



International Civil Aviation Organization

**The First Meeting of the APANPIRG ATM Sub-Group
(ATM /SG/1)**

Bangkok, Thailand, 20 – 24 May 2013

Agenda Item 4: ATM Systems (Modernisation, Seamless ATM, CNS, ATFM)

FLIGHT PLAN 2012 POST IMPLEMENTATION REVIEW

(Presented by the Secretariat)

SUMMARY

This paper presents a Post Implementation Review (PIR) of Doc 4444 (PANS ATM) Amendment 1 (FPL 2012).

This paper relates to –

Strategic Objectives:

A: *Safety – Enhance global civil aviation safety*

Global Plan Initiatives:

GPI-6 Air traffic flow management

GPI-12 Functional integration of ground systems with airborne systems

1. INTRODUCTION

1.1 The Fifth Meeting of the Asia/Pacific ICAO Flight Plan & ATS Messages Implementation Task Force and Seminar (FPL&AM/TF/5& Seminar) was held in Manila, Philippines from 7 to 9 November 2011.

1.2 Australia proposed a Post Implementation Review of the 2012 Flight Plan implementation to gather and highlight identified flight plan discrepancies or omissions from Amendment 1, and a forum to clarify issues or propose additional changes to be incorporated into PANS/OPS ATM Doc. 4444.

2. DISCUSSION

APANPIRG/23 Discussion

2.1 Responses to the agreed quarterly questionnaire had generally been poor. Questionnaire responses were used to update the ICAO Flight Plan Implementation Tracking System (FITS) website. There had been considerable schedule slippage within the region.

2.2 In order to quantify the degree of concern about the Asia/Pacific Region's progress, and to prioritize any ICAO activities to assist States in their transition to NEW FPL and ATS message format, the Regional Office had conducted a risk assessment to determine the level of risk to the regional ATM network inherent in any administration's potential failure to transition to NEW format on or before 15 November 2012. The risk was assessed by using a simple likelihood and consequence risk analysis model.

2.3 A revised questionnaire was circulated for completion by 11 May 2012. The revised questionnaire included specific questions on the planned or achieved timing of each of the three implementation phases. Only nine replies were received by the due date, and as at 15 June 2012 only seventeen States/Administrations had responded. Seventeen administrations had not provided a response to any questionnaire in 2012.

2.4 A table of the results from the risk analysis and a chart of risk results updated during the APANPIRG/23 meeting are provided at **Appendix A** and **Appendix B** respectively to the Report on Agenda Item 3.2.

2.5 Information received in the updated questionnaire of April 2012 indicated that some States had been planning a ‘hard’ cutover from PRESENT to NEW format message processing on 15 November, without a transitional phase of operational mixed mode processing. This strategy would have introduced a number of risks, including those associated with the volume of traffic being handled by Asia/Pacific States at the cutover time (0000 UTC on 15 November). It may have also caused significant difficulty for airspace users in determining when all ANSPs along their planned routes had commenced accepting NEW format FPL.

2.6 In order to avoid the risks involved in a rapid cutover, and to align with strategies from other Regions, APANPIRG/23 agreed to the following Conclusion:

Conclusion 23/1 – Transition to NEW FPL Format

That, States are urged to commence operational acceptance and processing of both PRESENT and NEW format FPL and ATS messages as early as possible, and in any event no later than 0000 UTC on 12 November 2012, in order to avoid the risks involved in direct transition from PRESENT to NEW processing.

2.7 The Asia/Pacific Guidance Material had been discussed post FPL&AM/TF/5& Seminar and a number of changes were made to clarify:

- Expected Off-Block Time (EOBT) over midnight;
- DOF (Date of Flight) removal from item 18 of the flight plan when the EOBT was within 24 hours;
- submission of CHG messages (with changes to Field 18) that required conversion;
- the position on converter systems that should not be viewed as a long-term solution;
- DOF regarding AIDC messages being received when Field 18 was filed with zero ‘0’;
- filing of RNAV 5 aircraft as B1 in Field 18, not PBN/B2B3B4B5;
- Field 18 Estimated Elapsed Time (EET) string format;
- Field 18 Route Information (RIF) information consistency with Field 15c.

