行政院及所屬各機關出國報告

（出國類別：其他）

赴香港執行
「大陸鄰區航管業務協調會議」

服務機關：交通部民用航空局飛航服務總臺

姓名職稱：么煥昇 管制員

派赴國家：香　　港

出國期間：104 年 5 月 20 日~23 日

報告日期：104 年 6 月 25 日

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伍、附件

壹、目的

臺北飛航情報區位居東亞航線的樞紐，為東南亞與東北亞之間往來要道，由於近年來兩岸的航情持續增長，再加上對岸開放更多的機場對飛臺灣的國際機場，以及我國極力爭取大陸旅客來臺中轉等計畫。除此之外，新興的廉價航空業者，似乎在新的一年有更多新的拓展計畫，使得臺北飛航情報區今年預估的航情量成長將達到 5%或以上的增長。但於此時桃園國際機場卻正處於只有一條跑道可用的情況，民航局和飛航服務總臺則需在兼顧飛行安全和提供優質航空服務的前提下做有效的評估以及思維其應對辦法，在飛安、旅客和航空公司間取得一個平衡的位置，希望藉此會議可以和各鄰區攜手合作，在各方能在互惠互利的前提下，一同解決彼此間的困難，提供更優質的飛航服務。

貳、人員與會議流程

2.1 參與此次會議人員名單如下：

服務機關	服務單位	職稱	姓名
交通部民用航空局	航管組	副組長	薛少怡
交通部民用航空局	航管組	技正	沈家瑜
交通部民用航空局	航管組	主任管制員	鄒慧蒂
交通部民用航空局飛航服務總臺	臺北區域管制中心	副主任	劉志仁
交通部民用航空局飛航服務總臺	臺北區域管制中心	督導	林正宗
交通部民用航空局飛航服務總臺	臺北區域管制中心	管制員	陳翊崴
交通部民用航空局飛航服務總臺	臺北區域管制中心	管制員	么煥昇

2.2 本次會議流程簡介如下：

Thursday 21 May

0900-0930 Registration

0930-1000 Opening Addresses (DDGCA, EVP ASP), Administrative Items

1000-1045 Session 1 Agenda Item 1 and 2

1045-1115 Morning Break

1115-1230 Session 2 Agenda Item 3

1230-1330 Lunch (sponsored by CAD)

1330-1500 Session 3 Agenda Item 4

1500-1530 Afternoon Break

1530-1700 Session 4 Side Bar Meetings

Friday 22 May

0900-1030 Session 1 Agenda Item 5

1030-1100 Morning Break

1100-1230 Session 2

1230-1330 Lunch

1330-1500 Session 3 Agenda Item 6

1500-1530 Afternoon Break

1530-1700 Session 4 Agenda Item 7 and 8

1700-1715 Meeting Review

1715-1730 Closing Remarks

1930-2100 Farewell Dinner (sponsored by JATCA)

各行程中我方人員全員到齊。

參、會議摘要與紀錄

第一天 5 月 20 日 星期三

第一天會議成員們陸續搭乘華航和長榮的航班到達香港國際機場，當天香港天候不佳，進入香港空域後，多半進入等待航線，等候最後進場許可，正好成為這次會議中會提及的流量管制議題中，惡劣天氣時流量管制增強的最佳的示範。待各成員抵達下榻的飯店後，各成員為這次重要的會議做最後一次的重點提醒和綜整，盼能在明天會議中順利達成會議目標。

第二天 5 月 21 日 星期四

第三天

第二天會議早上九點開始，本次會議由香港主持，與會的單位包括本國還有福岡、那霸、仁川、馬尼拉各民航局及管制中心的代表團，以及 ICAO 代表等參與此會議。

圖 2.1

會議開始時，先由香港方代表以及會議主持 IFATCA 代表 John Wagstaff 表達誠摯地歡迎各國代表團的參與，希望各代表團能夠在會議中好好發揮，善用這個會議傳達各國想要讓與會各國了解的資訊，因為這個會議包含了 10 個工作議題，7 個資訊議題，期待各代表國成員能順利表達各個議題主旨給與會成員。

首先由 John Wagstaff 說明會議流程，如附件 WP1，待各會員國無其他異議，會議主要是依工作議題順序，之後再依資訊議題進行。

會議的摘要如下：

(1) 資訊議題 1，如附件 IP1：

由 John Wagstaff 向各代表團提及過去一年來 ICAO 會議中有關亞太區域的相關議題，資料收集是來自下列各會議的決議：

a) Regional Airspace Safety Monitoring Advisory Group Meeting/19, 28-30 May 2014;
b) Asia/Pacific Air Navigation Planning and Implementation Regional Group (APANPIRG)/25, 8-11 September 2014;
c) Asia/Pacific Air Traffic Flow Management Steering Group Meeting/4, 1-5 December 2014;
d) South China Sea Major Traffic Flow Review Group Meeting/1, 19-20 January 2015;
e) South-East Asia Air Traffic Services Coordination Group Meeting/22, 3-6 March 2015;

在第 19 屆 Regional Airspace Safety Monitoring Advisory Group Meeting 中，提及南中國海以及日本及南韓等區域有關 RVSM 的成果卓越，並且為了能達到各情報區的資訊結合，減少人為交管錯誤，建議各國能在各 ATMS 間利用 AIDC 的傳輸，達成交管錯誤率下降和系統合作的目標。關於此項，我方已積極和馬尼拉洽談 AIDC 作業合作，馬尼拉已承諾於新的 ATMS 建置完成後，希望能和臺北合作 AIDC 相關作業;至於香港新的 ATMS 建置完成後,也希望能將現行的 AIDC 作業融入香港新的 ATMS 系統內。

在第 25 屆 Asia/Pacific Air Navigation Planning and Implementation Regional Group (APANPIRG)會議中，提及在亞太區域的不間斷的 ATM 計畫中，第一階段，為了亞洲區域快速成長的航情量，盼各代表國建置新的 ATM 系統來提供更有效率的航管服務,即將在今年 11 月 12 日完成;至於第二階段中,各系統能使用 ASBU Block 0 的技術，盼能在 2018 年 11 月 8 日完成。

在第 4 屆亞太區 (ATFM SG)會議中，提及了一個流管管理網絡計畫，計畫中包

含 8 個代表國 (Australia, China, Hong Kong, Indonesia, Malaysia, Singapore, Thailand and Vietnam)，和 3 個國際組織 (CANSO, IATA and IFATCA)。各組合單位國互聯彼此的航情資料來做無特別中央管控中心的概念之流管作業。首先會先以新加坡的到場航空器做為試行計畫的第一步，預計今年 7 月實施；如果試行結果良好，將於 2016 年正式實行，建立 North Asia Region ATFM Harmonization Group (NARAHG)。

在第 1 屆 The South China Sea Major Traffic Flow Review Group (SCS MTFRG)中主要希望能討論菲律賓和香港間現行的航情流向和航路策略，由於這個區域的航情量增加，盼加入印尼和澳洲來執行 6 條主要航路和其他跨越航路間的調查。

在第 22 屆 South-East Asia ATS Coordination Group Meeting (SEACG) 會議中，除了繼續在 RNP 10 航路的建置和南中國海的航情分析外，此會議也提及在各代表國的情報區間有著 5 個英文字母皆相同的航點名稱，而其中的關係違反 Annex 11 的規定，會議中再提及各代表國需重視此事。有關此議題，我方也曾和香港有著相同的問題，不過因為新的 ATMS 在計算航程和航空器位置時，會出現錯誤的訊息，我方已經和香港端完成航點名稱修改工程，並於會議中回報給 ICAO 代表了解我們也相當重視此事。

