Summary of Discussions
Forty-fifth Meeting of the
Informal Pacific Air Traffic Control Coordinating Group
(IPACG/45)

December 11-12, 2019
Tokyo, Japan

1.0 Background

1.1 The Forty-fifth Meeting of the Informal Pacific Air Traffic Control Coordinating Group (IPACG/45) was held in Tokyo, Japan, on Wednesday, December 11, and Thursday, December 12, 2019. The IPACG was established to provide a forum for air traffic service providers and airspace users to informally meet and explore solutions to near term air traffic control (ATC) problems that limit capacity or efficiency within the Anchorage, Oakland, and Fukuoka Oceanic Flight Information Regions (FIR).

2.0 Welcome and Opening Remarks

2.1 The meeting was co-chaired by Mr. Fumio Sato, Special Assistant to the Director, Japan Civil Aviation Bureau (JCAB) and Mr. Ahmad Usmani, Manager, Asia Pacific Group, Air Traffic International Office, Federal Aviation Administration (FAA).

2.2 Mr. Sato welcomed the meeting participants and introduced co-chair Mr. Usmani. Mr. Usmani thanked JCAB for hosting and stated that FAA looked forward to a productive IPACG 45 meeting.

2.3 All IPACG/45 attendees introduced themselves to the meeting, including the meeting interpreter, Ms. Reiko Kurachi.

3.0 Submitted Papers

3.1 The following working and information papers were presented to IPACG/45 and were available on the IPACG website and shared among the meeting participants:

https://www.faa.gov/about/office_org/headquarters_offices/ato/service_units/mission_support/ato_intl/ipacg/

Paper Number	Agenda Item	Title	Presented by
PPT01	2	OPDLWG	FAA
PPT02	2	Updates from Oakland Air Route Traffic Control Center	FAA
PPT03	2	Updates from Anchorage Air Route Traffic Control Center	FAA

Paper Number	Agenda Item	Title	Presented by
IP01	6	Automatic Dependent Surveillance – Broadcast-Out: Ensuring Preparedness for the 2020 Equipage Mandate	FAA
WP05	6	Discrepancy between units for 0.1nmi Strategic Lateral Offset Procedure (SLOP) and FANS 1/A	FAA
IP02	6	The Analysis of PBCS Implementation	JCAB
PPT/05	6	Analysis of PBCS Implementation	FAA
IP03	6	PBCS Non-Compliance Reporting	FAA
WP04	6	IATA Airline Progress in Implementing PBCS	IATA
IP08	6	Use of Appropriate CPDLC Message Element	JCAB
PPT04	6	INMARSAT Update	INMARSAT
WP01	7	NOPAC Redesign	FAA/JCAB
PPT07	7	Traffic Flow on NOPAC Routes	JCAB/ENRI
IP09	7	High Altitude UPR	JCAB
WP02	7	Weather Deviation	FAA
IP05	7	Monitoring Agency Activity in North Pacific Airspace	FAA/JASMA

4.0 Agenda Item 1: Review and Approve Agenda

4.1 Mr. Sato drew the meeting's attention to the agenda and timetable for the IPACG/45 meeting. The following agenda was proposed and adopted by the meeting:

Agenda Item 1	Review and Approve Plenary Agenda
Agenda Item 2	Reports on Relevant Outcomes from Other Meetings
Agenda Item 3	Report on the Outcome of the Providers Meeting (PM24)
Agenda Item 4	Report on the Outcome of the FANS Inter-operability Team Meeting (FIT32)
Agenda Item 5	Air Traffic Oceanic Facility Updates
Agenda Item 6	Communications/Navigation/Surveillance (CNS) Issues
Agenda Item 7	Air Traffic Management (ATM) Issues
Agenda Item 8	Review and Update of CNS/ATM Planning Chart
Agenda Item 9	Action Item Review
Agenda Item 10	Other Business

5.0 Agenda Item 2: Reports on Relevant Outcomes from Other Meetings

5.1 PPT01 Updates from OPDLWG (FAA)

Ms. Theresa Brewer provided an overview of the Operational Datalink Working Group Meeting (OPDLWG). She provided background on the work program; open job cards; future meetings and panel coordination. She reviewed the Communication Panel (CP) and functioning work groups, as well as the OPDLWG mission, infrastructure, participants and meeting schedule. She noted upcoming structural changes as well. She included an overview of their future meeting schedule and coordination between the groups and panels to focus on bridging current and future operations and the tri-panel coordination meeting. Mr. Wada of JCAB noted the importance of the work and cooperation between working groups and panels. He added that JCAB plans to introduce Controller Pilot Data Link Communications (CPDLC) in domestic airspace and learn from FAA and EUROCONTROL for a smooth implementation in Japan. Ms. Brewer responded that she looks forward to coordination.