2.8 APANPIRG/23 agreed to the following Conclusion:

Conclusion 23/2 – FPL Guidance Material Version 5

*That, the Asia/Pacific Guidance Material for the Implementation of Amendment 1 to the 15th Edition of the Procedures for Air Navigation Services – Air Traffic Management (PANS-ATM, Doc 4444) is updated as Version 5 in accordance with excerpts contained in **Appendix C** to the Report on Agenda Item 3.2.*

2.9 The guidance material Asia/Pacific Guidance Material for the Implementation of Amendment 1 to the 15th Edition of the Procedures for Air Navigation Services – Air Traffic Management (PANS-ATM, Doc 4444) may be found on the ICAO Asia/Pacific Regional Office webpages at http://www.icao.int/APAC/Documents/edocs/FPL_Guidance_ver5.pdf

Risk Analyses

2.10 The use of a simple risk analysis tool provided the ICAO Asia/Pacific Regional Office with a means of prioritizing its activities in providing guidance and assistance to the States most in need. The risk analysis was updated each time new information was received. The assessed risk for each State was first distributed to the individual States under State Letter AP051/12.

2.11 As a result of the initial risk analysis, Regional Office missions to the states assessed to be at the highest risk were conducted, to provide guidance and assistance.

2.12 The Regional risk analysis, detailing the assessed risk for all States, was presented to the ATM/AIS/SAR/SG/21, APANPIRG/23 and DGCA/49 meetings. The publication of the Regional risk analysis at these meetings and in their reports proved to be an effective method for focusing States' attention on what was the highest priority ICAO ATM activity being undertaken in the Region.

Phased Implementation

2.13 The agreed Asia/Pacific implementation plan included three phases:

- i. 1 January – 31 March 2012 – Internal Testing;
- ii. 1 April – 30 June 2012 – External ANSP – ANSP Testing; and
- iii. 1 July – 15 November 2012 – Airspace User Testing and Implementation.

2.14 Despite the significant prior notice of the Amendment 1 changes, and the phases and their timing being agreed by the Task Force, few States implemented in accordance with the above schedule. Until ICAO Regional Office reiterated that the global aviation community was committed to the planned implementation date, many States held the incorrect opinion that Amendment 1 implementation would be deferred.

2.15 The Task Force's intention was that the operational acceptance of both NEW and pre-Amendment 1 formats should commence either on or as soon as possible after the commencement of Phase 3 on 1 July, to permit maximum opportunity for airspace user testing and the gradual increase in operational submission of the NEW format FPL.

2.16 Only one Asia/Pacific administration, French Polynesia, reported operational acceptance of both formats from 1 July. A further five administrations reached this stage by the end of July: DPR Korea, Fiji, Hong Kong China, New Zealand and Republic of Korea. By 1 September the total number of administrations operationally accepting both formats of messages was eight (now including Singapore and USA).

2.17 The ICAO Asia/Pacific Regional Office engaged in an intensive campaign of communication, requesting status reports and implementation updates from all administrations, and offering assistance and advice where necessary. Only 19 of the 42 Asia/Pacific administrations reported their intention to implement operational acceptance of NEW format FPL and ATS messages by, or on, the Amendment 1 implementation date of 15 November.

Informal Meeting of Task Force Chairs and International Organizations

2.18 After due consideration of the Region's inconsistent progress, the Secretariat identified the need for appropriate expert input and guidance for the critical final weeks of the implementation plan. As a full meeting of the Task Force was not a practicable option an informal meeting of the Task Force Chairs, relevant International Organizations and the Secretariat was proposed. The purposes of the meeting were to provide an update on the status of the Region's implementation of 2012 FPL, identifying any problem areas requiring further action by Regional Office, and formulating appropriate strategies or recommendations.

2.19 The meeting was subsequently held on 8 October 2012 at the ICAO Asia/Pacific Regional office. The outcome of the meeting was State Letter AP150/12, providing information and guidance on the following issues:

- status reporting and information sharing during the transition and post-transition period from 12 to 17 November;
- discontinuation of pre-Amendment 1 format messages;
- notification to industry of commencement of acceptance of Amendment 1 format messages;
- availability of guidance material;
- handling of non-standard FPL Item 18 entries;
- system issues, including down-conversion of new format messages and up-conversion of consequent messages, un-parsed messages and the need for full end-to-end testing of message delivery and processing in all ATM, AFTN/AMHS and peripheral systems; and
- management of system failures, including provision of additional staff resources, establishment of operational communications with neighbouring ANSPs, and consideration of procedures and instructions to manage traffic in the event of neighbouring ANSP's being unable to accept traffic due to FPL and ATS messaging failure.

Transition Monitoring

2.20 State Letter AP150/12 discussed the global transition activities planned for the period 12 – 17 November, including the close monitoring and gathering of information on each State's transition, and facilitation of the sharing of information between ICAO, the States, IATA and CANSO. Templates were provided for the daily reporting of status to the ICAO Regional Office.

