International Civil Aviation Organization

**FOURTEENTH MEETING OF THE
ASIA/PACIFIC AIR NAVIGATION PLANNING AND
IMPLEMENTATION REGIONAL GROUP (APANPIRG/14)**

Bangkok, Thailand, 4 to 8 August 2003

Agenda Item 2.1: ATS/AIS/SAR Matters

PROPOSED AMENDMENT TO THE PACIFIC REGIONAL SUPPLEMENTARY PROCEDURES (DOC 7030) ON LOST COMMUNICATION PROCEDURES

(Presented by the United States of America)

Summary

This paper proposes an amendment to the Pacific ICAO Regional Supplementary Procedures to adopt region-specific lost communication procedures.

1.0 Introduction

1.1 The Pacific Regional Supplementary Procedures (Doc 7030 PAC/RAC) document does not contain specific procedures for lost communications. Therefore, lost communication procedures as stated in ICAO Annexes 2 and 11, and the PANS-ATM (Doc 4444) apply.

2.0 Background

2.1 At the Eighteenth Meeting of the Informal Pacific Air Traffic Control Coordination Group (IPACG/18), held in Tokyo, Japan on 8-11 October 2002, the United States Federal Aviation Administration (FAA) presented a proposal to amend the Doc 7030 PAC/RAC to add procedures for lost communications in the Pacific Region. It was noted that the existing ICAO procedures did not meet the needs of Pacific operators. The meeting agreed in principle to the FAA proposal.

2.2 At the Seventeenth Meeting of the Informal South Pacific Air Traffic Services Coordinating Group (ISPACG/17), held in Auckland, New Zealand on 12-14 March 2003, the FAA presented an updated proposal based on feedback gathered before the meeting. The procedures were further amended at ISPACG/17 and coordinated with all ISPACG and IPACG participants prior to presentation at ATS/AIA/SAR/SG/13. A final review of this procedure was presented at IPACG/19 in Tokyo on 14-17 July 2003, where final editorial changes were made and approved.

3.0 Discussion

3.1 With the congestion of flights operating in today's Pacific route systems, along with the availability of multiple methods for communication using controller-pilot data link communication (CPDLC), satellite communication (SATCOM), high frequency (HF), very high frequency (VHF) air-to-air, etc., the current ICAO lost communication procedures were no longer considered to be appropriate for the current Pacific operating environment. The following questions were considered:

a. What shall we consider to be a "total loss of communications?"

b. With the implementation of reduced vertical separation minimum (RVSM) and reduced horizontal separation (50/50, and shortly 30/30), do the current procedures provide enough time for controllers to determine that a flight is in a "lost comm" situation and adequately provide a controlled and safe environment for flights to carry out the loss of communications procedure?

c. Do the current procedures provide a safe means of separation not only for single aircraft contingencies, but multiple aircraft losses of communication along congested routes (sun-spot activity, satellite failure, etc)?

d. Do the current procedures provide direction to pilots as to what means are available for alternate communications over the Pacific (i.e., specific air-to-air VHF frequency or others)?

e. Do the current procedures provide a means to provide adequate separation to flights operating on routings other than their filed flight plan? Step climbs to be assumed? Coordination between ATC facilities?

f. Ultimately, what are the responsibilities for ATC and flight crews when exercising a Lost Communication contingency procedure?

3.2 In the North Atlantic (NAT) Region, procedures have been adopted which begin to answer the above questions. In the NAT, flights that experience a loss of communications do the following:

The pilot shall proceed in accordance with the last received and acknowledged oceanic clearance, including level and speed, to the last specified oceanic route point, normally landfall, then continue on the filed flight plan route. The pilot shall maintain the last assigned oceanic level and speed to landfall and, after passing the last specified oceanic route point; the pilot shall conform with the relevant State procedures/regulations.

3.3 The NAT procedures may not be sufficient for the Pacific Region, and especially for the "long-haul" flights that routinely transit the Pacific Ocean. They do, however, provide organization and a sense of control for flights that operate along congested routes (such as the NAT Organized Track System).

3.4 The existing ICAO lost communication procedures **DO NOT ENSURE** that ATC will be able to provide standard separation from surrounding flights. While ATC may be able to monitor the actions expected from flights in a "lost comm" situation and attempt to resolve conflicts, ATC may not be able to contact surrounding flights in order to move them out of the way depending on the type of communications failure (HF propagation, data link/SATCOM outages or any combinations thereto).

