



Support ASEAN ATM Master Plan Deployment of the 5 Prioritised Initiatives - AIDC

Sept. 18-20, 2019 Kuala Lumpur Malaysia



Philippine Air Traffic Management Coordination Status with Adjacent FIR



Outline

- ☐ **Facility**
- ☐ **ATM System**
- ☐ **Communications w/ Adjacent FIR**
- ☐ **PH-ATM AIDC Technical Considerations**
- ☐ **Summary**



FACILITIES

Facilities



□ Civil Aviation Authority of the Philippines



- **Manila Airways Facilities Complex (Legacy)**
- **Manila Air Traffic Management Center (New)**

Facilities



☐ **Manila Airways Facilities Complex**



- **Area Control Center**
 - ❖ 4 Sectors (North, East, West and East)

Facilities



Manila Air Traffic Management Center



➤ **Area Control Center**

- ❖ 8 Sectors (NW, CN, CW, SW, E, CS, S & SW)

➤ **Approach Control**

- ❖ 5 Approaches (CLK, DVO, MCT, BCD, KAL)



ATM SYSTEM



Automation System

❑ Eurocat 200

- 1995 – 2013
- Manila Airways Facilities Complex



❑ TopSky C

- 2013 – 2018
- Manila Airways Facilities Complex

❑ TopSky HE

- Cutover – November 2018
- Manila Air Traffic Management Center



Communications w/ Adjacent FIR



Communications with Adjacent FIR

ADJACENT FIR	COMMUNICATIONS			REMARKS
	Aeronautical Messaging	ATM System Coordination		
HONG KONG	AMHS	AIDC	Direct Speech	Link via CRV
TAIPE	AMHS	AIDC - Successful Tests	Direct Speech	AIDC OPS Trial 4Q2019, Link via CRV
OAKLAND	AMHS – Target 4Q2019	TBD	Direct Speech	Link via CRV



Communications with Adjacent FIR

ADJACENT FIR	COMMUNICATIONS			REMARKS
	Aeronautical Messaging	ATM System Coordination		
SINGAPORE	AFTN	AIDC – OPS Trial	Direct Speech	via leased line
KOTA KINABALU	None	AIDC – Successful Tests	Direct Speech	AIDC via BBIS, Voice via leased line
UDJUNG PANDANG	None	AIDC – Successful Tests	Direct Speech	AIDC via BBIS, Voice via leased line



Communications with Adjacent FIR

ADJACENT FIR	COMMUNICATIONS			REMARKS
	Aeronautical Messaging	ATM System Coordination		
HO CHI MINH	AFTN	AIDC Tests to be scheduled	Direct Speech	via leased line
JAPAN	None	TBD	Direct Speech	via leased line
SANYA	None	TBD	IDD	via Telephone IDD



PH-ATM AIDC Technical Considerations



PH-ATM AIDC Considerations

□ AMHS/AFTN

- Flight Plan Format Post 2012

□ CONNECTIVITY

- AMHS via Common Aeronautical VPN (CRV)
- AFTN via Legacy Leased Line Circuits

□ AIDC Messages Tested

- ABI, EST, ACP, TOC, AOC, CPL, CDN, MAC, MIS, and EMG




TopSkY HE AIDC HMI (Outbound with no error)

AIDC Event	Position State	Coordination State	Track Label Example
	Responsible	Not started	ABC123 H XCCS 350 48
ABI sent	Responsible	Notified	ABC123 H XCCS 350 48
EST sent	Responsible	Notified	ABC123 H XCCS 350 48
ACP received following EST	Responsible	Completed	ABC123 H XCCS 350 48
TOC sent	Transfer-Control-Out	Completed	ABC123 H XCCS 350 48
AOC received	Uncontrolled	Completed	ABC123 H XCCS 350 48



TopSkY HE AIDC HMI (Outbound w/error)





Outbound sequence of events with failure due to timeout or the reception of an LRM following the sending of an EST:

AIDC Event	Position State	Coordination State	Track Label Example
EST sent	Responsible	Notified	<div>ABC123 H XCCS 350 48</div>
Timeout or LRM received	Responsible	Failed	<div> ABC123 H XCCS 350 48</div>



TopSkY HE AIDC HMI (w/ CDN)

Outbound sequence of events with a CDN received proposing amended Exit Boundary Level (XBL) after initial completion. Proposed XBL accepted:

AIDC Event	Position State	Coordination State	Track Label Example
EST sent	Responsible	Notified	
ACP received following EST	Responsible	Completed	
CDN received with amended XBL value	Responsible	In Progress	
ACP sent and LAM received	Responsible	Completed	



NON RECEPTION of ACP MESSAGES

INBOUND FLIGHTS

ERROR on FDP Traces

- | | | | |
|----|---------|---|--|
| 1. | SIA638 | - | ACT entry time outside window |
| 2. | AJX804 | - | No FPL stored on FDR |
| 3. | JJA4056 | - | ACT entry time outside window |
| 4. | JAL38 | - | Message not compatible with FP state |
| 5. | PAL530 | - | The requested FDR is not stored |
| 6. | CEB804 | - | Can't link msg to FDR, multi FDR's exist |



SUMMARY

- ❑ Series of AIDC tests shall be conducted with standard Procedures
- ❑ ATC shall validate the AIDC tests results
- ❑ Direct Speech shall remain as back up
- ❑ Mitigation shall be included in LOA/MOA
- ❑ Point to Point connection thru **TCP/IP** shall be considered to avoid latency
- ❑ TCP/IP thru **CRV** shall be considered for easier and robust connectivity



Reference:

- https://www.icao.int/APAC/Meetings/2019CRVOG6/IP08_PHL%20AI2%20-%20CRV%20Implementation.pdf
- https://www.icao.int/APAC/Meetings/2019%20APATF5/IP11_PHL%20AI3%20-%20Revised%20AIDC%20Operational%20Test%20in%20Manila%20FIR.pdf
- Thales Doc JHMI Users Guide

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THANK YOU