2.21 A template for each of the six days in the transition period was provided. All information received, after clarification where necessary, was recorded in the Flight Plan Implementation Tracking System (FITS), available on the ICAO website, which provided all States, ANSPs and airspace users with updated information on each FIR's transition status.

2.22 The regional transition status was reported at 0400 UTC on each day. The readiness of Administrations *with FIR* on the critical dates of 12 and 15 November were as follows:

12 November 2012

- System readiness 26 Administrations
- Operational readiness 27
- Accepting NEW 27

15 November 2012

- System Readiness 25
- Operational Readiness 25
- Accepting New 25

Note:

On 15 November 1 additional administration's report was received, but 3 of the previous 27 failed to report. However, further enquiry by ICAO Regional Office revealed that there had been no change in operational readiness or acceptance of NEW format since 12 November.

2.23 On 15 November, only one Administration with an FIR had not yet formally reported their transition status. Alternate lines of enquiry revealed that aircraft inbound to that FIR were being processed normally, and FPL were being received elsewhere for aircraft outbound from the FIR. On 17 November the Administration concerned reported having successfully transitioned.

Issues Identified

2.24 While significant effort was made to facilitate testing before 12 November, there were a number of issues which should have been revealed by robust testing between States. While there were some issues brought about by Amendment 1, there were several existing ones. Several States became confused by this as it appeared that their new systems had not been enabled to manage these already existing issues.

Super Heavy Wake Turbulence Category (Pre-Existing Issue)

2.25 In 2008, State Letter AP080/08 had circulated information and guidance material from ICAO Headquarters regarding wake turbulence considerations for Airbus A380 aircraft, i.e. SUPER wake turbulence category. The guidance material indicated that the letter J should be inserted into the space allocated for wake turbulence category in Item 9 of the ICAO flight plan. There had been no further information either amending or withdrawing the information in the State Letter.

2.26 Amendment 1 did not include the letter 'J' as an available wake turbulence category indicator. Rather, wake turbulence indications remained unchanged from the previous version of PANS/ATM. Within the Asia/Pacific Region at least Australia, New Zealand and USA do not accept the letter 'J' in flight plans. On receipt, the flight plan is queued for manual correction, where the letter 'H' is inserted and the flight plan then delivered to the ATM automation system.

2.27 While this was not a new issue, transition to NEW FPL highlighted that it remained unaddressed in SARPS. The issue is currently being addressed by ICAO Headquarters, as a result of airline concerns.

Duplication of Navigational Capability Identifiers (Pre-Existing Issue)

2.28 Amendment 1 changed the meaning of the letter ‘S’ (Standard COM/NAV/Approach Aid equipment) in Item 10 of the flight plan to indicate carriage of VHF RTF, VOR and ILS (‘V’, ‘O’ and ‘L’). This differed from the previous version of PANS/ATM in that it removed ADF (‘F’) from the suite of “standard” COM/NAV/Approach Aid equipment.

2.29 Before Amendment 1 there had been instances of both ‘S’ and one or more of ‘L’, ‘F’, ‘O’ or ‘V’ appearing in Item 10 of flight plans. When similar instances occurred in NEW format FPL they were in some cases rejected by the receiving ANSP. This approach was not consistent even between different FIRs within one State. ICAO HQ intervened to advise that the use of ‘S’ together with any of the individual identifiers comprising it remained valid, and flight plans with these entries should not be rejected.

Issue – RVR/ in Item 18 (Pre-Existing Issue)

2.30 The indicator RVR/ in item 18 of the flight plan is used within Europe (EUR) Region to indicate capability limited runway visual range operating capability for Air Traffic Flow Management (ATFM) purposes. While not globally standardized in ICAO SARPS, it is included in ICAO Doc 7030 – Regional Supplementary Procedures for EUR Region only. Aircraft operators routinely operating in EUR Region airspace include this indicator in all FPL, regardless of the region in which they are operating.

2.31 Amendment 1 implementation highlighted this issue, as some ATM systems had been configured to reject FPL with this indicator in Item 18. There has been no change in this regard from the pre-Amendment 1 situation, and within the Asia/Pacific Region the RVR/ indicator in Item 18 should be accepted without processing, or deleted without rejection.

