent that crew procedures have differed in the manner in which they have executed the cruise climb procedure, resulting in certain techniques not providing optimum savings. Emirates Airlines is reviewing its Standard Operating Procedures (SOP) to ensure all crews are aware of the best method to implement this procedure and obtain the optimum fuel savings.
4. NAV CANADA had no problems with the procedure, and allowed it when possible based on workload. The main concern had been the phraseology “when ready” which was frequently met with questions from the pilot. It was unclear to some pilots whether or not they could start their climbs “now,” could climb at any rate, or if they could level off at intermediate altitudes. Conference calls have been scheduled for May and June to determine how to handle the phraseology issues. NAV CANADA and Emirates agreed to extend the trial for the rest of the year.
5. Emirates also asked ISAVIA to consider a step climb trial, which was agreed. Emirates will modify their procedures based on feedback from Edmonton ACC, but should be ready to start in mid May 2010.
6. United Airlines and Air Canada were also interested in doing a trial through Canadian airspace in the next few months with flights UAL895 and ACA015. NAV CANADA will need sufficient notice to get a waiver, but that was not expected to be a problem. The Emirates trial was agreed to because of the lack of traffic during the time of day that the Emirates flights normally operate through the Edmonton FIR. Edmonton ACC expressed concern that this would have to be considered for additional trials as UAL895 normally flies during a busy time of day.
7. ZAN offered to consider conducting a step climb trial in the NOPAC if the airlines are interested. State ATM also would be interested in participating with cruise climb trials with Emirates. Further discussions would take place following the meeting, with updates to be provided to CPWG/10.

Contingency Plans

*CP02-27: Contingency Response*

1. FAA reminded the meeting that this item had remained open without action for a considerable time. The FAA position was that the CPWG needed to agree to go forward and develop an Air Traffic Management Operational Contingency Plan for the Arctic Area, or remove it from the work program. A plan to deal with catastrophic failures is mandated by Annex 11. A draft table of contents for the plan was developed using the North Atlantic (NAT) Contingency Plan which had already been published. ISAVIA and Avinor would be able to copy material from the NAT plan, and develop plans with other adjacent ACCs. Ultimately, the material developed for the Arctic Region would be incorporated into other regional contingency plans.
2. The ANSPs agreed that the plan needed to be progressed. NAV CANADA planned to have their portion of the plan completed before CPWG/10. State ATM and the FAA agreed to begin work. Each ANSP should submit completed portions of the plan to Susan Horn, e-mail: [Susan.E.Horn@faa.gov](mailto:Susan.E.Horn@faa.gov), who offered to compile the document and present an update for CPWG/10.
3. The FAA and JCAB updated the meeting on the status of current operational teleconferences (telcons) between the Air Traffic Management Center (ATMC) and the Air Traffic Control System Command Center (ATCSCC). The primary objectives of the operational telcon were:
4. to establish good working relationships between the ATCSCC and the ATMC;
5. to gain a better understanding of each facility’s issues and how they affect international flights;
6. to develop a procedure for exchanging information about weather, airport and airspace constraints, volcanic activity, and other unusual events that may affect aviation operations; and
7. to provide the opportunity for airlines to participate as they deem appropriate.
8. Twenty-one practice telcons have been conducted. These telcons have allowed the ATMC and ATCSCC to exchange air traffic flow management (ATFM) information including specific data on rocket/missile launches by Japan, Russia, North Korea and South Korea, and the eruption and ash impacts of the Redoubt volcano in Alaska and Mt. Sarychev in Russia.
9. FAA and JCAB have agreed to investigate the use of the maturing ATFM operational telcons as a means for coordination and quick information sharing between the ATMC, ATCSCC, ZOA and ZAN, and the operators during volcanic, weather, natural disaster, and catastrophic events. The ATMC indicated that adequate preparation would be necessary prior to commencing the international telcons under contingency situations, and agreed to commence these preparations as soon as possible. If a contingency occurs in the near term, ATMC would communicate using the existing hotline with the ATCSCC.
10. JCAB would also like to identify points of contact in Russia in order to coordinate and share information in the case of adverse effects on international traffic flows, especially within the NOPAC area. State ATM agreed to provide contacts to JCAB by e-mail following the meeting. It was noted that the two ANSPs had established a level of cooperation for rocket launches and other events, but they needed to identify a mechanism for coordination.
11. FAA expressed their appreciation to JCAB for their participation in the practice telcons and offered the use of the ATCSCC communications technology to assist in telcons with operators. JCAB looked forward to continuing the good relationship that had been established with the ATCSCC, and expanding their relationships with State ATM.

