

出國報告（出國類別：其他）

參加非正式東亞  
飛航管制協調小組(EATMCG)

服務機關：民用航空局

姓名職稱：薛少怡 組長

張涵妏 技正

派赴國家：菲律賓宿霧

出國期間：107年7月9日至7月13日

報告日期：107年8月27日



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## 壹、目的

### 一、 參加目的

非正式東亞飛航管制協調小組(the East Asia Air Traffic Management Coordination Group, EATMCG) 自約 96 年舉辦以來，本次是第 11 屆會議(EATMCG/11)，由菲律賓主辦，小組成員除我國外尚有香港、日本、菲律賓，及主動要求以觀察員身份加入的韓國。

EATMCG 一直是東亞各飛航情報區協商彼此航管作業的平台，如同拼圖般相連的飛航情報區，其中一飛航情報區啟動相關航管措施，都可能引發漣漪效應，影響其他飛航情報區的作業，不同的只是影響程度上的差別，透過 EATMCG 這個平台，讓各小組成員分享彼此情報區內的發展情形，面對面交流促進區域合作的機會，唯有區域合作，才有解決如架次成長而空域範圍並未變大等難題的機會，才能將不斷成長的航行量對航管作業的衝擊降至最低或轉為無形，希望藉由 EATMCG，找出各區都能受惠的方案，讓東亞的飛航服務更順暢安全。

### 二、 與會人員與會議流程

#### (一) 與會人員：

本次會議主辦方菲律賓、日本、香港、我國、IFACA 亞太地區辦公室及觀察員韓國計 40 員與會(與會人員名單詳如附件 1)。我方與會代表如下：

機關	單位	職稱	姓名
民用航空局	航管組	組長	薛少怡
民用航空局	航管組	技正	張涵灼
飛航服務總臺	臺北區域 管制中心	主任	李嘉玉
飛航服務總臺	臺北區域 管制中心	主任管制員 (班務督導)	林正宗
飛航服務總臺	臺北區域 管制中心	管制員 (協調員)	么煥昇
飛航服務總臺	臺北區域 管制中心	管制員	王妍方
飛航服務總臺	臺北區域 管制中心	管制員	郭至庭
飛航服務總臺	臺北區域 管制中心	管制員	羅世薇

(二) 會議流程：

1. Tuesday 10 July

0830-0900 Registration

0900-0930 Welcome Address

Opening Remarks

0930-1030 Session 1

Adoption of Agenda

Review of EATMCG/10 and Recent ICAO Meetings

1030-1100 Morning Break and Group Photo

1100-1230 Session 2

Regional Presentations 1

1230-1330 Lunch

1330-1500 Session 3

Regional Presentations 2

1500-1530 Afternoon Break

1530-1630 Session 4

Regional Presentations 3

1630-1700 Side Bar Meetings

2. Tuesday 11 July

0900-1030 Session 5

ATM Developments in the Region

CNS Developments in the Region

1030-1100 Morning Break

1100-1230 Session 6

ATFM Developments in the Region

1230-1330 Lunch

1330-1500 Session 7

Side Bar Meetings

1500-1530 Afternoon Break

1530-1600 Session 8

Any Other Business

3. Wednesday 12 July

0900-1030 Review Draft Meeting Report

1030-1100 Morning Break

1100-1130 Review Task List

EATMCG / 12 Arrangements

1130-1200 Closing Remarks

## 貳、會議過程

### 一、 會議說明

本次會議計討論 10 項正式議題(Working Paper ,WP)及 12 項資訊分享(Information Paper, IP)，由菲律賓民航局首席局長特助及 IFACA 亞太地區辦公室代表(Mr. John Wagstaff)共同主持。

### 二、 會議過程摘要

#### (一) 第一日 7 月 10 日 星期二

各國代表團於上午 8 時 30 分陸陸續續抵達會場，在會議正式開始前，我方即熱絡的與幾乎一年見一次面的日本、香港、菲律賓及韓國代表寒暄，另為慶祝連接本區、福岡及仁川飛航情報區之平行航路，經過過去幾年會議的討論溝通，終於在今(107)年 5 月 24 日正式生效實施，我方管制員學會(ROCATCA)特別準備紀念牌，由本局航管組薛組長少怡代表致贈予日本民航局(JCAB)、日本福岡區管中心、韓國仁川區管中心及臺北區管中心。



日本民航局(JCAB)



日本福岡區管中心



韓國仁川區管中心



臺北區管中心



會議在菲律賓民航局首席局長特助(Mr. Michael E. Mapanao)及 Mr. John Wagstaff 致歡迎詞後正式展開。本次會議不若之前係依 WP 及 IP 之順序進行簡報介紹，係將同樣議題之 WP 及 IP 安排於同一時段進行簡報說明。Mr. John Wagstaff 說明前述會議流程後(WP1，如附件 2)，即開始本次會議。



#### 1. IP1、IP2 及 IP3 (附件 3~5，IFACA 提報)

依照慣例，Mr. John Wagstaff 向各代表團確認前次會議待辦事項(The Task List for EATMCG/10)之內容及介紹過去一年來 ICAO 會議中有關亞太區域相關會議所提及之相關議題：

##### (1) Asia Pacific Air Navigation Planning and Implementation Regional Group Meeting/28 (APANPIRG/28)

此年度會議屬高階會議，皆會回顧 Sub Groups、Working Groups、Task Forces 及 Safety Monitoring Group 之相關議題，本次會議於 106 年 9 月舉行，會議重點有持續將 ICAO 亞太區無縫航管系統計畫(ICAO Asia Pacific Seamless ATM Plan)視為最優先施行部分、亞太區之繁忙機場應配合

ICAO 進度實施飛航系統區塊式提升(Aviation System Block Upgrades, ASBUs)、航空公司對於取得性能通信與監視(Performance-Based Communication And Surveillance, PBCS)核可遇到之難處、增加運用 ADS-B 以提升航管系統服務。

(2) Regional Airspace Safety Monitoring Advisory Group Meeting/23 (RASMAG/23)

本次會議於 107 年 7 月舉行，會中係檢視安全目標等級(Target Level of Safety, TLS)，福岡飛航情報區未達到 TLS 多為亂流所致，仁川飛航情報區雖些微超過 TLS，但其近幾年的表現顯示在進步中，另請韓國儘速檢視 A593 航路(AKARA Corridor)之空域管理。

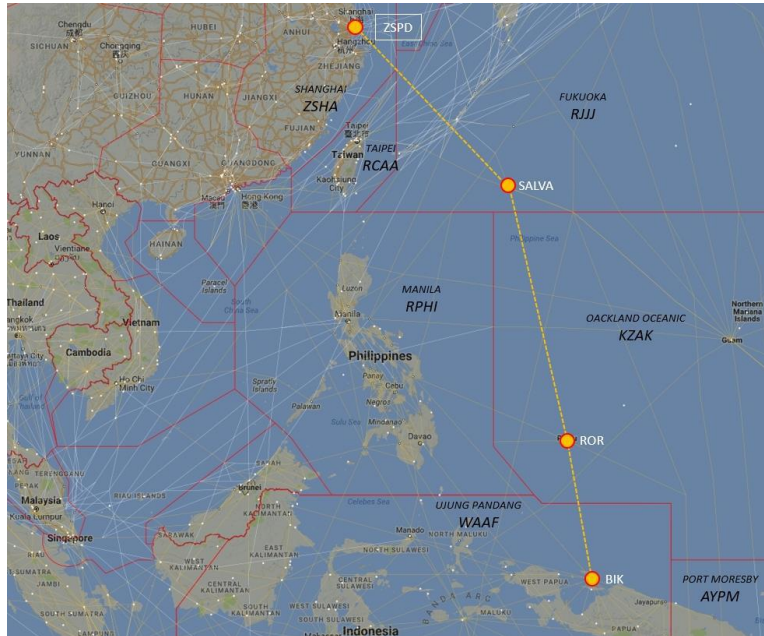
(3) South China Sea Traffic Flow Review Group Meeting/6 (SCSTFRG/6)

會議於 107 年 3 月假北京舉行，會中達成共識針對南中國海 4 條主要航路階段性實施縮短水平隔離，於 A1 及 A202 航路部分係縮短水平隔離至 20 哩並建置 A1 航路之平行航路，於 L642 及 M771 係縮短水平隔離至 20 哩並研議建置平行航路之可能性。此次會議香港未參與，前述縮短水平隔離共識將另於適當會議中轉達予香港。

(4) South-East Asia Air Traffic Services Coordination Group Meeting/25 (SEACG/25)

會議於 107 年 3 月假柬埔寨暹粒市舉行，會中越南及三亞表達 surveillance based en-route(如 RNAV/RNP 航路)之交接管隔離有縮減至 20 哩之需求，ICAO 於會中強調目標仍是亞太區無縫航管系統計畫(ICAO Asia Pacific Seamless

ATM Plan) ，希望各區能使用相同之隔離標準，另外會議中討論到為降低流管產生之延誤，建議建置一新航路，避開繁忙之馬尼拉、香港及廣州空域、由印尼行經奧克蘭區管中洋區空域、日本至上海(如下圖)。



(5) Air Traffic Flow Management Steering Group Meeting/8 (ATFM SG/8)

會議於 107 年 5 月假德里舉行，由 The Multi Nodal Group 及 the Northeast Asia Regional ATFM Harmonisation Group (NARAHG)報告最新有關 ATFM 相關協調及交流溝通之情況，前者係運用 CTOTs(Calculated Take Off Time，經計算之起飛時間)，後者係運用 CTOs(Calculated Time Over，經計算之過邊境點時間)進行流量管理，前者已開始 CTOTs 之試行作業。

(6) AIM Implementation Task Force Meeting/13 (AIITF/13)

會議於 107 年 5 月假德里舉行，去年(106 年)ICAO 針對國際代碼與航路編碼資料庫 (ICARD) 發出 state letter，宣告

1000 浬範圍內，相關飛航情報區之航圖重複使用相同之五字名稱代碼（five letter name codes, 5LNCs）將有潛在飛安風險，因此今年整理出亞太區 1000 浬範圍內重複使用相同之五字名稱代碼(截至 107 年 5 月 25 日止)，並彙整成表格(摘要如下圖)，依該表格內容顯示亞太區絕大多數國家都有重複使用相同之五字名稱代碼之情況，ICAO 將要求各國依據國際代碼與航路編碼資料庫之規則，為各自飛航情報區內之航點命名。

ATTACHMENT A: List of 5LNCs Separated by Less than 1000 NM (as known at 25 May 2018)

Action required by APAC States highlighted yellow

SLNC	Published in AIP	Registered in ICARD	Priority Administrations
ALPHA	China India Italy Lao People's Democratic Republic Russian Federation Spain Turkey United Kingdom (2) UK (Falkland Islands), Yamalo	Lao People's Democratic Republic	Lao People's Democratic Republic
ANGEL	Colombia/Ecuador (FIR boundary) Honduras (COCESNA) Japan Philippines Thailand	Colombia/Ecuador, Honduras (COCESNA)	Colombia/Ecuador
AREMA	Indonesia Kenya/United Republic of Tanzania (FIR boundary) Mali Liberia	Mali	Mali
BACON	Brazil China Japan Philippines United States of America	Brazil, United States of America	United States of America
BAKER	Australia China Hong Kong SAR of China United Kingdom	United Kingdom	United Kingdom
BEACH	Fiji Japan Republic of Korea United States of America	Fiji, United States of America	United States of America
BISON	Australia China Indonesia United States of America Viet Nam	United States of America	United States of America
BRAVO	Brazil China India Italy Syrian Arab Republic United Kingdom United Kingdom (Falkland Islands)	Brazil	Brazil

(7) Meteorology Sub-Group Meeting/22 (MET SG/22)

會議於 107 年 6 月假曼谷舉行，為應付亞太區日漸成長之航行量及飛航服務對於航路、終端及機場空域內氣象資料之需求，日本提議並起草「ASIA/PACIFIC Regional Guidance for Tailored Meteorological Information and Services to Support

Air Traffic Management Operations and the Draft Guidelines for Operational SIGMET Coordination」，獲得澳洲、紐西蘭、香港、韓國、泰國、越南、IATA 等成員之支持，前述草案將陸續提至相關會議中檢視討論。

為使駕駛員及管制員獲得飛航情報區邊界之氣象資訊，新加坡起草亞太區之「Guidelines for Operational SIGMET Coordination」，會中決議促請 ICAO 將前述草案納至 APAC Regional SIGMET Guide。

隨著南北極航路(polar routes)的開放使用，航空器長時間以高高度飛航該等航路時，將暴露在具危險程度的太陽輻射中，可能影響人體健康、航空通訊、衛星定位系統等，因此 ICAO 規劃訂定在前述航線/空域飛航時，當預估太空天氣事件【如太陽風暴事件(solar storm events)、磁暴(geomagnetic storms)、閃焰(solar flares)等】有可能出現時之安全操作水準(safe levels of operation)，經多次會議討論，ICAO 將於 107 年 11 月出版第 10100 號文件(Doc 10100)「Manual on Space Weather Information in Support of International Air Navigation」。



## 2. WP2 (附件 6，韓國提報)

- (1) 為使夜間由香港飛航情報區進入本區，再東北向往日本及韓國的過境航機能夠進行依目的地不同而予分流，避免過境航情飛航本區 M750、G86 及 M646 航路時匯集於 TNN 航點的衝突，紓解本區夜間的航管作業困難度及壓力，我方於第 5 及第 6 屆 EATMCG 持續提案請日本於其飛航情報區內新設航路 CDR Z401，請韓國方面亦配合 CDR Z401 開設後之相關交接管作業，以達到上游至下游航情分流之三方均受惠目的，日本及韓國終於在我方主辦的第 7 屆 EATMCG 同意共同執行這三贏提案，經過一些行政流程，CDR Z401 於 103 年 9 月 18 日正式實施，運作之時間為每日 1930UTC~2200UTC。
- (2) 此次韓國提案希望日本延長 CDR Z401 之運作時間，由原先 1930UTC~2200UTC 提前為 1830UTC~2200UTC，並修訂韓國與日本之 MOA。
- (3) 其實我方在第 8 屆 EATMCG 已就 CDR Z401 的運作時間提出過 WP，提案希望延長該分流作業之起訖時段，以全部含括由 POTIB 進管本區續往韓國的班機，當次會議韓國贊同，而日本反對。此次韓國再次提出，顯示實際作業確有需求，也符合本區之作業利益，因此我方亦在會中說明經統計分析本區夜間過境航機的進管時間及動態，建議 CDR Z401 之起始時間宜再提早 100 分鐘，除可涵括夜間這波數量龐大的東北向過境班機，亦可使航空公司簽派作業便利(如飛航計劃之航路選填)，增加飛航操作之可預期

性及航管作業單純化。

- (4) 日本回應表示其與韓國及我方業於今(107)年 5 月 24 日啟用跨三飛航情報區之平行航路(於日本境內為 Y741/Y742 航路)，應可紓解東南亞往來韓國、日本之航流量，對於我方及韓國的建議內容，日本表示須對 CDR Z401 之航機動態再行觀察數個月，才能決定是否有需要修改 CDR Z401 的運作時間。

**Extending CDR Z401 operating time**

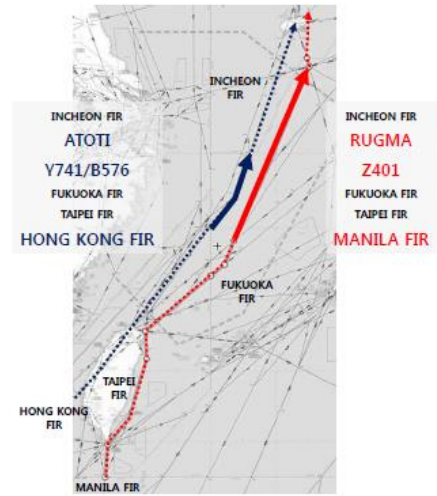


**Z401 OPERATION TIME**  
used for dispersing  
Incheon FIR inbound traffic from Y741/B576  
at dawn (19:30~22:00 UTC)



**MOA BETWEEN INCHEON ACC  
AND FUKUOKA ACC**

<del>Current</del>	<del>Draft</del>
2.b. The application of procedures hereinafter is restricted to the flights overflying via MOLKA M750 MAMOD Z40 IGMON Z401 POTET Y579/A586 RUGMA and crossing RUGMA between 1930 UTC and 2200 UTC.	2.b. The application of procedures hereinafter is restricted to the flights overflying via MOLKA M750 MAMOD Z40 IGMON Z401 POTET Y579/A586 RUGMA and crossing <b>RUGMA between 1830 UTC and 2200 UTC.</b>
5.a. Timeframe and Reference Point: From 1930 UTC to 2200 UTC daily at RUGMA	5.a. Timeframe and Reference Point: <b>From 1830 UTC to 2200 UTC daily at RUGMA</b>



韓國簡報資料



韓國代表

3. WP3 (附件 7，日本及韓國聯合提案，由日本提報)

- (1) 日本表示此案已於上屆會議(第 10 屆 EATMCG)提出，惟未獲得共識，考量 A1、M750、Y741、Y742、G581 等航路之航行量持續增長，爰與韓國共同提案，就 A1/M750/R583/R595/G581/J5 transition 及 Y741/Y742/Y743/B576，於不同條件下，建議我方將雷達隔離由 20 哩縮至 15 哩、30 哩縮至 25 哩及 60 哩縮至 55 哩。
- (2) 我方於會中以簡報說明本區空域狹小及航路結構集中，加上本區與下游鄰區香港及馬尼拉之隔離未有縮減之前，實無與日本縮短上開航路雷達隔離之空間。
- (3) 香港聽完我方簡報說明亦發言提問，現行日本交予我方之雷達隔離為 20 哩，而我方交予香港之雷達隔離為 30 哩，我方是如何消化那多出來之 10 哩雷達隔離，此番坦言使 Mr. John Wagstaff 出面為我方說話係「hard work」，我方亦進一步說明本區會以雷達引導或改變高度等方式因應。
- (4) 日本表示其瞭解我方的情況，但仍希望我方不考量下游鄰區香港及馬尼拉之隔離，我方回應現況本區難有空間縮短與日本之雷達隔離，現行我方交予香港之雷達隔離為 30 哩(或 10~15 分鐘一架)，交予馬尼拉為非雷達隔離(10~15 分鐘一架)，倘香港縮減前述雷達隔離或馬尼拉提升其監視環境能施行雷達隔離，我方願意檢視與日本間之雷達隔離。
- (5) 香港接續回應待國家航空交通服務控股公司(NATS)之安全評估結果及完成相關訓練，香港可望於 108 年第 2 季與鄰區使用 20 哩雷達隔離，菲律賓亦表示其 CNS/ATM 系統預計於今(107)年第 3 季啟用，屆時現行與我方採行之非



雷達隔離(60 浬一架)，或可改善為雷達隔離，致雷達隔離之浬數，將與我方再行商議。

国土交通省

### Proposal 1 and 2

→ We suggest to reduce radar separation when preceding aircraft is faster or same than succeeding aircraft.  
→ When succeeding aircraft is faster, another additional 15nm should be added.

\*According to the present LOA, another 10nm should be added when succeeding aircraft is faster than the preceding aircraft.

The diagram illustrates two scenarios: 'Current' and 'Proposal'. In the 'Current' scenario, a faster aircraft (red) is 20nm ahead of a slower aircraft (black), and a slower aircraft (black) is 20nm ahead of a faster aircraft (red). The total separation between the two faster aircraft is 30nm. In the 'Proposal' scenario, the faster aircraft (red) is 15nm ahead of the slower aircraft (black), and the slower aircraft (black) is 15nm ahead of the faster aircraft (red). The total separation between the two faster aircraft is also 30nm. A blue banner at the bottom states: 'There is NO change when succeeding aircraft is faster!!' and 'Fukuoka Area Control Center'.

