



FANS Interoperability Team Meeting (FIT/19)

Nadi, Fiji, 28-29 February 2012

Meeting Report

Agenda Item 1 – Feedback From Operators

As we have stated in previous FIT meetings fuel continues to play a large part of airline operating costs, and therefore UPRs and DARP continue to be important tools to help reduce fuel burn. Operators again expressed their appreciation for all the work being undertaken in the region in terms of benefits to operators. However opportunities to improve these procedures remain. Manufacturers are encouraged to fix problems which have been identified that are limiting full application of these procedures. ANSPs in the region are also encouraged to include improvements in their ground automation systems and work programs to ensure all the benefits from the use of these fuel saving procedures can be realized by operators.

Some operators in the region see value and are equipping with ADS-B equipment and associated applications to enable ITP procedures. Other operators see more value in full development of ADS-C based CDP procedures even though they are slightly more limiting than the ITP procedures. ADS-C CDP can be accomplished without additional equipment or applications or the need for additional pilot training. ANSPs are encouraged not to favor one procedure over the other but rather develop both of these potential fuel saving procedures on an equal basis.

There was also feedback that although some operators have RNP-4 operational approval they are not filing for RNP-4 in their respective flight plans due to the perceived additional cost in data link charges required for increased ADS-C surveillance without the commensurate operational savings. And yet some operators have RNP-4 operational approval and are filing RNP-4 however they are not realizing the full benefit due to the low numbers of aircraft filing RNP-4 in the airspace. OEMs and regulators in the region are encouraged to work with operators to achieve RNP-4 operational approval and to start filing RNP-4 in their flight plans. ANSPs in the region can develop additional information and presentation material to highlight to operators the additional potential fuel saving benefits that can be achieved with the full application of RNP-4 in the region as they are projected to be significant when all aircraft in the airspace file for RNP-4.

Agenda Item 2 – Feedback From ATSUs

All ANSPs in the region have been working over the last year to support the new 2012 flight plan.

Performance monitoring per the GOLD requirements is an important part of an ANSPs safety management system and also an important part of the continuous quality improvement program for CPDLC and ADS-C. Although some ANSPs are providing monitoring data, per the GOLD requirements ALL ANSPs are strongly encouraged to develop plans or continue existing work programs to provide system monitoring data. Also it should be noted that having the capability to monitor their system and airspace performance with respect to CPDLC and ADS-C are an important part of their respective safety management systems required by ICAO when these services are offered.

Many of the ANSPs are having challenges getting operators in the region to gain RNP-4 operational approval. Many of the airframes operating in the region are RNP-4 capable however one ANSP confirmed that only 25% of capable airframes in their airspace are actually filing RNP-4. ANSPs again encouraged OEMs and regulators in the region to assist operators to achieve RNP-4 approval. This will have a significant impact on improved efficiency and associated reduction in carbon emissions. One ANSP is developing data which will help show how much fuel could be saved in their FIR, which is the largest in the region, and that the fuel savings are significant.

Also several ANSPs in the region including the FAA, New Zealand, and Australia see promise with SATVOICE and support its use. And some of the region's ANSPs were supporting a special ICAO SATVOICE taskforce and were pleased to announce that the taskforce's work was in the final stages of releasing SATVOICE Guidance Material which will be used as the basis for implementing a SATVOICE service throughout all ICAO regions.

Agenda Item 3 – Feedback From Communication Service Providers (CSPs) ARINC and SITA

Both ARINC and SITA have been actively supporting the PARC Communications working group activity with FANS over Iridium and Inmarsat classic aero over the new I-4 satellites. Both activities were seen as important and participants thanked the DSPs for their continued support in these areas.

Additionally both ARINC and SITA are rolling out and or improving their SATVOICE safety services capability in coordination with the ICAO SATVOICE taskforce. It was noted by users that although CSPs are supporting SATVOICE services through Inmarsat and Iridium, similar SATVOICE capability is not currently available from MTSAT for ANSPs.

Action: SITA to provide an update at the next ISPACG: Enable SATVOICE services over MTSAT for ANSPs.