*CP08-01: Exercise Contingency Plans*

1. ISAVIA provided an update on the search and rescue exercise that will be conducted 19-20 May 2010. Some of the people involved in running the exercise have been involved in the real life volcanic ash events that occurred, but the exercise would be conducted. The aim is to exercise coordination and communication between agencies in Reykjavik, Bodo and Sondrestrom. United Airlines will provide airline support. A report on the outcome of the exercise will be presented to the next meeting.

*CP08-02: Respond to Volcanic Ash Event*

1. Action Item CP08-02 was very timely with the recent Icelandic volcanic activity that seriously affected the NAT/EUR air traffic operations. FAA and ISAVIA presented information on their respective responses to the Icelandic volcano event.
2. The FAA provided a status update regarding the development of operational telcons for the exchange of ATFM information on volcanic ash (VA) cloud mitigation to enhance the cooperation and coordination of ATM activities between State ATM and the FAA. On 15 March 2010, State ATM and the FAA ATCSCC conducted the first practice telcon to gain collaborative experience and expand opportunities for VA impact mitigation. State ATM and the ATCSCC agreed to continue developing this telcon process and have established a monthly practice telcon on the third Monday of each month. As coordination is completed with appropriate agencies, additional participants will be added to this practice telcon process.
3. Comments received from the airlines indicated that the telcons were not beneficial. The FAA and State ATM will continue working to identify the right participants and process. NAV CANADA suggested that the EUROCONTROL Central Flow Management Unit (CFMU) could provide lessons learned during the recent VA telcons, and perhaps collaborate to establish a global standard for VA telcons, both in format and contact information. State ATM and FAA have conducted regular online conferences with EUROCONTROL using the web-based CENTRA system, which allowed participants to display slides and charts and offered good quality audio. State ATM suggested that the CENTRA system would be a better way to conduct these telcons. FAA and State ATM will update CPWG/10 on status of the practice telcons.
4. The updated Action Item List was reviewed by the meeting, and included in this summary as **Appendix B**.

# **Agenda Item 5: 2010-2011 Cross Polar Work Program**

1. The meeting reviewed and updated the CPWG Planning Chart, which is provided at **Appendix C**.

# **Agenda Item 6: Communications, Navigation, Surveillance (CNS) and Air Traffic Management (ATM) issues**

*Update from State ATM Corporation*

1. New routes had been introduced since the last meeting:
2. Speed restriction of .84 Mach or faster was removed on UHT R30 FA segment effective from April 1, 2010
3. New airway OMITA A920 UIAA opened on March 11, 2010
4. New airway B934 MX-GUSIN-SERNA opened on March 11, 2010
5. New airway PEKUN R351 BEKMI (total length of 3071 km, flight levels 8600-12100 m) opened April 8, 2010
6. New airway PETAG B954 GIKSI (total length of 920 km, flight levels 8600-12100 m) to be opened on May 6, 2010
7. New airway GIKSI G7 LUNAD (total length of 2120 km, flight levels 8600-12100 m), AMOSO-LUNAD segment with flight levels 8100-12100 m to be opened on May 6, 2010
8. LERTA G807 PUNIT was added with restriction-free flight levels 9100-12100 m on December 17, 2009
9. The meeting was briefed on the following initiatives:
10. H24 introduced in all of the upper airspace
11. UESO and UESS FIRs above 8100 m were taken over by UEEE ACC effective from 17 December 2009
12. UESU FIR above 8100 m was taken over by UEEE ACC outside its operational hours effective from 8 April 2010
13. Changes to the Russian aviation organization were reviewed. State ATM was previously subordinate to the Federal Air Navigation Authority (FANA); however, FATA and FANA had merged and the organization is now called FATA. State ATM is organizationally subordinate to FATA.
14. The MATMC had also been reorganized. The ATFM & Strategic Planning Division is responsible for ATFM, strategic planning, charter permits, and Head of State flights; the H24 Duty Team is responsible for pre-tactical & tactical planning, airspace control, airspace reservations, and H24 user support.

*Update from NAV CANADA*

1. NAV CANADA provided the following information:
2. The 2010 traffic was up from 2008 and 2009 for the early part of the year.
3. ADS-B over Hudson Bay would be expanded across Canada, and priority will be given to ADS-B aircraft
4. NAV CANADA is coordinating with National Department of Defense to increase radar coverage, which will improve surveillance across Canada; the gaps in radar coverage will be filled in with ADS -B
5. CAATS was implemented in Edmonton ACC’s southern airspace in November 2009; the goal for implementation in the northern airspace is 20 November 2010
6. CAATS will include AIDC; further enhancements expected include a paperless environment
7. Implementation of RNP 10 will be delayed due to the slippage of the CAATS implementation
8. CPDLC is scheduled for implementation in Fall 2011
9. TMU West is now operational in Vancouver
10. Airlines were advised that there had been a problem with flight plans being rejected due to the use of Jeppesen chart waypoints. The fixes had been created by Jeppesen for the purposes of their data base. NAV CANADA requested that airlines use the Canadian high level chart to avoid the incorrect waypoints. NAV CANADA would prefer that lat/longs be filed rather than named waypoints.
11. United Airlines commented that they had been given varying information from the NAV CANADA Head Office regarding this issue. If the airlines eliminate the fixes, they will not gain the efficiencies that they are looking for. This matter will be raised during the NAV CANADA Air Transport Operations Consultative Committee (ATOCC) meeting on 20 May 2010.

