



ICAO

International Civil Aviation Organization

Thirteenth Meeting of the Asia/Pacific Air Traffic Flow Management Steering Group (ATFM/SG/13)

Bangkok, Thailand, 03 – 07 April 2023

Agenda Item 4: Review of Current ATFM Operations and Problem Areas

ADDRESSING OF FLIGHT PLANS AND MISSING DEPARTURE (DEP) MESSAGES

(Presented by the Secretariat)

SUMMARY

This paper presents an update on the issue of missing departure messages, as discussed at multiple meetings of the Air Traffic Flow Management Steering Group (ATFM/SG) and ATM Sub-Group. The paper proposes to conduct a comprehensive regional analysis to assess the progress and current status of missing DEP messages in APAC States.

1. INTRODUCTION

1.1 An analysis of missing DEP messages had been conducted in 2017, in response to the following APANPIRG Conclusion:

Conclusion APANPIRG/27/12: *Origination and Distribution of Departure (DEP) Messages* That, recognizing the importance of AFTN departure (DEP) messages in the management and coordination of flight plans in both manual and automated ATM environments, ICAO be requested to:

1. Conduct an analysis of the incidence of non-receipt of DEP messages required by ICAO Doc 4444 Procedures for Air Navigation Services (PANS-ATM) Section 11.4.2.2;
2. Request that States failing to ensure correct transmission of DEP messages promptly take corrective action and report the status of corrective actions to the ICAO APAC Regional Office by 30 April 2017; and
3. Raise APANPIRG Air Navigation Deficiencies against failure by States to comply with Doc 4444 Section 11.4.2.2, at APANPIRG/28.

1.2 ATM/SG/5 in August 2017 had requested that ongoing analysis be expanded to include missing FPL messages. The March 2018 analysis presented to ATFM/SG/8 resulted in APANPIRG Air Navigation Deficiencies being raised against several Asia/Pacific Region States. An APAC State Letter was also sent to non-APAC States that were demonstrated by the analysis to be systemically failing to send DEP messages.

2. DISCUSSION

Addressing of FPL and Other Related ATS Messages

2.1 ICAO Doc 4444 Procedures for Air Navigation Services – Air Traffic Management (PANS-ATM) specifies in section 11.2.1.1.1 that messages for ATS purposes (including FPL and associated ATS messages) shall be originated by the appropriate ATS units, except that, through special local arrangements, ATS units may delegate the responsibility for originating movement messages to the pilot, the operator, or its designated representative. Many airlines, accordingly, distribute FPL messages direct to concerned ATS units rather than submitting the flight plan to the air traffic services reporting office for onwards distribution (Doc 4444 section 4.4.2).

2.2 PANS-ATM 11.4.2.2.2 further specifies that a Filed Flight Plan (FPL) message shall be sent to, inter alia:

- The Area Control Centre (ACC) or flight information center serving the control area or FIR within which the departure aerodrome is situated;
- All centers in charge of each FIR or upper FIR along the route; and
- The aerodrome control tower at the destination aerodrome.

2.3 PANS-ATM further specifies in section 11.2.1.2.3.3 that the following three letter designators (forming part of the AFTN address, together with the relevant ICAO four-letter location indicator and a supplementary letter, usually X) shall be used when addressing FPL and other ATS messages to ATS units:

If the message is relevant to an IFR flight	ZQZ(X)
If the message is relevant to a VFR flight	ZFZ(X)
Aerodrome control tower	ZTZ(X)
Air traffic services reporting office	ZPZ(X)

Other three-letter designators shall not be used for that purpose.

2.4 There are multiple examples of States in the Asia/Pacific Region specifying in their Aeronautical Information Publication (AIP) Section ENR 1.11 that FPL be addressed other than in accordance with PANS-ATM. The specification of non-compliant addressing requirements in State AIP (and, in some cases, in NOTAM) contributes to the non-receipt of FPL, DEP, and other related ATS messages.