日本簡報資料



日本代表

#### 4. WP4 (附件 8，香港提報)

- (1) 香港提案希望菲律賓將 A461 及 A583 航路提升為 RNP10 航路，並表示本案最開始是 5 年前在 SEACG/21 中提案的，因為香港與菲律賓對於 A461 及 A583 航路之改變將會影響印尼及澳洲的空域，因此 SEACG/21 決議要各方進行協調。
- (2) 印尼在今年召開之 EACG/25 中公告望加錫區管中心與布里斯本區管中心已就其所涉之 A461 及 A583 航路航段採用 50 浬隔離，亦即 RNP10 航路使用之隔離標準，因此香

港希望菲律賓在雙方使用之 A461 及 A583 航路航段亦能提升為 RNP10 航路。

- (3) 菲律賓回應表示隨著其 CNS/ATM 系統預計於今(107)年第 3 季啟用，可望於 108 年第 1 季做好實施 RNP10 程序之準備。



香港代表

## 5. IP 4 (附件 9，日本提報)

- (1) 日本說明自 2010 年啟用 Kumejima Oceanic Route Surveillance Radar(Kumejima ORSR，久米島洋區航路搜索雷達)使該區雷達涵蓋 B576 航路後，日本及我方於 B576 航路開始實施雷達交接，當該搜索雷達因預期性(如維護)或非預期性(如故障)停工時，日本將請韓國及我方實施非雷達程序。
- (2) 日本於會中提供福岡、臺北及仁川區管中心遇久米島洋區航路搜索雷達停工時之替代程序，我方就該替代程序提出意見，並於 side bar meeting 與日本達成共識，本案相關細節將於 EATMCG/11 會後，由福岡區管中心提供予臺北及仁川區管中心。

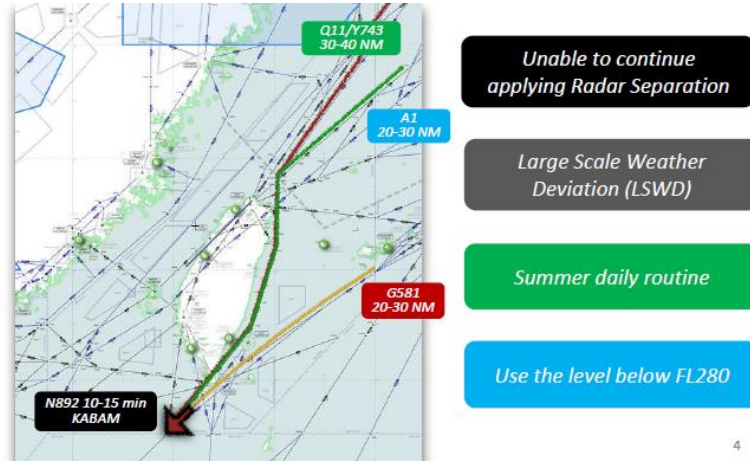


side bar meeting 討論情形

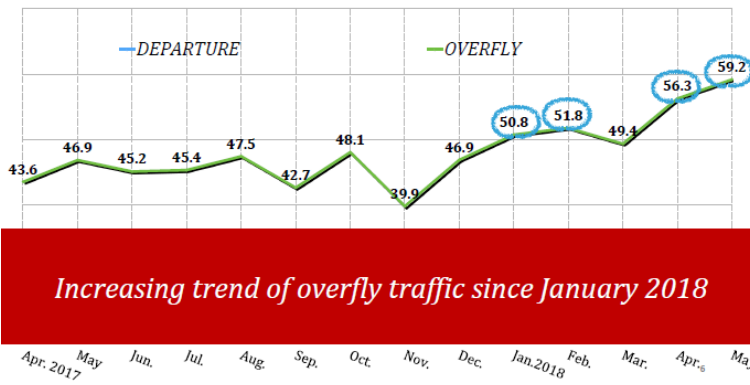
## 6. WP 6 (附件 10 我方提報)

- (1) 菲律賓幅員廣大，超出雷達訊號範圍，因此我方與馬尼拉於 KABAM(N892 航路)實施非雷達隔離，即 10~15 分鐘的非雷達隔離(約 80 浬以上)，而本區全區雷達涵蓋良好，無線電的涵蓋也完整，與上游日韓兩國採取 20/30 浬的雷達隔離，因此自 KABAM 航點出管之航機於忙碌時段，出管高度之安排已漸有難度，增加臺北區管中心東部席之工作負荷，我方爰提請菲律賓提升監視及通訊設備，俾適用 Doc4444 第 5.4.2.6.4.1 節次所列 30 浬雷達隔離，屆時本區自 KABAM 航點出管走 N892 航路之航機，交管隔離將可由目前 10~15 分鐘之非雷達隔離，縮短為 30 浬雷達隔離，有效提升航路容量，減輕本區管制壓力。
- (2) 菲律賓回應其已在現行航管系統試行 ADS-C 及 CPDLC，隨著其 CNS/ATM 系統預計於今(107)年第 3 季啟用，亦將會以新的 CNS/ATM 系統試行 ADS-C 及 CPDLC，菲律賓建議階段性縮減隔離，可先採用 RNP 10 航路之 50 浬雷達

隔離，再採用 RNP4 航路之 30 或 20 浬雷達隔離，菲律賓更進一步說明其區管中心西部席亦有採用其他形式之監視設備包含 ADS-B。



Number of flights per day outbounding KABAM



**Increasing trend of overfly traffic since January 2018**

**DOC 4444:  
5.4.2.9 PERFORMANCE-BASED  
LONGITUDINAL SEPARATION MINIMA**



Separation minima	RNP type	RCP	RSP	Maximum ADS periodic reporting interval
93 km (50 NM)	10	240	180	27 minutes
	4	240	180	32 minutes
55.5 km (30 NM)	2 or 4	240	180	12 minutes
5 minutes	2 or 4 or 10	240	180	14 minutes

我方簡報資料

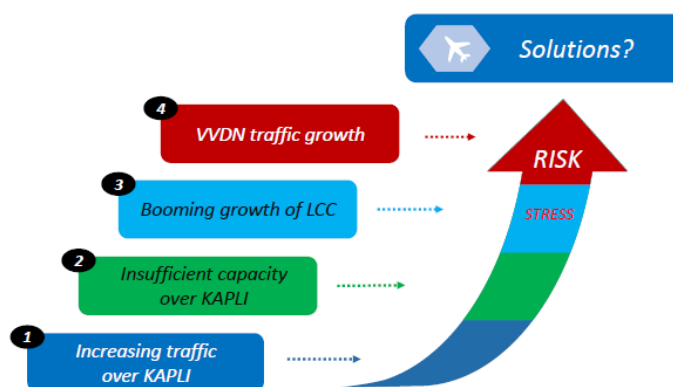
7. WP7 (附件 11，我方提報)

- (1) 以 107 年與 105 年相較，目的地為中南半島且由本區 KAPLI 航點出管子香港之航機架次增長 45%，隨著廉價航

空之發展，可預期該架次數量將持續攀升，在該航點之交管高度僅有飛航空層 300/340/380/400 之情況下，對我方臺北區管中心造成極大壓力。

- (2) EATMCG 對於自東亞前往中南半島之航行量增長一直未加以討論，因此方拋出數個解決方案(如縮減/增加 KAPLI 航點之交管隔離/交管高度、限制部分目的地機場航機改由 KABAM 航點出管、相關飛航情報區合作建置新航路)，提請各成員國甚至 ICAO 思考南中國海現行之隔離已無法應付目前之航行量。
- (3) 香港回應表示其已著手進行相關航路交接管隔離由 30 哩縮減至 20 哩之規劃事宜，有關我方所提該航點之交管高度僅有飛航空層 300/340/380/400，香港表示高度(Flight Level Allocation Scheme, FLAS)的任何改變，將對其飛航情報區內部分航路帶來巨大衝擊，如使用非雷達程序進行交接管之 N892 航路。
- (4) 有關我方所提限制部分目的地機場航機(如越南峴港機場)改由 KABAM 航點經 N892 航路出管部分，菲律賓回應表示對於前述特定航班更改飛航路徑之建議，其飛航情報區空域之胃納量不足接受該等航班。
- (5) 有關我方所提相關飛航情報區合作建置新航路部分，IFACA 亞太地區辦公室代表 Mr. John Wagstaff 回應表示這個提議需提至 ICAO 南中國海流量檢視小組會議(SOUTH CHINA SEA TRAFFIC FLOW REVIEW GROUP MEETING, SCSTFRM)中討論，該小組會議業將提升 A1(W)、A202、L628 及 M771 航路之容量為首要工作項目。

- (6) 我方認為由本區往三亞飛航情報區方向(KAPLI-IKELA)之航路容量提升，於本區與香港間尚有其他方法可達到，爰我方於會中表達後續將與香港討論縮減交接管隔離之細節。



2

### Reduce longitudinal separation over KAPLI

- Reduce longitudinal Separation from 30 NM to 20 NM
- For catch-up traffic pair, add another 20 NM, which means 40 NM  
(instead of 10 MIN or more applying Mach number technique)

### Add more standard levels over KAPLI

- Add F320 and F360



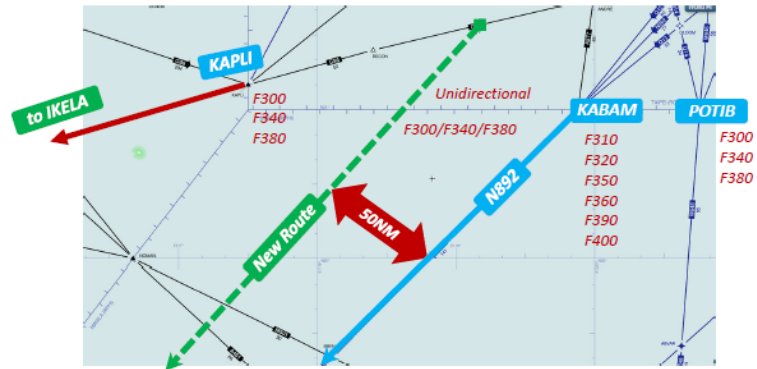
### Restrictions on traffic destinations

Flights to airports whose geographical latitudes are below VVDN airport can't fly over KAPLI into to Hong Kong airspace, such as VVTS VDSR and VDPP. ATS route N892 (KABAM) through Manila FIR can be the alternative.



1

## Establish a New Route



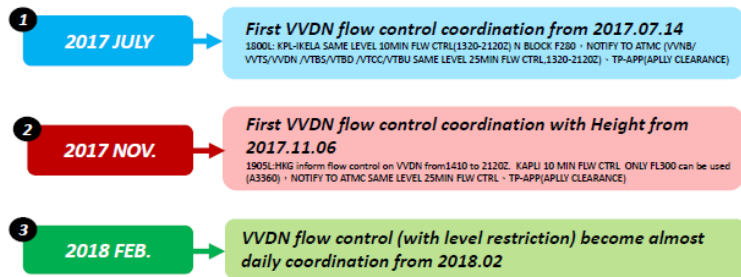
我方簡報資料

### 8. WP8 (附件 12，我方提報)

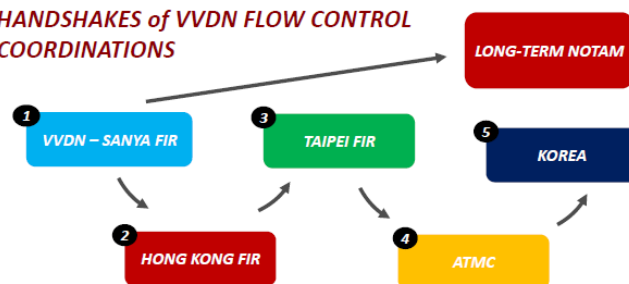
- (1) 自 106 年下半年開始，三亞區管中心夜間會經常性對越南峴港機場實施流管，於今年三亞區管中心幾乎是每日夜間均實施該流管，一路影響香港、我方、日本及韓國，致各區花費甚多時間及精力於流管措施之協商上，因此我方提案三亞飛航情報區以發布 AIP 或 NOTAM 取代每日之協調，並藉由 EATMCG/11，請各成員國將各自之流管措施訂定出來並發布 NOTAM，避免各區每日夜間之協商壓力，倘 EATMCG/11 未達共識，我方將考慮先行發布 NOTAM 公告本區之流管措施，以降低我方臺北區管中心之工作負荷。
- (2) 香港回應表示三亞區管中心如此每日夜間實施之流管措施亦對香港飛航情報區造成衝擊，香港會將此情況提至與空中交通管理局(Air Traffic Management Bureau, ATMB)之協調會議中討論，並認為越南峴港機場或許應重新檢視該機場之時間帶(slot)。
- (3) 有關本項流管之上、下游關係為三亞、香港、我方、日本

再到韓國，每每我方區管中心傳遞香港所設之流管措施予日本流量管理中心時，該中心總是有諸多疑問，很多時候都遲不回答，導致香港一直來問後續情況，理論上，上游的三亞要實施流管，下游的各飛航情報區就是配合實施，只是會再視各區自身的航情，作出符合各區自己情況之流管措施，實務作業上，我方感覺日本流量管理中心似乎認為上游飛航情報區想實施流管，其具有准駁權，造成協調作業耗時耗力，我方爰邀集日本及香港召開 side bar meeting，面對面溝通並說明流管措施的精神，side bar meeting 上，香港也一直對日本解釋說明對於上游飛航情報區想之流管，下游真的就是配合，應無可以拒絕之選項，希望日本能將配合上游飛航情報區實施流管之觀念帶回宣導其流量管理中心之同仁。

### Major Milestones of VVDN Flow Control Coordination

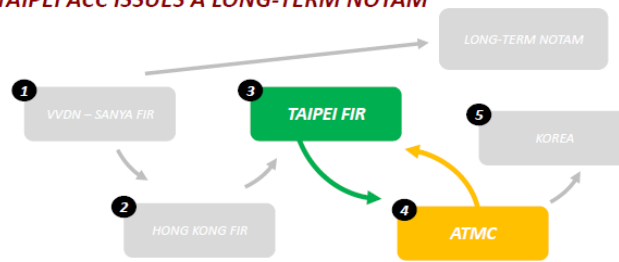


### HANDSHAKES of VVDN FLOW CONTROL COORDINATIONS





### TAIPEI ACC ISSUES A LONG-TERM NOTAM



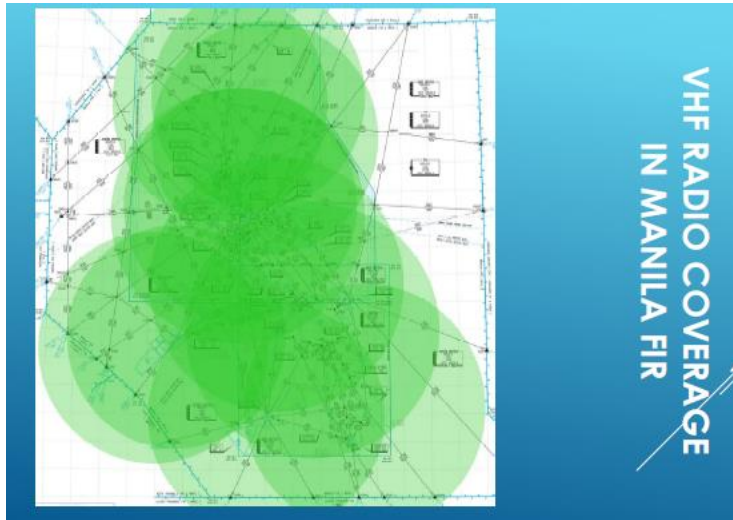
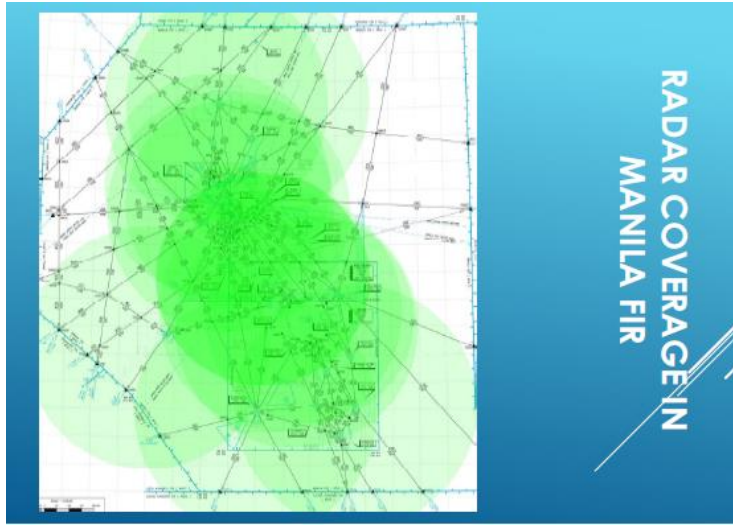
我方簡報資料

## (二) 第二日 7月11日 星期三

### 1. IP6 (附件 13，菲律賓提報)

- (1) 菲律賓分享其新 CAN/ATM 系統之轉移規劃，包含轉移前置作業、訓練、轉移計畫、減少航行量之安排等(菲律賓已發布飛航公告周知其 CAN/ATM 系統轉移期間將減少離場及到場之容量)，亦分享馬尼拉飛航情報區無線電及雷達的涵蓋情形(目前有 10 座雷達，5 座是新建置的，5 座是原有的，北面有航路雷達涵蓋距離約 200~250 哩，另該區東面有架設 ADS-B)及其新的流量管理中心建築物及管制室照片。
- (2) 因菲律賓之 CAN/ATM 系統廠商(Thales)與我方相同，我方於會中分享當年本區系統轉移時，航管單位記錄了以千為張數單位的問題報告單，讓菲律賓先有心理準備，這些都是正常的歷程，菲律賓得知後表現點有點驚訝，還是謝謝我方的經驗分享。
- (3) 有關菲律賓前於 EATMCG/8、9 及 10 提出 IP 希望與相關鄰區建立 ATM Contingency Plan，以使菲律賓部分或全部航管系統失效時，能仍與鄰區持續安全的處理相關航情，菲律賓於此次會議表示其已獲得新加坡區管中心同意後

續將再與香港及我方協調相關細節。



菲律賓簡報資料

## 2. IP5 (附件 14，菲律賓提報)

- (1) 菲律賓分享表示最近這幾個月來，陸續與新加坡、印尼望加錫及我方完成航管系統 AIDC 之測試，後面會進行協議書之簽/修訂，可望於今年第四季正式實施，我方於會中提醒，不論是簽/修訂協議書或是備忘錄，都有相當多之行政流程及文書作業，因此最好能預留 2 個月的前置時間。
- (2) 菲律賓與香港之航管系統 AIDC 測試已於今年 5 月份完成，可望於明(108)年第一季正式實施，香港建議在實施 AIDC 及 A461 與 A583 航路運用 RNP10 程序前，雙方應先行檢視現行的協議書。

ADJACENT CENTER	DATE/S OF AIDC TESTS	AIDC MESSAGES TESTED	RESULT OF TEST	IMPLEMENTATION PLAN
Singapore	March 14, 2018	ABI, EST, ACP, TOC, AOC	Successful on N884 and M767  Airway M772 needs further testing. Another test will be conducted in July or August 2018.	4Q2018
Ujung Pandang	March 20, 2018	ABI, EST, ACP, TOC, AOC	Successful	4Q2018
Hong Kong	May 15, 2018	ABI, CPL, EST, ACP, TOC, AOC, EMG, MIS	Successful	1Q2019
	May 17, 2018	ABI, EST, ACP, TOC, AOC	Successful	
Taipei	June 19, 2018	ABI, EST, ACP, TOC, AOC	Successful  Another test will be done in July 2018 using the new back-up system of Taipei.	4Q2018

### 菲律賓資料

## 3. WP5 (附件 15，香港提報)

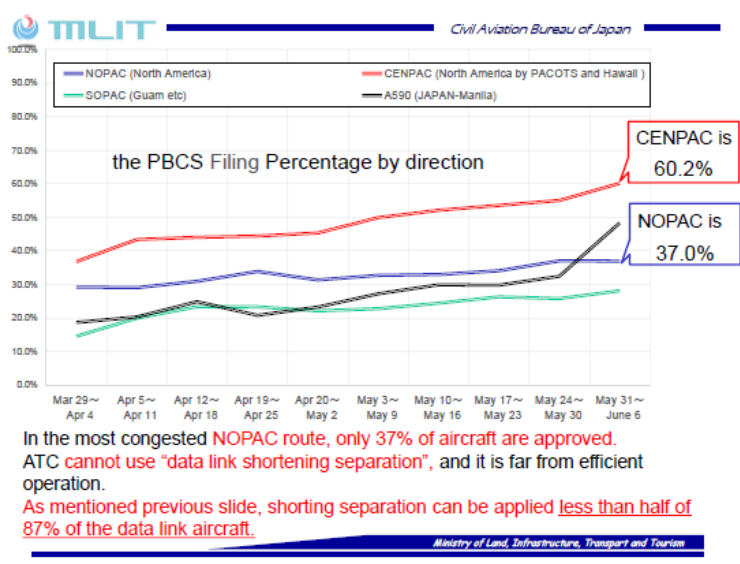
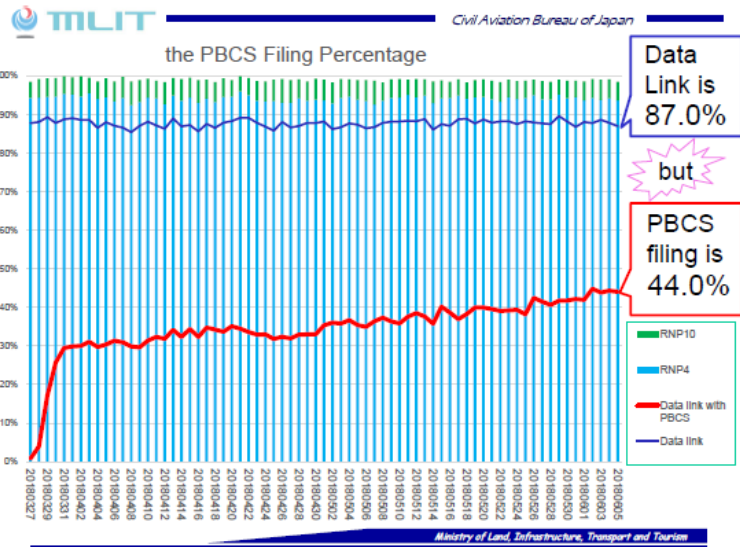
- (1) 香港提案與我方實施 AIDC 自動雷達交接管作業(於 AIDC 交換訊息新增 TOC/AOC 項目)，並藉由前述作業，將原 LOA 內運用 20 哩雷達隔離前需先與對方完成協調，改為

無需與對方協調即可運用 20 哩雷達隔離(亦即雙方使用 AIDC 之 TOC/AOC 功能即可用 20 哩雷達隔離),另香港提議分二階段實施,第一階段先就 A1、G581 及 RNAV 5 Route M750 航路(即 ENVAR/ELATO 航點)運用 20 哩雷達隔離,第二階段再考量納入 G86 航路(即 KAPLI 航點)。

- (2) 我方回應表示建議香港再以其於去(106)年啟用之新航管系統與我方進行 AIDC 之測試,包含香港希望使用之 TOC/AOC 功能,我方已做好與香港共同進行 AIDC 測試之準備,相關測試時程等細節,將持續與香港聯繫確認之。

#### 4. IP7 (附件 16, 日本提報)

- (1) 日本分享自今(107)年 3 月 29 日實施 PBCS 以來對日本流量管理中心(ATMC)洋區空域之影響,並希望各區民航主管機關應儘快建立核可航空業者使用 PBCS 之程序,各航空業者亦應儘快取得其民航主管機關之核可。
- (2) 有關日本在其簡報點出以 6 月 17 日未取得 PBCS approval 之架次數為例,CPA(48 架)、CAL(28 架)、ACA(22 架)是前 3 多架次之航空公司部分,我方於會中說明本區已建立核可航空業者使用 PBCS 之程序,華航已取得 PBCS 相關文件、手冊及人員訓練計畫等之核准,僅餘飛航組員之訓練及考試,華航將於 7 月底前完成前述事項。
- (3) IFACA 亞太地區辦公室 Mr. John Wagstaff 亦分享 ICAO 推行由 CPDLC/ADS-C 進展為 PBCS,有些航空公司受限於機隊機種原廠的設計(如 B777 特定機型)不符 PBCS 要求,爰取得民航主管機關之核准較 ICAO 之生效日較遲。