*Update from ZAN*

1. ZAN provided the facility traffic count data for 2009 and before. Kevin Ford has left ZAN, and the new Air Traffic Manager will be Bob Watkins. Gail Ferguson will serve as acting deputy until a new one is selected.
2. Anchorage Airport is undergoing runway construction. Runway 7R will be closed until October. Daily traffic management initiatives (TMIs) will be published as well as applicable NOTAMs. ZAN has not yet implemented westbound TMIs affecting Edmonton ACC, and will continue making every effort to handle the traffic without them.

*Update from ISAVIA*

1. It was reported that the Minister of Transport would select a new company to provide air traffic services effective 1 May. No further information was available as to whether ISAVIA would be selected.
2. Traffic in Iceland’s airspace was down 20 percent during January 2010. The traffic via ABERI showed a similar decline. There had been a decrease in eastbound flows, and an increase in westbound flows.
3. Regarding the volcanic ash event, the following information was provided:
4. Two recent eruptions had occurred: one was very small and had only a limited effect on airspace; Eyjafjallajokull had created a lot of ash that covered large portions of NAT and major parts of Europe
5. NAT and European contingency plans were followed which resulted in no IFR clearances issued to allow aircraft to penetrate the contaminated area
6. ICAO will establish a working group to review the VA contingency plans
7. An update as to current activities underway by ISAVIA was provided:
8. Situational displays and radar displays are to be upgraded
9. The Atlantic Interoperability Initiative to Reduce Emissions (AIRE) project Phase One had been completed, with the result that direct routings, cruise climbs and variable speed gave benefits in fuel savings and reduced CO2 emissions
10. ISAVIA is aiming to have a surveillance corridor for ADS-B around 2012-2013

*Update from Avinor*

1. Avinor displayed their VHF coverage following installation of a new site for the northern part of Bodo FIR. Completion of this site resulted in VHF coverage across their FIR, as well as HF coverage.
2. Work was begun on the new automation system for Bodo ACC, which will provide the ability for the controllers to use data link and surveillance in the northern part of their FIR.

*Update from United Airlines*

1. United Airlines reported that the Polar routes have provided the following benefits:
2. Flight time has been reduced up to one hour or more
3. Payload/reserve fuel capability has been increased
4. Flights have been able to arrive with planned landing fuel
5. There has been an absence of turbulence
6. A list of the airlines that fly in the Polar region was provided, along with a list of those that may start operations in 2010. According to United’s figures, a total of 10,816 flights had flown the Polar routes since they were opened.
7. Operational concerns continued to be cold fuel, communications, emergency landing sites, en route alternates for Extended Range Twin-engine Operations (ETOPS) aircraft, search and rescue, recovery plan and solar radiation. Iridium SATCOM voice and data are under review due to a concern for the satellite constellation continuity.

*Jeppesen Presentation*

1. Jeppesen explained the chart production process and timelines. Airlines were encouraged to be proactive if they are concerned about a particular route or chart. The best means for having concerns heard would be for the airlines to officially contact Jeppesen as an airline customer through their Jeppesen Customer Representative.
2. Jeppesen thanked all of the airlines for their input and reminded the meeting that changes could be made as a result. The Polar chart was an outcome of the Russian American Coordinating Group for Air Traffic (RACGAT), which preceded the CPWG.