2.5 In this regard, the meeting is reminded of the following Conclusion agreed by ATM/SG/7 (2019):

Conclusion ATM/SG/7-5: ATS Message Reception and Handling

Noting that incorrect flight plan addressing requirements published by States in AIP ENR 1.11 contribute to the non-reception of flight plans and associated ATS messages, and that simple technology solutions are readily available to permit redistribution of messages to all necessary internal units and organizations, States are urged to:

- 1. ensure that, in accordance with PANS-ATM 11.4.2.2.2 all FPL and associated ATS messages that are addressed in accordance with PANS-ATM to the centre in charge of each FIR along the route and the destination aerodrome control tower, are correctly received and redistributed to all necessary ATS units by the receiving State;*

2. note that, as specified in PANS-ATM 11.2.1.2.3.3, the correct address for the centre in charge of the FIR is [FIR location indicator] ZQZX, and other indicators shall not be used;

3. remove flight plan addressing requirements that do not comply with the above PANS-ATM provisions from AIP ENR 1.11; and

4. ensure that all three letter designators used in addresses are correctly registered in ICAO Doc 8585.

2.6 ICAO Doc 8585 (Designators for Aircraft Operating Agencies, Aeronautical Authorities and Services) provides a globally standardized three-letter designator for an Air Traffic Flow Control Unit: ZDZ. However, external originators of ATS messages (including FPL, DEP, etc.) are ICAO-compliant when addressing the messages to the Centre in Charge of any FIR entered (ZQZ for IFR flights) and the destination ATC Tower (ZTZ). The forwarding of ATS messages to any relevant ATFM unit is the responsibility of the Centre in Charge of the FIR, and not the originator of the ATS message.

2.7 There are also cases of States implementing the use of three-letter designators that are not assigned to them in ICAO Doc 8585 Designators for Aircraft Operating Agencies, Aeronautical Authorities and Services, but are in fact assigned to other States, authorities, or aircraft operating agencies.

2.8 It was noted that several States had amended their AIP Section ENR 1.11 to comply with the PANS-ATM provisions more closely.

2.9 The meeting is invited to note that ICAO APAC Office will continue to encourage improved compliance with the provisions of PANS-ATM through direct contact with States, and if necessary, through APANPIRG Air Navigation Deficiencies.

Missing DEP Messages Analysis

2.10 Following the analysis of missing DEP messages conducted in 2018, ATFM/SG/8 discussed steps to be taken to address the issue. State Letters were consequently sent by the ICAO Asia/Pacific Regional Office as follows:

- State Letters to APAC Administrations for which APANPIRG Air Navigation Deficiencies were proposed for non-compliance with the provisions of PANS-ATM (subsequently agreed by APANPIRG);
- A State Letter to all other APAC Administrations, and to non-APAC Administrations through their accredited ICAO Regional Offices, where the analysis indicated systemic failure to send DEP messages.

2.11 A further 24-hour data gathering activity was conducted on 14 June 2019. The planned data gathering and analysis from 2020 to 2022 was not conducted due to the impact of the COVID-19 pandemic on traffic volumes.

2.12 The original criterion used for the ANS Deficiency was the failure to send DEP messages for 10 flights or more. This criterion did not adequately capture poor performance from States with low numbers of international departures. It was therefore agreed by ATFM/SG and ATM/SG that the criteria will be five percent of flights. However, States with very low numbers of international departures, i.e., less than 20 per month, should be excluded from the Deficiency List due to the small sample size, but will be formally contacted by ICAO, and monitored closely.

Thailand Update

2.13 Thailand continuously monitors the non-receipt of DEP messages for flights entering the Bangkok FIR, and kindly agreed to provide data for the information of the meeting.