Supplementary Flight Plan Information (Item 19) (Pre-Existing Issue)

2.32 After transition to NEW FPL some ATS Reporting Offices, as agencies responsible for the transmission of received flight plans, included Item 19 – Supplementary Information in transmitted FPL. PANS/ATM clearly specifies that this information is not to be transmitted in FPL messages.

FPL Rejection on the Basis of RMK/ information in ITEM 18 (Pre-Existing Issue)

2.33 One Asia/Pacific Administration requires that ACAS II capability is recorded under the RMK/ indicator in item 18 for aircraft required under their AIP to be so equipped. This requirement existed before Amendment 1 implementation.

2.34 After transition NEW format FPL were being rejected if this information was not present. The Asia/Pacific Guidance Material clearly specifies that RMK/ is a free text field.

Performance-Based Navigation (PBN) Indicators in Item 18 (New Issue)

2.35 PBN capability is indicated by inserting ‘R’ in Item 10 of the flight plan, and listing individual PBN capabilities in item 18 as PBN/XnXnXn, as illustrated in **Figure 1**.

		All permitted sensors	GNSS	DME/DME	VOR/DME	DME/DME/IRU (or INS/IRS for B5)	LORAN
Oceanic	RNAV 10	A1					
	RNP 4	L1					
En-Route	RNAV 5	B1	B2	B3	B4	B5	B6
	RNAV 2	C1	C2	C3		C4	
	RNAV 1	D1	D2	D3		D4	
Terminal	RNAV 1 (*)	D1	D2	D3		D4	
	RNP 1	O1	O2	O3		O4	
Final	RNP APCH	S1					
	RNP APCH with Baro VNAV	S2					
	RNP AR APCH with RF	T1					
	RNP AR APCH without RF	T2					

Figure 1: Item 18 PBN capability indicators

2.36 Certain combinations of PBN capability may exceed the 16 character limit for this Item 18 entry. Global guidance, based on the EUR/NAT Region solution, requires that for RNAV5 capability the indicator B1 may be used to indicate all RNAV5 permitted sensors except LORAN:

Insert only B1 if the flight qualifies for all of the following: B2, B3, B4, B5. Insert B6 if the flight qualifies by using LORAN C.

2.37 The guidance material on Item 10 and Item 18 entries may be found at http://www2.icao.int/en/FITS/FITSLibrary/Guidance_Item%2010_18.pdf.

ADS-B Capability Indicators in Item 10 (New Issue)

2.38 Amendment 1 introduced new Item 10 indicators for Mode S SSR and/or ADS-B capability, as follows:

SSR Mode S

- E Transponder — Mode S, including aircraft identification, pressure-altitude and extended squitter (ADS-B) capability;
- H Transponder — Mode S, including aircraft identification, pressure-altitude and enhanced surveillance capability;
- I Transponder — Mode S, including aircraft identification, but no pressure-altitude capability;
- L Transponder — Mode S, including aircraft identification, pressure-altitude, extended squitter (ADS-B) and enhanced surveillance capability;

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- | | |
|---|---|
| P | Transponder — Mode S, including pressure-altitude, but no aircraft identification capability; |
| S | Transponder — Mode S, including both pressure altitude and aircraft identification capability; or |
| X | Transponder — Mode S with neither aircraft identification nor pressure-altitude capability. |

ADS-B

- | | |
|----|---|
| B1 | ADS-B with dedicated 1 090 MHz ADS-B “out” capability; |
| B2 | ADS-B with dedicated 1 090 MHz ADS-B “out” and “in” capability; |
| U1 | ADS-B “out” capability using UAT; |
| U2 | ADS-B “out” and “in” capability using UAT; |
| V1 | ADS-B “out” capability using VDL Mode 4; or |
| V2 | ADS-B “out” and “in” capability using VDL Mode 4. |

2.39 Recent work to incorporate Amendment 1 changes in the *Asia/Pacific Region ADS-B Implementation and Operations Guidance Document* (AIGD) revealed there is the potential for confusion about the correct ADS-B equipage indicator/s.

2.40 The specification for the use of ‘E’ or ‘L’ appears to reflect the Asia/Pacific Region’s agreed ADS-B technology, as used by ADS-B ‘out’ approved aircraft throughout the region; Mode S SSR transponders outputting ADS-B using 1090 MHz Extended Squitter.

2.41 B1 and B2 include the qualifier *dedicated 1 090 MHz ADS-B out* capability, without specifying the meaning of *dedicated*.