*Integrating Space Weather Observations and Forecasts into Aviation Operations*

1. United Airlines presented an update on behalf of the Space Weather Sub-Group. The meeting was reminded that the opening of the Polar air routes in the late 1990’s exposed commercial aviation to space weather conditions that previously had not been a significant factor in their daily operations. Although radio blackouts had affected oceanic HF communications for many years, the impact of solar radiation storms on communications and navigation, and the radiation environment they cause, became a new concern. The areas that needed to be addressed by the CPWG sub-group are radio frequency (RF) communications, radiation affecting avionics and humans, and satellite navigation.
2. The first activity undertaken by the Space Weather Sub-Group was to perform a focused study and present a document that identified the issues and proposes service needs. The sub-group used the Chicago to Hong Kong Polar route operation to consider what space weather observations and forecasts were required for each of the impacted areas of the operation. Issues of concern were categorized as economic, operational and safety related. The effects of space weather include degradation or loss of RF communications and satellite navigation signals, navigation system disruptions, avionic errors and human health.
3. It was agreed that there were three types of required information: observations, forecasts and climatology. It was recommended that where possible, terrestrial aviation weather information and services format be utilized for space weather. The sub-group envisioned that the CPWG defined user service needs would be incorporated into other international documents to ensure harmonization throughout the regions.
4. The updated draft document “Integrating Space Weather Observations & Forecasts into Aviation Operations” was made available to the meeting. ANSPs and airlines were invited to provide feedback and comments to the sub-group through Bryn Jones, e-mail: [bryn.jones@solarmetrics.com](mailto:bryn.jones@solarmetrics.com) by July 30, 2010 so that the next revision of the document could be discussed during an ICAO meeting scheduled for September 2010. The final version of the document would be presented to CPWG for approval and endorsement at CPWG/10.

# **Agenda Item 7: Other Business**

1. The FAA provided information regarding the ICAO Air Traffic Flow Management Manual, which was under development to support ICAO’s need for standardized global ATFM services to improve airspace safety and efficiency. The planned target date for the publication of this ICAO ATFM manual would be the end of 2010.

# **Agenda Item 8: Next meetings**

1. During CPWG/8, Emirates Airlines offered to host CPWG/10 in Dubai, United Arab Emirates. Following CPWG/8, internal FAA discussions were held regarding the proposal, and FAA was unable to accept the offer. In an effort to find other suitable venues for the meeting, FAA contacted the ICAO EUR/NAT Office in Paris, and tentatively secured meeting space for CPWG in early November 2010. IATA had also offered to host the meeting in Beijing, which would have been beneficial for the CPWG, as well as for discussions on the Pacific Project. However, due to the delay of TRASAS/3, it was considered that November would be too early for productive discussions on the Pacific Project. The meeting agreed to hold CPWG/10 in Paris from 2-5 November 2010.
2. The meeting went on to discuss the length of future meetings. It was suggested to reduce the length of the plenary meeting to two days, with ANSPs meeting the day before and half day following the plenary meeting. Although the CPWG/9 meeting could have been concluded in two days, it was suggested that other meetings may need more time to address critical issues. As a result of the discussion, it was agreed that the airline issues could be covered in two days, so future meetings would be scheduled with the ANSPs meeting on Day One and Day Four, and the plenary meeting Days Two and Three.
3. Regarding CPWG/11, State ATM offered to host the meeting in late May/early June 2011 in St Petersburg, Russia. FAA requested that the meeting by held during the first week of June. Other ANSPs had no preference. Further details will be provided at CPWG/10.
4. IATA offered to host the CPWG/12 meeting in Beijing in fall 2011. There was general agreement to that location. Further discussions on dates will be held during the next meeting.