2.14 Overall Observation from most updated data:

- Overall Non-Receipt of DEP Messages: since Jul 2022 (8-month period up to Feb 2023), overall non-receipt of DEP message for Thailand perspective was at or below 5% of incoming flights.
- APAC Non-Receipt of DEP Messages: since Mar 2021 (2-year period up to Feb 2023), non-receipt of DEP messages for flights from APAC region was at or below 3% of incoming flights (number of non-receipt flights increased slightly as part of COVID-19-recovery).
- European Non-Receipt of DEP Messages: since Jul 2022 (8-month period up to Feb 2023), non-receipt of DEP messages at or below 15% of incoming flights; stabilizing at around 12-13% since Dec 2022.
- Middle East Non-Receipt of DEP Messages: for the past 1-year period between Mar 2022 - Feb 2023, non-receipt of DEP messages fluctuates between 15-24% of incoming flights.

2.15 For the period of September 2022 to Feb 2023, the following States were the most prominent originating States (more than ten flights per month) from which no DEP message was received by Thailand:

Turkey (91%), Kuwait (100%), Saudi Arabia (43%), Bahrain (100%), Maldives (56-81%), Oman (19-33%), Spain (60-61%), Switzerland,(39-44%), India (6-10%), Lao PDR (4-9%)

2.16 **Table 1** summarizes non-receipt of DEP messages for flights originating in the FIRs of APAC Administrations and entering the Bangkok FIR for the six months ending in February 2023 (missing DEP/Number of Flights).

Originating State	SEP 2022	OCT 2022	NOV 2022	DEC 2022	JAN 2023	FEB 2023	TOT %
Afghanistan	-	-	-	-	-	-	-
Bangladesh	2/407	3/456	2/468	4/475	3/508	2/525	<1%
Bhutan	1/19	0/17	0/13	2/18	1/21	0/14	<1%
Brunei Darussalam	0/31	0/33	0/30	0/39	0/30	0/28	<1%
Cambodia	3/618	4/683	1/730	2/736	1/745	1/673	<1%
China	3/558	6/554	2/583	0/614	2/703	0/1051	<1%
India	88/1401	134/1576	141/1722	187/1911	116/1852	94/1620	<6%-8%

Originating State	SEP 2022	OCT 2022	NOV 2022	DEC 2022	JAN 2023	FEB 2023	TOT %
Indonesia	10/280	9/323	6/386	7/372	4/367	7/349	<3%
Lao PDR	32/339	14/394	35/506	27/560	35/574	33/518	<6%-9%
Malaysia	37/1547	42/1588	63/1795	70/1908	46/1892	25/1833	<4%
Maldives	30/54	46/57	42/59	52/67	49/66	39/64	<50-60%
Myanmar	7/551	9/602	11/628	35/682	13/696	24/629	<3%
Nepal	10/301	4/282	5/323	6/309	7/279	0/278	<2%
Pakistan	0/98	6/105	1/100	2/111	2/111	0/102	<1%
Philippines	14/751	5/817	15/898	0/929	15/924	3/813	<2%
Republic of Korea	1/366	5/527	2/637	0/741	0/905	2/873	<1%
Singapore	1/1407	1/1541	1/1679	1/1866	1/1867	6/1689	<1%
Sri Lanka	0/54	1/52	0/49	0/59	0/53	1/55	<1%
USA	4/56	1/48	0/34	4/16	3/12	1/20	<7%
Viet Nam	3/1214	6/1414	7/1575	8/1665	10/1663	6/1510	<2%

Table 1 Non-receipt of DEP messages

APAC Data Analysis

2.17 The air traffic levels have only significantly recovered across the APAC Region. Realizing that the importance of the missing DEP messages issue is such that it should continue to be monitored. Therefore, another regional analysis was planned.

2.18 The planned data collection exercise was discussed during ATFM/SG/12 meeting in September 2022. It was agreed that States which had participated in the earlier exercise will be approached by ICAO Secretariat in October 2022 for collection and sharing of data within a specific time period. The data collected were analyzed by ICAO Secretariat for refining the regional scenario.