6.0 Agenda Item 3: Report on Outcomes from IPACG Providers Meeting 24

On behalf of JCAB and FAA, Mr. Usmani stated that IPACG Providers Meeting 24 was held on December 10, 2019. He then provided the following summary of discussions from the meeting:

- ☐ JCAB Briefing on the Current Status and the Future Plan for ATC System in Japan [IP03/JCAB]

  - JCAB provided an overview of the recent updates to their air traffic system including updates to the Trajectorized Oceanic Traffic Data Processing System (TOPS).

  - JCAB also provided an overview of the transition to their new Air Traffic Flow Management (ATFM) system Trajectorized Enhanced Aviation Management System (TEAM).

- ☐ Joint FAA and JCAB working paper on NOPAC Route System Redesign [WP01/FAA/JCAB]

  - The FAA and JCAB discussed the realignment of the North Pacific (NOPAC) ATS route system and the Pacific Organized Track System (PACOTS).

  - The FAA and JCAB will continue to work together to begin the realignment of NOPAC Route System.

  - JCAB and FAA will present a joint paper on our efforts during this plenary discussion.

- ☐ FAA Briefing on ICAO Doc 7030 Regional Supplementary Procedures Proposal for Amendment (PfA) [WP03/FAA]

    - The FAA provided an overview of proposed necessary updates to the ICAO Doc 7030 Regional Supplementary Procedures for the MID/ASIA and PAC Regions.

    - ICAO PANS-ATM Doc 4444 references have changed and the current MID/ASIA and PAC Regional guidance do not refer to the correct paragraphs.

    - Some separation minima have changed and new minima have been published.

    - The FAA will present a joint paper on our efforts during this plenary discussion.

- ☐ Route Development Group – East [WP04/FAA]

    - The FAA shared a working paper from the thirty-first meeting of the Route Development Group – Eastern Part of the ICAO EUR Region (RDGE/31) which was held at the ICAO EUR/NAT Office in Paris, France, in September 2019.

    - The Route Development Group (RDGE) works on matters related to air traffic services route planning and implementation, as well as airspace improvement projects in the Eastern part of the ICAO European Region.

    - RDGE proposed a route change proposal for JCAB and FAA consideration.

- ☐ CNS Issues

    - Mr. Usmani noted that due to the condensed meeting schedule, IPACG PM/24 CNS Issues would be presented at the IPACG PM/24 wrap-up on Friday, December 13

7.0 Agenda Item 4: Report on the Outcome of the FANS Inter-operability Team Meeting (FIT)

Mr. John Roman reported on the outcomes of the FIT/32 meeting held on Tuesday, December 11, 2019, and co-chaired by Mr. Hiroyuki Wada of JCAB. He noted the Central Reporting Agency (CRA) reporting process and encouraged continued reporting. He also covered the PBCS monitoring reports showing the increase of datalink usage. He then highlighted the validation of the Performance Based Communications Services (PBCS) process, the identification of issues and the development of solutions. He noted the IRIDIUM report above the performance

thresholds in both FIRs and the continued improvements. He also highlighted efforts in the North Atlantic and uplink latency timing message delivery. He lastly shared the outage detection reporting effort in the NAT and standardization of reporting across the network.

8.0 Agenda Item 5: Air Traffic Oceanic Facility Updates

8.1 Updates from Oakland Air Route Traffic Control Center (ZOA) (ARTCC) [PPT02/FAA]

Ms. Holly King reviewed the ZOA ARTCC update for the FAA and noted that it is also provided in the Oceanic Work Group (OWG). She specifically covered the ZOA website details and contact information; Flight Information Region (FIR) Traffic volume; aircraft type distribution; equipage updates; oceanic equipage by Traffic Flow; Automatic Dependant Surveillance-Contract (ADS-C) Climb Descend Procedures (CDP) and Automatic Dependant Surveillance-Broadcast (ADS-B) In Trail Procedures (ITP); unannounced speed changes; and tailored arrivals. She noted the increase in North Pacific traffic and lower and more consistent traffic levels in the South Pacific. She also covered ITP requests/Clearances for ADS-B ITP. She noted a usage increase from Hawaiian Airlines and projected an increase in future use with the Boeing 787 ITP system certification. She then highlighted MACH speed variation data collection and current spot checks, noting that the change in welcome message triggered more compliance. She added that the Speed Change Notices to Airman (NOTAM) will continue, and that ZOA will continue to present this information to increase compliance. She then reviewed tailored arrivals, which she said have been permanently turned off. She added that the Pacific 2 TA was initially replaced with Standard Terminal Arrival Route (STAR) PIRAT TWO, which is now turned off due to crossing restriction and may take a year to fix.