日本簡報資料

5. IP8 (附件 17，IFACA 提報)

(1) IFACA 亞太地區辦公室 Mr. John Wagstaff 說明亞太地區 Multi Nodal ATFM Concept of Operations Group 之最新活動，目前有 11 個飛航服務提供者加入，計服務 36 處國際機場：

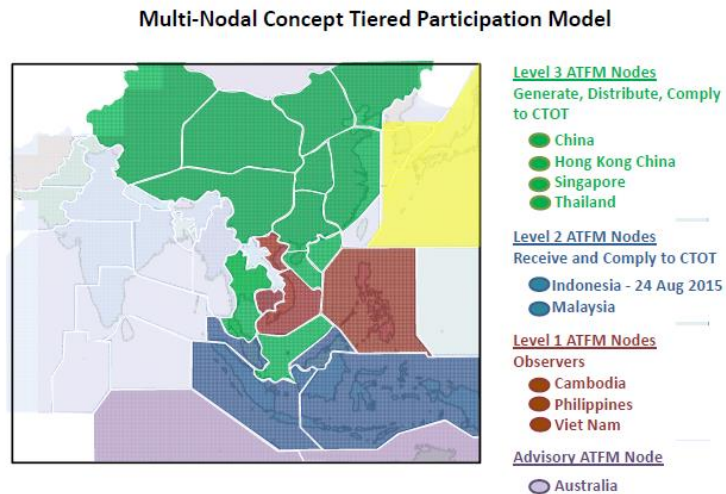
A. Level 1 : Observer status，未參與 ATFM 過程，包含寮國、緬甸及越南。

B. Level 2 : Accept status，可以接收並執行其他飛航服務

提供者所傳送之 CTOTs(Calculated Take Off Time，經計算之起飛時間)，包含印尼、馬來西亞及菲律賓。

C. Level 3：Full status，已有能力計算及傳送 CTOTs，及接受並執行其他 Level 3 飛航服務提供者所傳送之 CTOTs，包含柬埔寨、中國大陸(三亞飛航情報區)、香港、新加坡及泰國。

(2) Multi Nodal ATFM Concept of Operations Group 係使用 ICAO 推動之以 CTOTs 進行流管，相關機場則發展地面延誤機制(ground delay process)配合 CTOTs 之執行。



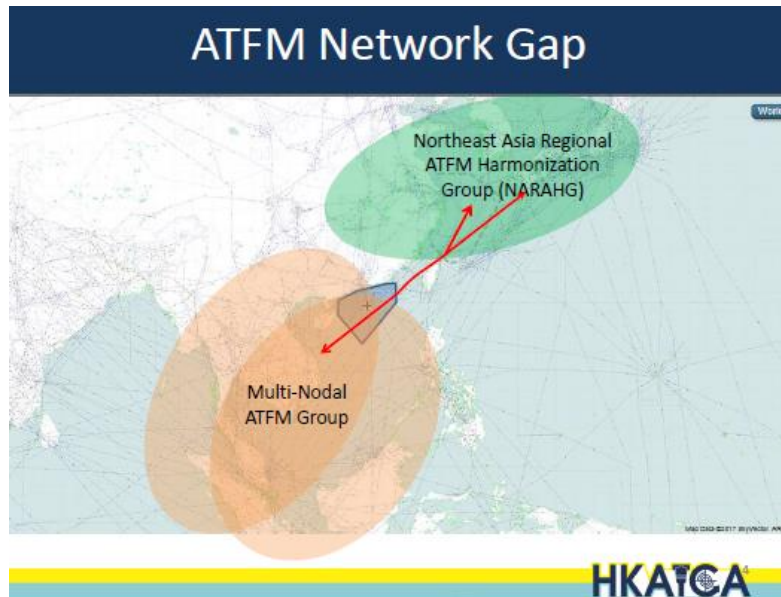
## Further Engagement Strategies

- Interoperability with other ATFM Nodes in the Region.
- Compliance with ICAO Regional Seamless ATM Plan and Framework for Collaborative ATFM.
- Plans to link ATFM and A-CDM frameworks, through compliance with ICAO Regional A-CDM Task Force.
- ASEAN ATM Masterplan:  
Seamless ASEAN Sky  
ASEAN Single Aviation Market.

IFACA 簡報資料

## 6. IP9 (附件 18，香港提報)

- (1) 香港分享其 ATFM 最新之發展情況。香港表示作為 Level 3 之飛航服務提供者，其已有能力計算及傳送香港飛航情報區內機場及空域之 CTOTs，及配合執行其他飛航服務提供者所發出之 CTOTs。
- (2) 今(107)年 6 月份艾雲尼 (Ewiniar) 颱風期間，香港之到場接受率(Arrival Acceptance Rate,AAR)曾降到 28 架次或更少，香港流管單位 2 度試作 CTOTs，於 6 月 6 日及 7 日傳送 CTOTs 至 6 個 multi-nodal 飛航服務提供者，同時彼此亦實施傳統之流管措施(多少哩一架或多少分鐘一架)，結果證明 Level 3 之飛航服務提供者間之 CTOTs compliance rate 幾乎達 100%。
- (3) 因為 ATFM 訊息交換相當重要，香港將依其 Capacity Notification (CN) message，傳送 ATFM Daily Plan (ADP)給亞太地區之飛航服務提供者。
- (4) 會中香港認為採用 CTOTs 實施流管較 CTOs(Calculated Time Over，經計算之過邊境點時間)更具效益，因 Northeast Asia Regional ATFM Harmonization Group (NARAHG)係採用 CTOs 進行流管，致 NARAHG 成員之一的日本出面說明其 CTOs 之優點，NARAHG 亦開始討論於亞太區採用 CTOs 之可能性，會後經詢香港，其於今年首度以觀察員的角色參與了 NARAHG，若 Multi Nodal Group 與 NARAHG 能相互合作，將對亞太區之流管作業有莫大助益。



## Transition from CN to ADP

Subject: Capacity Notification  
 From: 8&TMDWSU  
 To: %ATMD Capacity Notification Recipients  
 Date: 04/07/2018 13:10

CAPACITY RELATED INFORMATION VHHH (FOR ARRIVALS)  
 VALID: 040800 to 041600 UTC  
 CAPACITY LEVEL: 1  
 AIRPORT ACCEPTANCE RATE: 33 flights per hour  
 EXPECTED DELAY: Up to 15 mins  
 REASON: -  
 REMARK:

ATFM Daily Plan (ADP)			
ATFM DAILY PLAN		HONG KONG	
DATE / TIME OF ISSUE		BY JUN 28 08:00 UTC	
STATUS / REFERENCE		EFFECTIVE - UTC: 07 JUN 2018 HK 2	
CONSTRAINTS AND IMPACT			
LOCATION	PERIOD (UTC)	DETAILS	REMARK
VHHH	07 JUN 2018 0800 1300	VHHH under the Influence of Tropical Storm BOMBAE	APP-30
ATFM MEASURE			
LOCATION	ATFM MEASURE PERIOD (UTC)	ATFM MEASURE	
VHHH	07 JUN 2018 0800 1300	GDP	
POSSIBLE / DEVELOPING ISSUES			
LOCATION	PERIOD (UTC)	REMARK	
VHHH	07 JUN 2018 0800 1300	CONDITIONS IMPROVING, REVISED CTOTN TO BE ISSUED 2-SORTLY	
WEATHER BRIEFING			
AIRSPACE STATUS BRIEFING			
OTHER INFORMATION			
NOTICE A&E=14			
Hong Kong FBO Manager Phone Line: +852 29184809 or +852 29118072 (852)fm@caa.gov.hk			
Hong Kong ATIS Unit Email: ta@hku.edu.hk or +852 2913 5275			



### 香港簡報資料

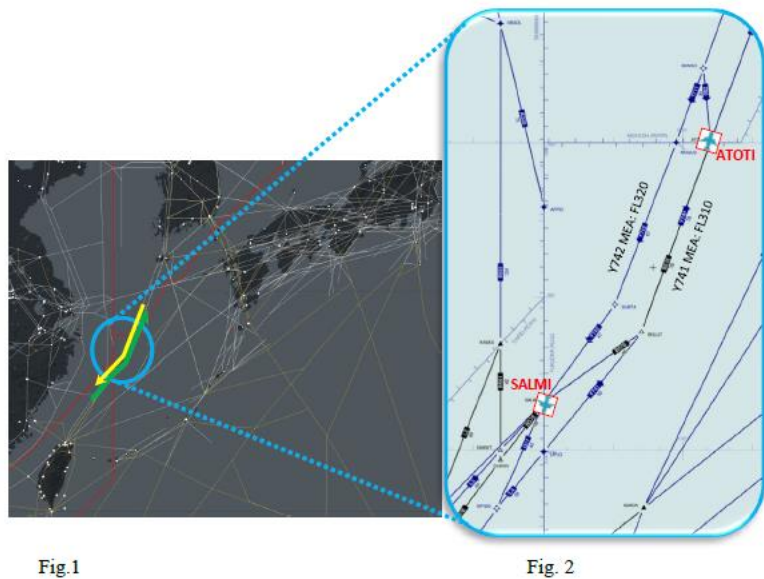
#### 7. WP9 (附件 19，日本提報)

- (1) 現行日本流量管理中心與韓國及我方之 LOA 所列協調前置時間為 60 分鐘，日本 ATMC 提案希望韓國及我方於東北向航機過 ATOTI 航點及西南向航機過 SALMI 航點實施流管時，將協調前置時間提早為 80 分鐘，並修改 LOA，俾日本流量管理中心留有餘裕因應。
- (2) 韓國對於日本的提案表示無意見，我方於會中表達很多時



後上游飛航情報區的流管都是即時生效實施，一路傳遞到本區再轉傳遞給日本也是即時生效實施，根本沒有前置時間可言，因此應該把雙方 LOA 所列協調之前置時間(60 分鐘)視為參用而非任何情況都要符合。

- (3) 因此我方建議其一回歸 ICAO 推行之 CTOTs 實施流管，不再由人工方式傳遞傳統幾分鐘/幾哩一架的流管措施，其二各區教育訓練自己的流管人員要能提高警覺，如天候不良、颱風等因素可能啟動流管之情況。
- (4) 經我方於 side bar meeting 向日本繼續說明，雙方對於協調前置時間應保留彈性達成共識。



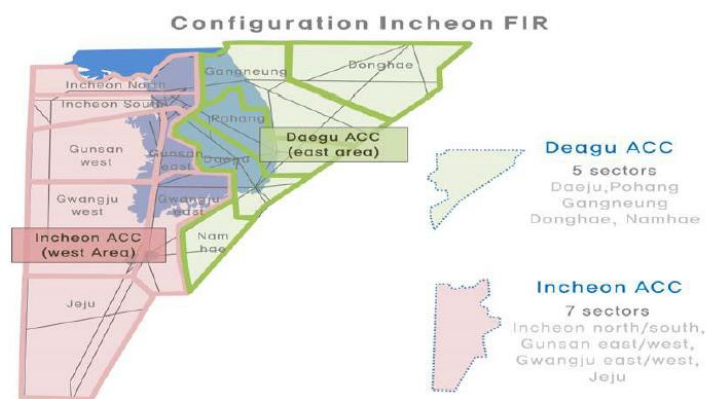
日本資料

## 8. IP11 (附件 20，韓國提報)

- (1) 韓國分享去(106)年仁川飛航情報區處理 763,729 架次，其中國際線航班為 514,855 架次，國內航班為 248,874 架次，仁川飛航情報區之航行量成長速率 6.9%，遠較全球航行量成長速率 4.8%還高，因此韓國於 103 年決定建置大邱

流管中心(Daegu Air Traffic Command Center)。

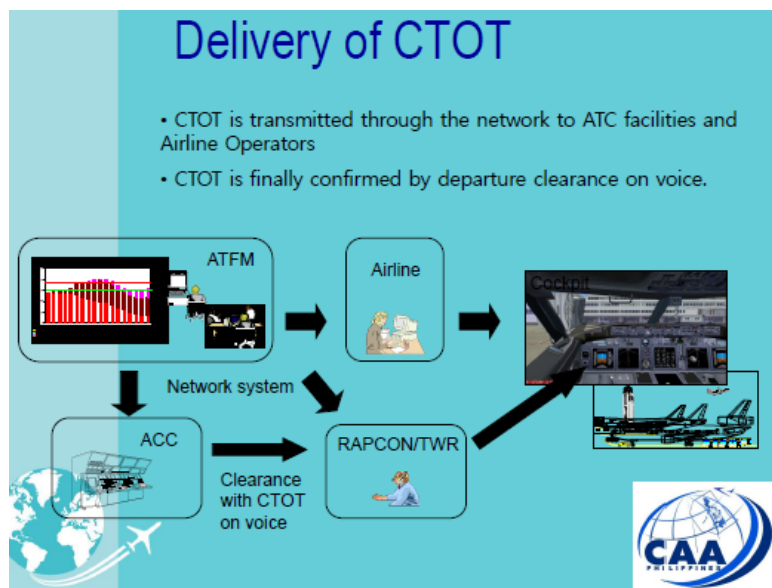
- (2) 大邱流管中心於 106 年建置完成，於同年 7 月份至 107 年 1 月試營運，於 107 年 2 月正式營運，在大邱流管中心啟用之前，仁川飛航情報區是由仁川區管中心擔任流管中心的角色，負責該區之流管業務。經詢韓國與會代表，大邱流管中心之人員為公務員，但非管制員。
- (3) 大邱流管中心之流管系統 (Korea Air Traffic Flow Management System ,KATFMS)是韓國發展的，該系統部分關鍵功能來自 Metron 公司之 Harmony Engine，我方於會後詢問韓國代表有關 Metron 公司之評價(因該公司曾拜會過總臺)，其含蓄表示不想評論，並表示若要論流管，韓國會先想解決空域的問題。
- (4) 為增進飛安、提升管制容量及減輕管制員之工作量，韓國成立了第二個區管中心(大邱區管中心)，並將仁川飛航情報區分為東西區，大邱區管中心負責東區之空域，原有的仁川區管中心負責西區之空域。



韓國資料

## 9. IP12 (附件 21，菲律賓提報)

- (1) IP12 為菲律賓於會中臨時增加提報的，菲律賓向大家介紹馬尼拉飛航情報區之 ATFM 最新發展情形。
- (2) 做為 Multi Nodal ATFM Concept of Operations Group Level 2 之成員(可以接收並執行其他飛航服務提供者所傳送之 CTOTs)，其會將 CTOTs 傳送給相關航管單位及航空公司，並於無線電頒發許可時與駕駛員確認該航班之 CTOTs。
- (3) 菲律賓於今(107)年 6、7 月參與 Multi-Nodal Trials，於國定假日及不良天候之試作 CTOTs，菲律賓二大航空公司菲律賓航空公司及宿霧太平洋航空公司均對及 CTOTs 給予正面之評價。



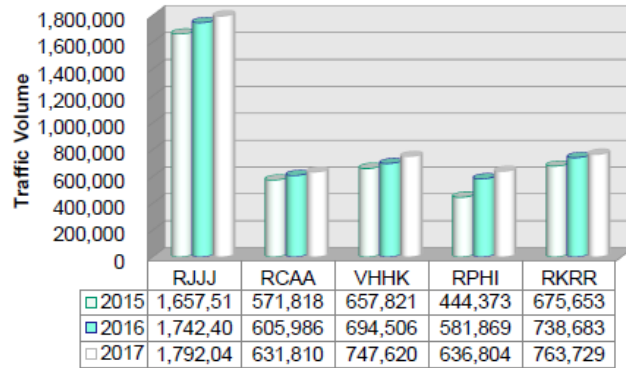
菲律賓簡報資料

## 10. IP10 (附件 22，日本提報)

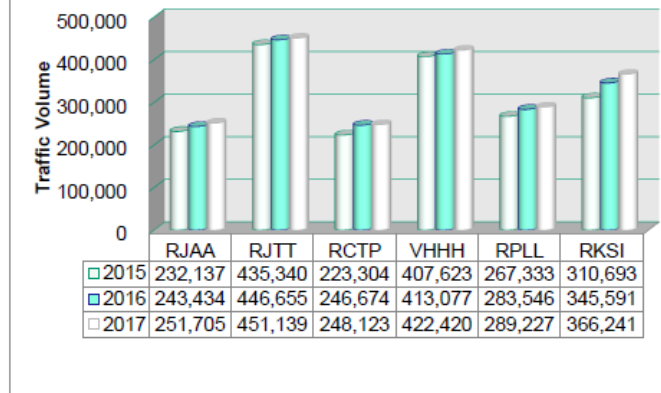
- (1) 日本已援例製作表格請大家提供各飛航情報區主要機場、航路及邊境點之架次數據，以瞭解各區航行量之增長情形，並於每屆 EATMCG 報告其統計結果，表格也會依統計結果進行修正，希望能更真實的呈現航行量之變化。

- (2) 本次統計結果亦如預期，各飛航情報區及各主要機場航行情量均有成長，日本對各成員國的協助表達謝意，並希望各成員國持續協助提供資料，供其分析使用。

Traffic Volume in the FIRs  
2015/2016/2017  
(Annual)



Traffic Volume at the Major Airports  
2015/2016/2017  
(Annual)



日本簡報資料

11. WP10 (附件 23，IFACA 提報)

- (1) EATMCG 之小組章程 (Term of Reference) 自第四屆 EATMCG 延用至今，隨著韓國以觀察員身分固定參加會議，原章程所列目的(objective)項下之程序等已大幅改變，IFATCA 爰提案修訂章程。

(2) 經對照新舊條文，新條文更符合航管現況與未來發展，例如 ICAO ATFM、PBN、Regional Seamless Airspace Plan 等，都能使本區域與 ICAO 之計畫結合，尤其新增與亞太地區其他團體如 Mekong ATMCG 及 IPACG 建立協調機制，有助於擴大區域間之整合，爰我方同意本提案，會中大家亦同意照 IFATCA 所提文字修訂章程，新修之章程自下一屆 (EATMCG/12)。

### (三) 第三日 7 月 12 日 星期四

1. 會議紀錄初稿：主席與各成員國確認對於 WP、IP 之相關回應及 side bar meeting 討論之共識，期綜整出符合各方想法之會議紀錄初稿。
2. 下屆(EATMCG/12)會議主辦國討論：本次會議主席(菲律賓民航局首席局長特助 Mr. Michael E. Mapanao)表示菲律賓多年未承辦 EATMCG，為回饋之前承辦 EATMCG 之國家，此次選的地點及會議軟硬體均採高規格，希望展現菲律賓之誠意。

## 參、心得及建議

一、 EATMCG 成效卓著，使各飛航情報區相當重視此平台：

- (一) 由本屆會議各區所提 WP 或 IP，可以發現日益增加之航行量已對各區造成要有所作為或有所改變的壓力，因此大家紛紛提出流量管理、縮減交接管隔離等議題，前述議題會如同骨牌效應般，一區影響一區，以上游及下游的關聯性一直影響下去，以三亞飛航情報區對越

南峴港機場實施流量管理為例，該流管措施一路影響香港、本區、日本至韓國，以日本及韓國提議縮短與本區之交接管隔離為例，本區為何不能鬆口允諾，因為香港及菲律賓與本區之交接管隔離並未縮減，因此很多議題都必須透過 EATMCG 平台充分溝通交流，讓彼此知道各區的考量及難處，如同會上日本一提報建議縮短與本區之交接管隔離，香港立刻發言表示下游的隔離要求大於上游，臺北是如何做到的，香港的疑問應該使日本及韓國甚至菲律賓立刻瞭解本區的難處，如此深刻的交流方式是電話、電郵無法達到的，會上的互動讓各區感受到大家是飛航服務的生命共同體，惟有合作，方能找出最佳解決方案。

(二) 自 EATMCG 成立以來，第一次主辦 EATMCG 的菲律賓以有史以來最高規格的方式，讓大家驚艷會議的地點及相關硬體設施，尤其會議第二日下午菲律賓民航局局長的蒞臨，更將氣氛推到最高點，EATMCG 在東亞各區心中的重要性，已不言而喻。

## 二、 建議持續派員參加 EATMCG

(一) 隨著韓國文化產業輸出的蓬勃發展，帶動亞洲一股強烈韓流，造成往來本區、日本至韓國之 B576 航路航行量居高不下，EATMCG/9 時，韓國先提議於仁川飛航情報區與福岡飛航情報區間建立 B576 航路之平行航路，日本依著韓國之提議，延伸出其對於 B576 航路平行航路之提案，因此提案對本區亦有助益，爰邀請日本及韓國於 side-bar meeting 討論未來三方對於雙向 B576 航路之雛型構想及航管作業配合細節等，該案因日韓間後續某些議題產生而延宕。深受航行量增長而備感壓力之韓國於 EATMCG/10 時，再度提案請日本及本區延續 EATMCG/9 之共識，希望雙向 B576 航路能付諸實現，經過二屆會議的溝通討論，連接本區、福岡及仁川飛航情報區之平行航路於

今(107)年 5 月 24 日正式生效實施。

- (二) 第一次主辦 EATMCG 的菲律賓，其區管中心派了不少人員觀摩，亦見其近場臺人員與會，與本區主辦 EATMCG 相同，除希望增加同仁參與國際會議的經驗，學習談判的技巧，亦希望藉由 EATMCG 會議，讓管制同仁瞭解許多航管作業之優化調整，是多年來多方討論而得之成果，而且見面交流，很多事情面對面處理，可充分溝通意見，也可提高事情的成功率，甚至改變整個局面，例如本次會議韓國向日本提案延長 CDR Z401 之運作時段，雖然日本仍有諸多考量未正面回應韓國，不過因著大家聚在一起，本區順勢將 CDR Z401 可用高度安排之困難處向日本詳細說明，日本瞭解後爽快同意釋出所有可用高度，算是此次會議非預期中的一大收穫。
- (三) EATMCG 為本區與東亞其他飛航情報區協商彼此航管作業的平台，其重要性會隨著區域合作議題日益突顯，建議持續派員參加 EATMCG。

## 肆、附件

附件 1：與會人員名單

附件 2：WP1

附件 3：IP 1

附件 4：IP2

附件 5：IP3

附件 6：WP2

附件 7：WP3

附件 8：WP4

附件 9：IP4

附件 10：WP6

附件 11：WP7

附件 12：WP8

附件 13：IP6



附件 14 : IP5

附件 15 : WP5

附件 16 : IP7

附件 17 : IP8

附件 18 : IP9

附件 19 : WP9

附件 20 : IP11

附件 21 : IP12

附件 22 : IP10

附件 23 : WP10

**Attendance List**

<b>IFATCA</b>	
John Wagstaff	IFATCA Representative
<b>HONG KONG</b>	
Au Yeung Hung Leung	Senior Safety and Quality Officer (En-route)
Cheung Henry Hin	Evaluation Officer
Anthony Tsui	Air Traffic Control Officer
Geoffrey MF Tong	Air Traffic Control Officer
Anfernee Poon	President, HKATCA
<b>PHILIPPINES</b>	
Michael E. Mapanao	ADG I, ATS
Ferdinand A. Tienzo	Division Chief III, Enroute Control Division, ATS
Anna Joy C. Papag	Acting Division Chief III, Planning Division, ATS
Melba S. Acurantes	Facility Chief, Manila ACC
Ramil Lariosa	Facility Chief, Mactan ACC
Rodrigo Oporto Jr.	Assistant Facility Chief, Mactan ACC
Virgilio Cipriano	Facility, Chief, Manila ATFM
Daisy Jane D. Mercado	ATMO IV, ATS-SMS
Sommel M. Malantic	Supervisor, Manila ACC
Henson A. Sorreda	Supervisor, Manila ACC
Anna Liza D. Chiefe	Supervisor, Manila ACC
Pablito C. Tigno, Jr.	ATMO III, Manila ACC
Rudy Boctot, Jr.	ATMO III, Manila Approach
Gilmar D. Tiro	CNS Systems Officer IV
John Mar P. Cabalar	Administrative Assistant II, ATS
<b>REPUBLIC OF KOREA</b>	
Hodeuk, Kang	Assistant Director, Incheon ACC
Eungi, Park	Assistant Director, Incheon ACC
Youngchae, Byun	Assistant Director, Daegu ACC
Jinwook, Lee	Assistant Director, Air Traffic Command Center
Si Young, Ko	Expert Advisor, Incheon International Airport Corp.