(2) 工作議題 2，如附件 WP2：

主要討論的是上一屆 EATMCG 的決議和未決議題，去年會議留下的討論事項如下：

1. 香港想將流管的方式利用網頁或是直接聯絡日本和韓國端的方式，直接限制日、韓主要機場的起飛航行量，如此，臺北就不需再幫香港處理流管事宜。
2. 臺北會持續執行航路 RNAV5 建置工程直到 2017 年底。
3. 持續討論 B576 在特定繁忙時段的處理方案，目前 Z401 的建置已經紓解大部份的航情量，仍有其他 2 條其他的航路建議，需要馬尼拉的協助，等待這次會議的討論。
4. 香港希望在建置新的 ATMS 後，在 2015 年底時，能嘗試利用新系統 AIDC 和臺北試行作業，盼爾後繼續保持新系統本身內部和臺北間的 AIDC 作業。

5. 日本端可以嘗試使用 TOC、AOC 來取代雷達 handoff。
6. 福岡和臺北有關 B576 高度限制的備忘錄(MOU)修改進度落後，希望可以盡速修改。

(3) 工作議題，如附件 WP3：

那霸管制中心代表主要提及介於那霸和馬尼拉間航路 B462 的高度使用，目前北上使用 FL290, 310, 320, 350, 360, 390, 400 南下使用 FL300, 340, 380，此議題由那霸中心提出希望馬尼拉中心可以重新考慮使用北上單仟，南下雙仟的 ICAO 規則，或是北上不要使用 F360 等需求，但由於馬尼拉空域內的航情交錯複雜，馬尼拉暫時無法同時那霸的請求。如圖 2.2

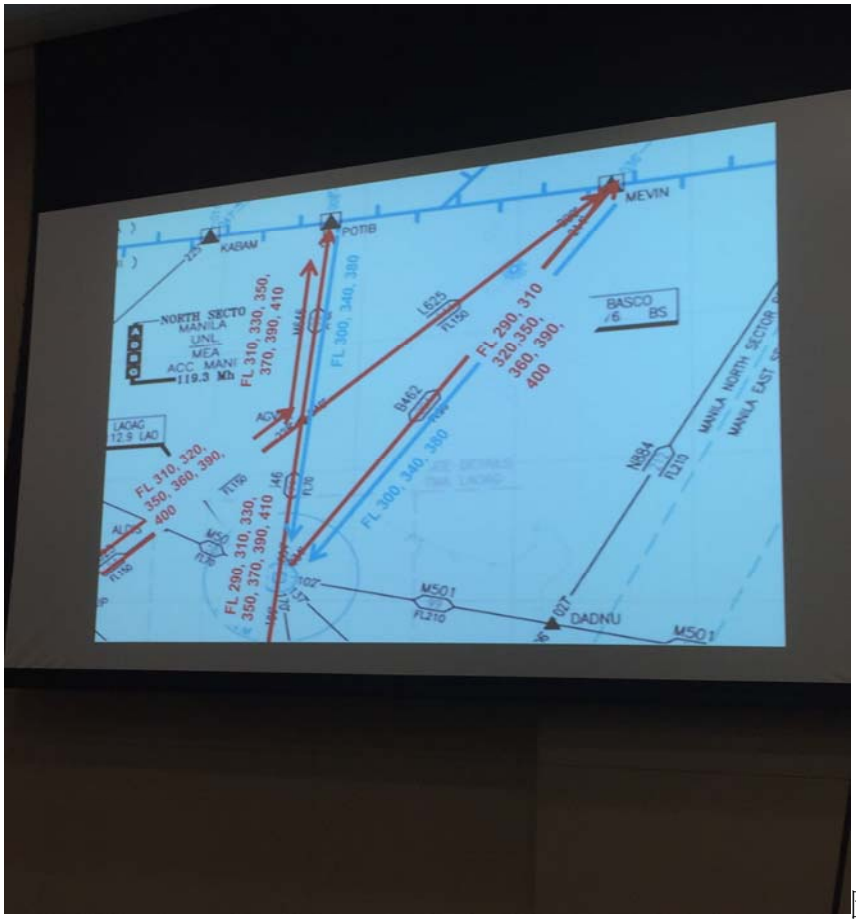


圖 2.2

(4) 工作議題 4，如附件 WP4：

福岡希望和臺北在交接參考點的隔離可以再做縮減，來增加流量，建議在原本在 BULAN 和 MOLKA 後機不追前機的情況，由原本的 20 浬隔離希望縮

減成為 15 浬；原於 SALMI 點後機不追前機的情況，由原本的 30 浬隔離希望縮減成為 25 浬。但我方認為這樣的縮減實質效果不大，當場提出檢討後機追前機的隔離，反而效果更好，目前後機追前機的隔離，管制員需做 10-15 分鐘的非雷達隔離，否則就是協調福岡中心，浪費時間也浪費空間，我方建議可改為後機追前機時，BULAN 和 MOLKA 後追前的情況訂為 30 浬；原本在 SALMI 後追前的情況訂為 40 浬，但 JCAB 和 ATMC 當場仍有歧見，希望將此議題，改至下午的 SIDE BAR MEETING 再來仔細研究。隨後上午的議程則暫時告一段落。

下午會議於下午 1330 繼續開始

(5) 工作議題 5，如附件 WP5：

由我方代表區管中心林正宗督導發言，如圖 2.2，首先提及 Z401 在去年的 EATMCG 會議中達成協議，並於 2014 年 9 月 18 日正式實施，對於紓解夜間 B576 航路擁擠航情量，成效卓越，特別由我方領隊，航管組副組長薛少怡代表航管協會，頒發獎座給這次一同合作的單位，分別是日本 JCAB、日本福岡管制中心、韓國仁川管制中心以及臺北管制中心等代表，如圖 2.3、2.4、2.5、2.6，感謝各管制中心相互合作完成這個跨國、跨中心的合作案。

隨後會議中我方建議擴大實施夜間Z401的時間，由原本MOLKA時間1840-2110UTC改為1800-2200UTC，可以包含所有夜間北上的航情量，施惠予更多清晨時段北上至仁川管制中心的航情，並建議將Z401 FLAS的使用由現行的FL270, 330, 350, 370 和410，改為開放全部單仟空層，讓Z401北上的航空器能更方便地得到希望的空層，紓解MOLKA的航情需求，提供更佳的飛航服務。
有關以上提案，仁川管制中心抱持贊同的態度，可是日本代表團當場無法同意我方的請求，各方提議將此議題延至Side Bar Meeting延伸討論。

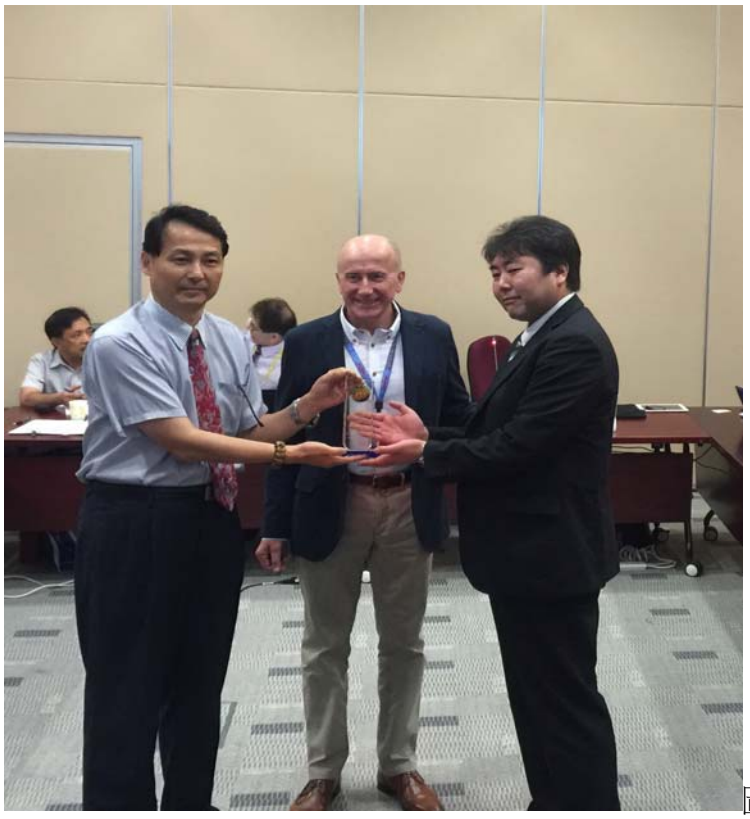


圖 2.3 臺北和 JCAB

圖 2.4 臺北和福岡

圖 2.5 臺北和韓國

圖 2.6 臺北區管中心

(6) 工作議題 6，如附件 WP6：

由日本 JCAB 代表發言，日本希望可以效法 North-Asia Regional ATFM

Harmonization Group (NARAHG)的精神，收集 EATMCG 各代表國相關的航情資料，統整流量資料後，將分析後的報告和各代表國分享，一方面可以用此資料說明各別代表國的流管強度適不適當，一方面可以利用這個資料做為爾後區域性的跨管制中心的流管參考。