Ms. Brewer of the FAA noted ITP requests increased but clearances did not increase. Ms. King responded that there have been many requests but most requests have been incorrectly formatted. She offered to share this information with the airlines to improve pilot training to correctly format requests.

Mr. Toshiya Shigenobu of JCAB said that JCAB is interested in CDP ITP. Due to the transition to the TOPS system, JCAB delayed implementation until the end of 2020.

8.2 Updates from Anchorage Air Route Traffic Control Center (ZAN) [PPT03/FAA]

Mr. Tony Klancher of FAA provided the ZAN facility overview. He reviewed Anchorage ARTCC Oceanic Performance including altitude change requests; Oceanic Traffic Count changes from 2014 thru 2019; CDP Operations; and the rarity of ITP requests. Mr. Klancher then reviewed Kodiak Space Launch Activities and the expected launches in 2020-2022. He also covered UAS operations; red flag military exercises; and traffic management initiatives with west

bound and east bound routes and unavailable routes. He also noted a successful Air Traffic Services (ATS) Interfacility Data Communications (AIDC) trial with Magadan Area Control Centre (ACC), with 98 percent of messages successfully exchanged. He added that they are in a test phase until they rectify the remaining issues. He lastly reviewed a new Arctic FIR NOTAM starting 12/12/19. Mr. Gen Schnee from United Airlines (UA) noted that the Canadians have software to separate traffic entering ZAN aircraft, and the Russians do not. Mr. Klancher responded that if it works, then a trial could be bidirectional in parts of the FIR. For now, the facility is only comfortable going Westbound. Mr. Schnee noted that UA is happy to implement as soon as possible.

Ms. Makoto Ishida of JCAB said that during rocket restrictions, JCAB supports Anchorage in the NOPAC. She asked about red flag exercises, and whether they are fixed in Anchorage. Mr. Klancher responded that the exercise is very large, and the airspace is the same every year for the exercise. Ms. Ishida noted that in JCAB's Air Traffic Management Centre (ATMC), they coordinate from scratch from the routes of participating aircraft, which makes it easier for them to work from a standard version.

Mr. Schnee of UA added that they have issues with Fairbanks flights and would like to discuss the difficulty of predictions. They specifically would appreciate more advanced notice as routing is difficult to predict with red flag exercises.

Agenda Item 6: Communications/Navigation/Surveillance (CNS) Issues

9.0 Automatic Dependent Surveillance – Broadcast-Out: Ensuring Preparedness for the 2020 Equipage Mandate [IP01/FAA]

Mr. Usmani reviewed the information paper prepared by Doug Arbuckle, FAA Chief Engineer for Surveillance, for ICAO's APANPIRG meeting in November 2019. He provided the background on the upcoming rule implementation for January 1, 2020. He noted a Google Earth File and Polygons and covered the FAA expectations and performance requirements for the affected operators and flight operations. He also covered the extenuating circumstances for non-equipped aircraft and aircraft with inoperative ADS-B equipment and the provisions for such circumstances. Ms. King of FAA asked Mr. Usmani if pilots are required to tell controllers if they are not equipped, and what the FAA expects controllers do in this case. Mr. Usmani responded that he would follow up with Mr. Arbuckle for a response. Mr. Arbuckle responded that, in general, there is no requirement or expectation that pilots will inform controllers of their ADS-B equipage status. This is with the assumption that for unequipped aircraft, the operator will file a flight plan route that is outside of any U.S. ADS-B mandated airspace, unless they obtain an ATC authorization to fly in that airspace without the proper equipment per 91.225(g). Mr. Arbuckle highlighted that FAA policy is to not grant such authorizations for routine use by scheduled air carriers as noted in the federal register link below.

See:
https://www.federalregister.gov/documents/2019/04/01/2019-06184/statement-of-policy-for-authorizations-to-operators-of-aircraft-that-are-not-equipped-with-automatic.

However, if a controller offers a rerouting to the flight crew which will result in the unequipped aircraft transiting through US ADS-B mandated airspace, then paragraph 2.3.3(b) in the paper is applicable.

Mr. Blair Cowles of the International Air Transport Association (IATA) referred to sections 2.5 and 2.6 of the paper. He stated that IATA's understanding is that for aircraft with inoperable equipment on the ground, approval to take off and operate will be at the discretion of the facilities whose airspace the aircraft will transit. He asked what the ZOA and ZAN approach would be for a non-US carrier that has a non-operable transponder on the ground while on the West Coast. He added that IATA's understanding is that the East Coast will be unlikely to grant approval to operate through the TRACON en route to oceanic airspace. Mr. Cowles also noted that it is similar for a U.S. carrier that departs with operable equipment but subsequently becomes inoperable/non-compliant and wishes to return to the U.S. to make repairs.