Agenda Item 4 – Working Papers

WP-01 PARC FANS 1/A Over HF DL Recommendations (Presented by the FAA)

A FANS Over HF data link trial was conducted over the last year. In the beginning of the trial the performance of the HF data link network showed improvement and was meeting RCP 400 performance requirements. However later in the trial, performance degraded to a point where the trial was suspended. Subsequent to suspension of the trial the main airline participant in the trial withdrew their support as they were shifting their focus to other technology. However the FAA and other ISPACG stakeholders continue to see value in the use of HF data link and are currently seeking other operators potentially interested in restarting a FANS over HF data link trial.

WP-02 GOLD analysis overview for Oakland Center

All three FIRs (Oakland, Anchorage and New York) met the 95% criteria for RCP240 ACP, ACTP and RSP180 ADS-C.

Between 2010 and 2011 the Oakland FIR performance was observed to be stable while seeing a 10% increase in ADS-C data and a 7% increase in CPDLC transaction data.

The anchorage FIR performance observed to be relatively stable with an improvement at upper tails 70% increase in ADS-C data and a 77% increase in RCP CPDLC transaction data.

The New York FIR saw a notable improvement in performance with a 10% increase in ADS-C data and a 29% increase in RCP transaction data.

SATCOM availability continues to be an issue. Both Inmarsat and Iridium SATCOM systems experienced more than the allowable outage time for the year. This has been an ongoing problem for the last several years.

There are 21 commercial operators contributing to the top 90% of ADS-C downlink messages from all media types.

20 of the 21 operators meet the 95% criteria for RSP180 ADS-C and RCP240 ACTP and ACP.

19 of the 21 operators meet the 95% criteria for PORT within 60 seconds.

2 of the operators meet the 99.9% criteria for RSP180 ADS-C.

6 of the operators meet the 99.9% criteria for RCP240 ACTP.

5 of the operators meet the 99.9% criteria for RCP240 ACP.

One operator operating one aircraft type (a Boeing 767-300) does not meet the 95% criteria for any of the RSP180 or RCP240 performance measures when all media are combined.

SATCOM and VHF performance meets the 95% criteria for all RSP180/RCP240 performance measures. However, they are not meeting the 99.9% performance requirements.

HF performance does not meet 95% criteria for any RSP400/RCP400 performance measures.

3 airframes were performing noticeably below average.

It was noted that ADS-C performance is always lagging below CPDLC performance on the same aircraft type using the same communication media. One of the contributing factors for the lower observed performance is the use of multiple ADS-C contracts initiated on the same aircraft by multiple ANSPs. It was suggested that ANSPs develop plans whereby only the ANSP from which the aircraft is operating holds the ADS-C contract and other ANSPs requiring ADS-C data can request and receive the data via AIDC. Along the same line it was also suggested that ANSPs develop plans to share automatic handoff data via the AIDC which will have a positive effect on success of automatic handoffs.

Action: ISPACG planning team to develop plans for the use of AIDC for managing ADS-C contracts and automatic handoffs and coordinate this plan with other regions for potential addition to the GOLD

WP-03 GOLD Performance Analysis Tool (G-PAT) Status (Presented by the FAA)

This paper provides the current status of the GOLD – Performance Analysis Tool (G-PAT). G-PAT is software which can be used to create GOLD performance charts from input Controller Pilot Data Link Communications (CPDLC) and Automatic Dependent Surveillance - Contract (ADS-C) data. The G-PAT has a graphical user interface (GUI) which can be run on a MS Windows-based personal computer.

G-PAT will import pre-filtered data in the GOLD format and create the requisite cumulative distributions and generate the reports and charts selected by the user. Currently G-PAT is in beta test with a few selected users. The FAA is awaiting responses from these users and will eventually make G-PAT available to all ANSPs.

The prescribed data for the CPDLC and ADS-C data found in Appendix D of the GOLD are needed to successfully run the software. The input file must contain data of only one type; CPDLC or ADS-C. A file containing



the CPDLC data and another file containing the ADS-C data are needed to create Required Communication Performance (RCP) and Required Surveillance Performance charts.