2.42 Further investigation has revealed that there are a number of different interpretations of these provisions. The following examples of SSR and ADS-B equipage indications submitted in the flight plans of *ADS-B equipped* aircraft have been observed on numerous occasions, differing not only between aircraft operators but also between aircraft of the same operator:

EB1, H, HB1, L, LB, LB1, LB2, PB1, SB1, SB2, S.

2.43 This issue has been brought to the attention of ICAO Headquarters for clarification.

2.44 The AIGD is available on the Asia/Pacific Regional Office website at http://www.icao.int/APAC/Documents/edocs/adsb_aigd4.pdf.

NEW FPL during Transition: 12 to 15 November 2012

2.45 In their daily status reports during the transition period Japan included statistical analysis of the numbers of NEW format FPL detected on their AFTN circuits:

- 11 November 17.3%
- 12 November 27.6%
- 13 November 47.4%
- 14 November 74.6%
- 15 November 98.0%

2.46 These figures and the relatively minor nature of the issues identified during the transition period demonstrate the value of the 3 day minimum period for acceptance of both NEW and Pre-Amendment 1 formats. The strategy ensured a progressive transition by airspace users, and avoided the significant challenges inherent in the concentration of issues in a very short “big bang” cutover scenario.

Converter Solutions

2.47 8 of the 17 Administrations that responded to the updated questionnaire circulated in May 2012 indicated that they would be commissioning converter solutions to down-convert NEW format FPL and ATS messages into pre-Amendment 1 format, for subsequent processing by their ATM automation and associated peripheral or supporting systems. There may be a larger proportion of non-respondent Administrations that have also used converters.

2.48 The use of converters can only be considered a short-term solution, pending modification of ATM systems to receive, process and send NEW format FPL and ATS messages. While ATM systems remain incapable of independently processing NEW format messages the benefits of the Amendment 1 changes cannot be realized, particularly those relating to PBN based separation and provision of ADS-B services, including separation. These are essential to the improvement in airspace capacity and efficiency required if the Asia/Pacific Region is to safely manage the current and forecast demand.

2.49 Surveillance-based separation using ADS-B and improved non-surveillance separation based on PBN capability are pivotal components of the draft Asia/Pacific Seamless ATM Plan, which is expected to be approved by APANPIRG in June 2013. The interoperability of AIDC messaging, also a significant enabler of seamless ATM and improved capacity and safety, will remain restricted where converter solutions are in use.

2.50 Several States indicated that they would implement either a manual handling process to manage NEW format messages, or that no changes to the ATM system were required as it was effectively blind to the new format. For the same reasons as described above, the benefits of the Amendment 1 changes cannot be realized under these circumstances.

2.51 Accordingly, the meeting is invited to consider the following Draft Conclusion:

Draft Conclusion ATM/SG/1/X: Reliance on FPL and ATS Message Converters

That, considering the airspace capacity, efficiency and safety benefits intended by the full implementation of PANS/ATM Amendment 1 changes, States are urged to:

- a) report to the ICAO Asia/Pacific Regional Office the:
 - i. current status of ATM automation and conversion systems; and
 - ii. planned date implementation of full capability to process NEW format FPL and ATS messages without conversion; and
- b) where converters are utilized, upgrade ATM Automation and supporting systems to fully support Amendment 1 changes without using converters.

2.52 Asia/Pacific Region States' post-implementation status, including details of the solution provided as reported to ICAO Regional Office, is appended at **Attachment A**. States are invited to update the meeting on their current solution.

Dissolution of the Asia/Pacific FPL and AM Task Force

2.53 Further refinement of any residual issues related to Amendment 1, including any identified in ICAO's post-implementation review activities, will be conducted through or by ICAO HQ. The following Draft Decision is therefore proposed for consideration by the meeting:

Draft Decision ATM/SG/1/X: Dissolution of the FPL&AM Implementation Task Force

That, considering the successful implementation of Amendment 1 to the Fifteenth Edition of ICAO Doc 4444 (PANS/ATM), the Asia/Pacific Flight Plan and ATS Messages Implementation Task Force (FPL&AM/TF) be dissolved, and any on-going tasks be delegated to the ATM Sub-Group or as directed by APANPIRG.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

- a) note the information contained in this paper;
- b) discuss and endorse Draft Conclusion ATM/SG/1/X: Reliance on FPL and ATS Message Converters (paragraph 2.41);
- c) update the meeting on each State's implemented FPL 2012 solution;
- d) discuss and endorse Draft Decision ATM/SG/1/X: Dissolution of the FPL&AM Implementation Task Force (paragraph 2.42);
- e) discuss any post-implementation issues not identified in this paper; and
- f) discuss any relevant matters as appropriate.