<b>TAIWAN</b>	
Shiue, Shao-Yi (Daniel)	Director, ATSD, CAA
Chang, Han-Chun	Technical Specialist, ATSD, CAA
Li, Chia-Yu	Chief, Taipei ACC, ANWS
Lin, Cheng-Tsung	Chief Controller, Taipei ACC , ANWS
Yao, Huan-Shen	ATC, Taipei ACC, ANWS
Kuo, Chih-Ting	ATC, Taipei ACC, ANWS
Lo, Shih-Wei	ATC, Taipei ACC, ANWS
<b>JAPAN</b>	
Fumio Sato	JCAB HQ ATC Div Special Assistant to the Director
Takumi Takebe	JCAB HQ ATC Div Chief
Takashi Yokoyama	JCAB HQ ATC Div Chief
Yukio Imada	ATMC Senior Air Traffic Management Officer
Yasutaka Hashimoto	Fukuoka ACC Air Traffic Controller
Kaoru Taketa	Naha ACC Senior Air Traffic Controller
Fujio Horii	Deputy Director, ATCA-J

**THE ELEVENTH MEETING OF THE EAST ASIA AIR TRAFFIC  
MANAGEMENT COORDINATION GROUP (EATMCG/11)**

**(Mactan, Cebu, Philippines, 10-12 July 2018)**

**Agenda Item 1**

**Provisional Agenda**

**Tuesday, 10 July**

0830-0900 Registration

0900-0930 Welcome Address

**Opening Remarks**

0930-1030 Session 1

**Adoption of Agenda**

**Review of EATMCG/10 and Recent ICAO Meetings**

*1030-1100 Morning Break and Group Photo*

1100-1230 Session 2

**Regional Presentations 1**

*1230-1330 Lunch*

1330-1500 Session 3

**Regional Presentations 2**

*1500-1530 Afternoon Break*

1530-1630 Session 4

**Regional Presentations 3**

1630-1700 Side Bar Meetings

*1830-2100 Dinner (Sponsored by CAAP)*

**Wednesday, 11 July**

- 0900-1030 Session 5  
ATM Developments in the Region  
CNS Developments in the Region
- 1030-1100 *Morning Break*
- 1100-1230 Session 6  
ATFM Developments in the Region
- 1230-1330 *Lunch*
- 1330-1500 Session 7  
Side Bar Meetings
- 1500-1530 *Afternoon Break*
- 1530-1600 Session 8  
Any Other Business

**Thursday, 12 July**

- 0900-1030 Review Draft Meeting Report
- 1030-1100 *Morning Break*
- 1100-1130 Review Task List  
EATMCG / 12 Arrangements
- 1130-1200 Closing Remarks
- 1200-1300 *Lunch*
- 1330-1700 Visit to Mactan ATC facilities.

**THE ELEVENTH MEETING OF THE EAST ASIA AIR TRAFFIC  
MANAGEMENT COORDINATION GROUP (EATMCG/11)**

**Mactan, Cebu, Philippines 10 - 12 July 2018**

**Agenda Item 1**

**List of Papers**

<b>WORKING PAPERS</b>			
<b>No.</b>	<b>Agenda</b>	<b>Title</b>	<b>Presenter</b>
<b>WP 1</b>	1	Provisional Agenda	-
<b>WP 2</b>	2	Extending CDR Z401 Operating Time	Incheon ACC
<b>WP 3</b>	2	Trial of Reduced Radar Separation	JCAB and Incheon ACC
<b>WP 4</b>	2	Implementation of PBN Specification on ATS Routes A461 and G583	CAD, Hong Kong
<b>WP 5</b>	2	Proposed Implementation of Full AIDC Procedures between Hong Kong ATCC and Taipei ACC	CAD, Hong Kong
<b>WP 6</b>	2	Reducing Longitudinal Separation on ATS Route N892	Taipei
<b>WP 7</b>	2	Seeking solutions to enhance capacity for the traffic flow into Indochina Peninsula and beyond	Taipei
<b>WP 8</b>	2	Long Term NOTAM to Reduce Daily Coordination on VVDN Flights	Taipei
<b>WP 9</b>	5	Proposal for Change of Lead Time on Specific Cross-Border ATFM	ATMC
<b>WP10</b>	5	Revised ToR.	IFATCA
<b>INFORMATION PAPERS</b>			
<b>IP 1</b>	-	List of Papers	-
<b>IP 2</b>	1	Review of EATMCG/10 Meeting	IFATCA
<b>IP 3</b>	1	Review of Recent ICAO Meetings	IFATCA
<b>IP 4</b>	2	Alternative Operational Procedures During Kumejima ORSR Outages	JCAB
<b>IP 5</b>	4	AIDC Operational Tests in Manila FIR	Philippines
<b>IP 6</b>	3	Update on Philippine CNS/ATM	Philippines
<b>IP 7</b>	4	The Analysis of PBCS Implementation	JCAB
<b>IP 8</b>	5	Multi Nodal ATFM Update	IFATCA
<b>IP 9</b>	5	Latest ATFM Development in Hong Kong, China	HKATCA
<b>IP10</b>	5	The Outcome of Common Report Forms from 2015 to 2017	JCAB
<b>IP 11</b>	5	The Establishment and Operation of Air Traffic Command Centre	Republic of Korea

**THE ELEVENTH MEETING OF THE EAST ASIA AIR TRAFFIC  
MANAGEMENT COORDINATION GROUP (EATMCG/11)**

**Mactan, Cebu, Philippines 10 - 12 July 2018**

**Agenda Item 1**

**Review of EATMCG/10 Meeting**

Presented by IFATCA

This paper gives a summary of EATMCG/10 Meeting held in Taipei, Taiwan, in July 2017. Brief details of the main topics of discussion are provided. The Task List for EATMCG/11 meeting that was compiled at the end of EATMCG/10 is attached.

**1. Introduction**

- 1.1 The Tenth Meeting of the East Asia Air Traffic Management Coordination Group (EATMCG/10) was held in Taipei, Taiwan, 19-21 July 2017. The meeting was jointly hosted by Civil Aviation Authority (CAA) Taiwan, and the Republic of China Air Traffic Controllers Association (ROCATCA), with the assistance of the International Federation of Air Traffic Controllers' Associations (IFATCA).
- 1.2 The meeting was attended by 45 delegates from Hong Kong, Japan, Philippines, Republic of Korea (ROK) and Taiwan. The meeting Chairperson was Ms Candy Li, Deputy Chief Taipei ACC.

**2. Discussion**

- 2.1 Topics of discussions during the meeting included:
  - Agreement between ROK and Japan to revise the LOA for longitudinal separation for flights on B576 and Y711.
  - Agreement between Japan and Taiwan to revise their LOA before the end of 2017.
  - Japan proposed a reduction of the current radar spacing between Fukuoka ACC and Taipei ACC to accommodate the increasing numbers of traffic proceeding

beyond Taipei FIR. Taiwan was unable to accept the proposal due to the procedural separation they have to provide to Manila ACC. However they noted that with the planned implementation of the new ATMS by the Philippines, including improved surveillance coverage and AIDC, they hoped there would soon be an opportunity for a reduction of separation.

- Japan, ROK and Taiwan agreed to progress discussions on implementing a parallel route to B576 to relieve congestion.
- Japan advised that they will be implementing the ICAO Performance-Based Communication and Surveillance (PBCS) requirements on 29 March 2018 in their oceanic airspace and enquired if any other ANSPs will be implementing PBCS.
- ATFM developments in the region within the Multi-Nodal ATFM Network Group and North East Asia Regional ATFM Harmonisation Group.

2.2 The meeting reviewed the Task List and updated it as Task List for EATMCG 11.  
(See Attachment 1)

### 3. Action By The Meeting

3.1 The meeting is invited to note the information contained in this paper and provide an update on the Task List items.

Distributed Multi-Nodal ATFM Operational Trial Project will be given under Agenda Item 6.



**THE ELEVENTH MEETING OF THE EAST ASIA AIR TRAFFIC  
MANAGEMENT COORDINATION GROUP (EATMCG/11)**

**Mactan, Cebu, Philippines 10 - 12 July 2018**

**Agenda Item 1**

**Revised Review of Recent ICAO Meetings**

Presented by IFATCA

This paper provides a brief review of recent ICAO Asia Pacific Regional Meetings relating to matters that are relevant to EATMCG.

**1. Introduction**

1.1 This review covers the period from September 2017 to July 2018.

1.2 All meetings were held at the ICAO Asia Pacific Regional Office in Bangkok, Thailand, unless stated otherwise.

**2. Discussion**

**2.1 APANPIRG/28**

The Asia Pacific Air Navigation Planning and Implementation Regional Group Meeting was held in September 2017. This is the annual high-level meeting that reviews the reports from the various Sub Groups, Working Groups, Task Forces and the Safety Monitoring Group. Relevant Conclusions from the meeting included:

- a) Seamless ATM Plan – ICAO commented on the compliance with ATM horizontal separation standards. They noted that there appeared to be no specific technical reasons why developed States in other regions were able to provide more efficient levels of service than States in Asia, using essentially the same Communications, Navigation and Surveillance (CNS)/ATM equipment. It is therefore concluded that only human decision-making at management level could be responsible for this poor result, indicating a region-wide paradigm shift in organisational culture was necessary.

- b) Implementation of A-CDM – Workshop to be arranged and A-CDM Task Force meeting to be arranged. (Held in Kunming, April 2017.)
- c) Performance Based Communication and Surveillance (PBCS) – ICAO noted the poor response to their survey on States' preparation and implementation of aircraft certification for the introduction of PBCS-based ATC procedures on 29 March 2018. They stated concern at the potential problems for aircraft operators and ANSPs if the proper authorisation process is not established.
- d) ADS-B Implementation – ICAO was encouraged to see the growing use of ADS-B data by a number of States. The benefits of utilising space-based navigation and surveillance continues to provide benefits to aircraft operators and ANSPs alike, particularly in the practice of sharing data.
- e) AKARA Corridor (A593) Safety Assessment – ICAO noted that due to the high number of opposite direction and crossing flights on A593 and the abnormal control procedures for the route, the States involved should endeavour to implement standard control practices within the AKARA Corridor.

## 2.2 RASMAG/23

Regional Airspace Safety Monitoring Group Meeting was held in July 2018. This group reviews the safety performance in areas of airspace primarily with regard to vertical and lateral separation, but also with regard to data link communication and PBCS standards.

- a) The Japanese authority, JASMA, reported that although the Fukuoka FIR did not meet the vertical TLS, but many of the events were generated by turbulence-related LHDs and oversights by adjacent units.
- b) The Monitoring Agency for Asia Region reported that the West Pacific area (including Hong Kong and Philippines) failed to comply with the TLS and there was no improvement compared to the previous year. However the planned introduction of AIDC between a number of units during the coming year will hopefully result in a significant reduction of LHDs. The Philippines advised that due to the increase of traffic, the number of transitions to and from the South China Sea FLOS/FLAS they have to manage adds to the controllers' workload. They requested the South China Sea Traffic Flow Review Group to address this issue.
- c) The Pacific Approvals Registry and Monitoring Organisation reported that the Incheon FIR exceeded the TLS by a very small amount and showed a significant improvement over previous years. All of the events involved a breakdown of ATC coordination, but the issues were quickly resolved. However

separately, ICAO noted that although the AKARA Corridor did not exceed the TLS in this period, it was still considered to be an area of critical flight safety risk and reported that the President of the ICAO Council has written to the Minister of Land, Infrastructure and Transport of the Republic of Korea to address the unique airspace management process of A593.

ICAO noted the increasing workload of the various Monitoring Agencies with the introduction of PBCS monitoring in addition to their other tasks of vertical and horizontal separation monitoring and data-link performance monitoring.

### 2.3 SCSTFRG/6

South China Sea Traffic Flow Review Group Meeting was held in March 2018 in Beijing.

- a) The meeting agreed on a plan for the phased implementation of reducing longitudinal spacing on some South China routes.  
Priority Routes 1 - A1 and A202. Reduction to 20NM and to develop a parallel route to A1.  
Stage 1 – reducing longitudinal spacing on A202;  
Stage 2 – reducing longitudinal spacing on A1 and reassigning FL390 to ATS Route Q1 and Q2 in Ho Chi Minh airspace;  
Stage 3 – discuss plans for developing parallel routes.  
Priority Routes 2 – L642 and M771. Reduction to 20NM and the possibility of developing a parallel route structure.
- b) As Hong Kong was not present the plan will be discussed with them at a later meeting.

### 2.4 SEACG/25

South East Asia Coordination Group Meeting was held in March 2018 in Seam Reap. This is a long established group that reviews developments within and between the States of this area.

- a) Vietnam and Sanya both highlighted the need to standardise surveillance based en-route spacing at 20NM to increase airspace capacity. ICAO stated that one of the primary targets of the ICAO Regional Seamless ATM Plan was harmonized horizontal separation minima.
- b) Indonesia proposed establishing a contingency route for Shanghai bound traffic effected by extensive ground delays because of ATFM measure from other units. The contingency route would avoid Manila, Hong Kong and Guangzhou FIRs and would route via Oakland Oceanic airspace and Fukuoka FIR into Shanghai FIR. ICAO advised that Indonesia should submit a Proposal for Amendment to the Regional Air Navigation Plan and then consult with the

ATS units concerned before submitting the proposal for an Amendment to the ANP.

At this meeting a South China Sea Traffic Flow Review Group (SCSTFRG) Side-Meeting was held. Because Hong Kong did not attend the SCSTFRG/6 meeting where the action plan for the reduction in longitudinal spacing on certain South China Sea routes entering Hong Kong airspace was agreed by all parties present, the Group members took this opportunity to discuss the matter with Hong Kong. Although Vietnam and Sanya FIR were willing to reduce the current 30NM spacing to 20NM with some conditions, Hong Kong was unable to comment on the proposal at that time. However they would provide an update on Hong Kong's plans at the next SCSTFRG meeting.

## 2.5 ATFM SG/8

The Air Traffic Flow Management Steering Group Meeting was held in May 2018 in Delhi. The two sub-regional groups that have been established, the Multi-Nodal Project Group and the Northeast Asia Regional ATFM Harmonisation Group (NARAHG) reported on their respective progress in establishing cross-border ATFM coordination and communication within their respective areas.

The Multi Nodal Group has expanded its coverage with Cambodia upgrading to a Level 3 participant and Philippines joining as a Level 2 member. A number of limited exercises have been successfully conducted and the group is now working on establishing a SWIM-based information sharing platform. The established practice of issuing CTOTs and implementing ground delay programmes has been trialed on a number occasions.

The NARAHG members, Japan, ROK and Shanghai FIR, exchange daily ATFM information via the Cross Region ATFM Collaborative Platform (CRACP). This system is being developed into a platform that will connect directly with the Fukuoka ATMC, Daegu ATFM Centre and Shanghai ATFM Centre. Currently CRACP provides Fukuoka and Daegu with Shanghai FIR boundary CTOs for arrivals from Japan and Republic of Korea.

As in previous ATFM SG meetings, ICAO noted that whilst development of the two sub-regional groups was within the core concept of the Regional Framework, the lack of harmonization between the groups do not comply with the notion of collaborative ATFM. They proposed a Small Working Group should be established to standardise practices and develop interoperable coordination and communication practices between the two groups. Many participants endorsed the idea, but China did not support the proposal.

## 2.6 AITTF/13

The AIM Implementation Task Force meeting was held in June. One item that this group monitors is the regional progress regarding the implementation of unique five letter name codes (5LNCs) for reporting points. Five years ago the Regional Office embarked on a project to apply the naming protocol within the region and to remove the duplicate use of names within 500NM. In 2017 ICAO issued a State Letter on International Codes and Route Designators (ICARD) Database, declaring the use of duplication within 1000NM represents a potential safety risk. The Regional Office has produced a list of 5LNC duplications within 1000NM in the Asia Pacific region (see Attachment A). The list shows that most of the States in the Asia Pacific region are involved in the duplicate use of 5LNCs that are officially allocated by ICAO to another State. It is expected that at forthcoming ICAO meetings the Regional Office will be highlighting this issue and instructing ANSPs to resolve the problem.

## 2.7 The Meteorology Sub Group Meeting was held in June. The meeting put forward one Draft Conclusion for APANPIRG:

‘Guidance for Tailored Meteorological Information and Services to Support ATM Operations’. This was in response to recent requests at MET Requirements Meetings for improved MET forecasting for ANSPs in En-route airspace, Terminal Areas and Approach/Departure areas.

and one Decision : ‘Regional Draft Guidelines for Operational SIGMET Coordination’. This was as a result of requests from pilots and controllers for improved coordination between adjacent MET offices to provide cross-FIR boundary SIGMETS. Hong Kong, Japan and Singapore MET offices are taking the lead in a Collaborative SIGMET Initiative.

ICAO Doc 10100 Manual on Space Weather Information in Support of International Air Navigation should be issued in November 2018. This will provide advisory information to assist in assessing risks associated with space weather events.