Airways, Fiji, Tahiti, and Airservices have received a copy of the tool and some have been able to use the tool with data generated from their CPDLC, ADS-C ground automation systems. Others will soon be testing the tool and providing feedback to the FAA.

WP-04 Iridium Status (Presented by the FAA)

A FANS 1/A aircraft, per the Global Operational Data Link Document (GOLD), is an aircraft with a data link system that has been certified in accordance with the requirements specified in RTCA DO-258A/EUROCAE ED-100A.

DO-258A/ED-100A includes provisions for use of very high frequency (VHF), satellite and high frequency (HF) sub-networks that are compatible with the aircraft communication and reporting system (ACARS) network. However, it does not require or specify any specific sub-network(s) that an aircraft must use for FANS 1/A operations.

Currently, throughout the world, operators with FANS 1/A aircraft use controller-pilot data link communications (CPDLC) and automatic dependent surveillance – contract (ADS-C) services using a variety of sub-networks, including VHF (Mode 0/A and Mode 2), Inmarsat Classic Aero over the I3 and I4 satellites, Iridium short burst data (SBD), and HF data link (HFDL).

The FAA certifies FANS 1/A aircraft in accordance with Advisory Circular (AC) 20-140A, Guidelines for Design Approval of Aircraft Data Link Communication Systems Supporting Air Traffic Services (ATS), and authorizes operational use of data link in accordance with AC 120-70B, Operational Authorization Process for Use of Data Link Communication System, and FAA Order 8900.1, Flight Standards Information Management System (FSIMS). For FANS 1/A aircraft, these FAA documents recognize DO-258A/ED-100A or previous version, as acceptable means of compliance, which is consistent with the GOLD definition.

Note: a copy of AC 120-70B can be found on this web site
http://www.faa.gov/about/office_org/headquarters_offices/ato/service_units/enroute/oceanic/data_link/

Further, these FAA documents recognize a number of sub-networks and associated standards as acceptable means of compliance for FANS 1/A aircraft, including Iridium's SBD services compliant with RTCA DO-262A,

Minimum Operational Performance Standards for Avionics Supporting Next Generation Satellite Systems (NGSS).

The FAA have certified FANS 1/A aircraft that use the Iridium SBD sub-network, i.e., FOI aircraft, in accordance with AC 20-140A, and have authorized operators to use these aircraft, in accordance with AC 120-70B. Other appropriate authorities have also issued design approvals and authorized operational use of FOI aircraft.

The FOI equipage rate is expected to increase dramatically. The FAA and other appropriate authorities are continuing to certify FOI installations and authorize operations for FOI use. The FAA is aware of a number of operators that already have existing programs to install FOI equipment on a significant number of aircraft, and plans to use CPDLC and ADS-C services with these aircraft.

In accordance with the ICAO Standards and Recommended Practices, Regional Supplementary Procedures (Doc 7030), GOLD and other ICAO guidance material (e.g., ICAO Doc 9925), FOI is a viable means for conducting ATS communications and FOI aircraft are eligible for CPDLC and ADS-C operations in the Pacific Region.

Action: ISPACG is encouraged to accept FOI as a viable means for conducting ATS communications, and that FOI aircraft are eligible for CPDLC and ADS-C operations in the region.

WP-05 CPDLC use of UM 175 “Report Level” (Submitted by Airbus)

The next Airbus new “FANS A” products (e.g. FANS A+B function on A350XWB) are designed and developed in compliance with Doc4444 PANS/ATM document, the GOLD V1.0 document, and the Oceanic SPR Standard RTCA DO-306/EUROCAE ED-122 document.

As some messages (uplinks and downlinks) in these documents are “Reserved” or stated “Avoid use”. Airbus’s next new “FANS A” products will modify the baseline FANS message set and remove these messages. If one of the messages that have been removed from the message set is uplinked to the aircraft it will respond with an ERROR message without notifying the flight crew. The list of “reserved” uplink elements that will be removed from the baseline message set follows.