Mr. Klancher shared that Cathay Pacific contacted him last month and asked how they could fly non-compliant aircraft into the U.S. in February 2020. FAA Headquarters responded that they currently have no procedure to grant such permission. He also understood that each facility is supposed to grant permission, but that guidance has not reached the facilities. Ms. King noted that it is difficult to know how they will react until provisions are put in place. Mr. Klancher encouraged caution as they may need to call the FAA Command Center for coordination through numerous FIRs. He noted that this was speculation until the FAA disseminates the final ruling.

Ms. Lee Roper of American Airlines (AA) provided a comment. She stated that she participates in the ADS-B Working Group with FAA Safety Compliance. They have a web-based tool called ADS-B Deviation Authorization Pre-flight Tool (ADAPT) that allows carriers to send the entire flight plan to ATC for approval. ADAPT is primarily for non-equipped aircraft but may also be used for inoperative equipment. Ms. Roper was told that if a carrier has a presence at the FAA Command Center, then the approval process is supposed to go through Command Center and not ADAPT. She added that she would be happy to share information on the use of ADAPT for foreign carriers operating in oceanic airspace once she learns more. Mr. Klancher and Ms. King also agreed to call the Command Center for further information.

Mr. Usmani subsequently contacted the Command Center for clarification. The Command Center ADAPT Help Desk responded that the foreign carrier may use ADAPT in that instance to make their flight back to their repair station. There

would be no need to contact the IATA Desk at the Command Center. ADAPT's surveillance capability assessment will cover the entirety of their route in U.S. rule airspace (for that flight, the tool is meant as a flight-by-flight authorization tool), negating any need for individual coordination with each ARTCC or the Command Center. For further assistance however, the IATA Help Desk at the Command Center may be reached at 540-422-4148.

A representative from ANA asked who should enter the information into ADAPT, the operator or the controller. Mr. Klancher responded that the procedure is not yet available, but he assumes that the airline would enter the information. He noted that the controller will not decide whether or not an aircraft is compliant.
Note: ADAPT is now available and the operator should submit their requests not more than 24 hours before or less than 1 hour before the flight.

9.1 Discrepancy between units for 0.1nmi Strategic Lateral Offset Procedure (SLOP) and FANS 1/A [WP05/FAA]

Ms. Theresa Brewer of FAA provided a working paper, previously presented at the North Atlantic Technology and Interoperability Group (NAT TIG), concerning discrepancies between the aircraft capability to fly micro-SLOP and the DO-258A definition of offset distance parameter units. She shared that the NAT TIG decided further investigation by the aircraft manufacturers was necessary because of the discrepancy and the potential consequences. An action was created for Airbus, Boeing, and IBAC at the NAT TIG meeting to "investigate the operational effect of offsets in tenths of a NM (micro-SLOP) on downlink CPDLC message" to be completed by the next TIG meeting in March 2020. Ms. Brewer invited the IPACG participants to consider this information in their airspace planning.

Mr. Hajime Aoto of JCAB asked if it is required in the NAT to add DM80 when confirmed an assigned route. Mr. Mike Matyas of Boeing confirmed that, with FANS standard avionics, to add DM80 when appropriate. Ms. Brewer added that DM is the procedure implemented in the NAT by most ANSPs. Mr. Aoto noted that for SLOP, the report is not required from the crew. He asked if there may be a problem when DM80 is downlinked. Ms. Brewer responded that they are investigating.

9.2 The Analysis of PBCS Implementation [IP02/JCAB]

Mr. Aoto of JCAB presented the Analysis of PBCS Implementation and status. He provided a review of the IPACG/44 reported filing rate and countermeasures for airspace efficiency deterioration and impact, and noted the clearance rate decrease. He also noted the 2018 filing rate in oceanic airspace, and the filing rate by airlines operator and by aircraft type. He reviewed the filing rate by operating area and the proportion of aircraft type by area as well. Mr. Aoto noted the rate of issuance of Controller–Pilot Data Link Communications (CPDLC) clearances to the aircraft's requested altitude has almost recovered to pre-PBCS levels. He noted that they discontinued the city pair restrictions for Tracks 2 and 3 on May 23, 2019. However, the removal of these restrictions did not affect the CPDLC altitude clearance rate.