Asia Aviation Meteorological Centre, Beijing, provides non-ICAO products providing supplementary information. (Big Data)

## 3. Action By The Meeting

### 3.1 The meeting is invited to note the information contained in this paper.

**ATTACHMENT A: List of SLNCs Requested by Less Than 100 NM (as known at 25 May 2018)**

*Action required by APAC States highlighted yellow*

SLNC	Published in AIP	Registered in ICARD	Priority Administrations
ALPHA	China India Italy Lao People's Democratic Republic Russian Federation Spain Turkey United Kingdom (2) UK (Falkland Islands), Vanuatu	Lao People's Democratic Republic	Lao People's Democratic Republic
ANGEL	Colombia/Ecuador (FIR boundary) Honduras (COCESNA) Japan Philippines Thailand	Colombia/Ecuador, Honduras (COCESNA)	Colombia/Ecuador
ARENA	Indonesia Kenya/United Republic of Tanzania (FIR boundary) Mali Liberia	Mali	Mali
BACON	Brazil China Japan Philippines United States of America	Brazil, United States of America	United States of America
BAKER	Australia China Hong Kong SAR of China United Kingdom	United Kingdom	United Kingdom
BEACH	Fiji Japan Republic of Korea United States of America	Fiji, United States of America	United States of America
BISON	Australia China Indonesia United States of America Viet Nam	United States of America	United States of America
BRAVO	Brazil China India Italy Syrian Arab Republic United Kingdom United Kingdom (Falkland Islands)	Brazil	Brazil

AA/TF/11 – WP09  
Attachment A

SLNC	Published in AIP	Registered in ICARD	Priority Administrations
CORAL	Australia Brazil China Hong Kong SAR of China Cuba France (French Polynesia) Honduras (COCESNA) Japan Mexico	Brazil, Bermuda (U.S.), Honduras (COCESNA)	Brazil
CHALI	China Hong Kong SAR of China United States of America	United States of America	United States of America
CRANE	Australia Brazil Japan Republic of Korea United States of America	United States of America, Brazil	United States of America
DECOY	China Republic of Korea United States of America	United States of America	United States of America
DELTA	Bhutan India Italy Japan Lao People's Democratic Republic Lithuania Sri Lanka Serbia Syrian Arab Republic Vanuatu	Sri Lanka	Sri Lanka
GARZA	Costa Rica (COCESNA) Republic of Korea Peru United States of America Venezuela	United States of America	United States of America
HANBY	Australia China Republic of Korea United Kingdom United States of America	United States of America, United Kingdom	United Kingdom
HOTEL	Canada China Thailand Viet Nam	Canada	Canada
ISSIMI	Japan Malaysia Singapore	Malaysia	Malaysia

FORM – 1071AA  
 A. Identification

Identifying Information	Registered in State	Registered in State	State
Japan	Japan	Japan Japan Japan Japan	JAPAN
Japan	Japan	Japan Japan Japan	JAPAN
Viet Nam	Viet Nam	Viet Nam Viet Nam	Vietnam
To be determined by the SEC, Designated Reporting Firm	OH	OH OH OH	OHIO
To be determined by the SEC, Designated Reporting Firm	OH	OH OH OH	OHIO
United Kingdom	United Kingdom	United Kingdom United Kingdom United Kingdom	UK
United States of America	United States of America	United States of America United States of America United States of America	USA
Japan	Japan	Japan Japan Japan	JAPAN
Venezuela	Venezuela Central Bank Financial Authority (the Government)	Venezuela Venezuela Venezuela Venezuela Venezuela Venezuela Venezuela	VENEZUELA
Brazil	Brazil	Brazil Brazil Brazil	BRAZIL
United States of America	United States of America	United States of America United States of America United States of America	USA
Colombia	Colombia	Colombia Colombia Colombia	COLOMBIA



AAJF/13 – WFOH  
Attachment A

BLMC	Published in ADP	Registered in ICAMB	Priority Administrations
MARIA	Argentina/Bolivia (FIR Secondary) Brazil Japan Thailand United States of America	United States of America, Argentina/Bolivia (FIR Secondary)	United States of America
MAZDA	China Japan United States of America	United States of America	United States of America
MORRY	Japan Republic of Korea United States of America	United States of America	United States of America
MOYTA	Hong Kong SAR of China Japan Philippines	NO	To be determined by the U.S.C. Diplomatic Consular States
NORAN	Denmark Japan Republic of Korea	Reserved to Block for Denmark	To be determined by the U.S.C. Diplomatic Consular States
ORION	China Italy Japan Peru Philippines Spain Thailand United States of America	United States of America Peru Spain	United States of America
OLIVE	China China Thailand United Kingdom United States of America (American Samoa)	American Samoa, United Kingdom	United Kingdom
PANBA	Brazil China Indonesia Japan Philippines United States of America	United States of America	United States of America
PANER	Japan Indonesia Korea/China (FIR Secondary) Korea (FIR) Thailand	Brazil	Brazil
PABOT	Iran (Islamic Republic of) Republic of Korea	Iran (Islamic Republic of), Republic of Korea	Iran (Islamic Republic of)
PEARL	China Japan United States of America	United States of America	United States of America
PRADA	Canada Japan Republic of Korea Spain	Canada	Canada

SLNE	Published in AIP	Registered in ICARD	Priority Administrations
RASKI	India/China (TIR Secondary) Iraq Saudi Arabia	India/China	India/China
ROBIN	Australia China Hong Kong SAR of China Japan Mexico	Japan	Japan
ROCKY	China Hong Kong SAR of China Japan New Zealand United States of America Venezuela	United States of America	United States of America
SAMBO	Czechia Japan Viet Nam	Viet Nam	Viet Nam
SANDY	Australia China New Zealand Philippines Republic of Korea United Kingdom	New Zealand	New Zealand
SCOTT	Australia Japan Republic of Korea United States of America	Australia	Australia
SEPIA	China Japan Republic of Korea	Japan	Japan
SERVE	Australia China Japan United States of America	United States of America	United States of America
SHELV	Hong Kong SAR of China Japan Philippines United States	United States of America	United States of America
SIBBO	Japan Republic of Korea United States of America	United States of America	United States of America
SIMEL	Brazil Indonesia Peru	Brazil	Brazil
SKATE	Hong Kong SAR of China Libya Philippines United States of America	Philippines, United States of America	United States of America

AA/TTC-13 – WP/09  
Attachment A

SLNC	Published in AIP	Registered in ICARD	Priority Administrations
SHAKE	Japan Republic of Korea United States of America	United States of America	United States of America
SPICA	Canada China Japan	Canada	Canada
STELA	Hong Kong SAR of China Japan Russian Federation United States of America	United States of America, Russian Federation	Russian Federation
SHINY	Australia Japan Republic of Korea United States of America	United States of America	United States of America
TAMBA	Indonesia (2) Japan Liberia Mexico	Mexico	Mexico
TANGO	India Lao People's Democratic Republic Pakistan Spain Syrian Arab Republic Thailand Viet Nam	Spain, Canada	Spain
TANON	Cameroon Nigeria Thailand	Cameroon	Cameroon
THARA	Costa Rica Japan Thailand	NO	To be determined by the SLNC Duplicate Resolution Rules
TIGER	Japan Lao People's Democratic Republic Pakistan/India (FIR boundary) Thailand United Kingdom United States of America	Thailand, Pakistan/ India (FIR boundary), United Kingdom, United States of America	United Kingdom
YARDN	Costa Rica Thailand United States of America	NO	To be determined by the SLNC Duplicate Resolution Rules
WHITE	Canada Japan United States of America	Canada, United States of America	United States of America
WOODY	Australia Belgium/Netherlands (FIR boundary) China Japan	Belgium/Netherlands	Belgium/Netherlands

**THE ELEVENTH MEETING OF THE EAST ASIA AIR TRAFFIC  
MANAGEMENT COORDINATION GROUP (EATMCG/11)**

**Mactan, Cebu, Philippines 10 - 12 July 2018**

**Agenda Item 2**

**Extending CDR Z401 operating time**

(Presented by Incheon ACC, Republic of Korea)

**SUMMARY**

This paper provides proposal to discuss the adjustment of the operating time of CDR Z401 in MOA between Incheon ACC and Fukuoka ACC.

**1. Introduction**

- 1.1 Airway Z401 is conditional detour route for dispersing Incheon FIR inbound traffic from Y741/Y722. The airway is usually used for POTIB overflying aircraft to enter RUGMA and has restricted operation time. However, some aircraft use this airway earlier than the operation time. Therefore, we need to extend the operation.

**2. Discussion**

- 2.1 Incheon ACC proposes as follows:

Extending operation time of Z401 to 1 hour earlier -  
i) Current operation time 1930 UTC - 2200 UTC;  
ii) Proposed operation time 1830UTC - 2200UTC;

- 2.2 Incheon ACC would like to revise the mentioned time in MOA between Fukuoka ACC and Incheon ACC. The draft of MOA needs to be discussed with Japan and Taiwan in more detail as per attachment.

**3. Action By The Meeting**

- 3.1 The proposal is open for discussion by the meeting.

**<Draft of the MOA between Fukuoka ACC and Incheon ACC>**

<b>&lt;Current&gt;</b>	<b>&lt;Draft&gt;</b>
<p>2.b. The application of procedures hereinafter is restricted to the flights overflying via MOLKA M750 MAMOD Z40 IGMON Z401 POTET Y579/A586 RUGMA and crossing RUGMA between 1930 UTC and 2200 UTC.</p>	<p>2.b. The application of procedures hereinafter is restricted to the flights overflying via MOLKA M750 MAMOD Z40 IGMON Z401 POTET Y579/A586 RUGMA and crossing <b>RUGMA between 1830 UTC and 2200 UTC.</b></p>
<p>5.a. Timeframe and Reference Point: From 1930 UTC to 2200 UTC daily at RUGMA.</p>	<p>5.a. Timeframe and Reference Point: <b>From 1830 UTC to 2200 UTC daily at RUGMA.</b></p>

**THE ELEVENTH MEETING OF THE EAST ASIA AIR TRAFFIC  
MANAGEMENT COORDINATION GROUP (EATMCG/11)**

**Mactan, Cebu, Philippines 10 - 12 July 2018**

**Agenda Item 2**

**Trial of Reduced Radar Separation**

Presented by JCAB and Incheon ACC

**SUMMARY**

This paper provides proposal to discuss the reduced radar separation between Taipei FIR and Fukuoka FIR.

**1. Introduction**

- 1.1 The number of air traffic flying on A1, M750, Y742 Y741, G581 or other airway is rapidly increasing. In EATMCG/10 at Taiwan, JCAB proposed reducing of radar separation of A1 and M750, however, we could not reach an agreement on this issue due to a number of conditions. Nevertheless, in order to accommodate the increasing traffic, JCAB in collaboration with KOCA now propose a number of new options for reducing radar separation.

**2. Discussion**

2.1 Option 1 - JCAB proposes as follows:

In the following combination, reduced radar separation on A1, M750, R583, R595, G581 and J5 transition.

- a) 20NM →15NM
- i) Either one or both aircraft terminate in Fukuoka FIR, Taipei FIR or Hong Kong FIR.
  - ii) Both aircraft diverge from each other in Fukuoka FIR or Taipei FIR.
  - iii) Both aircraft proceed beyond Fukuoka FIR but do not enter the Pacific Ocean airspace directly from Naha ACC's jurisdiction airspace.
- b) 60NM →55NM
- i) Both aircraft proceed beyond Hong Kong FIR.
  - ii) Both aircraft proceed beyond Taipei FIR entering Manila FIR.

- 2.2 Option 2 - JCAB and Incheon ACC propose as follows:  
In the following combination, reduced radar separation on Y741, Y742, Y743 and B576.
- a) 30NM → 25NM
    - i) Either one or both aircraft terminate in Taipei FIR or Hong Kong FIR.
    - ii) Both aircraft diverge from each other in Taipei FIR.
    - iii) For north-bound aircraft regardless of destination.
  - b) 60NM → 55NM
    - i) Both aircraft proceed beyond Hong Kong FIR.
    - ii) Both aircraft proceed beyond Taipei FIR entering Manila FIR.
- 2.3 When succeeding aircraft is faster than the preceding aircraft on our proposals, an additional 15NM should be added to the minima. There is no change from current operation.

Note: According to the present LOA between Taipei and Fukuoka/Naha, another 10NM should be added when succeeding aircraft is faster than the preceding aircraft.

### 3. Action By The Meeting

- 3.1 The meeting is invited to discuss the proposals in this paper.

**THE ELEVENTH MEETING OF THE INFORMAL EAST ASIA AIR TRAFFIC  
MANAGEMENT COORDINATION GROUP (EATMCG/11)**

**Mactan, Cebu, Philippines 10 - 12 July 2018**

**Agenda Item 2**

**Implementation of PBN Specification on ATS routes A461 and A583**

Presented by CAD, Hong Kong, China

**SUMMARY**

The robust growth of air traffic in this region requires corresponding increase of route capacity. This paper proposes to expedite the implementation of PBN specification on ATS routes A461 and A583 so that the increased traffic demand can be managed through the application of reduced longitudinal spacing.

**1. Introduction**

- 1.1 With the continual increase in air movements on both A461 and A583, air traffic are regularly subjected to various forms of restrictions, such as ground and/or air delays, cruising at less optimum levels causing more fuel consumption etc. There is a genuine and urgent need to expedite the re-designation of ATS routes A461 and A583 to become RNP10 routes so that airline operators can benefit from the associated reduction in longitudinal spacing especially during the busy evening hours.

**2. Discussion**

- 2.1 A rough comparison of previous (2012) and the current traffic figures shows that the traffic volume has risen by 50% in just slightly more than 5 years. The increase in traffic has undoubtedly caused more competitions for optimum levels by flights operating on the two routes and as a result more restrictions will have to be imposed to ensure that the limited capacity will be made used of effectively by air operators and there is no wastage to the limited resource. With the implementation of PBN specification and 50NM reduced longitudinal spacing can be applied at waypoints NOMAN and SABNO, the excessive demand can be met to a certain extent.



- 2.2 In fact, the Philippines authority had previously agreed to the proposal of re-designation of ATS routes A461 and A583 to RNP10 in SEACG/21 and with a suggestion to seek agreements from Indonesia and Australia to align the specifications along the entire route. In SEACG/25, Indonesia presented an information paper reported that Ujung Pandang ACC and Brisbane ACC have already implemented the 50NM reduced longitudinal spacing since the 4<sup>th</sup> September 2017. It is therefore apparent that conditions have become favourable for this project to move on at a faster pace.
  - 2.3 It is suggested that the re-designation of A461 and A583 to RNP 10 routes between Hong Kong and the Philippines be accorded with priority. Hong Kong, China is ready for the change.
3. Action by the meeting
- 3.1 The meeting is invited to:
    - a) note the information contained in this paper;
    - b) discuss any relevant matters as appropriate.

**THE ELEVENTH MEETING OF THE EAST ASIA AIR TRAFFIC  
MANAGEMENT COORDINATION GROUP (EATMCG/11)**

**Mactan, Cebu, Philippines 10 - 12 July 2018**

**Agenda Item 2**

**ALTERNATIVE OPERATION PROCUDURES DURING KUMEJIMA ORSR OUTAGES.**

(Presented by JCAB)

Summary

This paper presents alternative operations during  
Kumejima ORSR outages.

**1. Introduction**

1.1 Before Kumejima ORSR was installed, we had applied non-radar operation on B576. In 2010, Kumejima ORSR was installed and we started radar service on B576. Also radar hand-off started between Taipei and Incheon ACCs, and Fukuoka ACC accordingly. However when Kumejima ORSR is inoperative, we cannot provide radar service because the coverage of other radars is not enough. We deeply appreciate Taipei and Incheon controller's supports during outages.

1.2 As our radar equipment performance improved, radar coverage has expanded. That made the parallel route establishment from B576 come true on May 24<sup>th</sup> 2018. We examined the radar service application around B576 during Kumejima ORSR outages.

**2. ALTERNATIVE OPERATION PROCUDURES DURING KUMEJIMA ORSR OUTAGES**

2.1 Based on the radar capture data, we validated that we can apply radar service on Y742 at or above FL340. Also we can apply radar service on Y741 and B576 at or above FL330.

2.2 We settle alternative operation procedures during Kumejima ORSR outages.

- 2.3 We apply radar service for south bound aircraft via Y742 at or above FL340. Also we can accept radar hand-off at MUGUS at or above FL340. In order to achieve this operation, we need Incheon ACC reroute aircraft at or below FL320 to B576 and apply non-radar operation.
- 2.4 We apply radar service for north bound aircraft via Y741 or Y743 at or above FL330. Also we can accept radar handoff at SALMI or LIPLO at or above FL330. In order to achieve this, we need Taipei ACC reroute aircraft at or below FL310 to B576 and apply non-radar operation.
- 2.5 When we have scheduled outage (e.g. maintenance), ATC office staff will give notice of non-radar operations in advance. If we have a sudden failure, our supervisor will implement non-radar procedures.

### 3. Action By The Meeting

- 3.1 The meeting is invited to note the information contained in this paper.

**THE ELEVENTH MEETING OF THE INFORMAL EAST ASIA AIR TRAFFIC  
MANAGEMENT COORDINATION GROUP (EATMCG/11)**

**Mactan, Cebu, Philippines 10-12 July 2018**

**Agenda Item 2**

**Reducing Longitudinal Separation on ATS route N892**

(Presented by Taipei)

**SUMMARY**

This paper proposes to reduce longitudinal separation on N892 from 10 min or more to 30NM so as to enhance the capacity.

**1. INTRODUCTION**

- 1.1 Although radar separations (20/30NM) have been applied along the Taipei-Fukuoka FIR boundary for a decade, the longstanding NON-radar separation that 10 MIN or more is applied between Taipei FIR and Manila FIR hinders the efficiency, and poses operation difficulties when LSWD scheme is activated based on current traffic volume. The future growth can be estimated by comparing the year-on-year traffic statistics.
- 1.2 The solution to this issue is accessible. ICAO Doc.4444, para 5.4.2.9 'PERFORMANCE-BASED LONGITUDINAL SEPARATION MINIMA' allows the application of 30NM longitudinal separation between aircraft with CPDLC and ADS-C capability on RNP4 routes.
- 1.3 In view of the related information, we have found some good cases that have applied this standard, such as the oceanic routes on Pacific Ocean between Japan and North America, and L888 in mid-Asia airspace.

**2. DISCUSSION**

- 2.1 In order to meet the aforementioned requirements, applying the 30-NM separation on RNP 4 routes will substantially reduce the current non-radar separation. Therefore, the improved capacity through applying the 30-NM separation will:
  - a) Relieve the impact from LSWD scheme in South China Sea airspace.
  - b) Provide possibility to relieve separation on upstream flights from Japan and Korea.
  - c) Offer better cruising levels for airlines fuel saving.

2.2 Furthermore, along with the capacity issue at KAPLI, the improved capacity here at KABAM (N892) will give more space to shift part of KAPLI traffic to N892 in order to ease the congestion there at KAPLI.

**3. ACTION BY THE MEETING**

3.1 The meeting is invited to discuss this issue.

**THE ELEVENTH MEETING OF THE INFORMAL EAST ASIA AIR TRAFFIC  
MANAGEMENT COORDINATION GROUP (EATMCG/11)**

**Mactan, Cebu, Philippines 10-12 July 2018**

**Agenda Item 2**

**Seeking solutions to enhance capacity for the traffic flow into  
Indochina Peninsula and beyond**

(Presented by Taipei)

**SUMMARY**

This paper proposes to seek possible solutions together in order to mitigate the high stress caused by heavy traffic to Indochina Peninsula.

**1. INTRODUCTION**

- 1.1 Traffic destined to airports in Indochina Peninsula and beyond mostly fly westbound on airway G86 within Taipei FIR, and enter Hong Kong FIR via KAPLI. Current FLAS over KAPLI is only F300, F340, F380 and F400. However, F400 is sometimes blocked by Hong Kong ACC due to bad weather in downstream airspace.
- 1.2 The aforesaid flow increases substantially by 45% to 127.8 flights per day in 2018 compared to those of 87.8 flights in 2016. Among all, 63% of total traffic volume over KAPLI usually comes in two peak periods of time, which causes difficulties for Taipei's ATCs to handle such a huge traffic volume within limited available levels. Furthermore, despite the radar environment, a harsh restriction for catch-up pairs of traffic necessitating a separation more than 10 minutes worsens the situation. Therefore, present capacity over KAPLI will soon not be sufficient to meet the growth of traffic into Indochina peninsula in the near future.

**2. PROPOSITION**

- 2.1 Traffic into Indochina Peninsula has increased by 45% in past three years due to a steady boom of low cost carriers and Taiwan's New Southbound Policy. The traffic growth is expected to gradually go up in the near future. However, EATMCG members have not come up with any feasible measures to enhance the capacity in previous discussions. Taipei would like to take advantage of this meeting to encourage all members to discuss this matter and tackle this foreseen problem.

2.2 Taipei hopes that solutions can be proposed through open discussion among all members. To initiate discussion, we propose several possible solutions in order to rouse talks within the Group.

**2.2.1 Reduce longitudinal separation over KAPLI**

- a) Reduce longitudinal separation from 30 NM to 20 NM;
- b) For a catch-up traffic pair, adds another 20 NM, which means 40 NM without applying Mach number technique.

**2.2.2 Add more levels into the FLAS over KAPLI**

To increase capacity, make additional levels available, such as F320 and F360.

**2.2.3 Set restrictions on traffic destination**

Flights destined to airports whose geographical latitudes are below VVDN airport (i.e. VVTS, VDSR and VDPP) cannot fly into Hong Kong through KAPLI. These flights can take ATS route N892 (KABAM) through Manila FIR as an alternative.

**2.2.4 Build up a new alternative airway**

Being roughly conceived, a new and unidirectional westbound route, which could be situated at 50 miles west of and paralleled with N892 as well as utilizes F300, F340 and F380, can accommodate certain amount of traffic through Manila ACC and Sanya ACC. Hence, another 100% of capacity will be produced.

**3. ACTION BY THE MEETING**

3.1 The meeting is invited to discuss the abovementioned proposals.

**THE ELEVENTH MEETING OF THE INFORMAL EAST ASIA AIR TRAFFIC  
MANAGEMENT COORDINATION GROUP (EATMCG/11)**

**Mactan, Cebu, Philippines 10-12 July 2018**

**Agenda Item 2**

**Issuance of LONG-TERM NOTAM to  
Reduce Daily Coordination on VVDN Flights**

(Presented by Taipei)

**SUMMARY**

This paper proposes to issue flow control measures through a LONG-TERM NOTAM to replace the need for daily flow control coordination between ACCs for VVDN flights.

**1. INTRODUCTION**

- 1.1 Average daily traffic volume to VVDN through Taipei FIR has tripled from 7.7 flights in 2016 to 25.2 flights in 2018. It has caused IKELA, the main gateway between Hong Kong and Sanya FIR, more congested than ever.
- 1.2 On 14th July, 2017, Sanya ACC started to execute VVDN flow control occasionally if necessary. Moreover, it has become a daily routine every night since February, 2018. To respond to that request, Taipei ACC coordinates with Japan ATMC and issues a NOTAM of flow control on Korean and Japanese flights at the boundary fixes with Fukuoka ACC and Naha ACC.

**2. DISCUSSION**

- 2.1 The contents of flow control measures from the whole cluster of ACCs among Sanya, Hong Kong and Taipei have become standardized patterns, which proves that there is a constant need of flow control for VVDN flights. However, those daily coordination relays among ACCs also become challenging, especially when the call for flow control measures arrives very late, which results in difficult coordination between Taipei ACC and Japan ATMC.
- 2.2 Therefore, Taipei proposes relevant ACCs to set harmonised flow control measures and to issue LONG-TERM NOTAMs respectively. This will reduce the daily coordination between the concerned ACCs and airlines can benefit from the issue of standard NOTAMs for VVDN flow control.



- 2.3 Though the agreement on our proposal may not be reached at the Meeting, Taipei will issue our own LONG-TERM NOTAM to Japan ATMC in order to reduce the workload at Taipei's Operation Room.

3. **ACTION BY THE MEETING**

- 3.1 The meeting is invited to discuss the issue contained in this paper.

**THE ELEVENTH MEETING OF THE EAST ASIA AIR TRAFFIC  
MANAGEMENT COORDINATION GROUP (EATMCG/11)**

**Mactan, Cebu, Philippines 10 - 12 July 2018**

**Agenda Item 3**

**UPDATE ON PHILIPPINE CNS/ATM**

Presented by Philippines

This paper provides information on the new CNS/ATM in the Philippines since its turnover from the project contractor to the Department of Transportation/Civil Aviation Authority of the Philippines (DOTr/CAAP).

**1. Introduction**

- 1.1 The Philippine CNS-ATM System is a nation-wide upgrade to a highly automated and integrated ATM system from Thales. It provides major improvement in communication and surveillance capabilities with improved level of redundancy which will allow CAAP to manage its increasing air traffic volume with higher efficiency and enhanced safety.
- 1.2 The project was turned over by the contractor to DOTr/CAAP in October 2017. In January 16, 2018, it was inaugurated by no less than the President of the Philippines.
- 1.3 From there, the Director General of CAAP formed the CAAP Transition Team composed of operational and technical personnel. They were tasked to manage the transition from the legacy systems of Manila and Mactan ACCs, six (6) Approach facilities namely Manila, Clark, Mactan, Kalibo, Bacolod and Davao and the support or sub-systems such as Aeronautical Message Handling System (AMHS) and Aeronautical Information System (AIS).
- 1.4 As preparation for the transition ground works, Air Traffic Controllers from Ho Chi Minh ACC were invited to share their experiences in transition and select members of the transition team were sent to Singapore to likewise learn from their transition strategies.
- 1.5 AMHS moved to the ATMC in February 2018 and AIS will transfer their operations on the 2<sup>nd</sup> week of July 2018. As planned, the ATM will be the last to transition.