13 (reserved) AT [time] EXPECT CLIMB TO [level] Status in ED122 and GOLDV1.0: Avoid Use

14 (reserved) AT [position] EXPECT CLIMB TO [level] Status in ED122 and GOLDV1.0: Avoid Use

15 (reserved) AT [time] EXPECT DESCENT TO [level] Status in ED122 and GOLDV1.0: Avoid Use

16 (reserved) AT [position] EXPECT DESCENT TO [level] Status in ED122 and GOLDV1.0: Avoid Use

17 (reserved) AT [time] EXPECT CRUISE CLIMB TO [level] Status in ED122 and GOLDV1.0: Avoid Use

18 (reserved) AT [position] EXPECT CRUISE CLIMB TO [level] Status in ED122 and GOLDV1.0: Avoid Use

185 (reserved) AFTER PASSING [position] CLIMB TO [level] Status in ED122 and GOLDV1.0: Avoid Use

186 (reserved) AFTER PASSING [position] DESCEND TO [level] Status in ED122 and GOLDV1.0: Avoid Use

40 (reserved) IMMEDIATELY STOP CLIMB AT [altitude] Status in ED122 and GOLDV1.0: Avoid Use

41 (reserved) IMMEDIATELY STOP DESCENT AT [altitude] Status in ED122 and GOLDV1.0: Avoid Use

33 (reserved) CRUISE [altitude] Status in ED122 and GOLDV1.0: Avoid Use

Table A5-3. Crossing constraints (uplink)

42 (reserved) EXPECT TO CROSS [position] AT [level] Status in ED122 and GOLDV1.0: Avoid Use

43 (reserved) EXPECT TO CROSS [position] AT OR ABOVE [level] Status in ED122 and GOLDV1.0: Avoid Use

44 (reserved) EXPECT TO CROSS [position] AT OR BELOW [level] Status in ED122 and GOLDV1.0: Avoid Use

45 (reserved) EXPECT TO CROSS [position] AT AND MAINTAIN [level] Status in ED122 and GOLDV1.0: Avoid Use

Table A5-8. Report/confirmation requests (uplink)

175 (reserved) REPORT REACHING [level] Status in ED122 and GOLDV1.0: Avoid Use

Table A5-12. Additional messages (uplink)

178 (reserved) TRACK DETAIL MESSAGE Status in ED122 and GOLDV1.0: Avoid Use

Table A5-19. Reports (downlink)

72 (reserved) REACHING [level] Status in ED122 and GOLDV1.0: Avoid Use

The group asked that this list also be checked against the reserved messages in doc 4444. The group also suggested that any discussion to revise the current message set needs to be discussed as an amendment to DO-258A.

Boeing stated that deleting message that are not used would also save design work and testing time and that they would also look to remove unused message in future builds. It was also noted that many of the messages referenced above were not used operationally.

After much discussion in the group one of the long-standing ISPACG stakeholders reminded the group that until this proposal, the practice has been that airplanes would process all uplink elements and ANSPs would process all downlinks. It was also recognised that the GOLD recommends use of uplinks that are “reserved” per ICAO should be controlled operationally by not making them available to controllers in their respective ground automation systems. It was also recognized that although messages which are reserved may be used by some ANSPs. The GOLD also allows for these type of differences and would be documented in appendices which document regional differences. for

The FIT did not feel that it had the authority to make any formal statement on changing the message set. The group did recommend that a message set revision, should be implemented under a new message set version. The FIT did discuss and comment that if a version number change were to be pursued the group would support that work. The FIT has been keeping a list of lessons learnt over the last 16+ years and would also like this list to be considered in any version number change activity.

The FIT recommends that Airbus coordinate the removal of these messages as an amendment to DO-258A and appropriate ARINC standards.

Action: Airbus to coordinate this effort with appropriate industry groups to revise DO-258A and create a FANS-1/A CPDLC version 2 if changes to the message set are made.

WP-06 Uplink Routing Issues (Presented by Boeing)

The CRA have identified a recurring problem with uplink message delivery. Media Advisories are generated by the airborne communications management function to indicate loss or establishment of a communications medium. In the event that the satcom system has become temporarily unavailable but there has not been a complete loss of

connectivity (e.g., VHF is still available), some aircraft do not generate a Satcom Established Media Advisory when satcom becomes available again. When this occurs, SITA's tracking logic may not allow for successful delivery of uplink messages.