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**CPWG/9 ACTION ITEM LIST**

| **Action Number** | **Capacity Enhancement Goal** | **Supporting Goal Initiatives** | **Information/Status** | **Responsible Organization** | **Action Pending** | **Target Date** | **Status** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| CP01-02 | Reduce Separation Standards | RVSM in Arctic Ocean (Russian Oceanic FIRs) | State ATM provided an update on the planned implementation of RVSM in Russia, the CIS States and Mongolia on 17 Nov 2011 | State ATM | State ATM to provide update to CPWG/10 | Nov 2010 | Open |
| CP01-08C | Administration | ATFM collaboration between FAA/ATO and State ATM | FAA reported that the agreement is still being finalized. | FAA/State ATM | FAA and State ATM have finalized the Agreement and it is awaiting signature. The ATFM Annex will need to be reviewed and updated by FAA and.State ATM. Provide update to CPWG/10. | Nov 2010 | Open |
| CP01-15B | Improve Communications | Automated flight data exchange between ZAN and Magadan ACC | ZAN will prepare an engineering assessment and business case for FAA HQ to consider in determining the FAA position on OLDI | State ATM/FAA | Action to be tracked under CP06-01 |  | CLOSED |
| CP01-15C | Improve Communications | Automated flight data exchange between ZAN and Edmonton ACC | Edmonton ACC expects to be ready in November 2010 | NAV CANADA/ FAA | Action to be tracked under CP06-01 |  | CLOSED |
| CP01-18 | Improve Efficiencies | Manage GRL compliance | FAA provided update on procedures and information on trial to reduce track loading to 10 minutes for fixes FRENK, KUTAL, VALDA and ERNIK. | FAA | Provide update on trial results to CPWG members  Update the Track Advisory Users Guide to reflect the information presented to CPWG/9 | June 2010  Nov 2010 | Open |
| CP02-27 | Develop Contingency Plan | Contingency Response | FAA presented a format for Arctic Region ATM Operational Contingency Plan, which was agreed by all ANSPs | All ANSPs | Each ANSP will submit information for plan to FAA. FAA will compile the document and present an update for CPWG/10  State ATM to provide JCAB with points of contact to coordinate issues , especially within NOPAC | Nov 2010 | Open |
| CP03-29 | Improve Communications | HF Air-Ground Data Link | FAA Oakland ARTCC has encountered automation issues with the HFDL trial, but it is expected to start again. | FAA and Operators | FAA will provide update to CPWG/10 | Nov 2010 | Open |
| CP03-30 | Reduce Separation Standards | Standardize Polar Region Separation Standards | FAA provided an update on the implementation of 50NM lateral separation in the Anchorage Arctic FIR planned for 18 Nov 2010. NAV CANADA reported that there may be a delay due to CAATS implementation | FAA/NAV CANADA/ISAVIA | NAV CANADA to advise the FAA as soon as possible regarding possible delays in implementation. Update to be provided to CPWG/10 | Nov 2010 | Open |
| CP04-31 | Improve Efficiencies | Implement use of radar procedures between Magadan ACC and Anchorage ARTCC | State ATM advised that the target date for Providenia radar had slipped to 2012 | State ATM | State ATM will provide an update to CPWG/10 | Nov 2010 | Open |
| CP04-35 | Improve Efficiencies | Shorten and simplify Form “R” and filing process. | State ATM reported that FATA is working this. Changes will be published in the AIP, but no target date is available | FATA/State ATM | Update to be provided to CPWG/10 | Nov 2010 | Open |
| CP05-38 | Reduce Separation Standards | Mixed environment, capabilities & benefits to be gained. Partial mix of fleet. Need to identify obstacles to increase capacity, assess & identify obstacles & how to mitigate them. | IATA reported that responses to the Fleet Capability survey are being received, and results should be available before the next meeting. | IATA | Outcome of survey to be provided to CPWG/10 | Nov 2010 | Open |
| CP05-42 | Improve Efficiencies | IATA to act as a focal point for Airline Route Proposals | IATA reported that they will continue in this role through their Regional Coordination Groups. |  |  |  | CLOSED |
| CP05-44 | Improve Efficiencies | Route Development and Coordination with China | IATA and State ATM reported on ongoing work regarding the development of new entry/exit points for China. | IATA/State ATM | IATA and State ATM to provide updates to CPWG/10 | Nov 2010 | Open |