## 2. Discussion

### Transition Process

- 2.1 ATIS-SMS moved to the ATM Center and started doing safety assessments and establishing safety requirements which are pre-requisites to transition of each ATM facility and its sub-systems.
- 2.2 Refresher Training for all controllers started in February 2018. Training is still ongoing to give orientation/briefing and perform simulation exercises for each sector to give the controllers a good head start for shadowing and ghosting.
- 2.3 Shadow Operations per sector of Manila ACC commenced in March 2018 for 4 weeks. It was followed by ghost operations for one and a half weeks. The same process is done for the rest of the sectors.
- 2.4 A survey to measure the competence, proficiency and confidence of the controllers to the new ATMS was also conducted from April to June 2018 and will continue until the cutover date.

Based on the result of the survey, on the average, more than 50% of the controllers expressed moderate proficiency, competence and confidence to the new ATMS. It is anticipated that the figures will continue to improve as the end to the transition process draws near.

### No Go Items

- 2.5 Readiness of the controllers is not foreseen as a stumbling block to transition. There are other issues that could delay the process.

The controllers have identified constraints to the cutover. There were issues encountered during shadow and ghost operations with high severity level which if not fixed will compel the transition team to move the cutover date until such time that all issues are addressed. Some of the no go items are issues on four (4) VHF radios, one (1) radar, some software and hardware issues.

- 2.6 Thales together with the engineers of CAAP are currently resolving the problems reported.

### Cutover

- 2.7 With due consideration on the reported issues, remaining sectors to be shadowed and ghosted and compliance to the safety requirements of SMS, the completion of the transition process and cutover is estimated by 3<sup>rd</sup> quarter of 2018.
- 2.8 CAAP is eagerly looking forward to the migration of the ATM to the new ATM Center as its full implementation would support the realization of AIDC, ADS-C/

CPDLC, PBCS and other ATM initiatives that would support Regional Seamless ATM operations.

3. **Action By The Meeting**

- 3.1 The meeting is invited to note the information contained in this paper.

**THE ELEVENTH MEETING OF THE EAST ASIA AIR TRAFFIC  
MANAGEMENT COORDINATION GROUP (EATMCG/11)**

**Mactan, Cebu, Philippines 10 - 12 July 2018**

**Agenda Item 4**

**AIDC OPERATIONAL TESTS IN MANILA FIR**

(Presented by Philippines)

This paper presents updates on the AIDC tests in Manila FIR.

**1. Introduction**

- 1.1 The new CNS/ATM system of the Philippines was inaugurated last January 2018 with the objective of replacing the current ATM system in order to promote a better and efficient air traffic management in the Manila FIR. The new ATM system of the Philippines has AIDC capabilities.

**2. Discussion**

**AIDC OPERATIONAL TEST**

- 2.1 Manila ACC has recently conducted a number of AIDC tests in the new Air Traffic Management (ATM) System, TopSky HE, with the neighboring FIRs.
- 2.2 The AIDC tests were conducted since March 2018 with Singapore, Ujung Pandang, Hong Kong and Taipei. Basic AIDC messages such as ABI, EST, ACP, TOC and AOC except for Hong Kong where additional messages were tested.
- 2.3 TopSky HE is capable of processing EST without requiring an ABI. This capability was successfully tested.
- 2.4 The table below provides the results of AIDC tests with four (4) adjacent centers:

ADJACENT CENTER	DATE/S OF AIDC TESTS	AIDC MESSAGES TESTED	RESULT OF TEST	IMPLEMENTATION PLAN
Singapore	March 14, 2018	ABI, EST, ACP, TOC, AOC	Successful on N884 and M767  Airway M772 needs further testing. Another test will be conducted in July or August 2018.	4Q2018
Ujung Pandang	March 20, 2018	ABI, EST, ACP, TOC, AOC	Successful	4Q2018
Hong Kong	May 15, 2018	ABI, CPL, EST, ACP, TOC, AOC, EMG, MIS	Successful	1Q2019
	May 17, 2018	ABI, EST, ACP, TOC, AOC	Successful	
Taipei	June 19, 2018	ABI, EST, ACP, TOC, AOC	Successful  Another test will be done in July 2018 using the new back-up system of Taipei.	4Q2018

- 2.5 AIDC technical systems test with Singapore, Hong Kong, Ujung Pandang and Taipei ACCs in the new ATM system proved successful such that Operational Trials with the adjacent FIR will be requested with the four adjacent ACCs as soon as Manila ACC settles in the new ATM Center.
- 2.6 Should there be no technical issues on the operational trials, the Philippines would recommend AIDC implementation as agreed in The Fourth Meeting of Asia/Pacific ATS Inter-Facility Data Communication (AIDC) Implementation Task Force (APA TF/4) of APANPIRG.
- 2.7 Further discussions will be done to determine the implementation timeline. The date will hinge on Manila ACC's new ATM system cutover date.
3. **Action By The Meeting**
- 3.1 The meeting is invited to note the information contained in this paper.

**THE ELEVENTH MEETING OF THE INFORMAL EAST ASIA AIR TRAFFIC  
MANAGEMENT COORDINATION GROUP (EATMCG/11)**

**Mactan, Cebu, Philippines 10 - 12 July 2018**

**Agenda Item 2**

**Proposed Implementation of Full AIDC Procedures  
between Hong Kong ATCC and Taipei ACC**

Presented by CAD, Hong Kong China

**SUMMARY**

Hong Kong proposes to implement the AIDC TOC/AOC function between Hong Kong ATCC and Taipei ACC to reduce ATC workload. To cater for the increasing traffic demand in the region, Hong Kong proposes to study the possibility of reducing the longitudinal spacing to strengthen the air traffic management (ATM) capacity between the Hong Kong and Taipei FIRs.

**1. Introduction**

- 1.1 The application of 20NM minimum longitudinal spacing for traffic operating between the Hong Kong and Taipei FIRs with prior coordination for radar handoff has been in place since May 2011, and the use of AIDC application was introduced in November 2012.
- 1.2 However, the actual occasions of application of 20NM minimum longitudinal spacing by Hong Kong were less than expected due to the conditions attached to the procedures which generate additional workload for frontline operations.
- 1.3 With the experience gained from AIDC operations with other units, it is considered feasible for the surveillance hand-off procedures between Hong Kong ATCC and Taipei ACC to be conducted by means of the AIDC TOC/AOC function to reduce the workload of the air traffic controllers.

**2. Discussion**

- 2.1 The air routes between Hong Kong and Taipei accommodate a significant amount of air movements in the Asia Pacific region. According to a report from OAG Aviation Limited based on 2017 full year data, the routes between Hong Kong and Taipei are among the busiest of all international air routes.  
([https://www.oag.com/hubfs/Free\\_Reports/Punctuality\\_League/2018/PunctualityReport2018.pdf](https://www.oag.com/hubfs/Free_Reports/Punctuality_League/2018/PunctualityReport2018.pdf))
- 2.2 Hong Kong considers it opportune to study the possibility of strengthening the ATM capacity by the application of 20NM minimum longitudinal spacing for traffic operating between the Hong Kong and Taipei FIRs without the need for prior coordination for radar handoff. It is proposed that a 2-stage implementation plan be adopted to facilitate a smooth transition.
- 2.3 For stage 1, subject to the outcome of a safety assessment to be conducted by Hong Kong and the negotiation with Taipei, the 20NM reduced longitudinal spacing is suggested to be applied between traffic operating on ATS Route A1, G581 and RNAV 5 Route M750.
- 2.4 Application of the reduced longitudinal spacing on ATS Route G86 will be considered at stage 2.
- 2.5 In addition, with the successful transition to the new ATMS which is integrated with the full AIDC capabilities, Hong Kong ATCC is fully ready for the application of AIDC TOC/AOC messaging to enable surveillance handoffs. The application of such functionality can effectively reduce the workload of operational staff and facilitate them to handle busy air traffic in a more efficient manner. Hong Kong will work closely with Taipei for its implementation.

**3. Action by the meeting**

- 3.1 The meeting is invited to:
- a) note the information contained in this paper;
  - b) discuss any relevant matters as appropriate.



**THE ELEVENTH MEETING OF THE EAST ASIA AIR TRAFFIC  
MANAGEMENT COORDINATION GROUP (EATMCG/11)**

**Mactan, Cebu, Philippines 10 - 12 July 2018**

**Agenda Item 4**

**The Analysis of PBCS Implementation**

Presented by JCAB

This paper provides a summary of the operational impact of PBCS implementation in ATMC oceanic airspace

**1. Introduction**

- 1.1 In addition to RNP, RCP and RSP have been required for ADS-C separations since 29<sup>th</sup> March 2018. ADS-C separations (50NM and 30NM) used to be applied to only the aircraft that connected Datalink and satisfied RNP. However, now they can be applied to the aircraft that are approved for RCP240 and RSP180 by operating states or registered states.
- 1.2 This paper presents the analysis of PBCS implementation.

**2. Discussion**

- 2.1 As shown in Figure 1, the PBCS Filing Percentage ('P2' and 'SUR/RSP180' is inserted in Flight Plan) within oceanic control airspace is approximately 44% as of 6<sup>th</sup> June. Figure 2 shows the PBCS Filing Percentage by direction.

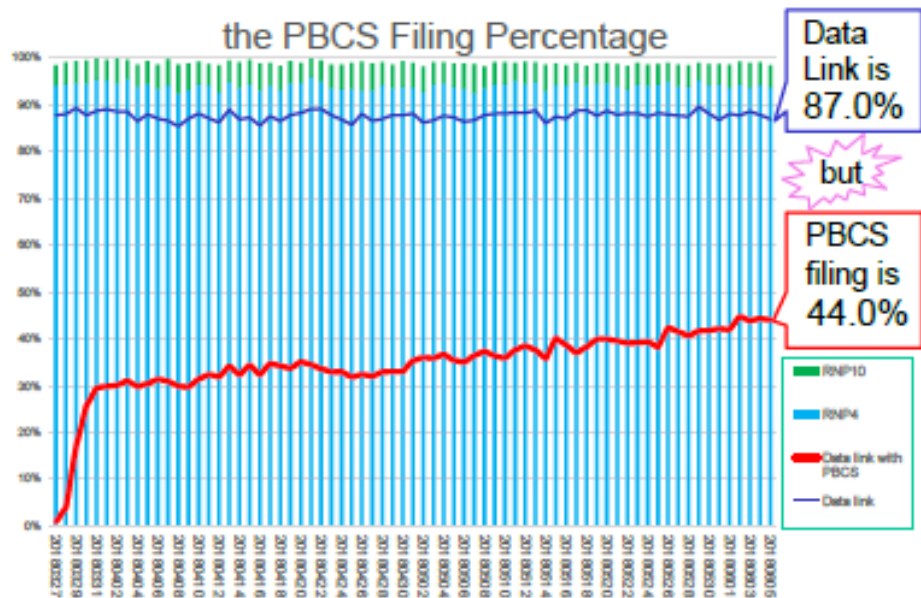


Figure 1, the PBCS Filing Percentage

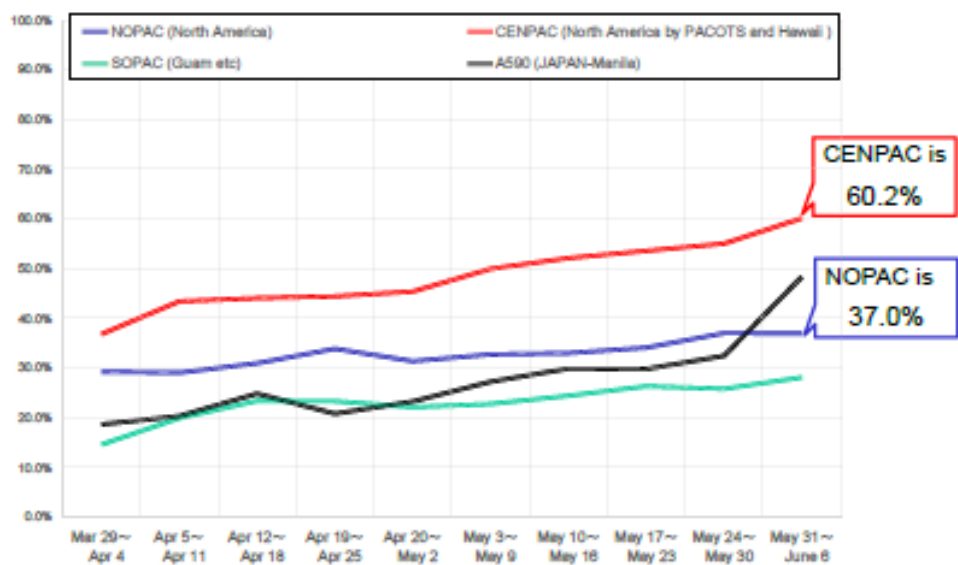


Figure 2, the PBCS Filing Percentage by direction

## 2.2 ATMC's measures against PBCS application

It was assumed that the number of applicable ADS-C separation would decrease compared to before PBCS application. Therefore, ATMC took the following measures in order to manage traffic flow and assign effective altitudes.

### a) City pair PACOTS TRACKs Restrictions (Published by NOTAM):

Track 2: ONLY AVBL TO ACFT LDG KSFO/KSJC OR NORTH DUE TO FLOW MANAGEMENT

Track 3: ONLY AVBL TO ACFT LDG KLAX/KLAS OR SOUTH DUE TO FLOW MANAGEMENT

### b) Request airlines to file the routes in accordance with PACOTS or UPR

These restrictions help to divide heavy traffic between bound for KSFO and KLAX. We believe the restrictions have achieved a certain result. Therefore, we will continue being aware of the PBCS Filing Percentage when to cancel these restrictions. The date has undecided.

## 2.3 Altitude change request after applying PBCS

Figure 3 shows the rate of ATC instructions to altitude change requests via CPDLC. The rate of altitude change request has increased since 29<sup>th</sup> March, and the rate of ATC instructions has decreased by 10% from approximately 65% to 55%.

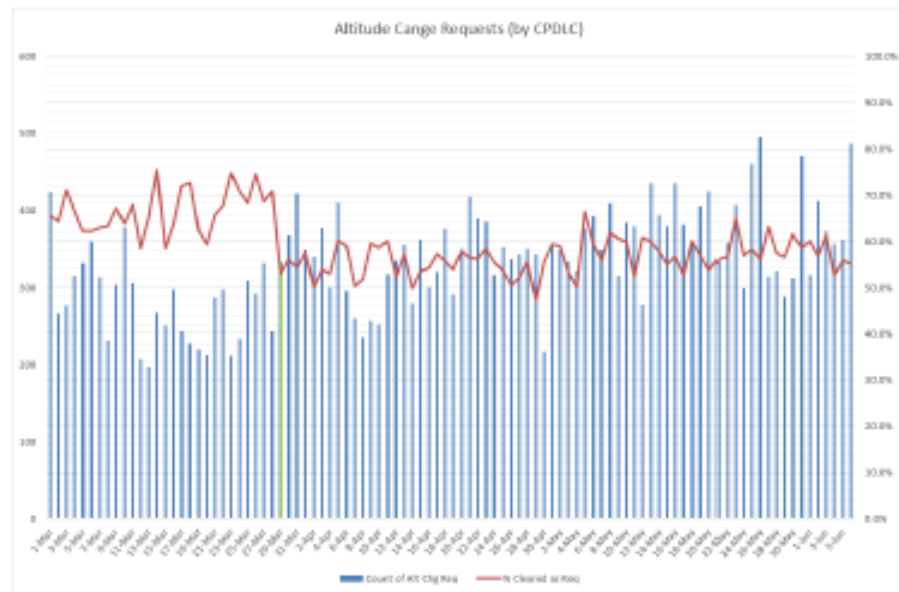


Figure 3, Rate of ATC instructions to altitude change requests via CPDLC

## 2.4 Deviation request after applying PBCS

Deviation requests have been increasing since the middle of April 2018 due to bad weather, however, there have not been any significant changes in the rate of clearance to these deviation requests since 29<sup>th</sup> March 2018.

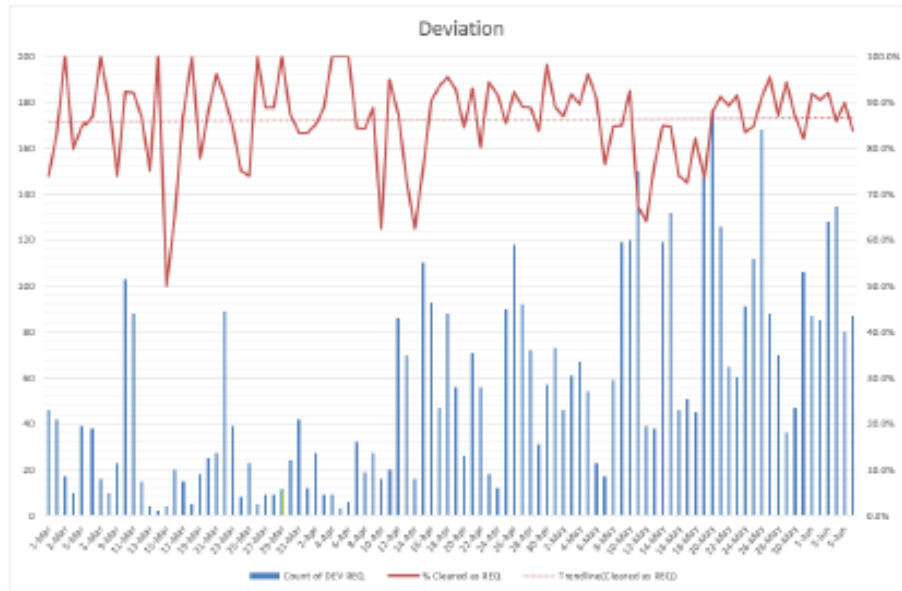


Figure 4, Rate of ATC instructions to deviation requests via CPDLC

2.5 It is suggested that to improve the efficient traffic flow, all states should implement regulatory procedures to issue appropriately equipped aircraft with PBCS approval and aircraft operators should to obtain approval without delay.

## 3. Action By The Meeting

3.1 The meeting is invited to note the information contained in this paper.

**THE ELEVENTH MEETING OF THE EAST ASIA AIR TRAFFIC  
MANAGEMENT COORDINATION GROUP (EATMCG/11)**

**Mactan, Cebu, Philippines 10 - 12 July 2018**

**Agenda Item 5**

**Multi Nodal ATFM Concept of Operations Update**

Presented by IFATCA

This Working Paper provides an update on the latest activities of the Multi Nodal ATFM Concept of Operations Group.

**1. Introduction**

- 1.1 The Multi Nodal ATFM Concept of Operations Group was formed by the ANSPs of Hong Kong, Singapore and Thailand creating a cross-border ATFM process using a web-based system to exchange flow management information without a central information collection and distribution unit. The concept was subsequently adopted by the ICAO Regional ATFM Framework for Collaborative ATFM as the basis for establishing sub-Regional ATFM groups within the Asia-Pacific area.
- 1.2 This Group now involves 11 of the ANSPs in the South East Asia area serving 36 international airports.

**2. Discussion**

- 2.1 The members of the Multi Nodal Group are arranged into three levels of participation:

Level 1 is Observer status, with no active participation in the ATFM process – it currently includes Lao PDR, Myanmar and Vietnam.

Level 2 is Accept status, whereby CTOTs from other units are received and applied – it currently includes Indonesia, Malaysia and Philippines.

Level 3 is Full status, with the calculation and transmission of CTOTs and acceptance and application of CTOTs sent from other Level 3 units – it includes Cambodia, China (Sanya FIR), Hong Kong, Singapore and Thailand.

- 2.2 A regional ATFM procedure and communication network is being established and a number of trials have been successfully completed. An implementation plan is being developed initially for airport capacity management with further plans for the introduction of an airspace capacity management process.

3. **Action By The Meeting**

- 3.1 The meeting is invited to note the information contained in this paper.

**THE ELEVENTH MEETING OF THE EAST ASIA AIR TRAFFIC  
MANAGEMENT COORDINATION GROUP (EATMCG/11)**

**Mactan, Cebu, Philippines 10 - 12 July 2018**

**Agenda Item 5**

**Latest ATFM Development in Hong Kong, China**

Presented by HKATCA

The paper provides the latest update of the ATFM  
development in Hong Kong, China.

**1. Introduction**

- 1.1 In accordance with ICAO Doc 9971 and the APAC Regional Framework for Collaborative ATFM, Hong Kong, China has been enhancing its ATFM capability to address the continuous growth of traffic within the Asia Pacific.
- 1.2 Hong Kong, China has trialed the APAC Regional ATFM Concept of Operations, being the basis for the Framework document, through its participation in the Multi-Nodal ATFM Network Project with a number of other South-East Asian ANSPs.
- 1.3 As a level 3 ANSP, Hong Kong, China is able to comply with CTOTs issued by other ANSPs and also determine and distribute CTOTs for both airport and airspace constraints within the Hong Kong FIR.

**2. Discussion**

- 2.1 In the past, the calculation of flight restrictions in Hong Kong was a manual process which was tedious and labour intensive. Hence it was not practical for frontline Flow Managers to issue CTOTs and therefore Flow Managers tended to deploy the traditional ATFM measures by means of Miles-In-Trail (MIT) or MINutes-In-Trail (MINIT).