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Country	FIR	Location Indic	Region	Status	Solution provided
Afghanistan	Kabul	OAKX	APAC	Accepting NEW	CADAS link to UAE (no FDP)
Australia	Brisbane	YBBB	APAC	Accepting NEW	Upgraded FDPS
Australia	Melbourne	YMMM	APAC	Accepting NEW	Upgraded FDPS
Bangladesh	Dhaka	VGFR	APAC	Accepting NEW	Unknown
Cambodia	Phnom Penh	VDPP	APAC	Accepting NEW	Upgraded FDPS
China	Beijing	ZBPE	APAC	Accepting NEW	Unknown
China	Guangzhou	ZGZU	APAC	Accepting NEW	Unknown
China	Hong Kong	VHHK	APAC	Accepting NEW	Front-end Converter
China	Kunming	ZPKM	APAC	Accepting NEW	Unknown
China	Lanzhou	ZLHW	APAC	Accepting NEW	Unknown
China	Sanya	ZJSA	APAC	Accepting NEW	Unknown
China	Shanghai	ZSHA	APAC	Accepting NEW	Unknown
China	Shenyang	ZYSH	APAC	Accepting NEW	Unknown
China	Taibei	RCTP	APAC	Accepting NEW	Unknown
China	Urumqi	ZWUQ	APAC	Accepting NEW	Unknown
China	Wuhan	ZHWH	APAC	Accepting NEW	Unknown
DPR Korea	Pyongyang	ZKPK	APAC	Accepting NEW	Unknown
Fiji	Nadi	NFFF	APAC	Accepting NEW	Upgraded FDPS
French Polynesia	Tahiti	NTAA	APAC	Accepting NEW	Upgraded FDPS
India	Kolkata	VECF	APAC	Accepting NEW	Upgraded FDPS
India	Chennai	VOMF	APAC	Accepting NEW	Upgraded FDPS
India	Delhi	VIDF	APAC	Accepting NEW	Upgraded FDPS
India	Mumbai	VABF	APAC	Accepting NEW	Upgraded FDPS
Indonesia	Jakarta	WIIF	APAC	Accepting NEW	Front-end Converter
Indonesia	Ujung Pandang	WAAF	APAC	Accepting NEW	Front-end Converter
Japan	Fukuoka	RJJJ	APAC	Accepting NEW	Front-end Converter
Lao PDR	Vientiane	VLVT	APAC	Accepting NEW	Front-end Converter
Malaysia	Kota Kinabalu	WBFC	APAC	Accepting NEW	Upgraded FDPS
Malaysia	Kuala Lumpur	WMFC	APAC	Accepting NEW	Upgraded FDPS
Maldives	Male	VRMF	APAC	Accepting NEW	Upgraded FDPS
Mongolia	Ulaanbaatar	ZMUB	APAC	Accepting NEW	Front-end Converter
Myanmar	Yangon	VYFV	APAC	Accepting NEW	Front-end Converter
Nauru	Nauru	ANAU	APAC	Accepting NEW	Unknown
Nepal	Kathmandu	VNSM	APAC	Accepting NEW	N/A - non automated system
New Zealand	Auckland Oceanic	NZZO	APAC	Accepting NEW	Upgraded FDPS
New Zealand	New Zealand	NZZC	APAC	Accepting NEW	Upgraded FDPS
Pakistan	Karachi	OPKR	APAC	Accepting NEW	Manual Conversion
Pakistan	Lahore	OPLR	APAC	Accepting NEW	Manual Conversion
Papau New Guinea	Port Moresby	AYPM	APAC	Accepting NEW	Unknown
Philippines	Manila	RPHI	APAC	Accepting NEW	ATM System capable
Republic of Korea	Incheon	RKRR	APAC	Accepting NEW	Front-end Converter
Singapore	Singapore	WSJC	APAC	Accepting NEW	Front-end Converter
Solomon Islands	Honiara	AGGG	APAC	Accepting NEW	Unknown
Sri Lanka	Colombo	VCCC	APAC	Accepting NEW	Upgraded FDPS
Thailand	Bangkok	VTBB	APAC	Accepting NEW	Front-end Converter
USA	Oakland Oceanic	KZAK	APAC	Accepting NEW	Upgraded FDPS
Viet Nam	Hanoi	VVVV	APAC	Accepting NEW	Front-end Converter
Viet Nam	Ho-Chi-Minh	VVTS	APAC	Accepting NEW	Front-end Converter