9.3 Analysis of PBCS Implementation [PPT05/FAA]

Ms. Brewer of FAA reviewed the PBCS implementation updates according to FAA Lines of Business including the Air Traffic Organization (ATO), Flight Standards (AFS), and Air Traffic Safety Oversight (AOV). She noted the finalization of PBCS requirements to FAA Order 7110.65 in January 2020, and that the FAA continues to see an increase in the percentage of cleared altitude changes in response to aircraft requests. The percentage of PBCS approval rates are also increasing. She added that they are refining the monitoring process, and that the FAA is compiling semi-annual regional reports and working towards monthly monitoring as well as considering airspace evaluation to ensure compliance with ATS service requirements. She then reviewed the FANS-CRA website updates including user status, current PBCS charter status, and recent software maintenance. She also reviewed non-compliance reporting structure. She then covered FAA Flight Standards updates and noted that more fleets are obtaining RCP240 and RSP180 approvals. She stated that they are working on revisions to the AC90, Data Link Communications document, which will reflect Global Operational Data Link Document (GOLD) edition 2 with the addition of baseline 2 guidance. Ms. Brewer also noted the B777 Airplane Information Management System (AIMS) conditional authorization, and that upgrades are available as of now on new airplanes delivered from the factory, and the service bulletin on airplanes in service should be released. She then reviewed a 757/767 ghost message issue causing concerns in domestic en route operations. Lastly, she discussed AOV updates and requirements for ANSPs in terms of performance and safety. She also highlighted a formal exercise to ensure the completion of safety requirements.

Mr. Wada of JCAB followed up regarding 757/767 ghost messages and the removal from domestic en route operations. He asked if the removal will include departure clearance (DCL) operations, and if they will remove 757 and 767 from en route operations. Ms. Brewer confirmed that 757 and 767 were to stop voluntarily filing for domestic operations, and that they were still approved for DCL.

9.4 PBCS Non-Compliance Reporting [IP03/FAA]

Ms. Brewer of FAA provided an update on PBCS Non-Compliance Reporting and reviewed Annex 11, Air Traffic Services and other specific annexes. She then reviewed ICAO Doc 9869, PBCS manual updates and regional updates for Asia Pacific. She noted the ICAO Regional Airspace Safety Monitoring Advisory Group (RASMAG) conclusion and Attachment A of the briefing as well.
Ms. Brewer added that the FAA has been providing updates to APAC based on their North Atlantic (NAT) work and subsequently reviewed NAT updates and the NAT Technology and Interoperability Group (TIG) regional monitoring program. She noted that semi-annual reports are compiled and posted on the FANS CRA website, and that the NAT TIG is developing harmonized processes for detecting, investigating, and reporting non-compliance. She then discussed a Project Team involving ICAO, IATA, ANSPs and regulators for documenting best practices.

Mr. Addison of FAA asked about aircraft operating in multiple FIRs, and whether there are differences in FIRs or specific satellites used in different regions. Ms. Brewer responded that the central causes for the difference are routes with numerous media transitions. She added that if aircraft fly these routes, performance is slower per design.

9.5 IATA Airline Progress in Implementing PBCS [WP04/IATA]

Mr. Blair Cowles provided IATA's report on airline progress in implementing PBCS. Mr. Cowles noted that the majority of airlines were PBCS compliant or had plans for airframes to become compliant. Common issues stem from North Asia airlines, as some were not flying correct flight plans. He added that IATA will determine whether the issues stem from certification or flight plan filing.

Mr. Cowles then referenced the JCAB presentation, which highlighted passenger airlines that will not seek Boeing 747 certification, due to pending retirement of this aircraft type. He added that some aircraft types are waiting for elements from the original manufacturer. Mr. Cowles then noted that some airlines have made a decision not to certify certain aircraft for various reasons, such as some airlines planning to move non-PBCS aircraft out of PBCS airspace.

JCAB noted that in their survey, when an aircraft is certified, it has a significant impact. They will repeat the survey in May/June 2020 and asked for FAA support with compiling a Target List. Mr. Addison pulled data for NOPAC and North America, and one aircraft showed up in the data, but indicated certification is coming later. Mr. Cowles responded that IATA will discuss the issue at the Oceanic Working Group (OWG).

9.6 Use of Appropriate CPDLC Message Element [IP08/JCAB]

Mr. Aoto of JCAB presented a briefing on the use of an appropriate CPDLC message element. He reviewed provisions and guidance in PANS ATM and the GOLD Manual. He noted issues with the clearance request composed in free text in TOPS due to TOPS conflict probe response messages. He then reviewed issues associated with ATSU and closed messages. He displayed a TOPS screen snapshot and shared actual examples for vertical requests by free text. He also reviewed actual examples for deviation requests by free text, used in many cases. He then reviewed speed/route requests by free text. He provided guidance for composition of these messages for each example. He also shared a chart depicting the number of deviation/offset requests and noted the difference between deviation and offset. Mr. Mike Matyas noted that Boeing is considering improving the flight deck interface that flight crews use to make these requests. FANS CPDLC does not have choices for both sides. There are cases when they request offset, and each side is available. They expect that CPDLC baseline 2 will be revised before implementation and intend to propose a "both sides" element in baseline 2. That element would only apply to weather deviation, not to offset requests. Mr. Aoto responded that there is a circumstance where the crew requested offset, not deviation. JCAB believes these cases were intended for deviation, and asked the