| CP06-01 | Improve Communications | Harmonized flight data exchange between facilities | FAA HQ to determine the FAA position on OLDI.  FAA presented the draft Global ICD. | FAA/ANSPs | ANSPs to submit comments on the Global ICD to FAA by 30 Jun 2010.  FAA position on OLDI will be presented to CPWG/10. | 30 Jun 2010 | Open |
| CP06-02 | Improve Efficiencies | Ocean 21/Arctic FIR | FAA presented information on ZAN’s plan to transition control of Anchorage Arctic FIR to Ocean21. | FAA | FAA will provide an update to CPWG/10 | Nov 2010 | Open |
| CP06-11 | Administration | Statistics on Time/Fuel Savings | IATA presented the Distance/Time Calculator that they use to determine fuel savings for time and distance reductions. |  |  |  | CLOSED |
| CP06-12 | Improve Efficiencies | Tactical Reroutes Prior to Entering Russian Airspace | UAL and FAA reported on the outcome of a tactical reroute paper trial conducted on 7 Apr 2010. Russia would like to conduct additional paper trials and establish procedures for testing with live traffic | State ATM/FAA/IATA | Additional paper trials to be conducted. Update to be provided to CPWG/10 | Nov 2010 | Open |
| CP06-13 | Improve Communications | Lost Communication Procedures | The FAA submitted the proposed amendment to the NAM Doc 7030 on lost comm procedures to ICAO Mexico City. They responded with suggested changes which were agreed by the meeting. A question was raised re: the inclusion of ADS-C. | FAA | FAA will follow up with ICAO Mexico City and report to CPWG/10 | Nov 2010 | Open |
| CP07-02 | Improve Efficiencies | Add additional entry/exit fixes on the FIR boundaries | State ATM presented options for additional boundary fixes. | All ANSPs/IATA | State ATM to provide details on fixes to ZAN. ZAN to study information and respond to State ATM. Update to be provided to CPWG/10 | Nov 2010 | Open |
| CP07-03 | Improve Communications | Improve communications north of 80 degrees N | NAV CANADA reported on planned preparations for TRASAS/3 | All ANSPs/IATA/ Airlines | All ANSPs to nominate comm experts to Dave Rose to participate in Comm TF. Airlines encouraged to also nominate experts. | May 2010 | Open |
| CP07-06 | Improve Efficiencies | Opening of new routes south of ABERI | State ATM presented information on R705 and R706 which will be implemented on 1 Jul 2010 | State ATM/IATA/ ANSPs | State ATM to provide details of routes by e-mail as soon as possible  Provide update to CPWG/10 | May 2010 | Open |
| CP08-01 | Develop Contingency Plan | Exercise Contingency Plans | ISAVIA reported on a planned exercise in May 2010 focusing on Polar flights. | ISAVIA | Report on the outcome to CPWG/10 | Nov 2010 | Open |
| CP08-02 | Develop Contingency Plan | Respond to Volcanic Ash Event | FAA and ISAVIA reported on responses to actual volcanic ash event over NAT.  FAA and State ATM reported on development of operational telcons for the exchange of volcanic ash information. | FAA/State ATM/ | FAA and State ATM will provide further update on practice telcons to CPWG/10 | Nov 2010 | Open |
| CP08-03 | Improve Efficiencies | Establish ATS Route Catalog | State ATM presented a draft .ATS route catalog to document proposed ATS routes for the Polar Region. | State ATM/  All ANSPs | Each ANSP to nominate POC to State ATM to assist in developing process to populate and maintain the route catalog.  State ATM to present updated ATS route catalog to CPWG/10.  FAA to make the review of ATS route catalog a standing action item for future meetings. | Nov 2010 | Open |
| CP08-05 | Improve Efficiencies | Modify Restrictions for PILUN and LISKI | FAA reported on changes to restrictions and procedures for PILUN and LISKI |  | This will be combined with CP08-12 |  | CLOSED |
| CP08-06 | Improve Efficiencies | Provide Additional Connections to Current Airways | IATA requested to connect some of the new beneficial airways implemented by the Russian Federation to provide more choices.  State ATM agreed to look into a connection directly from KURAK to ODANA or from KURAK to KONIK that might offer more efficiencies. | State ATM | State ATM to report to CPWG/10 | Nov 2010 | Open |
| CP08-07 | Improve Efficiencies | Implement Online Track Advisory (OLTA) | FAA provided an update on the current status on the transition of maintenance for DOTS+ and OLTA to the FAA. OLTA remains in operational demonstration status. | FAA | FAA to look into differences in use of OLTA by ZOA and ZAN, and provide information on the changes to FTI and connectivity to OLTA after 1 Oct.  Update to be provided to CPWG/10 | Sep 2010 | Open |