- 2.2 An automated CTOT application was developed in-house to generate CTOT based on a pre-determined Arrival Acceptance Rate (AAR) by Flow Managers. The programme is fed with latest flight schedule, flight plan data and other important information such as departure, arrival and delay messages so as to provide the most accurate traffic picture for CTOT calculation.
- 2.3 Hong Kong had recently conducted 2 operational trials in generating and distributing CTOTs during the passage of tropical storm Ewiniar (June 2018), whereby the AAR of Hong Kong International Airport dropped to 28 or less at certain time. Hong Kong ATFMU used the automated CTOT application on 6 & 7 June to distribute CTOTs to 6 multi-nodal ANSPs, while other ANSPs in the region were given MIT or MINIT to share the delay. The CTOT compliance rate for level 3 ANSPs were very good (close to 100%).
- 2.4 Knowing the importance of ATFM information exchange, Hong Kong, China will transition to an ATFM Daily Plan (ADP) from the current Capacity Notification (CN) message, which provides limited information. The ADP will be shared with ANSPs in the APAC region from July 2018.

### **3. Action By The Meeting**

- 3.1 The meeting is invited to note the information contained in this paper and discuss any relevant matters as appropriate.



**THE ELEVENTH MEETING OF THE EAST ASIA AIR TRAFFIC  
MANAGEMENT COORDINATION GROUP (EATMCG/11)**

**Mactan, Cebu, Philippines 10 - 12 July 2018**

**Agenda Item 5**

**Proposal for Change of Lead Time on Specific Cross-Border ATFM**

Presented by ATMC

This paper proposes a change of the lead time on specific cross-border ATFMs. Specifically, the proposal is to change the lead time from 60 minutes to 80 minutes and will applied only to the flow controls for the north-east bound traffic at ATOTI and the flow controls for the south-west bound traffic at SALMI.

**1. Introduction**

- 1.1 With the growth of air traffic demand in the East-Asia region, the cross-border ATFM among EATMCG members has also increased year by year. This means that coordination of flow control among members has also continuously increased. Obviously, smooth coordination has become even more important in order to implement cross-border ATFM effectively.
- 1.2 Coordination of flow control by ATMC with Taipei Area Control Center and Air Traffic Command Center in Korea is based on ATFM LOAs. One of the important elements of coordination is the lead time for traffic flow control. In the current LOA, the lead time between Japan and Taipei, Japan and Korea are stipulated as 60 minutes.
- 1.3 However, regarding traffic flow controls in certain airspace, it is physically difficult to adhere rigidly to this 60 minutes rule. This is due to special airspace and route configuration.

## 2. Discussion

- 2.1 The airspace addressed in this proposal is shown in Figs. 1 and 2. This is located in the western portion of Fukuoka FIR, between Taipei FIR and Incheon FIR. Depending on the seasons or flight directions, the flight time of the aircraft passing through Fukuoka FIR in this airspace is approximately between 13 and 20 minutes. Furthermore, MEAs of related RNAV routes are relatively high from the operational perspective. For these reasons, the available capability of ATC in this narrow airspace is very limited.

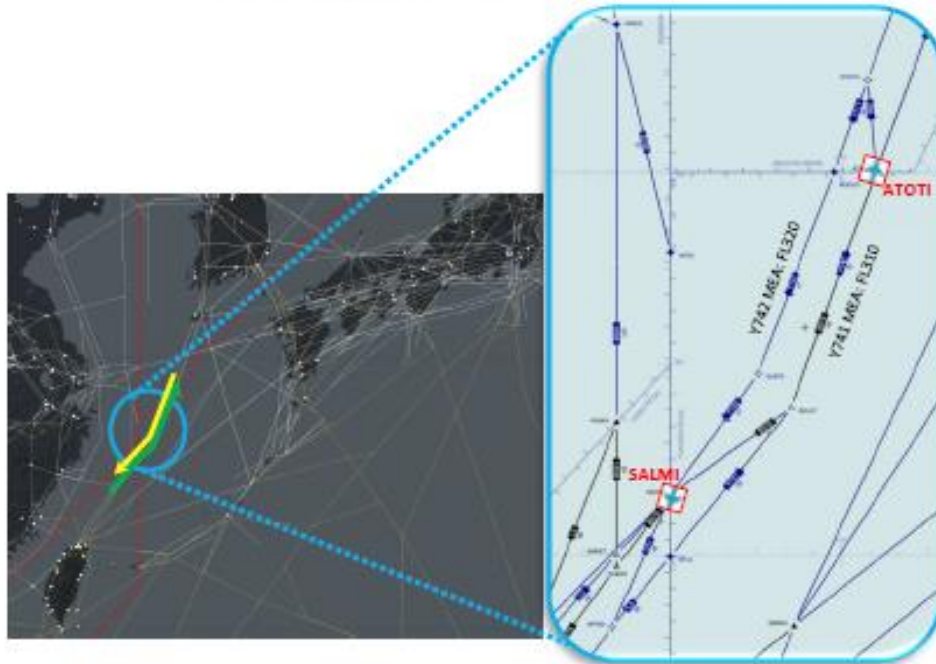


Fig.1

Fig. 2

- 2.2 According to the current rule, making ATFM coordination specified the above, a gap of about 20 minutes occurs, so additional coordination becomes necessary. In order to solve this problem and for smoother coordination, ATMC proposes changing the lead time from 60 minutes to 80 minutes.

This change is applied to:

- a) flow control for the north-east bound traffic at ATOTI;
- b) flow control for the south-west bound traffic at SALMI.

## 3. Action by the Meeting

- 3.1 The meeting is invited to discuss the proposal in this paper.

**THE ELEVENTH MEETING OF THE EAST ASIA AIR TRAFFIC  
MANAGEMENT COORDINATION GROUP (EATMCG/11)**

**Mactan, Cebu, Philippines 10 - 12 July 2018**

**Agenda Item - 5**

**The Establishment and Operation of Air Traffic Command Center**

Presented by the Republic of Korea

This Paper presents the operational status of Air Traffic Command Center (ATCC) of the Republic of Korea, established in 2017 to provide air traffic flow management service, crisis management and air space management within Incheon FIR.

**1. INTRODUCTION**

- 1.1 The air traffic volume of the Republic of Korea (ROK) has been steadily increased by traffic growth rate of 6.9% during past 5 years, exceeding the average global traffic growth rate of 4.8%. In 2017, 763,729 flights operated within Incheon FIR, including 514,855 international flights and 248,874 domestic flights.
- 1.2 In order to respond to rapid increase of air traffic volume and reduce traffic congestion and maximize airspace capacity, the ROK decided to establish ATCC at Dagu city in 2014.
- 1.3 Before opening of Air Traffic Command Center (ATCC), the Incheon Area Control Center (ACC) had performed as an air traffic flow management center and provided Air Traffic Flow Management (ATFM) service within Incheon FIR.

**2. ESTABLISHMENT OF ATCC**

- 2.1 ATCC was established in 2017 and put into trial operation period from July 2017 to January 2018. Finally, on January 2018, ATCC started to provide air traffic flow management service within the Incheon FIR.

## 2.2 Major Functions

2.2.1 In order to manage the optimal air traffic volume through traffic impact analysis and countermeasures for all abnormalities including exceeding traffic, ATCC has three major functions as follows;

- a) Air Traffic Flow Management: enhancing safety by ensuring the delivery of safe densities of traffic and by minimizing traffic surges
- b) Airspace Management: maximizing the utilization of available airspace by time-sharing among various airspace users based on short-term needs
- c) Crisis Management: responding as a control tower to promptly recover from unexpected contingency situation by rapid response

## 2.3 ATFM Operating System

2.3.1 The ROK developed a primary ATFM operation system of ATCC called Korea Air Traffic Flow Management System (KATFMS), including UI and main software, between 2015 and 2017. Some critical functions for flow management are based on 'Harmony Engine' of the Metron, known as Airbus' subsidiary company. Main functions of KATFMS are analysis of forecasted traffic flows at major airports or en-route sector, management of flight plans, slot calculation based on capacity and distribution of COBT/CTOT through TMI, for ground delay program and airspace flow management program.

## 2.4 Internal Collaboration for ATFM

2.4.1 ATCC signed an LOA with Air Force of the ROK and Aviation Meteorological Office (AMO) to implement effective collaborative decision-making (CDM). In addition, liaisons from Air Force and AMO are seconded to ATCC for information exchange and mutual coordination related to airspace availability and meteorological information in real-time.

2.4.2 Also, ATCC signed LOA with major ATC units, including 2 area control centers, 3 approach controls and 4 airports control towers, 2 airport operators and 7 national air carriers in order to provide efficient air traffic management service and rapid response in abnormal situation. Main contents of CDM operation are as follows:

- a) Host of CDM : ATCC;
- b) Participant of CDM : ATC Units, Air Fore of the ROK, AMO, Korea Airports Corporation, Incheon International Airport Corporation and national air carriers;
- c) ATCC holds regular CDM meeting every day at 0700UTC and when air traffic volume increases rapidly and/or abnormal situation occurs as on demand, the real-time CDM meeting is held;

- d) CDM meeting is convened by video conference using FMT (Flow Management Terminal) or dedicated telephone; and
- e) Decisions are made by consultation with the participants to find the best solution.

**2.5 International Cooperation for ATFM**

2.5.1 For efficient international air traffic flow management, ATCC has signed an LOA and MOU with ATFM unit of neighboring States. Relevant facilities are follows;

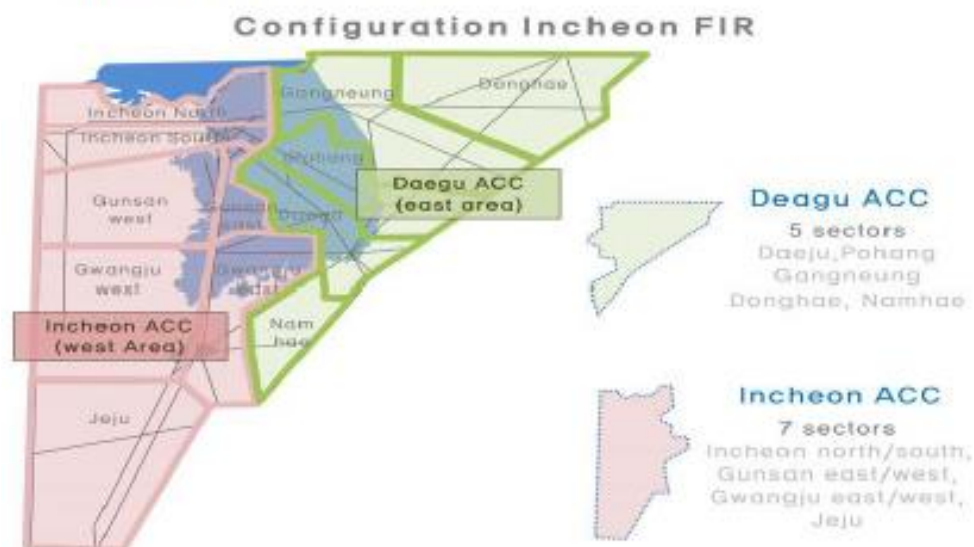
- a) Dalian ACC, China
- b) Fukuoka ATMC, Japan

**2.6 Redesign of Airspace and ATS System**

2.6.1 The ROK established the 2nd Area Control Center, Daegu ACC, to promote aviation safety by increasing air traffic control capacity and reducing ATC's workload within Incheon FIR.

2.6.2 To promote aviation safety by increasing air traffic control capacity and reducing ATC's workload, the Incheon FIR is divided into East area and West area. Thus, the ROK now has two ACCs from 7th December 2017.

2.6.3 Incheon ACC and Daegu ACC have responsibility for west and east area of Incheon FIR, respectively. The Incheon FIR covers total area of 430,000 km<sup>2</sup> with west/east area of 261,400 km<sup>2</sup>/169,800 km<sup>2</sup> and redesigned the western airspace into 7 ATS sectors, and eastern airspace into 5 sectors.



## **2.7 *Benefits of ATFM Implementation***

2.7.1 Through implementation of the success ATFM, the ROK expects to:

- a) Reduce delay of domestic/international flights and emission of carbon dioxide by safe and efficient aircraft operations;
- b) Share transparent and equitable information among stakeholders;
- c) Optimize airport and airspace capacity by balancing traffic demand and available capacity

## **3. DISCUSSION**

3.1 One of the main issues faced by ATCC is how to improve air traffic flow management of southbound, which is bound to Taiwan, Hongkong, Philippines, etc. In this regards, reviewing and sharing ATFM information with each other in East Asia will be a good solution to reduce traffic congestion and to optimize capacity within each country's FIR.

## **4. ACTION BY THE MEETING**

4.1 The meeting is invited to note the information contained in this paper.




## Manila ATFMU

- ✓ ATFMU primarily provides airport ATFM for Manila Airport (RPLL)
- ✓ Provides ATFM to other constraint airports
  - Tagbilaran, Kalibo airports

## Objectives

- ✓ Ensure well-balanced RPLL arrival flow for safety and efficiency



CAA  
Philippines

This slide has a light blue background. The title 'Manila ATFMU' is in a large, dark blue font. Below it, there are two bullet points with checkmarks, describing the primary and secondary functions of the ATFMU. The second bullet point includes a sub-bullet for 'Tagbilaran, Kalibo airports'. Below this, the word 'Objectives' is written in a large, dark blue font, followed by a single bullet point with a checkmark stating the goal of ensuring a well-balanced arrival flow. In the bottom left corner, there is a small icon of a globe with a white airplane flying over it. In the bottom right corner, there is a circular logo for CAA Philippines, identical to the one in the first slide.

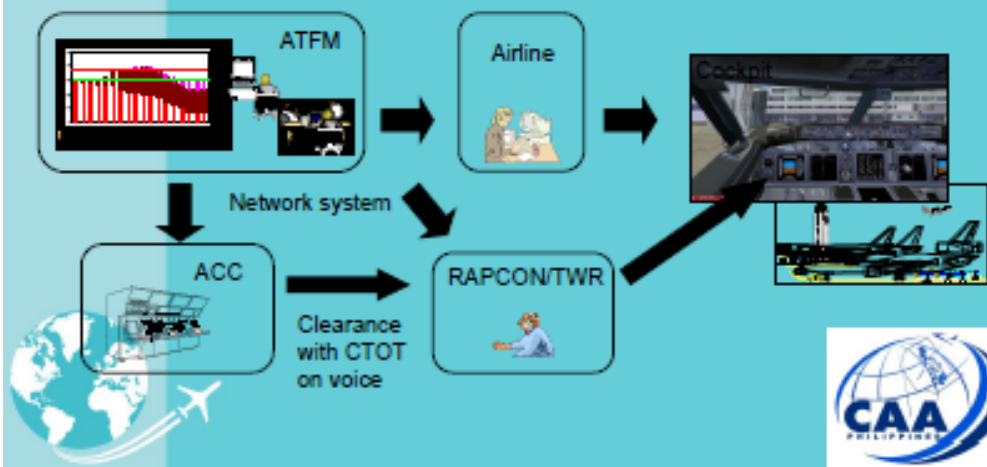
# Manila ATFMU

Hours of Operation	2300-1100UTC
ATFM Measure Used	Ground Delay Program (GDP)
AAR	20 flights/hr
<b>Subjected Flights</b> <ul style="list-style-type: none"> <li>• All domestic Airlines</li> <li>• All GA IFR flights</li> <li>• All other civilian VFR-to-IFR flights</li> </ul>	
<b>General Aviation</b> (Except from 0400-1100UTC) (JMC 2016-2 September 2016) (No ACA slot, No flight policy) (NAIA Memorandum Circular 12-M December 2016)	2 arrivals/hr



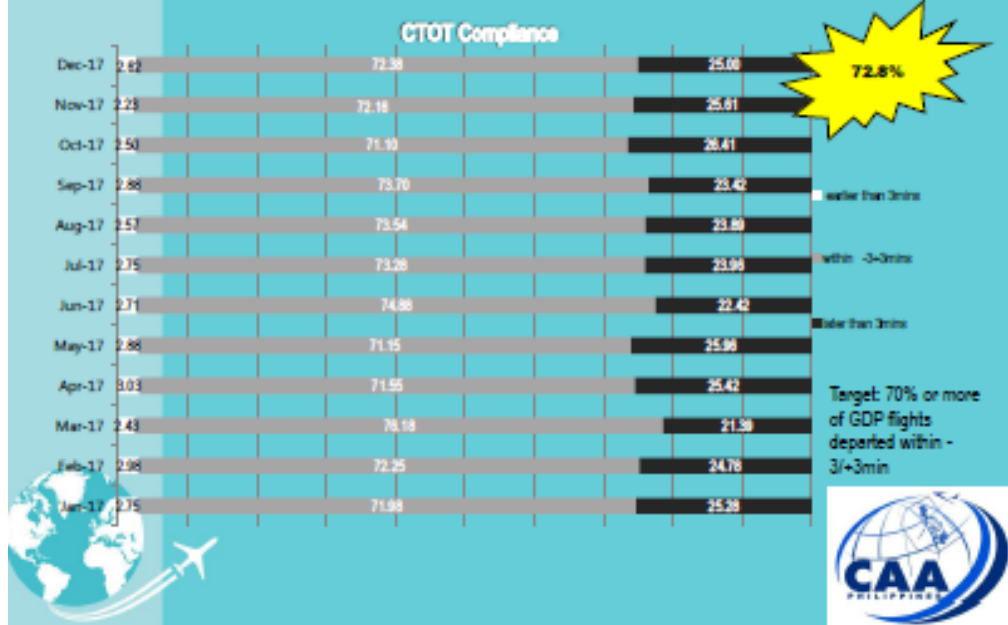
# Delivery of CTOT

- CTOT is transmitted through the network to ATC facilities and Airline Operators
- CTOT is finally confirmed by departure clearance on voice.

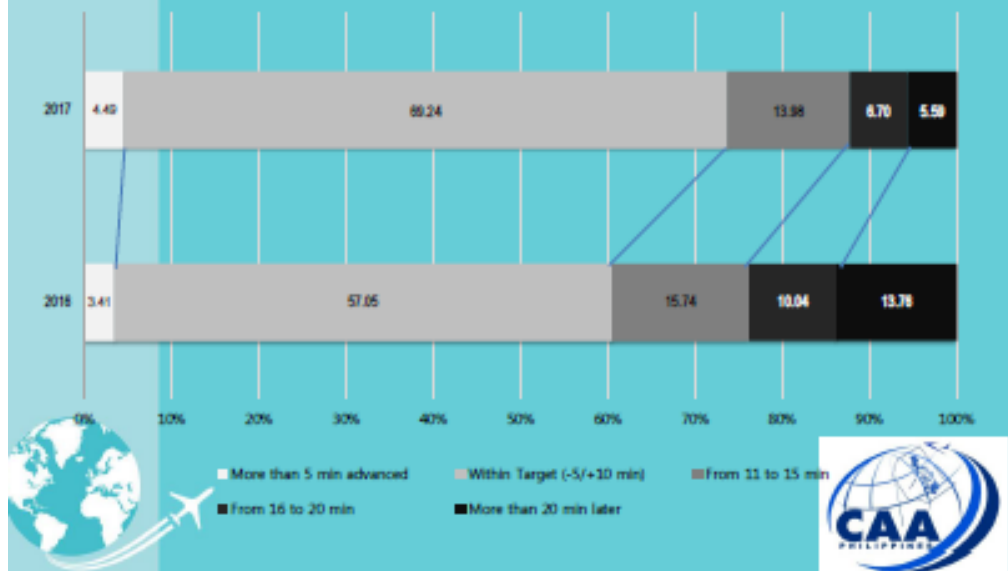




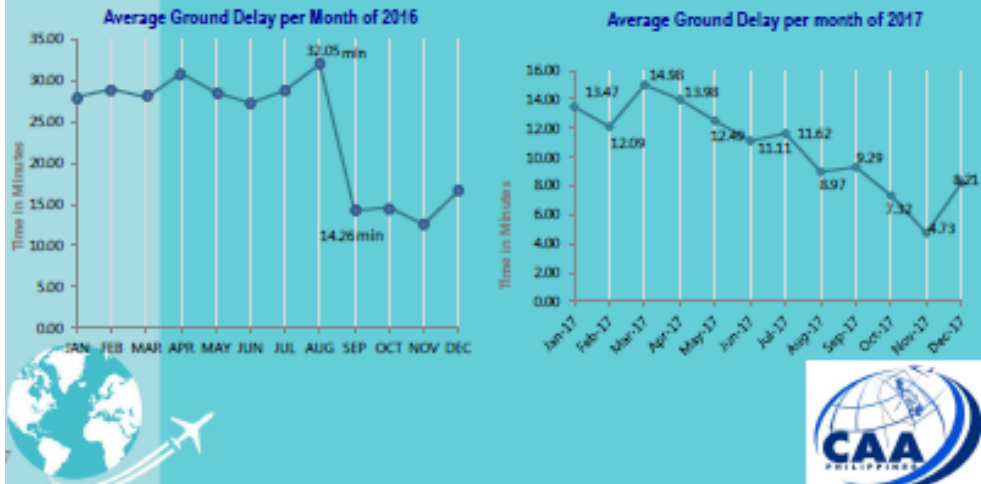
## CTOT Compliance 2017



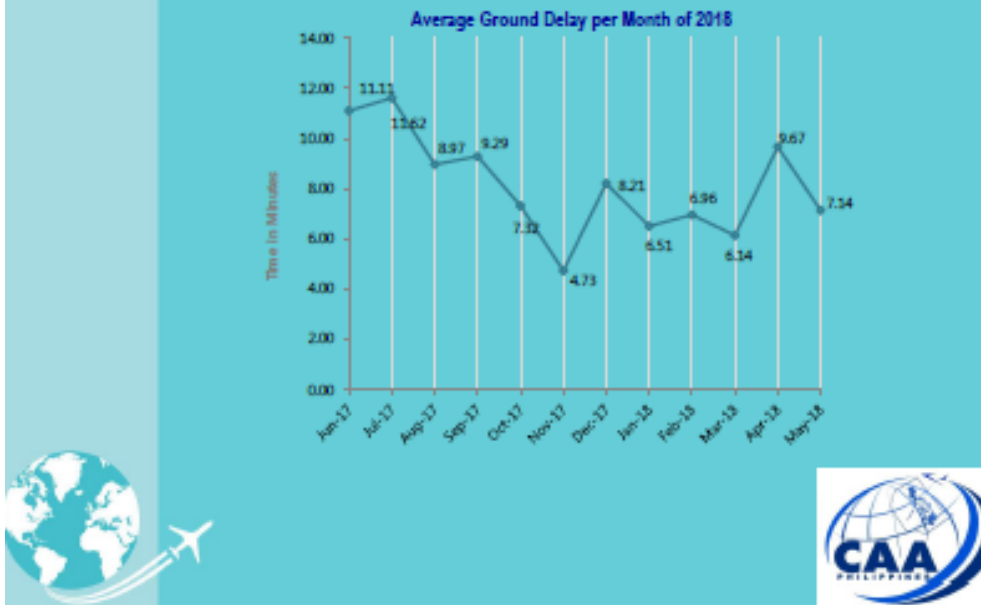
## Timeliness of Arrivals Based on ATS Targets 2016 vs. 2017



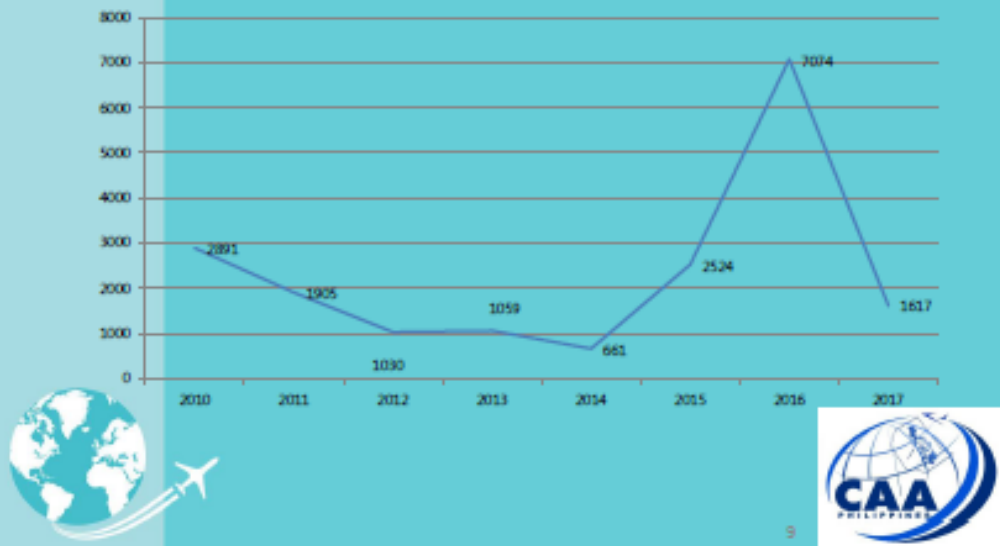
## Average Ground Delay for 2016 and 2017



## Average Ground Delay June 2017 - May 2018



## Airborne Holding 2010 – 2017



## Random Airline OTP View

\* On time performance comparison for 2016 vs. 2017 as published in the website of one participating stakeholder.