4.0 Proposed Amendment

4.1 The proposed amendment is found at Attachment A.

4.2 This proposal provides the following benefits:

a. Flights can and may opt to remain within their last assigned ATC clearance and be provided separation from surrounding flights.

b. Long-haul flights that must proceed in accordance with their flight plan profile may do so and ATC will ensure surrounding flights are provided information regarding the possible

execution of the procedure. However, as this is a contingency procedure, the assumptions in para 3.4 above remain.

c. On the occasion when a flight's filed flight plan altitude is lower than that currently assigned, the flight would not be required to, or expected to descend and may stay on course and at altitude until a higher altitude is required, then follow the offset contingency procedure.

d. Provides lost communication alerts for ADS aircraft

4.3 In addition to the requested change, it is recommended that all of the current contingency procedures (e.g., wake turbulence offset, weather deviation, emergency offset for climb/descent, etc.) be re-evaluated and updated as necessary. This would ensure that the procedures are still appropriate for today's oceanic environment and allow for possible changes to provide consistency in the actions required by each procedure.

5.0 Recommendation

5.1 The Group is invited to:

a. recommend adoption of this proposed amendment, and

b. recommend that all other contingency procedures be reviewed.

– END –

Proposal for Amendment of
Regional Supplementary Procedures - Doc 7030/4
MID/ASIA/PAC RAC/1

a) **Regional Supplementary Procedures, Doc 7030/4:**	PAC/RAC
b) **Proposing State(s):**	United States
c) **Proposed Amendment:**	On page PAC/RAC-9, dated 17/9/96, *Add* the following additional paragraphs and re-number the subsequent paragraphs.

4.0 COMMON PROCEDURES FOR RADIO COMMUNICATIONS FAILURE OF AIRCRAFT OPERATING IN OR INTENDING TO OPERATE IN THE PAC REGION

4.1 In the event of total loss of communication, an aircraft shall:

a) Try to re-establish communication with by all other means.

b) If all attempts to re-establish communication with ATC are unsuccessful:

1. Squawk 7600.

2. Broadcast in the blind at suitable intervals: flight identification, flight level, aircraft position (including the ATS route designator or the track code) and intentions on the frequency in use, as well as on frequency 121.5 MHz (or, as a back-up, the VHF inter-pilot air-to-air frequency 123.45).

3. Watch for conflicting traffic both visually and by reference to airborne collision avoidance systems or traffic displays (if equipped), and

4. Turn on all aircraft exterior lights (commensurate with appropriate operating limitations), and

5. Offset *10NM right* of last assigned track.

Note: if the flight is using ADS for position reporting the offset would trigger an out-of-conformance situation to ATC. ATC would then attempt to contact the flight, which should be unsuccessful, thereby alerting them to the situation.

6. If aircraft performance allows, maintain the last assigned speed and level.

7. If a change in level is required, after a period of *60 minutes* following either the failure to report over a compulsory reporting point (non-ADS), or from the time the aircraft was established on the offset (ADS), adjust speed and altitude in accordance with the filed flight plan, and

   i) Continue the *10NM* offset until communications are re-established and a new clearance is received.

   ii) *If cleared on other than filed flight plan route:* adjust speed and altitude (utilizing the abeam points where altitude changes were noted) in accordance with the filed flight plan.

8. Upon exiting oceanic airspace, the pilot shall conform to the relevant State procedures and regulations.

4.4.2 In the event of lost communication, ATC shall:

a) Continue to protect the aircraft's last assigned route and level, and

b) Issue essential traffic information as prescribed in ICAO Doc 4444, section 5-10 to all flights that could be affected by an aircraft executing this procedure based on flight plan information.

d) **Proposer's' reasons for amendment:**

a) With the congestion of flights operating in today's Pacific route systems, along with the availability of multiple methods for communication using controller-pilot data link communication (CPDLC), satellite communication (SATCOM), high frequency (HF), very high frequency (VHF) air-to-air, etc., the current ICAO lost communication procedures need to be updated to account for the current Pacific operating environment. The existing ICAO lost communication procedures do not ensure that ATC will be able to provide standard separation from surrounding flights. While ATC may be able to monitor the actions expected from flights in a "lost comm." situation and attempt to resolve conflicts, ATC may not be able to contact surrounding flights in order to move them out of the way depending on the type of communications failure (HF propagation, data link/SATCOM outages or any combinations thereto).

b) This draft amendment proposal provides the following benefits

1. Flights can and may opt to remain within their last assigned ATC clearance and be provided separation from surrounding flights
2. Long-haul flights that must proceed in accordance with their flight plan profile may do so and ATC will ensure surrounding flights are provided information regarding the possible execution of the procedure. However, as this is a contingency procedure, the assumptions in paragraph a) above remain.

c) On the occasion when a flight's filed flight plan altitude is lower than that currently assigned, the flight would not be required to, or

	expected to descend and may stay on course and at altitude until a higher altitude is required, then follow the offset contingency procedure. .
e) **Proposed implementation date of the amendment:**	Upon approval of the Council
f) **Proposal circulated to the following Sates and International Organizations:**	
g) **Secretariat comments:**	