(7) 工作議題 7，如附件 WP7：

原本是用來建議韓國代表團可以舉辦 EATMCG 9 的工作議題，不過韓國代表團在會議開始前，就決定無法舉辦下一屆的會議，並將結果告知香港，所以香港便主動將此議題移除。

(8) 工作議題 8 和工作議題 9，如附件 WP8、WP9：

主講為南韓代表，主旨在於去年 B576 航路持續增加的航行量，特別東南向的航情量相較 2013 年增加 13.4%，韓國表示他們在 1100-1400UTC 和 1930 - 2200UTC 這 2 個時段是最繁忙的時候，而在夜間及清晨時段的大量北上航情，南韓代表相信其他代表國都相當了解，也告知所有與會代表，因為 Z401 的建立使得此時段北上航情有了較多的改善，謝謝各國的支持，並且在這個議題內建議目的地是 Gimhae 京海機場(RKPK) 和 Daegu 大邱機場(RKTN)的航情可以走 SALMI-MIKES-Z401-POTET-RUGMA，建議時段則為 1930-2200UTC (以 RUGMA 點為時間標準)，這部份主要牽涉福岡空域，在當場無法取得共識，一樣留待 Side Bar Meeting 時一併討論。至於南下的航情則在 1100-1400UTC 時段，86%的航情匯集在 ATOTI 點，14%的航情匯集在 RUGMA 點，所以韓國提議在 1100-1500UTC 時段，開放 Z401 航路，讓南下航情使用，福岡則在臺北 BULAN 點交管航情給我們，可是此舉會使得福岡和臺北的航情複雜度增加，對臺北而言，經由 KAPLI 過境香港的航情和經由 KABAM 和 POTIB 去馬尼拉的航情，都會在臺北飛航情報區增加過多的衝突和管制複雜度。所以，我方和福岡代表們則在會議當場便婉拒韓國的請求，讓 Z401 仍然保持夜間單向北上的特性。之後在短暫的休息後，則進入各國相當重視的面對面會談—Side Bar Meeting。

(9) Side Bar Meeting 名稱感覺比較像平常性的談話會議，但是在這幾年的 EATMCG 會議中，佔有相當重要的角色，多半最重要的議題，都在這個會議

時間內完成，所有的協調、溝通和相互了解都在此時發生，會議的型式如圖2.7。


圖 2.7

下午的 Side Bar Meeting 則有下列幾項重要議題討論：

1. Z401 的時段延長和 FLAS 開放？(WP5)

討論內容摘要：

日本代表們認為 Z401 才剛開始實施，此時不宜更改，希望在時間帶上短期間內不要做任何更改，至於 FLAS 的部份，由於夜間有從上海情報區至福岡情報區的航情會使用 FL290、310 及 390 這三個空層，所以也不傾向再開放空層給 Z401 的航情，不過福岡管制中心承諾會和上海管制中心商談夜間由上海至福岡的航空器暫不使用 FL390，如果商談確定後，就有機會可以將 FL390 開放給臺北管制中心，讓 Z401 北上航空器使用 FL390，以解決 MOLKA 的航情需求。

2. 臺北和日本對於航機前機慢後機快時的邊境隔離？(WP4)

討論內容摘要：

日本代表們同意將原本在邊境的隔離標準加 10 浬，並限制兩航空器相差的馬赫數不大於 0.04，做為後機追前機的邊境隔離標準，但是如果有做任何的速度控制時，仍需告知對方。但我方希望能夠減少協調，建議除了保有原先日本代表的提

議外，在增加一條如果依原本在邊境的隔離標準加 20 浬時，則完全不用做速度控制；雙方已於會後，利用書信往來的模式商量最終的合作版本，目前傾向於原邊境隔離加 20 浬再加上馬赫數控制限制。

3. 韓國提議(RKPK 和 RKTN)北上航情航路改為 SALMI-MIKES-Z401-POTET-RUGMA，而建議時段則為 1930-2200UTC (以 RUGMA 為時間標準)？(WP7)

討論內容摘要：

福岡管制中心，無法同意再新增由 SALMI 直飛 MIKES 的直飛航路，但口頭同意，當航情許可時，將由福岡管制員口頭頒發由 SALMI 直飛 MIKES 加入 Z401 由 RUGMA 進入仁川管制中心的許可，以利韓國可以分流 RKPK 和 RKTN 的航情，而韓國代表也願意開放 RUGMA 點 1930-2200UTC 時間，所有北上單仟空層給福岡管制中心使用。

第四天 5 月 22 日星期五

第三天早上九點是和香港新系統建置小組的會議開始，如圖 2.8，香港新系統建置時系統內建的 AIDC 版本要和臺北做測試，會議內容摘要如：

雙方將採用 AIDC v3.0 為雙方使用軟體的版本，主要希望使用的溝通訊息為 EST, ACP, LAM, LRM 以及新增的 TOC 和 AOC，仍和上期商談 AIDC 作業時相同，雙方仍不採用 ABI 此訊息。