2.19 The APAC regional missing DEP messages analysis was conducted on 31 October 2022 based on the ATFM/SG/12 action item. Seven States, viz., Australia, Hong Kong China, India, Japan, Mongolia, Singapore and Thailand, provided data to ICAO on the number of FPLs received and number of missing DEP messages. The summary of the analysis is as shown below. (**Table 2**)

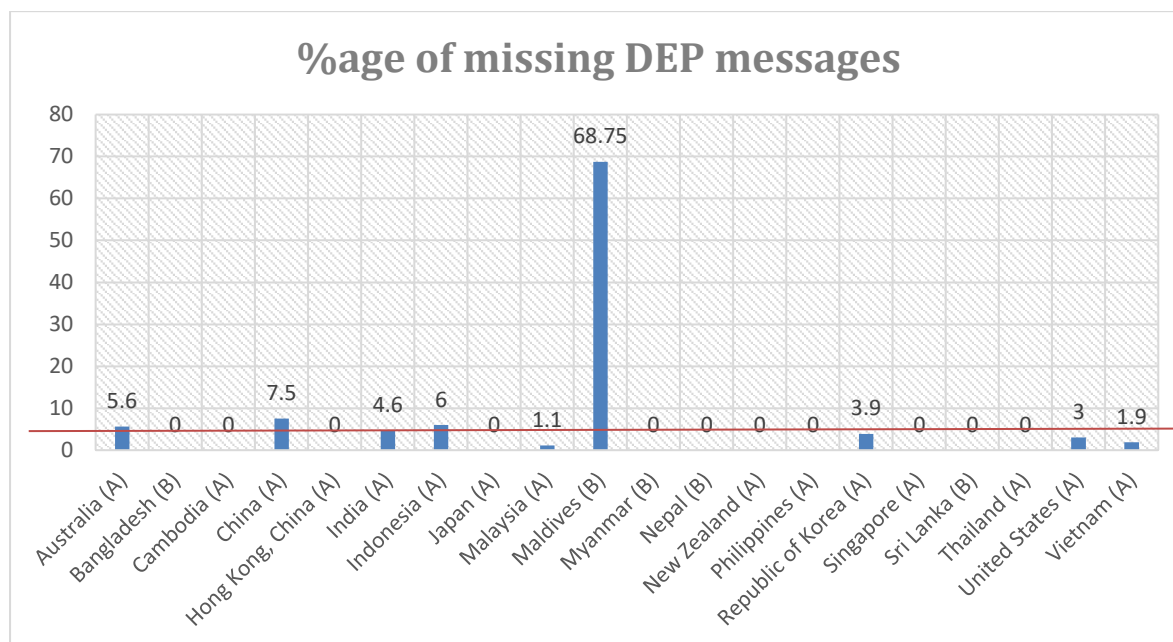


Table 2: % of missing DEP messages

2.20 The ICAO secretariat, based on the analysis, concluded that five States' improvement to meet the criterion was observed. Therefore, the following modification on the DEP message transmission deficiency was presented for consideration by APANPIRG/33, which was approved.

- Deletion – Bangladesh, India, Malaysia, Nepal and the United States

2.21 The above analysis was based on one day's data from a limited number of States. To assess a more realistic regional status it will be necessary to collect more extensive data from more number of States. Hence it is proposed to conduct another regional analysis of missing DEP messages in June. States will be requested to collect FPL data of all international flights operated in their respective FIRs for a period of one week along with number of missing DEP messages related to those flights.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

- a) note the information contained in this paper;
- b) note:
 - i) the ICAO Doc 4444 PANS-ATM procedures for the addressing of FPL and associated ATS messages;
 - ii) the contribution of incorrect addressing requirements published in AIP ENR 1.11, to missing FPL and associated ATS messages including DEP;
 - iii) the potential for APANPIRG Air Navigation Deficiencies, where appropriate, in cases where AIP ENR 1.11 does not comply with PANS-ATM
- c) note the list of current ANS Deficiencies relating to non-compliance with PANS-ATM Section 11.4, as agreed by APANPIRG/33;
- d) comply with **conclusion ATM/SG/7-5**: ATS Message Reception and Handling;
- e) take all steps to examine processes and system configuration, to improve performance in DEP message transmission;

- f) agree and participate in the regional data gathering and analysis activities as noted in para 2.16; and
- g) discuss any relevant matters as appropriate.

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