Two options for correction this problem were proposed in the working paper:

1. Request that Boeing, Airbus, and Gulfstream change the Media Advisory logic for all affected airplane models.
2. Request that SITA modify their tracking logic to consider medium used for the last FANS downlink message when routing FANS uplink messages.

One OEM informed the group that a retrofit program to modify software on all its affected in-service models would not be practical. Although the two other affected OEMs were not present at the meeting it was thought that they would have similar issues revising all the affected airframes. One operator noted that even with lack of media advisory messages SITA was able to deliver AOC messages and not ATS messages. Per RTCA DC-258A, SITA bases its FANS uplink routing on media advisory information. In the absence of media advisory information, SITA uses information on who is configured as the preferred SATCOM service provider.

Action: SITA to look into modifying their FANS routing logic to cope with the situation that avionics do not always send media advisory downlinks as described in AEEC-developed ARINC 620 and report back to the ISPACG planning team.

Action: Airbus and Gulfstream to review the proposal by SITA that avionics systems be modified to provide a SATCOM established media advisory when established and report back to the ISPACG planning team.

Action: The FAA also suggested that the DO-258A, and appropriate ARINC standards be reviewed and possibly revised to clarify any potential specification ambiguity or deficiency with respect to media advisory messages.

WP-07 Problem Report Briefing (Presented by the Central Reporting Agency)

The CRA has received 196 PRs logged via the FIT CRA website since ISPACG FIT 18. 55 of these occurred in the South Pacific. Please refer to WP-07 on the ISPACG FIT website for detailed information on the CRA problem report paper. (website = <http://www.airways.co.nz/ispacg/ispacg26/fit19.asp>)

WP-08 GOLD Performance Analysis (Presented by Airways)

Data obtained from post implementation monitoring is used to measure FANS-1/A system performance against Required Communications Performance (RCP) and Required Surveillance Performance (RSP). Data was presented using guidance from GOLD Appendix D. System availability measurement is based on reported outages by the CSP and observed outages in the FANS1/A application data records.

Overall performance continues to slowly improve as issues are identified and corrected through the regional Central Reporting Agency. Participation in the CRA process could be substantially improved as currently few stakeholders actually participate.

Action: Operators in the region are strongly encouraged to register on the CRA website and to start reporting problems. It was noted that operators cannot expect the benefits they are requesting and pushing for if they themselves do not participate in the corrective action and continuous improvement process.

Detailed performance analysis for ISPACG stakeholders is available on the CRA website at <http://www.ispacg-cra.com/>.

Action: ISPACG planning Team to review stakeholder support for the FANS1/A continuous improvement process in the region and investigate ways to improve participation.

Action: ISPACG planning Team to review Inmarsat and CSP feedback following the October 2011 outage of the Inmarsat 3F3 satellite and determine if ISPACG should seek clarification of lessons learnt from the CSP's and Inmarsat.

Action: Iridium to review use of the term "degraded performance" and seek to further clarify its meaning in regard to the classification of reported outages with respect to voice and data link services.

WP-09 SATVOICE Guidance Material (Presented by the FAA)

At ISPACG/25 FIT/18, the FAA presented a paper on the work of the Inter-Regional SATCOM Voice Task Force (IRSVTF). The NAT Systems Planning Group (SPG) and Asia/Pacific Air Navigation Planning and Implementation Regional Group (APANPIRG) mandated IRSVTF to produce globally applicable guidance material for using satellite voice for air traffic service (ATS) communications (SVGM) (Refer to NAT SPG Conclusion 46/5 and APANPIRG Conclusion 21/27a).

Since ISPACG/25, the IRSVTF held four virtual meetings and three face-to-face meetings to progress the draft SVGGM. A draft of the SVGGM was provided to the group for review and comment. The draft SVGGM is structured similarly to the Global Operational Data Link Document (GOLD).