至於香港建議的預計測試期程如下：

1. 硬體測試：2015 年 10 月。
2. 系統測試：2015 年 11 月的第一週。
3. 實機上線測試：2016 年的 4 月。

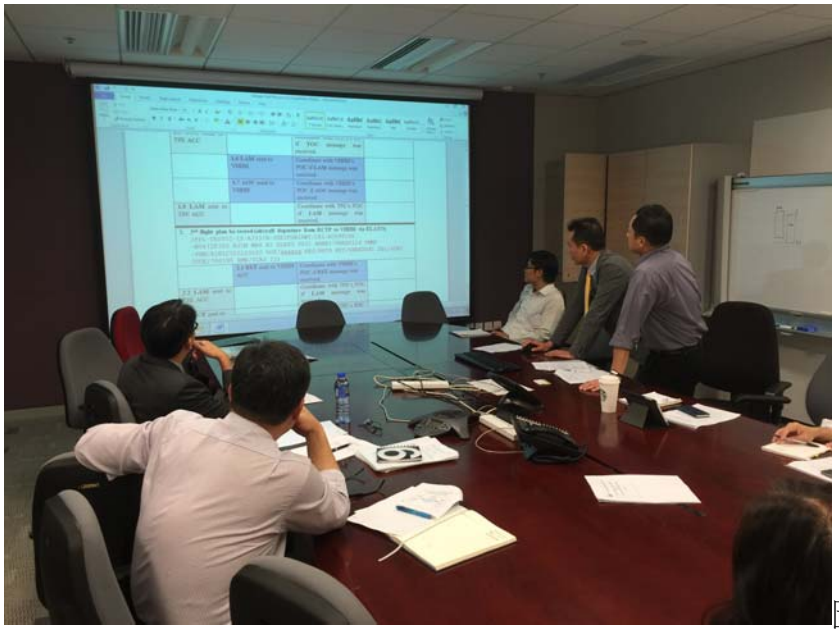


圖 2.8 AIDC 會議

AIDC 會議結束後，參予此會議的同事馬上就回到主會議室繼續 EATMCG 的議程。

(10) 工作議程 10，如附件 WP10：

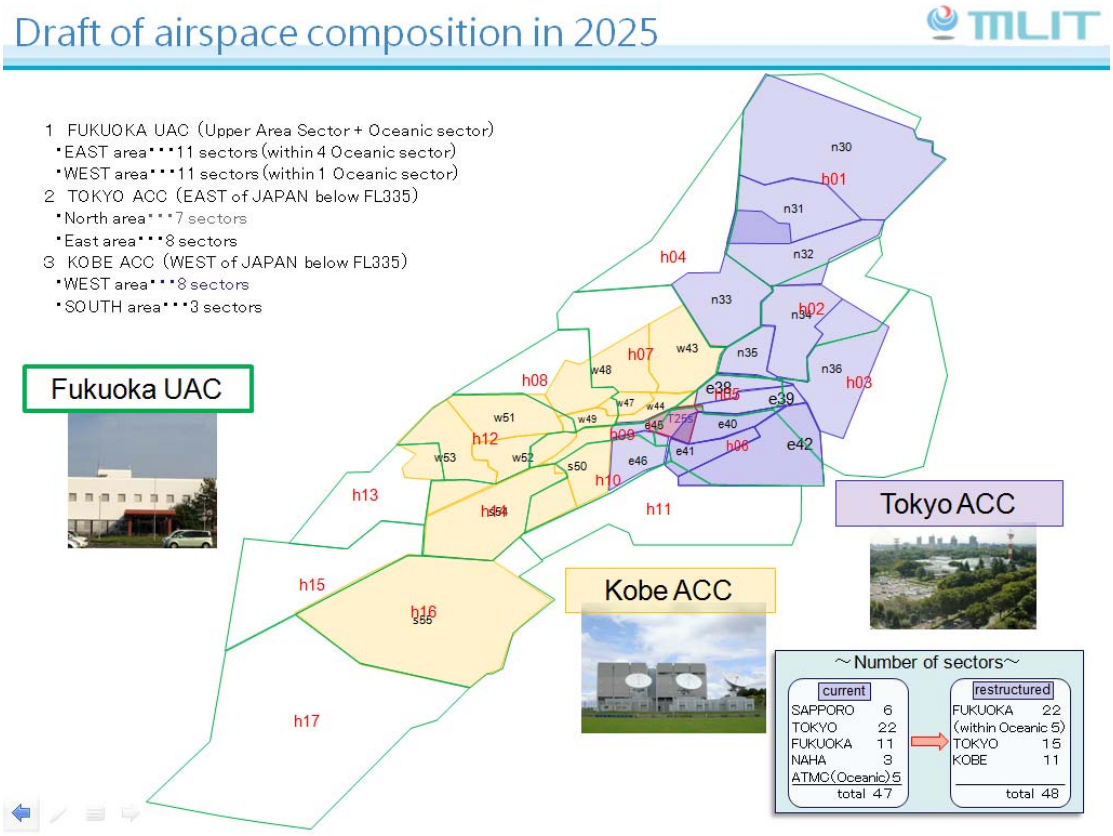
主要討論是有關東北亞航管系統間合作一案，鑒於亞太區域間航情量日益增加，特別是大陸區域，加上今年 3 月 17-19 日在日本福岡召開的第 2 屆 North-Asia Regional ATFM Harmonization Group (NARAHG)會議中，大陸、日本、南韓三國之間達成下述幾項協議：

1. 提供流管措施的原因和細節，並改進前置處理時間。
2. 一年間提供彼此的航情量資訊，建立流管措施改進小組。
3. 一同建立每日流管的大致模式，並相互間提供資料。

JCAB 在此議題最後建議，EATMCG 的會員國也能夠效法 NARAHG，一同分享航情量，一同討論和分享流管的建置和處理模式。

(11) 資訊議題 2，如附件 IP2：

主講是 JCAB 代表，說的是日本航管空域的重劃分，由於日本預測在 10 年內，日本的總航情量會提升 1.5 倍，而且為了迎接下屆奧運的到來，預定重整國內的空域，將目前 4 個 ACC(Sapporo, Tokyo, Fukuoka and Naha)規劃成為一個上層的 ACC 和另 2 個 ACC，NAHA ACC 則會被整併，最終只剩 3 個 ACC(Fukuoka, Tokyo and Kobe)。如下圖。



(12) 資訊議題 3，如附件 IP3

此議題主講者為我方代表，區管中心陳翊崴管制員，討論在臺北情報區日益增加的不明機，使得臺北的民用航空器增加過多不必要的風險，如圖 2.9。會議中提及臺北管制中心的北部席常出現，美軍和中國空軍的不明機；以及東、南部席常出現美軍穿越空域的不明機，多半的不明機都會穿越民用的航路，對所有過境、起落的民航機都造成不少飛安上的風險，會議中利用過去曾經發生過不明機和民用航空器疑似接近案例讓各會員國重視此事，並且利用這個機會，讓ＩＣＡＯ的成員了解此事，在爾後相關的會議中，能夠在會議中提出，期使美中兩國重視此事，並且讓會員國了解此事的重要性，如果有任何有關不明機的資訊，能盡力預先通知我方以維飛安。

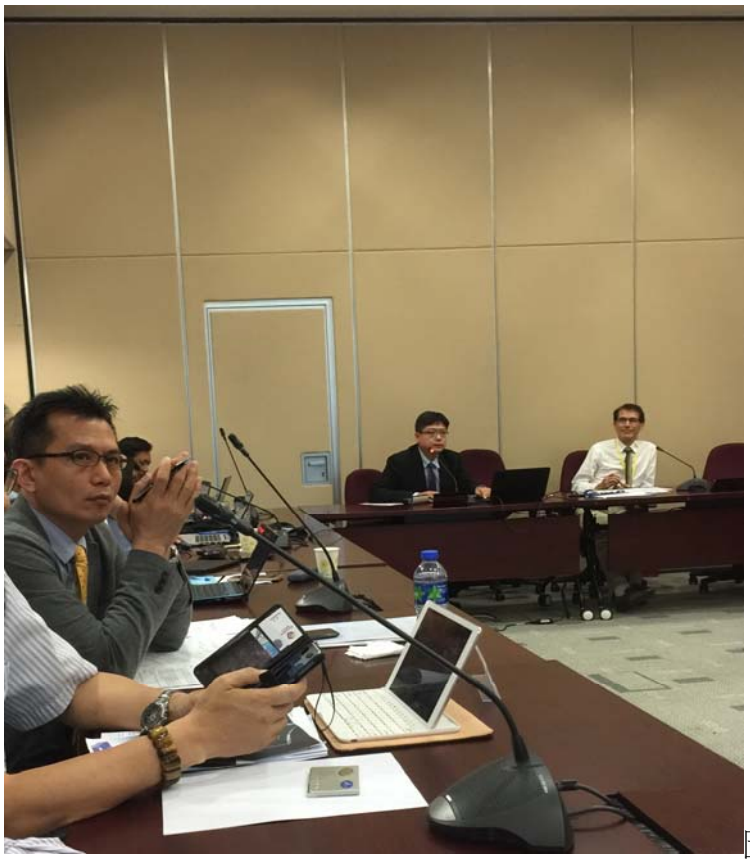


圖 2.9 不明機議程

(13) 資訊議題 4，如附件 IP4：

主講人是 JCAB 的代表，由於從 EATMCG6 開始，日本就和各代表國尋求協助並請求各代表國提供相關的航情量，並於 EATMCG7 的會議修改相關表格以符合各國的需要，如圖 2.10。可以發現航路 A1、M750 和 B576 等航情量逐年增加，而且各國主要機場的 2014 年航情量相較於 2013 年的數字也各有 5-7%的成長。從圖表中可以得知亞太區的主要機場航情量都在增加，最後日本希望各會員國可以繼續維持提供資料，以供後續分析使用。