# Multi-Nodal Trial Participation



## Manila Multi-Nodal Updates

LEVEL 1 ATFM NODES (Observer)	LEVEL 2 ATFM NODES (Receive & Comply)	LEVEL 3 ATFM NODES (Generate, Distribute, Comply to CTOT)
Cambodia	Indonesia	China
Vietnam	Malaysia	Hong Kong
	Philippines	Singapore
		Thailand



WSSS: 24 June 2017  
ATFM OPERATIONS

- ✓ Overall 4 flights with assigned CTOT
- ✓ Departure Compliance Ratio: 75%
- ✓ One Delayed Flight



(Compliance Window -5/+10 Mins)



WSSS: 1 July 2017  
ATFM OPERATIONS

- ✓ Overall 3 flights with assigned CTOT
- ✓ Departure Compliance Ratio: 66.66%
- ✓ One Delayed Flight



(Compliance Window -5/+10 Mins)



WSSS: 2 July 2017  
ATFM OPERATIONS

- ✓ Overall 3 flights with assigned CTOT
- ✓ Departure Compliance Ratio: 33.33%
- ✓ One early flight, One Delayed Flight
- ✓ One flight marked as non-compliant was 6min early from CTOT (1min. early based on compliance window) for traffic separation



(Compliance Window -5/+10 Mins)



WSSS: 8 July 2017  
ATFM OPERATIONS

- ✓ Overall 1 flight with assigned CTOT
- ✓ Departure Compliance Ratio: 100%



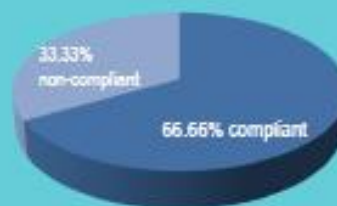
(Compliance Window -5/+10 Mins)



WSSS: 22 July 2017

## ATFM OPERATIONS

- ✓ Overall 3 flights with assigned CTOT
- ✓ Departure Compliance Ratio: **66.66%**
- ✓ One early flight
- ✓ \*One flight marked as non-compliant was 10min early from CTOT (5min early based on compliance window ) due to expected numerous successive arrivals/peak hour.



(Compliance Window -5/-10 Mins)



- ✓ Manila ATFM participated in all multi-nodal trial operations from January to June 2018 with Singapore ATFM during national holidays and due to weather.



## Challenges Encountered

- ✓ No POC/No EOBT updates from SIA and JSA
- ✓ Difficulty in accessing the web conference and ATFM portal



Overall commentary or feedback from two major airlines and ANSPs





*"As far as our participation is concerned, our only issue is that we had a hard time logging in to their website... The process went smoothly as the notices came way ahead of time and the CTOT given were accurate. Thanks also to your team for the timely heads up."*



*"...PAL benefited more with the Multi-Nodal Trials conducted by Manila ATFM. We were able to plan our departure and arrival thereby saving fuel that might have been used for holding if not planned ahead. Overall, this is a worthy project that can be implemented on a wider scale...We had difficulty accessing web conference and ATFM portal."*





*"Approximately +/-10min adjustment inevitable during certain peak arrival hours, 0300-0700UTC."*  
- **MANILA Control Tower**



*"We did not encounter any issues during the Multi-Nodal ATFM Trials."*  
- **Manila ACC**



*"All departures concerning Multi-Nodal ATFM Trials operations were given appropriate actions based on required AFTN required address."*  
- Manila AMS



END



**THE ELEVENTH MEETING OF THE EAST ASIA AIR TRAFFIC  
MANAGEMENT COORDINATION GROUP (EATMCG/11)**

**Mactan, Cebu, Philippines 10 - 12 July 2018**

**Agenda Item 5**

**The Outcome of The Common Report Forms from 2015 to 2017**

Presented by JCAB

This paper reports the outcome of the common report forms submitted by all EATMCG members. The collected data provides the recent status of air traffic in East Asia. This allows the members to share and recognize the transition of air traffic volume and air traffic flow of the past few years. A proposal for minor modifications on the form is included at the end of this paper.

**1. Introduction**

- 1.1 JCAB proposed the rules to collect and share the traffic data among EATMCG members in the 6th meeting in 2013 and was agreed upon by all members. Since 2014, Air Traffic Management Center (ATMC) has compiled data submitted from each country and reported in the annual meeting. At the last meeting in 2017, all members agreed to include data from Republic of Korea (ROK) in Attachment 2. Since 2018, the material has been updated to include the data from ROK as agreed upon.
- 1.2 The common report forms include three components: the traffic volume of FIRs, the traffic volume of major airports and the traffic volume of fixes on FIR boundaries.
- 1.3 Two attachments are included with this paper. One is the common report forms from each member and an aggregated form (Attachment 1). The other is a PPT material (Attachment 2) based on the collected data. It contains several graphs and tables comparing data from the last three years.

**2. Discussion**

- 2.1 Pages 2 to 4 in Attachment 2 shows traffic volume in each FIR. It clearly indicates that traffic volumes of all FIRs are on a steady increase annually. The upper row and the middle row of the table on page 3 shows the monthly and daily average traffic volume,

respectively. The lower row shows the number of aircraft on the peak day. The pie charts on page 4 indicate the ratio of the type of flight in each FIR, which is categorized into three types, namely, domestic, international and passing flights. The pie charts clearly show that each FIR has its own characteristics in flight categories.

- 2.2 The traffic volume at the major airports is shown on page 5 to 6. Incheon International Airport shows a remarkable increase of approximately 6% per year.
- 2.3 Page 7 - 10 shows the transition of traffic volume at the FIR boundaries. When more than one country collected the same data, ATMC adopted the average values to correct slight difference between plural data. Among this data, the increase of aircraft passing over SALMI is remarkable. One of the main reasons for this growth is thought to be the recent increase in flights between ROK and Vietnam and the Philippines.
- 2.4 Among the three kinds of data mentioned above, traffic volume of fixes on FIR boundary is thought to be related more closely and directly to our cross-border ATFM. It is important to consider traffic demands on FIR boundaries as well as the capacity of constrained airport or airspace in order to balance demand and capacity properly.
- 2.5 For member's reference, ATMC provides the data on traffic volumes related to some of the flow controls as follows. The graphs (Fig.2 - Fig.5) below are based on the actual data on a week in April when the weather was relatively good. The data are extracted from some fixes on FIR boundary between the Taipei and Fukuoka FIR. (Fig.1)

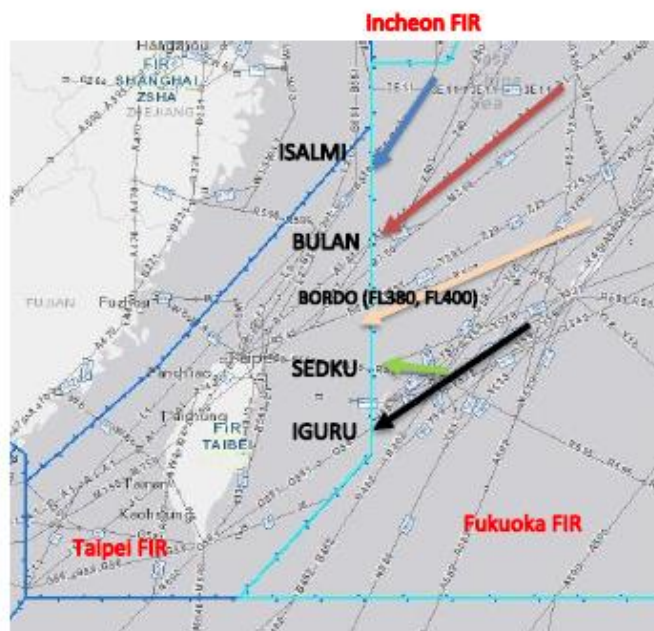


Fig.1

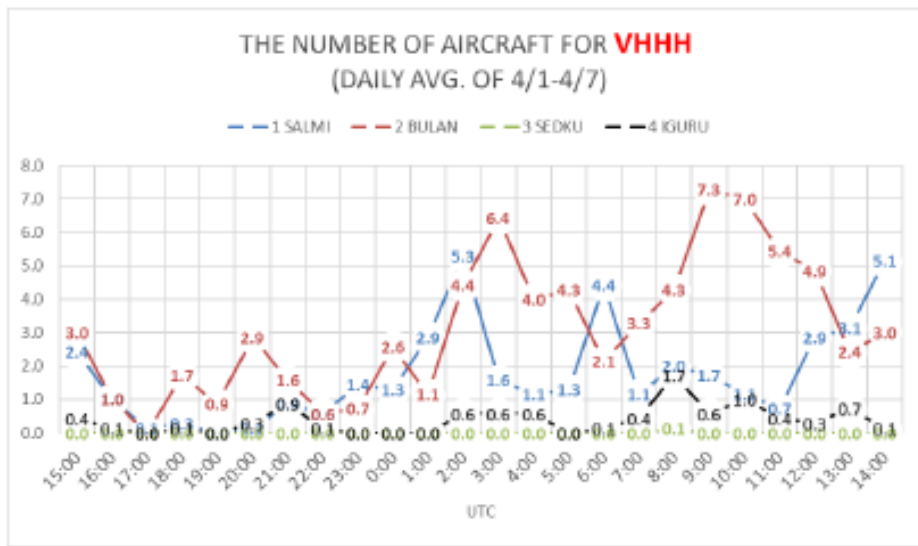


Fig.2

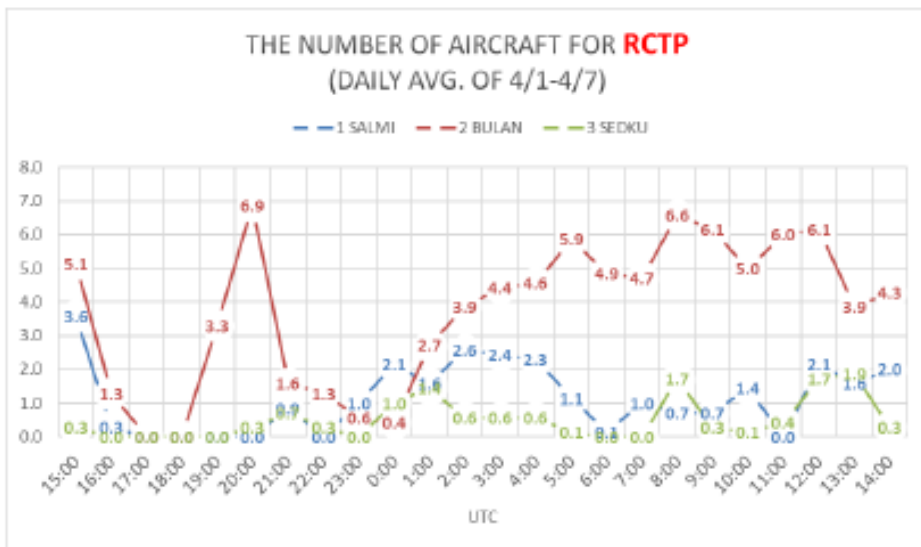


Fig.3

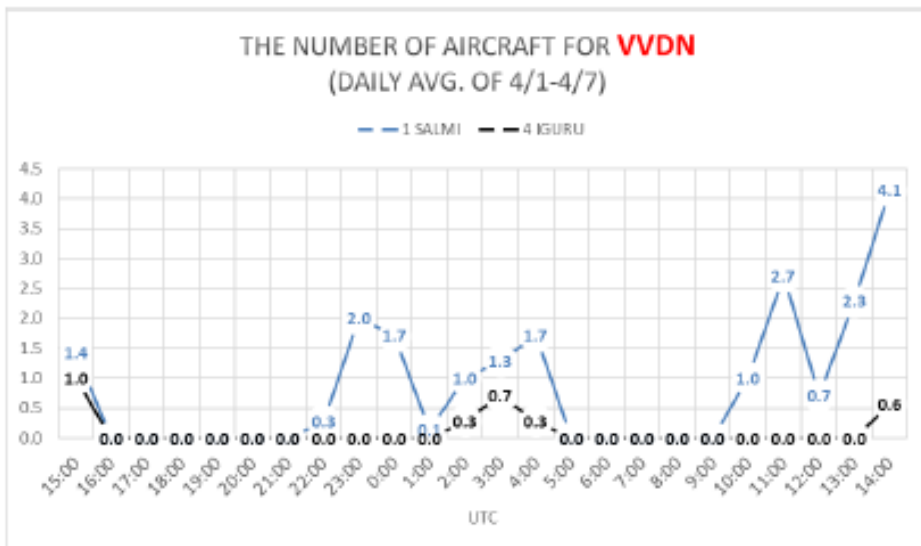


Fig.4

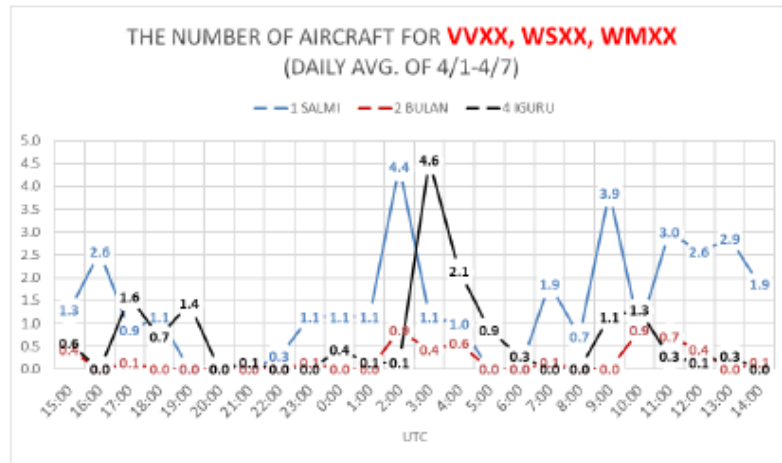


Fig.5

- 2.6 These data enable us to grasp the trend of traffic volume of each fix under normal condition. Recently, there is an increase in cross-border ATFM arising from adverse weather or exceeding traffic volume in far FIRs. Although it is not so difficult to grasp the traffic volume of the adjacent FIR, it is not easy to grasp the traffic volume of the FIRs beyond the adjacent FIR. From this point of view, this kind of sharing data is beneficial for well-planned flow controls and also smooth ATFM coordination.
- 2.7 Finally, ATMC proposes to add some fixes data to the form, which are fixes on the FIR boundary between Incheon and Fukuoka FIR. Furthermore, ATMC will coordinate with members and suggest revisions to the form when needed, such as when additional data is necessary or not.

### 3. Action By The Meeting

- 3.1 The meeting is invited to note the information contained in this paper.
- 3.2 Discuss any relevant matters as appropriate.

**THE ELEVENTH MEETING OF THE EAST ASIA AIR TRAFFIC  
MANAGEMENT COORDINATION GROUP (EATMCG/11)**

**Mactan, Cebu, Philippines 10 - 12 July 2018**

**Agenda Item 5**

**Revised Term of Reference**

Presented by IFATCA

The EATMCG Terms of Reference were agreed at EATMCG/4 in 2010. Since that time there have been many developments in ATC within the region and the role of EATMCG has evolve and will continue to change. This paper proposes a Revised Terms of Reference.

**1. Introduction**

- 1.1 The Draft EATMCG Terms of Reference (ToR) were presented by the Japan at EATMCG/4 in 2010. The ToR were accepted by that meeting and have remained unchanged to date. Since 2010 new procedures and ATC practices have been implemented within the region and these changes are indicated in the items that are now discussed at EATMCG meetings.
- 1.2 EATMCG was formed to facilitate meetings at which a number of delegates from ATC organisations within the region could discuss operational matters and propose solutions to resolve operational issues. The delegates consisted of experts from a number of East Asia Aviation Authorities, ANSPs and Controller Organisations.
- 1.3 To reflect the changes that have taken place it is proposed that the meeting consider revising the ToR to indicate the parties now involved in EATMCG and the increased scope of the discussions.

**2. Discussion**

- 2.1 Initially it was considered that EATMCG was a group made up of 'core members' from the ATC organisations in region. Any other ATC-related organisation had to be invited, by a democratic process, to attend meetings of the group.



- 2.2 As EATMCG has matured the number of ANSPs and Controller Organisations participating in meetings has expanded. To clearly indicate the current structure of the group, it is considered that reference to 'members' should be deleted to indicate the open nature of discussions and the scope of the East Asia region.
- 2.3 During the period since 2004 there has been a widespread implementation of PBN – related airspace procedures and the implementation of new ATM facilities with automated systems that permit the introduction the new ATC practices. It is proposed that this is indicated in the revised ToR.
- 2.4 The current ToR is provided as Attachment 1 to this paper and a revised ToR with changes to reflect these changes is at Attachment 2.

### **3. Action By The Meeting**

- 3.1 The meeting is invited to:
  - a) consider the revised ToR and discuss any relevant items as appropriate;
  - b) indicate acceptance, or otherwise, of the revised ToR.

## **EATMCG**

### **TERMS OF REFERENCE**

1. The objectives of EATMCG are to develop and implement tactical/strategic, benefit driven plans in a harmonious manner to improve en-route airspace capacity in addition to enhancing safety and efficiency in the region.
2. The members of EATMCG shall consist of ATM experts from Hong Kong, Japan, Philippines and Taiwan.
3. To meet the objectives above, the EATMCG shall:
  - a) Review the current operation/procedures among all facilities concerned.
  - b) Review the existing route structures in the airspace of concerned FIRs, taking into consideration major traffic flows in the region.
  - c) Develop a new route structure and altitude allocations if necessary.
  - d) Review and determine the longitudinal separation at FIR boundaries, taking into consideration the demand of routes.
  - e) Develop and implement cooperative Air Traffic Flow Management (ATFM) operations and procedures among facilities concerned.
  - f) Consider and discuss the implementation of ATS Inter-facility Data Link Communication (AIDC) with neighboring FIRs.
  - g) Develop and implement the necessary strategic plans based on ICAO regional and global plans, taking into consideration the need for inter-regional harmonization, service provider and airspace user requirements.
  - h) Explore possibilities for further enhancements to operational efficiency of ATC operations/procedures and route structures.
4. The EATMCG meeting will be held once or twice a year.
5. The Meeting may invite industry partners and accredited organizations to attend when considered appropriate, in the capacity of Observers.

**East Asia ATM Coordination Group (EATMCG)**

**TERMS OF REFERENCE**

- 1 The group shall consist of ATM experts from the East Asia region, including, but not limited to, Hong Kong, Japan, Philippines, South Korea and Taiwan.
- 2 The objectives of EATMCG are to assist in resolving current operational issues and the development of strategic and tactical solutions to improve airspace capacity whilst enhancing safety and efficiency in the region.
- 3 To meet the objectives above, the EATMCG shall;
  - a) Review related to current operations and procedures among facilities in the region.
  - b) Review the existing route structure in the region and promote means to increase overall airspace efficiency, taking into account the changing traffic flows in the region.
  - c) Promote the implementation harmonized separation standards in line with the ICAO Regional Seamless Airspace Plan.
  - d) Assist in the development of cooperative cross-border Air Traffic Flow Management (ATFM) operations and procedures in accordance with ICAO Regional ATFM Framework for Collaborative ATFM.
  - e) Assist in the implementation of new ATM systems and practices, including AIDC and PBN-based procedures.
  - f) Establish a process of coordination with other Informal Meeting Groups in the Asia Pacific Region, including the Mekong ATM Coordination Group and the Informal Pacific ATC Coordination Group.
- 4 EATMCG meeting shall be held at least once a year.
- 5 Representatives from accredited aviation-related organizations may be invited to attend meetings in the capacity of Observers.