operators to take note of the difference. Mr. Cowles said they would share this information with their APAC regional coordination and global flight ops groups. Mr. Cowles asked if this is a general problem or concentrated on an airline or country. Mr. Aoto noted that they tried to determine trends among operators, however there was not a particular trend by operator. He noted that it is likely the individual flight crews or situations. Mr. Wada asked if there is a request by voice, and whether there is a clear stipulation between CPDLC and voice. He then asked if any operators could answer the voice both sides request. A representative from ANA responded that they need both sides voice deviation request; there is no difference between the voice and CPDLC in the rule. From a pilot's point of view, they want to request both sides deviation; however, controllers ask them to choose left or right in many cases. As a result, they choose one and request it. Mr. Aoto asked if this occurs in Fukuoka FIR when they request both sides deviation, and ANA confirmed. Mr. Aoto added that in their ground system, both sides is displayed as left or right. Controllers read this request and operate accordingly. He added that JCAB will make sure to notify controllers on the left or right display, and that they plan on improving ground system display. The representative for ANA responded that their company has told them to be careful how the request is made for both side deviation. Mr. Matyas added that if they changed the hardware for a both sides request, then the ARTCCs would encounter issues, as "both sides" is not defined for FANS CPDLC. The addition of "both sides" would require a change to the FANS CPDLC definition. He added that one solution that may work is for flight crews to select one of the defined choices, and then append free text indicating both sides request. On Boeing aircraft, the page where the pilots make the request also allows them to add free text. He then asked how controllers would handle such a request with "both sides" free text. Ms. King of ZOA responded that they would give a left or right deviation. Ms. Ishida of ATMC added that they give both sides deviation if possible. Gene Cameron of United Airlines added that, at a previous ISPACG meeting, [previous meeting?], Boeing released a 787 fleet bulletin 7 [did Boeing put out the bulletin for the 787?] for weather deviations. When planning to deviate on single side of the route, the request distance was proceeded by an L or R. When a deviation is desired on either side of route, enter a numeric distinct without direction specific. ATC will protect both left and right sides of route. Ms. Brewer added that in GOLD edition 2, there is a note in the weather deviation section on this topic. It says when either side is requested, it is agreed that crew wants to deviate both sides of the route. Mr. Aoto added that in Gold edition 2, the parameter for either side will be added for deviation and offset. JCAB understands that this interpretation was causing problems in multiple regions. Including this description in GOLD will be a countermeasure. JCAB has a recommendation that deviation will be L and R in GOLD guidance. Mr. Wada added that the original intent of CPDLC was to make it easy to understand with simple and clear message for non-natives. The meaning of either side is different, which means the words may be interpreted as both or one or another, and sometime pilots are confused. Going forward, it is necessary for terminology in PANS ATM to be clarified.

9.7 INMARSAT Update [PPT04/INMARSAT]

Ms. Lisa Bee provided an overview of INMARSAT activities including Classic Aero and SwiftBroadband-Safety. Ms. Bee discussed the design for High Availability, and then described how aircraft terminals detect link loss with satellites, ground earth stations (GESs) and satellite access stations (SAS) both in Classic Aero and in SwiftBroadband-Safety. She displayed a heat map from September 2019 ADS-C 155 K reports and included information from the NAT Region on NAT Coverage and Satellite Availability, noting most outages occurred in the ground segment, not the space segment. She then covered GES software and hardware upgrades, highlighting that it extends the service life of classic aero and meets PBCS requirements, as well as supports new operational enhancements. She noted the capability and support for evolving SATVOICE including work on SATVOICE for Routine ATS Comm, LRCS Voice and SATVOICE VOIP Services. She highlighted that JCAB has implemented VOIP Service.

She then covered SwiftBroadband-Safety and ADS-C Data. She noted that Airbus committed to SB-Safety on 320, 330, 350 aircraft, and that Boeing committed to 777-X and 737 MAX aircraft. Ms. Bee also covered SB-S ACARS Ground Gateways new configurations, SB-S service and security enhancements, and the PBCS RCTP Assessment, noting that the PBCS RCTP assessment and data records from messages with uplink and downlink messages were completed. She highlighted the positive performance of SB-Safety.

Ms. Bee lastly reviewed the IRIS Program Objectives with European Space Agency for continental satellite communications. She also covered the IRIS Framework diagram as well, noting the European Airspace with 10 million flights per year and projections for a 45 percent increase in air traffic by 2025. She also shared the working schedule for IRIS.