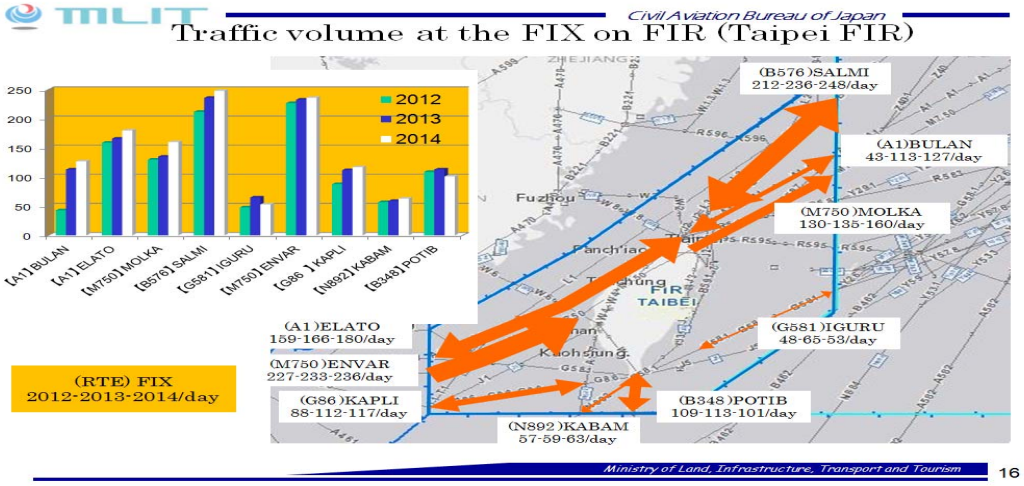


圖 2.10

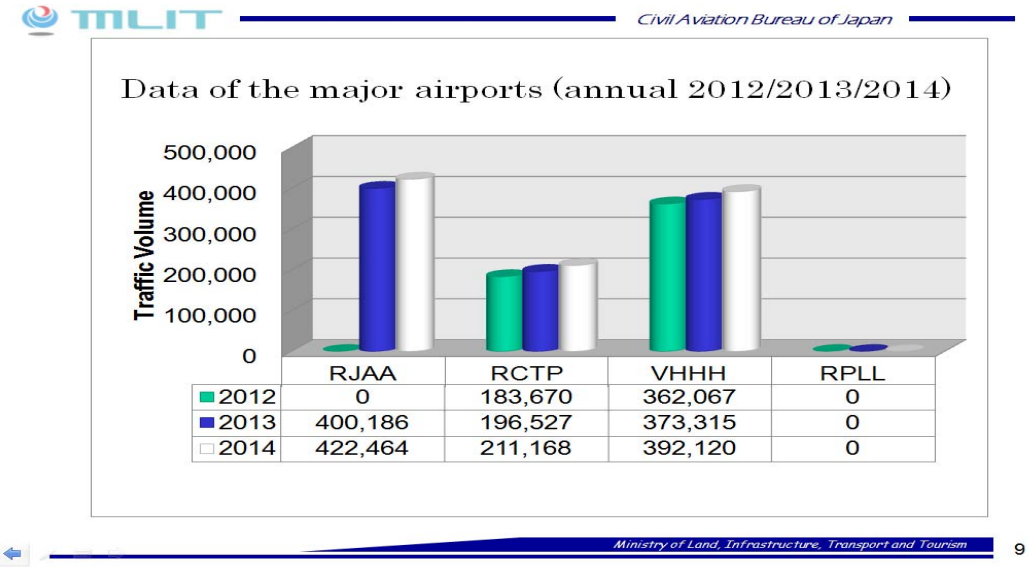


圖 2.11

(14) 資訊議題 5，如附件 IP5：

主要討論的是臺北桃園機場的單一跑道作業以及相對應的流管措施，以及臺北管制中心如何去協助鄰區所要求的流管，利用討論的方式增加彼此對流管作業的了解，爾後如果在協調流管措施時，可以避免不必要的溝通和誤會。會中提及桃園單一跑道作業將持續到 2016 年 1 月 7 日，民航局和總臺都會和機場公司密切的合作，如果有任何跑道相關的訊息，臺北會儘速的通知鄰區。而且會中針對各鄰區在去年會議提及，2014 年的流管措施是否有改善的空間，以及臺北在 2015 年如何改善流管措施，來符合實際的流量狀況。

如圖 2.12

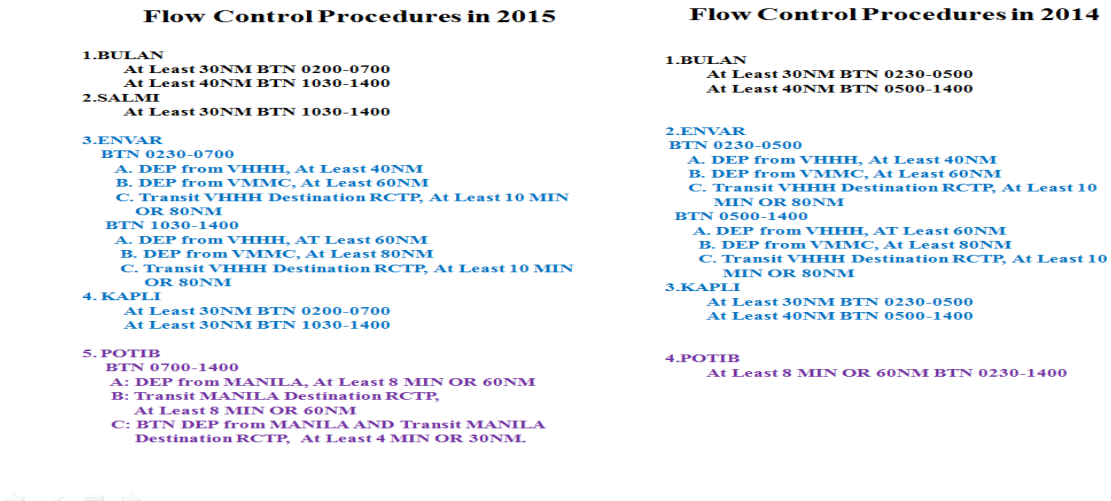
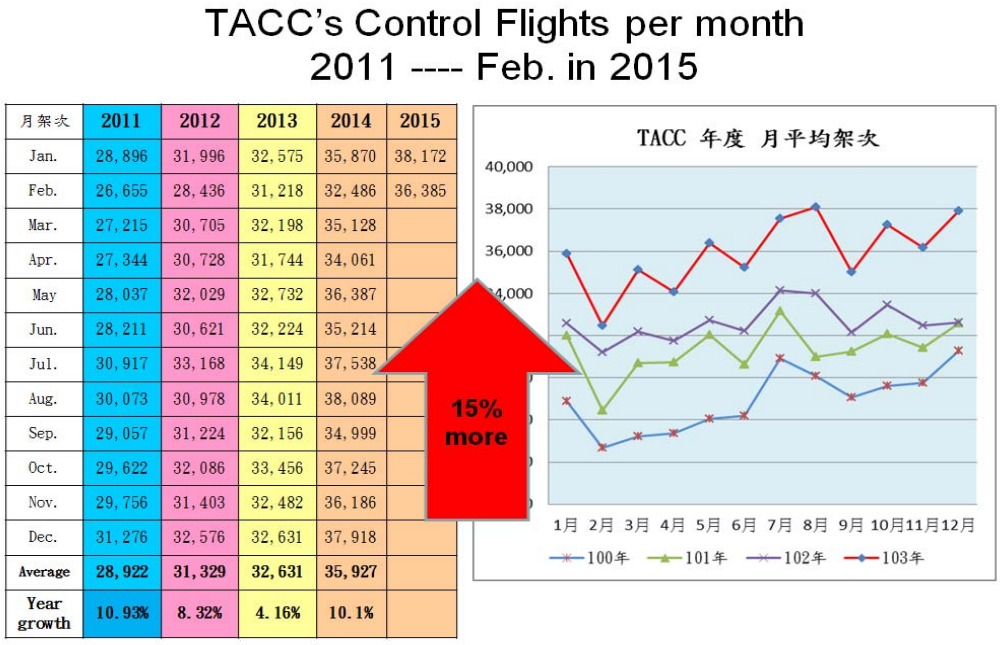