Similar to GOLD, the ICAO EUR-NAT (Paris) and Asia-Pacific (Bangkok) Regional Offices will coordinate with ICAO HQ (Montreal) to maintain the SVGGM as a global document and to facilitate timely completion. Operational Data Link Panel (OPLINKP) work program includes amendments to ICAO Annexes/Procedures for Air Navigation (PANS) and Guidance material related to use of SATVOICE for ATS communications. OPLINKP is monitoring the IRSVTF work to assess ICAO material needed for approval at the 12th Air Navigation Conference in November 2012. The IRSVTF will provide recommendations, as necessary, to OPLINKP by March 2012. The IRSVTF is targeting SVGGM, First Edition, in March 2012, to support endorsement by NAT SPG/48 (June) and APANPIRG/23 (September).

Some members of IATA in the Asia Pacific region have expressed concerns with the use of SATVOICE. There are concerns regarding the communication costs of SATVOICE. There were also concerns about ANSPs that don't allow direct voice contact with airplane (use radio relay).

IATA's concerns were noted. Some of IATA's concerns were beyond the scope of the SATVOICE guidance material. The purpose was to provide guidance to those who choose to use satvoice. It is not meant to imply a pending requirement for airplane equipage. This may need more clarification in the forward to the document. The SATVOICE Taskforce secretariat committed to working with IATA to help address their concerns. It was also suggested that IATA members read the latest version of the SATVOICE guidance material as many of their stated concerns are addressed in the latest version of the document.

Some members of IATA in the Asia Pacific region have expressed concerns with the use of SATVOICE. There are concerns regarding the communication costs of SATVOICE. There were also concerns about ANSPs that don't allow direct voice contact with airplane (i.e., those that use radio relay).

Action: SATVOICE Taskforce secretariat committed to working with IATA to help address their concerns.

Action: IATA members to review the latest version of the SATVOICE guidance material and discuss their concerns with the secretariat.

WP-10 Problem Report Status (Presented by the CRA on behalf of Airbus)

Please refer to WP-10 and WP-10 Attachment A on the ISPACG FIT website for detailed information on the problem report status which can be found on the following website =
<http://www.airways.co.nz/ispacg/ispacg26/fit19.asp>

WP-11 DARP Issues (Presented by Airways)

DARP availability in the different SOPAC Flight Information Regions is dependent on the interoperability between the aircraft and the ANSP ground systems. There are two avionics characteristics that can result in denial of a DARP request. 1. Some avionics do not include the intersection fix between airways in the route request downlink. 2. Some avionics do not include the latitude and longitude associated with duplicate waypoint identifiers in route request downlinks.

Coordination between ANSP and AOC will be required to minimize the possibility of uplink rejects from aircraft because of an inability to resolve duplicate fix names in DARP.

Action: All ANSP and Airline stakeholders need to review current DARP procedures in light of the identified interoperability issues and determine if adequate mitigations exist to enable the continuation of DARP.

WP-12 FANS GOLD Performance Analysis (Presented by Airways on behalf of Airservices)

Although the representative from Airservices sent his regrets from not being able to participate in the meeting Airservices did provide a working paper providing observed performance measures as specified in the Global Operational Data Link Document (GOLD) from the operational data collected in the Brisbane FIR. The analysis includes performance of the Controller Pilot Data Link Communication (CPDLC) and Automatic Dependent Surveillance – Contract (ADS-C).

Airservices have developed a new tool to provide performance data per the GOLD requirements. In general the observed performance in the Brisbane FIR followed the performance observed in other SOPAC FIRs providing monitoring data per the GOLD requirements. Some of the performance data monitored did show some differences from data observed in other ANSP. This difference in observed data generated a generic question of how ANSP monitoring data gets validated. Since there are several ground automation system suppliers there will be several different programs used to generate the required monitoring data. There is currently no means to validate each region's performance monitoring data. This was seen as something that the ISPACG planning team should

take into consideration and raise to appropriate industry groups as appropriate. The concern is that much work could be undertaken and resources wasted investigating erroneous monitoring data.

Action: ISPACG planning team to develop a framework for validating GOLD performance data.