| CP08-08 | Improve Efficiencies | Consider opening additional fixes west of BAMOK | FAA and State ATM, in coordination with JCAB, to consider 5 proposals from CPWG/9, and consult with the airlines as to the ongoing need for additional fixes | FAA/State ATM/ IATA | State ATM to add the proposals to the ATS Route Catalog.  Update to be provided to CPWG/10 | Nov 2010 | Open |
| CP08-09 | Improve Efficiencies | Expansion of westbound use of FL360 | Agreement reached to include NIKIN in the FL360 trial | FAA/State ATM/NAV CANADA/IATA | ANSPs to agree on date for NIKIN trial to begin.  All urged to remind pilots, dispatchers, and ATC that FL381/ 11600m is expected after RAMEL (and NIKIN once trial begins).  Provide update to CPWG/10 | Nov 2010 | Open |
| CP08-10 | Improve Efficiencies | Pacific Project | IATA provided a status update on the Pacific Project. | IATA | IATA to prepare a paper recommending conceptual agreement for the Pacific Project for TRASAS/3. Update to be provided to CPWG/10 | Nov 2010 | Open |
| CP08-11 | Administrative | Preparation for TRASAS/3 | FAA advised the meeting that TRASAS/3 has been tentatively rescheduled for 19-20 Oct 2010 in Paris. |  | FAA will coordinate preparation for TRASAS/3 on CPWG-related Action Items with ANSPs and airlines. | Oct 2010 | Open |
| CP08-12 | Improve Efficiencies | Eliminate restrictions where possible | ZAN reviewed all existing restrictions. Airlines requested that there be an ongoing review of restrictions. | FAA/IATA | ZAN to collaborate with IATA, analyze restrictions, and remove those that are not necessary. COA to present outcome of study on R338 and H201.  ZAN to review restrictions over PILUN and LISKI and any resulting from planned RNP10 implementation. Provide updates to future meetings. | Nov 2010 | Ongoing |
| CP08-13 | Improve Efficiencies | Conduct trial of step climb procedure | CZEG and UAE reported on the trial using step climb procedures for eastbound Polar flights.  FAA, State ATM and ISAVIA all expressed willingness to support step climb trials at airlines’ request. | NAV CANADA/ISAVIA/ UAE/State ATM | Trial to continue with NAV CANADA to the end of the year.  Trial to commence with ISAVIA  UAE to modify pilot procedures.  Update to be provided to CPWG/10 | Nov 2010 | Open |
| CP09-01 | Improve Efficiencies | Conduct an airspace study of traffic flows on R338 to determine if benefits are gained by rerouting flights to H201 | COA to do a comparison study between H201 and R338 | IATA/COA | COA to provide update on study to next meeting | Nov 2010 | Open |
| CP09-02 | Improve Efficiencies | Implement new optional routing from ORVIT to Japan | IATA proposed a new optional routing ORVIT..75N170E.. 65N153E.. BANOT.B223.  LUMIN from ORVIT to Japan | State ATM/IATA | State ATM to review the proposal and respond as to feasibility | Nov 2010 | Open |
| CP09-03 | Improve Efficiencies | Add transitions between various polar routes to enable optimization of winds and efficiencies of operations. | Specific transitions proposed were: DEVID B480  * Transition route from DEVID to join G493 and G491 at GIKSI (N71 41.7 E128 54.0)  RAMEL G491  * Transition from RAMEL to TAKUN (G226) * Transition from PETUL to RUTIN (G226) * Transition from UNELI to HA (G226)  NIKIN G226  * Transition from NIKIN to UNELI (G491) * Transition from TAKUN to TIGLA (G491) * Transition from HA to TETKA (G491)  ORVIT G494Transition from ORVIT to TAKUN (G226)Transition from DILSA to RUTIN (G226) | State ATM | State ATM to add the proposals to the ATS Route Catalog.  Review proposed transition and report to CPWG/10 | Nov 2010 | Open |
| CP09-04 | Administrative | Add standing agenda item: Review ATS Route Catalog | The meeting agreed that it would be important to continuously review the catalog to be sure that it reflected the current requirements of users and ANSPs. | FAA | Add new agenda item to CPWG/10 and future meeting agendas | Nov 2010 | Open |
| CP09-05 | Improve Efficiencies | Discrepancies between NAV CANADA and Jeppesen chart waypoints | NAV CANADA reported problems with flight plans being rejected due to use Jeppesen chart waypoints; pilots were advised to use NAV CANADA high charts | NAV CANADA | Provide update to next meeting | Nov 2010 | Open |