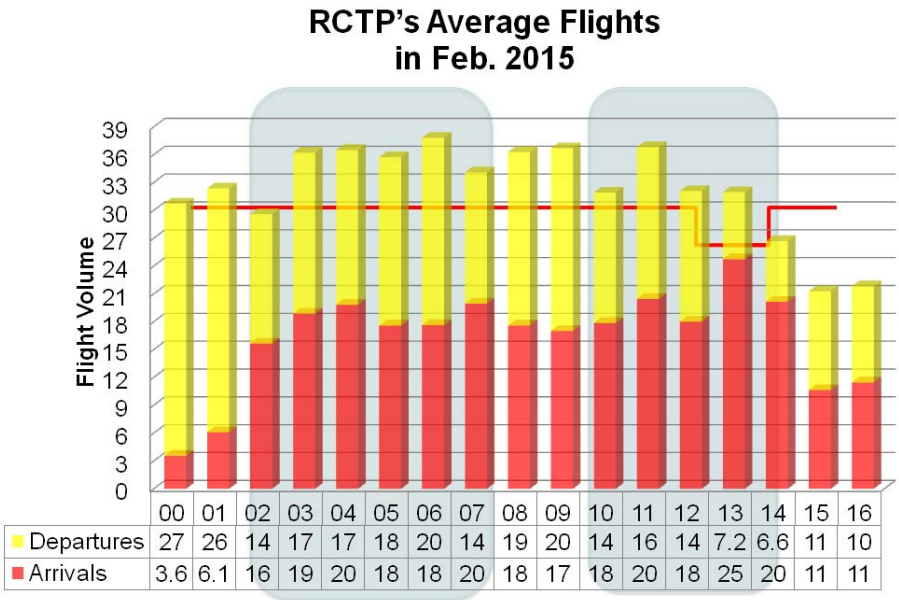
圖 2.12

並且和各代表國告知我們 2015 年因為廉價航空的興起和兩岸航空器的增班以及大陸客開放來臺中轉至第三地的可能性，目前預估將大幅成長約 15%的航情量，相較於鄰區 6、7%的成長量，臺北飛航情報區可謂是 2 倍的成長，因為大幅的成長再加上桃園機場仍只有一條跑道的情況，所以臺北飛航情報區不得不考慮增強流管的強度，以保障飛航安全。如圖 2.13 和圖 2.14。



月架次	2011	2012	2013	2014	2015
Jan.	28,896	31,996	32,575	35,870	38,172
Feb.	26,655	28,436	31,218	32,486	36,385
Mar.	27,215	30,705	32,198	35,128	
Apr.	27,344	30,728	31,744	34,061	
May	28,037	32,029	32,732	36,387	
Jun.	28,211	30,621	32,224	35,214	
Jul.	30,917	33,168	34,149	37,538	
Aug.	30,073	30,978	34,011	38,089	
Sep.	29,057	31,224	32,156	34,999	
Oct.	29,622	32,086	33,456	37,245	
Nov.	29,756	31,403	32,482	36,186	
Dec.	31,276	32,576	32,631	37,918	
Average	**28,922**	**31,329**	**32,631**	**35,927**	
Year growth	**10.93%**	**8.32%**	**4.16%**	**10.1%**	

圖 2.13



	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16
Departures	27	26	14	17	17	18	20	14	19	20	14	16	14	7.2	6.6	11	10
Arrivals	3.6	6.1	16	19	20	18	18	20	18	17	18	20	18	25	20	11	11

圖 2.14

會中也有討論我方跑道容量是否過低的問題，我方代表們有向各會員國解釋，因為單一跑道作業下，離到場航空器需一併考量而且臺北近場臺也由原本桃北、桃南席一人管制轉變成二人管制，繁忙的階段甚至有五邊席，為的就是增加跑道容量，而且塔臺部份也有要做縮減跑道隔離的措施來增加跑道容量，盼各國可以了解我們的努力和處境，體諒增強流管是不得不的決定。

會議的後段則提及我方如何建立流管措施來協助鄰區解決他們問題，如圖2.15，盼利用此會議可以瞭解彼此作業的方式，減少爾後協調時的誤會和時間。

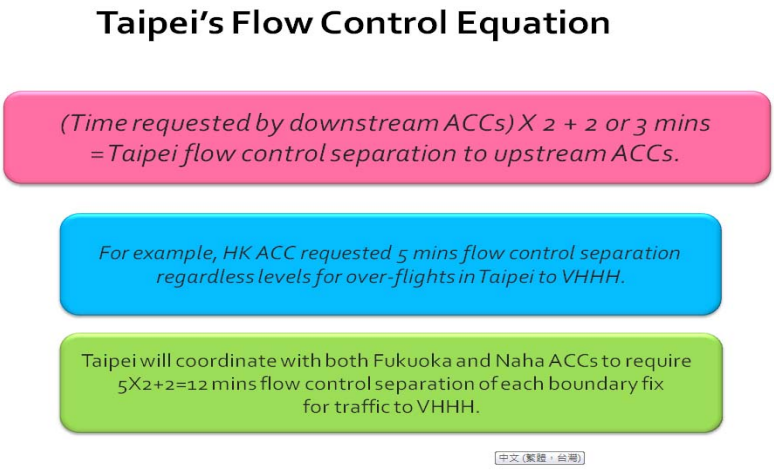


圖 2.15

(15) 資訊議題 6，如附件 IP6：

主講為南韓代表，主要提及上屆完成的 Z401 航路，對紓解清晨時段由東南亞大量北上仁川管制中心的航情大有幫助，依仁川目前的分析結果，走 ATOTI(B576 北上)和 RUGMA(Z401 北上)的航情量比較，目前為 70%和 30%，大幅降低原本 ATOTI 的擁擠程度。特別在會議上感謝臺北及日本的協助。

(16) 資訊議題 7，如附件 IP7：

香港民航處為因應區域內持續增加的航情量，包含則是香港對未來的規畫：

1. Aeronautical Information Management Centre (AIMC)
2. Aeronautical Communications Centre (ANC)
3. Air Traffic Control Centre (ATCC)
4. Aerodrome Control Tower (Tower)

5. Rescue Coordination Centre.

至於新的航管系統和 ATCC 和 Tower 預計在 2016 年中完工;而在上述地點會於 2015 年年底開始運行 AIMC 和 ANC 兩座中心。而完整的轉換系統計畫已經啟動，我們希望在轉換新系統時，有關所有航管溝通的網路都能完善地被照顧，例如 IASC、AIDC 和平常的電話線路等都能夠在轉換的時候，不要影響太多的航管作業，但於轉換的時候，不能預期和一定程度的影響是一定有的，希望能透過這個會議事先告知各代表國，請注意在香港轉換新系統時，對航管的影響，持續地提供安全、有序及迅速地航管服務。

在 2 天不間斷地的會議中，討論所有的工作和資訊議題，因為時間不夠，主席甚至沒有時間做總結和彙整會議結論，相約各位將會議中討論議題的結論利用書信的方式告知，再由香港統整會議結論後，再利用書信方式通知各會員國。之後相約明年 EATMCG 9 會議再見，EATMCG 9 會議將在日本舉行，時間另協商。

第五天 5 月 23 日星期六

整理會議紀錄和討論返國事宜。

肆、心得與建議

一、 EATMCG 會議一直是本區與鄰區航管作業間重要的會議，會議進行至今已經是第 8 次會議了，每一次會議的議題都很多，再加上區管中心間的作業協調事項、工作及責任是很繁重的，不管是事前的議題的擬想、資料收集、評估及溝通、對我議題的答覆協調整合等等，需要長時間的準備及持續的追蹤，本次會議由本中心初步建立一個團隊來執行，加上包含民航局航管組的小組成員，使本次的會議獲致不錯的成效，今後會議可據此模式運作。