WP-13 Use of CPDLC Freetext with ADS-B In Trail Procedure (Presented by Airways)

If current free text usage is a valid indicator then free text forms an important part of CPDLC in NZZZ. In 2011 14% of downlinks from the aircraft and 19% of controller uplinks contained at least one free-text element. The NZZZ OCS has some “pre-formatted” elements available for use, some elements are constructed using “cut and paste” e.g SIGMET, and some free-text elements are automatically presented pre-filled to the controller e.g CANCEL BLOCK CLEARANCE. We do not have an accurate breakdown of the construction method used for all free text messages but controller feedback indicates that most free text messages are constructed by typing the required elements.

Discussions at OPLINK on the ITP procedure and the use of free text were carried out in light of current ICAO provisions. These discussions were centered on the specific provision that free text should be avoided except where pre-formatted. The discussions included the suggestion that free text be restricted in the ADS-B ITP such that only one other aircraft could be involved. This restriction, if implemented, would significantly limit the use of the ITP and is not seen as necessary by Airways New Zealand.

Current ICAO provisions regarding free text use are as follows:

- Annex 10 Volume II - 8.2.9.1 “Controllers and pilots shall construct CPDLC messages using the defined message set, a free text message or a combination of both”;
- Annex 10 Volume II – 8.2.9.1.1 “When CPDLC is being used, and the intent of the message is included in the CPDLC message set contained in the PANS-ATM, Appendix 5, the associated message shall be used”;
- Annex 10 Volume II – 8.2.9.5.2 “When considered necessary by the appropriate ATS authority, additional pre-formatted free text messages shall be made available to the controller for those occasions where the CPDLC message set contained in the PANS-ATM does not provide for specific requirements. In such cases, a list of pre-formatted free text messages shall be established by the appropriate ATS authority, in consultation with operators and other ATS authorities that may be concerned.”

- Annex 10 Volume II – 8.2.11 “The use of free text messages by controllers or pilots, other than pre-formatted free text messages referred to in paragraph 8.2.9.5.2, should be avoided. *Note.— Whilst it is recognized that non-routine and emergency situations may necessitate the use of free text, particularly when voice communication has failed, the avoidance of utilizing free text messages is intended to reduce the possibility of misinterpretation and ambiguity.*”

While the Annex and PANS/ATM Doc 4444 are silent on the meaning of pre-formatted messages the Global Operational Data-link Document (GOLD) offers the following guidance:

- Free text message element. (Usually referred to as a free text message) A message element whose content is variable, i.e. composed by the sender. The ATS provider may construct a set of preformatted free text messages to relieve controllers of the burden of repeatedly composing commonly used messages. Such a set should include an explanation as to the intended meaning of each message.
- Preformatted free text message. A standardized free text message that is created and formatted automatically by the aircraft system or ground system, so that the content may be used by the message recipient's automation.
- Standard message element. Any message element defined by ICAO Doc 4444 that does not contain the [free text] parameter.
- Standardized free text message. A free text message format that has been agreed by the stakeholders as a message that should be used for the purpose/intent shown in this document.

In the current ICAO guidance the use of free text other than through the use of pre-formatted message elements should be avoided to reduce the possibility of misinterpretation and ambiguity. Airways New Zealand contention is that the standardised free text elements as defined for the ADS-B ITP procedure provide the same level of protection against misinterpretation and ambiguity as identical pre-formatted elements when crews and controllers are appropriately trained. The use of pre-formatted messages and systems automation will certainly assist controllers and flight crews in message construction but in our opinion this has little if anything to do with misinterpretation and ambiguity.

Airways New Zealand does not see a need for any restriction in the use of the ADS-B ITP procedure because of standardised free text use and has no issues with the use of free text in the manner proposed. However,



Airways does recommend that during the trial period specific assessments are obtained from both controllers and pilots on the construction of the standardised free text elements. Following a successful trial it is Airways intention to automate the required free text message construct for the controllers.

Action: ISPACG to recommend to ICAO that there is no restriction in the use of the ADS-B ITP procedure because of standardised free text use and ISPACG no issues with the use of free text in the manner proposed.