**CPWG Planning Chart**

|  | **Planning Goal** | **Action with** | **Status of Action and Target Date** | **Completed** |
| --- | --- | --- | --- | --- |
| **1** | **Reduce and Harmonize Separation Standards in International Airspace** |  |  |  |
|  |  |  |  |  |
|  | **Implement RVSM FL290-410** |  |  |  |
|  | Anchorage Arctic, Anchorage Oceanic, Anchorage Continental, Edmonton, and Reykjavik FIRs | FAA/ NAV CANADA, ISAVIA |  | Completed |
|  | Russian FIRs | State ATM | Nov 2011 |  |
|  |  |  |  |  |
|  | **Harmonize RVSM Transition Procedures** |  |  |  |
|  | Anchorage Arctic FIR | FAA | TBD |  |
|  | Anchorage Oceanic FIR | FAA | TBD |  |
|  | Russian FIRs | State ATM | TBD |  |
|  |  |  |  |  |
|  | **Implement 50NM lateral separation** |  |  |  |
|  | Anchorage Arctic FIR | FAA | **Nov 18, 2010** |  |
|  | Anchorage Oceanic FIR | FAA |  | Completed |
|  | Edmonton FIR | NAV CANADA | **Nov 18, 2010** |  |
|  | Reykjavik FIR | ISAVIA | TBD |  |
|  | Russian FIRs | State ATM |  | Completed |
|  |  |  |  |  |
|  | **Implement reduced longitudinal separation** |  |  |  |
|  | Anchorage Arctic FIR | FAA | TBD |  |
|  | Anchorage Oceanic FIR | FAA |  | Implemented across the NOPAC with Oakland/Fukuoka FIRs |
|  | Edmonton FIR | NAV CANADA | Jan 2011 |  |
|  | Reykjavik FIR | ISAVIA | TBD |  |
|  | Russian FIRs | State ATM | TBD |  |
|  |  |  |  |  |
| **2** | **Improve/Increase Efficiencies for Cross Polar and Russian Far East Air Traffic** |  |  |  |
|  |  |  |  |  |
|  | **Harmonize Procedures for ATS Route B932** |  |  |  |
|  | Anchorage Oceanic FIR | FAA |  | Completed |
|  | Sapporo FIR | JCAB |  | Completed |
|  | Khabarovsk FIR | State ATM |  | Completed |
|  | Petropavlovsk-Kamchatsky FIR | State ATM |  | Completed |
|  |  |  |  |  |
|  | **Improve Efficiency on Cross Polar Routes** |  |  |  |
|  | Make FL360 and FL380 available westbound at RAMEL | FAA/State ATM | Trial in progress |  |
|  | Expand availability of FL360 and FL380 at NIKIN | FAA/State ATM | Trial to begin June 21, 2010 |  |
|  | Make tactical re-routes available for daily operations | FAA/State ATM | TBD |  |
|  | Add entry/exit fixes on the Anchorage/Russian FIR boundary | FAA/State ATM | TBD |  |
|  | Add entry/exit fixes on the Anchorage/Edmonton FIR boundary | FAA/  NAV CANADA | TBD |  |
|  | Add entry/exit fixes on the Reykjavik/ Russian FIR boundary | State ATM/ ISAVIA | To be discussed |  |
|  | Open new Kamchatka routes from PILUN and LISKI | State ATM/FAA |  | Completed |
|  | Open new routes south of ABERI | State ATM/IATA | 1st half of 2010 |  |
|  |  |  |  |  |
|  | **Implement use of Radar Procedures between Magadan ACC and Anchorage ARTCC without Radar Data Sharing** |  |  |  |
|  | Anchorage Arctic FIR | FAA | 2012 |  |
|  | Magadan FIR | FATA | 2012 |  |
|  |  |  |  |  |
|  | **Improve Air Traffic Flow Management (ATFM)** |  |  |  |
|  | Implement DOTS Plus Online Track Advisory | FAA | TBD |  |
|  | Reduce track loading to 10 minutes for Cross Polar fixes | FAA |  | Completed |
|  | Reduce track loading to 10 minutes for RTE fixes | FAA | Trial underway |  |
|  | **Improve ATFM Collaboration** |  |  |  |
|  | FAA/NAV CANADA |  |  | Completed |
|  | FAA/State ATM | FAA/State ATM | In progress |  |
|  | NAV CANADA/State ATM |  |  | Completed |
|  | **Implement Cross Polar Organized Flex Track System/Minimum Time Tracks** |  |  |  |
|  | Anchorage Arctic FIR | FAA | Future Work/TBD |  |
|  | Edmonton FIR | NAV CANADA | Future Work/TBD |  |
|  |  |  |  |  |
| **3.** | **Improve communications in arctic/polar region** |  |  |  |
|  |  |  |  |  |
|  | **Explore HFDL for Air-Ground Polar Operations** | FAA | TBD |  |
|  |  |  |  |  |
|  | **Implement AIDC for Data Exchange** |  |  |  |
|  | Anchorage Arctic, Oceanic and Continental FIRs |  |  | Completed |
|  | Edmonton FIR | NAV CANADA | Nov 2010 |  |
|  | Magadan FIR (OLDI) | State ATM | 3rd Qtr 2010 |  |
|  |  |  |  |  |
|  | **Implement CPDLC for All Polar Routes** |  |  |  |
|  | Anchorage Arctic FIR | FAA |  | Completed |
|  | Edmonton FIR | NAV CANADA | Fall/Winter 2011 |  |
|  | Reykjavik FIR | ISAVIA |  | Completed |
|  | Magadan FIR | State ATM |  | Completed |
|  |  |  |  |  |
|  | **Implement ADS-C for All Polar Routes** |  |  |  |
|  | Anchorage Arctic FIR | FAA | 4th Qtr 2012 |  |
|  | Edmonton FIR | NAV CANADA |  | Completed |
|  | Reykjavik FIR | ISAVIA |  | Completed |
|  | Magadan FIR | State ATM |  | Completed |
|  |  |  |  |  |
|  | **Improve Communications North of 80N** | NAV CANADA | 2016 |  |
|  |  |  |  |  |
| **4.** | **Improve weather reporting in arctic/polar region** |  |  |  |
|  |  |  |  |  |
|  | Continue research on space weather’s impact on Polar Traffic | All | Ongoing |  |
|  | Develop Space Weather User Requirements | All | Second draft under review |  |
|  |  |  |  |  |
| **5.** | **Improve Safety** |  |  |  |
|  |  |  |  |  |
|  | **Develop Arctic Contingency Plan** | All | Late 2011 |  |
|  |  |  |  |  |
|  | **Harmonize Procedures for Loss of Communications** |  |  |  |
|  | PAC Region |  |  | Completed |
|  | NAM Region | FAA/NAV CANADA | In progress |  |
|  | EUR Region | State ATM/ ISAVIA |  | Completed |
|  | NAT Region | FAA/NAV CANADA/ISAVIA | TBD |  |