二、 由於桃園國際機場的單一跑道作業、機場道面整修，以及因廉價航空航行量大幅增加和亞太區平均航行量上升趨勢，預估今年的航行量可能達 5% 左右的成長，再加上下半年可能出現陸客來臺中轉題材，勢必有可能再上調年度航行量；航行量增加，目前桃園機場跑道卻只有一條可使用，主要機場道面也不好，再加上管制員以往較少使用頒發待命許可或指示航機等待的管制方式，現在幾乎每天都會使用到，從上述各點便可了解現行的管制情況及管制員壓力。

三、 考量現行航行量於跑道整修完成前的建議如下：

(一) 因應目前桃園使用單一跑道及航行量的大幅成長，檢視目前的流量管制強度、方式，可限制每小時進入臺北飛航情報區的航行架次，儘可能符合桃園機場每小時的跑道容量。

(二) 將流量管制時間延長後，勢必使得到場桃園機場航情延遲到達本區，換言之，將戰時拉長，原本管制繁忙的時段也將跟著延長，故需要注意人力配置的適當性，原本夜間時段較少人力配置的時段，也需跟著調整增加，以維飛安。

(三) 由於整區的航行量增長，各單位的人力需求應該會有不同程度的需求增長，但由於航管人力不是短期間就能補充、訓練完成，盼能洞悉先機，預做準備。

伍、附件

WP1

THE EIGHTH MEETING OF THE INFORMAL EAST ASIA AIR TRAFFIC MANAGEMENT COORDINATION GROUP (EATMCG/8)

(Hong Kong, 21-22 May 2015)

Agenda Item 1

Provisional Agenda

Agenda Item 1	Adoption of Agenda
Agenda Item 2	Review of Meetings
Agenda Item 3	ATM Development in the Region.
Agenda Item 4	ATFM Development in the Region.
Agenda Item 5	CNS Development in the Region.
Agenda Item 6	Any other business.
Agenda Item 7	Review of EATMCG/8 Task List.
Agenda Item 8	Date and Venue of EATMCG/9.

IP 1

THE EIGHTH MEETING OF THE INFORMAL EAST ASIA AIR TRAFFIC MANAGEMENT COORDINATION GROUP (EATMCG/8)

(Hong Kong, China 21-22 May 2015)

Agenda Item 2

Review of Relevant ICAO Meetings

Presented by IFATCA

SUMMARY

This paper presents information on meeting outcomes related to relevant ICAO Meetings in the Asia/Pacific Region.

1. Introduction

1.1 The following meetings were convened by the ICAO Regional Office during the past twelve months and discussed items of relevance to this Group:

a) Regional Airspace Safety Monitoring Advisory Group Meeting/19, 28-30 May 2014;

b) Asia/Pacific Air Navigation Planning and Implementation Regional Group (APANPIRG)/25, 8-11 September 2014;

c) Asia/Pacific Air Traffic Flow Management Steering Group Meeting/4, 1-5 December 2014;

d) South China Sea Major Traffic Flow Review Group Meeting/1, 19-20 January 2015;

e) South-East Asia Air Traffic Services Coordination Group Meeting/22, 3-6 March 2015;

2. Discussion

2.1 At the 19th Meeting of the Regional Airspace Safety Monitoring Advisory Group (RASMAG/19), the respective Regional Monitoring Agencies reported that the overall Target Level of Safety for RVSM operations had been exceeded in the South

China Sea airspace, but had been met in Japanese and South Korea airspace. The Monitoring Agencies noted that the primary cause of 80% of all occurrences reports related to ATC coordination errors during the transfer of control between the various units. ICAO once again urged States to implement AIDC capability and will convene an AIDC Implementation Project Meeting to coordinate the introduction of automated transfer procedures throughout the region. (This meeting was held in October 2014.)

2.2 At the 25th Meeting of the Asia/Pacific Air Navigation Planning and Implementation Regional Group (APANPIRG/25), the Group accepted the Asia Pacific Seamless ATM Plan for the region and endorsed the two phase implementation plan. The Plan builds upon the ICAO ASBU Programme by developing and deploying ATM solutions appropriate for the region to support the safety and efficiency of rapidly developing air transport throughout the Asia-Pacific region. Phase I is effective from 12 November 2015 and is mainly administrative in nature, as it requires States to establish performance objectives for airport and airspace specifications together with training programmes to achieve the Seamless ATM service levels. Phase II is effective from 8 November 2018, co-incident with ASBU Block 0, and expects States to implement the necessary service levels.

2.3 The 4th Meeting of the Asia/Pacific Air Traffic Flow Management Steering Group (ATFM SG/4) recognized the work of a number of States and International Organisations in the development of the concept of the Distributed Multi-Nodal ATFM Network. In all this project now involves eight States (Australia, China, Hong Kong, Indonesia, Malaysia, Singapore, Thailand and Vietnam), and 3 International Organisations (CANSO, IATA and IFATCA). They have developed a concept based on a number of ATFM cells which collaborate amongst themselves without the need for a central control unit. It is planned to conduct an operational trial based on Singapore arrival traffic in July 2015, and if the model proves effective it will be implemented on a full time basis in 2016. This meeting acknowledged the need for the group of States developing the Multi-Nodal plan to coordinate their actions with the States that have established the North Asia Region ATFM Harmonization Group (NARAHG).

2.4 The South China Sea Major Traffic Flow Review Group (SCS MTFRG/1) was tasked to review the existing route structure between the Philippines and Hong Kong and review the major traffic flows over the South China Sea. The primary reason for initiating these actions is the lack of surveillance and direct pilot/control communication in some of these areas and the increase in traffic in these areas. Although the Philippines and Hong Kong could implement RNP 10 standards on A461 and A583 , it would require coordination with Indonesia in order to gain the full benefit of a change of status for the full length of the routes to Australia. (This matter was further discussed at the SEACG/22 Meeting.) It was agreed to conduct a traffic survey of the six major routes and the many crossing routes as there has been a significant change in in the traffic distribution over the South China Sea since the current FLOS/FLAS was introduced in 2002. (This matter was also further discussed at the SEACG/22 Meeting.)

2.5 The 22nd South-East Asia ATS Coordination Group Meeting (SEACG/22) reviewed the work of SCS MTFRG and considered that the group should continue their work on the RNP 10 route upgrade and analysis of the current South China Sea traffic. They also tasked the group to make recommendations of the suitability of the FLOS to optimise airspace capacity in the long term. ICAO reported that the Regional Office was in the process of transferring the Regional Air Navigation Plan and Regional ATS Route Catalogue to e-copies in line with the overall ICAO documentation plan. The production of e-copies of documents requires the integrity of the data supplied by the States to be robust and correct. They have noted some omissions and inaccuracies in the provision of some FIR boundary coordinates and the duplication of some reporting point names (5 letter name codes) in neighbouring FIRs, contrary to Annex 11 provisions. They requested all States to check their entries currently published in the RANP and Regional ATS Route Catalogue.

WP 2

THE EIGHTH MEETING OF THE INFORMAL EAST ASIA AIR TRAFFIC MANAGEMENT COORDINATION GROUP (EATMCG/8)

(Hong Kong, China 21-22 May 2015)

Agenda Item 2

Review of EATMCG/7 Meeting

Presented by IFATCA

Summary

This paper presents information on the Seventh East Asia Air Traffic Management Coordination Group Meeting (EATMCG/7).

1. Introduction

1.1 The Seventh Meeting of the East Asia Air Traffic Management Coordination Group was held in Taipei during the period 15 and 16 May 2014 in the CAA offices at Songshan Airport.