10.0 Agenda Item 7: ATM Issues

10.1 NOPAC Redesign [WP01/FAA/JCAB]

Mr. Dennis Addison of the FAA delivered the joint FAA/JCAB paper on a proposed redesign of the NOPAC Route System. The redesign will take advantage of performance-based communication and surveillance (PBCS) 23 NM lateral separation to optimize the movement of aircraft through the NOPAC Route System. He noted that the NOPAC routes will be compressed into a smaller volume of airspace and provide more opportunity for optimized routes to the South of the NOPAC Routes.

Mr. Addison then asked the meeting participants for their input. He noted the need to discuss this with operators who are not a part of IPACG as well and glean feedback on the proposal by the IPACG 2020 Plenary. He added that Phase 1 would likely start in 2022. Mr. Roman of FAA then gathered data on aircraft using R220 and

displayed a graph of non-PBCS aircraft on R220, FL280 to FL400, from January to July 2019. He gathered the data from flights entering the Anchorage Oceanic FIR. Mr. Schnee from United Airlines proposed a question on Figure 7 Phase 3 cross-sectional chart. He asked if the areas in red were for planning purposes only, as the areas in red routes would not be available. He also inquired if the flight may be assigned higher or lower into PBCS or non-PBS airspace. Mr. Klancher of ZAN responded that the facility would not allow it due to safety concerns such as traffic conflicts. He added that in this scenario, operators would be required to be PBCS equipped. Mr. Schnee responded that his central concern is planning vs. reality, and the need to clarify if there are fewer options to climb or descend. Mr. Klancher responded that if the aircraft cannot fly M1/M2 outside the PBCS altitudes due to non-PBCS aircraft on R220 and R580, then the aircraft would be able to transition to M1 or M2 once the aircraft reaches FL340 and PBCS separation standards can be applied.

American Airlines responded and thanked JCAB and FAA for the effort. They then asked if you had to protect lateral separation, American Airlines would accept a reroute rather than flying through significant turbulence for a large amount of time. He also noted that airlines do not fly a minimum time flight plan. He stated that what may happen is that R220 will continue to be the heaviest loaded airway due to Russian overflight charges. He added that what may alleviate this is additional connections from R220 into Magadan airspace in Japanese Airspace. He noted that would take significant coordination between the three ANSPs. He added that another aspect for consideration, depending on the phase, may be the simplification of UPRs in PBCS airspace. Similar to NAT efforts, they could start looking at phasing out PACOTS structure over time, perhaps in phase 3 and beyond.
Mr. Klancher responded that ZAN is not ready for that change. Ms. King added that the PACOTS still cross a lot of traffic for aircraft that are not PBCS equipped.
Mr. Addison responded that R220 would be the heaviest route, but the opening of M1 would give an opening to an ultimate R220 route, as many of the PACOTS routes have alternate UPR procedures. As they reach NOPAC airspace, they become more complex. He noted that they can always look at the UPR procedures and simplify them.

Mr. Cowles of IATA noted that they discussed the draft paper previously in the RCG in September in Singapore, and the feedback was positive. He asked how IATA should solicit and collate feedback for the survey. Mr. Klancher recommended sharing the paper with the airlines for a 3-month survey and comment period and then FAA and JCAB would compile responses to concerns. He noted that FAA and JCAB also look to solicit comments from non-IATA members. Mr. Shigenobu of JCAB added that JCAB agrees with the approach and would like to allow the months of January through March to receive the feedback. Mr. Cowles responded that IATA will compile the comments with the March 31 deadline. Mr. Cowles then asked about the timeframe between the three implementation phases, noting milestones that must be achieved. Mr. Klancher responded that it has not yet been determined, however likely 6 months to a year between phases.

10.2 Traffic Flow on NOPAC Routes [PPT07/ENRI/JCAB]

ENRI provided an overview of traffic distribution during peak times in the NOPAC. They provided a data analysis of the target period and data source as well. Mr. Schnee of United Airlines suggested that they also look at domestic traffic for the study in the future. ENRI responded that they would consider this suggestion in their future analysis.

10.3 High Altitude UPR [IP09/JCAB]

Ms. Ishida of JCAB provided a briefing on JCAB's High Altitude UPR trial that began in March 2016. She noted that at the beginning of the trial, the condition for application was 180°E at FL400, however, JCAB amended the AIC to 180°E at FL380 in October 2016. The number of applicable aircraft doubled due to the deregulation. She noted that IATA requested that JCAB add EMRON and KALNA as the gates for westbound high altitude UPR, therefore adding two gates to the north of LEPKI.

Ms. Ishida noted that during IPACG/43, they compared the number of high-performance aircraft flying westbound high-altitude UPR at the beginning of the trial and currently in the Fukuoka FIR. She explained that the number of aircraft flying at high altitude had been increasing. In addition, there was a concern that the application of the ADS-C reduced separation would be restricted due to PBCS implementation. She stated that the necessity to assess the impact of PBCS implementation and operational measures continues.

Ms. Ishida shared that there are aircraft in competition for departures from domestic airports. Therefore, JCAB considered introducing a trial of eastbound high altitude UPR, considering the efficiency of traffic as a whole. As a result, JCAB scheduled a large-scale system update from ODP to TOPS for oceanic control. As a result, JCAB may be able to grant the requests from merging aircraft in congested airspace. Therefore, JCAB reported that they would expand the gates of westbound UPR and start the trial of eastbound high altitude UPR after the TOPS transition.

Ms. Ishida noted that currently, the PBCS approval rate for the entire Fukuoka FIR oceanic airspace is approximately 70%. However, the burden on the controller has decreased due to the transition to TOPS. Therefore, JCAB decided to add KALNA as the northernmost gate.

Ms. Ishida noted that JCAB will start an eastbound high altitude UPR trial, and shared the conditions that will be applied to the trial. AIC will occur April 23, 2020.

Mr. Schnee of United Airlines responded that the westbound UPR is beneficial due to access, and it has natural flow. He asked if it will be available for overflights. Ms. Ishida confirmed that it can indeed be used for overflights as well.

10.4 Weather Deviation [WP02/FAA]

Mr. Dennis Addison of FAA provided a concept of operations for Weather Deviation Clearances. Mr. Addison stated that convective weather creates serious risk, and therefore aircrews need to avoid it for safety purposes. He added that whenever possible, ATC should provide lateral deviation clearances, when requested, if separation will be maintained. He noted that because an aircraft with a lateral deviation clearance may make several turns to avoid the weather, ATC currently has no predictability on the effect to longitudinal separation. The paper provided information on the U.S. effort to introduce longitudinal predictability to weather deviations and increase the availability of lateral deviation clearances.

Mr. Ron Hay of IFALPA responded to the presentation, and asked how airline crews establish a 30 degree boundary limitation, as it is not possible on aircraft to display this limit. Mr. Addison responded that some pilots previously mentioned putting the aircraft into a different track select mode. Mr. Hay noted again that there was no way to establish the specified boundary on any aircraft. Mr. Addison responded that he would like to further discuss with IFALPA to find a way forward.

10.5 Monitoring Agency Activity in North Pacific Airspace [IP05/FAA/JASMA]

Ms. Theresa Brewer of FAA presented an information paper regarding relevant safety monitoring activities conducted for the North Pacific Airspace by two ICAO-endorsed monitoring agencies, the Japan Airspace Safety Monitoring Agency (JASMA) and Pacific Approvals Registry and Monitoring Organization (PARMO)), which provide en route monitoring agency (EMA) and regional monitoring agency (RMA) services for the North Pacific Airspace. The purpose of the information paper was to increase awareness of the monitoring agency activities. The accompanying presentation contained a relevant summary of the most recent reports delivered to Regional Airspace Safety Monitoring Advisory Group (RASMAG) by JASMA and PARMO. RASMAG/24 produced five conclusions for review by the Asia/Pacific Air Navigation Planning and Implementation Regional Group (APANPIRG). Three of the RASMAG conclusions concerned PBCS. These conclusions require States to include the filed required communication performance (RCP) and required surveillance performance (RSP) capability information for each flight operation listed on the annual traffic sample data (TSD). Ms. Brewer shared that one of the RASMAG/24 conclusions initiated a RASMAG effort to provide improved understanding of safety issues and initiatives identified by RASMAG. Ms. Brewer highlighted that safety bulletins developed by relevant international organizations and concerned States and endorsed by RASMAG were posted on the ICAO Asia Pacific website and will be circulated by State Letter, in addition to informal circulation by RMAs and EMAs. Ms. Brewer noted that the monitoring agencies, IATA, IFALPA, and ICAO are developing the safety bulletins.

11.0 Agenda Item 8: Review and Update of CNS/ATM Planning Chart

Due to time constraints, the CNS/ATM Planning Chart was reviewed and updated during the final meeting of the IPACG PM/24.

12.0 Agenda Item 9: Action Item Review

Due to time constraints, Action Items from IPACG 44 were reviewed and updated during the final meeting of the IPACG PM/24.

13.0 Agenda Item 10: Other Business

Mr. Usmani announced that IPACG/46 would be held in the U.S. in August or September 2020, and that further details would follow. Mr. Usmani then thanked Mr. Sato and JCAB for hosting IPACG/45. Mr. Sato thanked his co-chair and the IPACG delegates for a productive meeting and officially closed the meeting.

Mr. Ahmad Usmani	Mr. Fumio Sato
Co-chair for FAA	Co-chair for JCAB