2. Discussion

2.1 Items discussed during the meeting included the following:

a) Proposal from Hong Kong to pass ATFM messages directly to Tokyo or Incheon. Taiwan noted that as they would not be aware of any restrictions that may be applicable to traffic transiting their airspace, they should not have to apply any further restrictions at ELATO. Hong Kong stated that when ATFM measures are passed directly to the departure airports, Taiwan would not have to apply any further ELATO restrictions to this traffic.

b) Taiwan reported on an on-going airspace review for the implementation of RNAV5 procedures within their FIR by the end of 2017.

c) Following lengthy discussion on relief routes to reduce the traffic on B576 during the peak night hours, agreement on the hours of operation for CDR Z401was reached. (The route was implemented on 18 September 2014.) However discussions on two other routes had to be held over as they involve coordination with the Philippines.

d) Hong Kong announced that they hoped to commence technical and interoperability test of their AIDC system by the end of 2014 and planned to conduct operational trials in late 2015.

e) Japan stated that when the upgrade to their AIDC system was completed they will implement automated handoff practice with Taiwan.

f) Japan noted that the MoU concerning the FLAS on B576 at SALMI that was agreed between Japan and Taiwan at EATMCG/6 had still not been signed and the revised FLAS had not been implemented. Taiwan responded that the delay may have been due to some administrative or coordination issues, but they were still keen for the procedure to be implemented and will follow up on this matter.

g) The EATMCG/7 Task List compiled by the meeting is attached.

WP 3

THE EIGHTH MEETING OF THE INFORMAL EAST ASIA AIR TRAFFIC MANAGEMENT COORDINATION GROUP (EATMCG/8)

(Hong Kong, 21-22 May 2015)

Agenda Item 3

Flight Level Allocation Scheme concerning ATS route B462

(Presented by JCAB)

SUMMARY

This paper proposes changes of Flight Level Allocation Scheme (FLAS) concerning ATS route B462 in Naha ACC jurisdiction.

1 INTRODUCTION

1.1 As a result of EATMCG/1(August 27-29,2007, Fukuoka), an agreement has been settled to assign FL290, 310, 320, 350, 360, 390, 400 to northbound flights and FL300, 340, 380 to southbound flights regarding Flight Level Allocation Scheme (FLAS) of B462. This has been included in the LOA between Naha ACC and Manila ACC.

2 DISCUSSIONS

2.1 As for the northbound flights, most of the traffic are civil aircraft on night flights, and many of them move northward on even number altitudes. Since traffic volume increases during the night, assigning altitude of opposite direction could confuse the air traffic controllers.

2.2 Furthermore, since there are cases in which westbound flights via J5 on even number altitude coming from the ATMC oceanic airspace and the northbound fights via B462 on even number altitude intersect near the Taipei FIR boundary, non-radar separation is necessary until the northbound flights are under radar coverage. If westbound traffic on J5 increases, increase in workload during this timeframe can be expected.

2.3 For that reason, Naha ACC does not recommend B462 by AIC. (AIC recommends N884 for north bound flights and A582 for south bounds flights for routes from Southeast Asia.)

2.4 Naha ACC would like to confirm if the FLAS (including use of FL360 on B462 to northbound flights) has been reconsidered by Manila ACC since the EATMCG/5 in 2012.

2.5 Naha ACC would like to request Manila ACC to withdraw from use of FL360 on B462 for traffic to Fukuoka FIR.

2.6 Once again, Naha ACC would like to request strongly Manila ACC to consider revising the FLAS on B462 to comply with the standard ICAO Single Alternate FLAS.

WP4

THE EIGHTH MEETING OF THE INFORMAL EAST ASIA AIR TRAFFIC MANAGEMENT COORDINATION GROUP (EATMCG/８)

(Hong Kong, 21-22 May 2015)

Agenda Item 3

Trial of reduced radar separation on A1/M750/B576

(Presented by JCAB)

SUMMARY

This paper provides proposal to discuss possibilities for the reduced radar separation on A1/M750/B576.

1. INTRODUCTION

1.1 The number of air traffic flying on A1, M750 and B576 is rapidly increasing as the establishment of LCC companies. In order to accommodate the increasing traffic on these airways, we suggest the reduction of radar separation on A1, M750 and B576.

2. DISCUSSIONS

2.1 Reduced radar separation on A1 and M750.

2.1.1 Currently we provide 20NM separation on A1 and M750 to/from RCAA when:

i Either one or both aircraft terminate in Fukuoka or Taipei FIR.

ii Either one or both aircraft terminate in Hong Kong FIR.

iii Either one or both aircraft proceed beyond Fukuoka FIR entering the Pacific Ocean airspace.

iv Both west-bound aircraft diverge from each other in Taipei FIR.

2.1.2 We suggest reducing radar separation to 15NM in case of 2.1.1. i above.

2.2 Reduced separation on B576, Y711 and Y722.

2.2.1 Currently, we provide 30NM separation at ATOTI(to/from RKRR) when:

i Either one or both aircraft terminate in Taipei or Hong Kong FIR.

Ii For north-bound aircraft regardless of destination.

2.2.2 Currently, we provide 30NM separation at SALMI(to/from

RCAA) when:

i Either one or both aircraft terminate in Taipei or Hong Kong FIR.

ii Both aircraft diverge from each other in Taipei FIR.

iii For north-bound aircraft regardless of destination.

2.2.3 We suggest reducing radar separation to 25NM in all case of above.

WP 5

THE EIGHTH MEETING OF THE INFORMAL EAST ASIA AIR TRAFFIC MANAGEMENT COORDINATION GROUP (EATMCG/8)

(Hong Kong, 21-22 May 2015)

Agenda Item 3

Review of CDR Z401 Operation and Another Step Forward

(Presented by Taipei)

SUMMARY

This paper reviews the operation of CDR Z401 launched on 18 Sep. 2014 through the collaboration of Japan, Korea and Taiwan, realizes ATC area integration, and now is seeking another step forward to

3. INTRODUCTION

3.1 At EATMCG/6 in Fukuoka, 16-18 January 2013, Taipei urged state members to establish a new ATS route across Taipei FIR and Fukuoka FIR into Incheon FIR so as to cope with the increasing and congested traffic on B576, departing from South East Asia in the period of early morning. Consensus was gradually built among associated state members, and therefore CDR Z401 was set up by Japan, awaiting further agreement.

3.2 At EATMCG/7 in Taipei, 15-16 May 2014, a super busy session of discussion, associated state members, namely Japan, Korea and Taiwan, co-scheduled to launch the scheme on 18 September 2014. In the meantime, MOUs between Fukuoka ACC and Incheon ACC, and Fukuoka ACC and Taipei ACC were properly settled and signed. Promulgation of the scheme on respective state's AIP was finely ready before the commission date.

3.3 The CDR Z401 scheme commenced on 0000UTC, 18 September 2014 brings in profound improvement on relaxing congestion and minimizing conflicts, hence enhances the overall airspace capacity and air safety in Taipei FIR. Similar interests happened in Incheon FIR again justifies the success through the generous help of JCAB and Fukuoka ACC. A historical mark is made indeed.

4. DISCUSSIONS

2.1 **CDR Z401 enables effectively splitting the northeast bound B576 flow. The flow pattern in Taipei FIR is structurally changed to minimize conflicts. Even though the air movements are constantly increasing, the working stress is abated according to ATC.**

2.2 However perfection can't be reached at once; several problems are identified and necessitate continuous efforts at the Meeting:

(1) **Daily time frame**:

1840 UTC- 2110 UTC of the Z401 operation doesn't cover all night flows, namely the
first and **last** groups of night traffic from POTIB respectively as follows:

- **First group**: Enter Taipei FIR **around 1720Z** / arrive at MOLKA around 1810Z
- **Last group**: Enter Taipei FIR **after 2020Z** / arrive at MOLKA after 2110Z

(2) **Wrong routing**:

CDR Z401 is available in a limited time frame which has actually caused difficulty for airlines to file appropriate routing since the actual departure time can be quite different from the scheduled one. The evidences show that wrong routing scenarios can be:

a. In night time:

- Flights from POTIB files B576 within 1840-2110UTC (Z401 time frame)
- Flights from POTIB files Z401 outside & near 1840-2110UTC
- Flights from ENVAR (M750) files Z401 within 1840-2110UTC

b. In day time

Flights from ENVAR (M750) files Z401

(3) Limited FLAS

FLAS applied at MOLKA for Z401 traffic are FL270, 330, 350, 370 and 410. Recognizing the emerging growth of Japan- bound traffic during Z401 time frame, it becomes more common that Taipei has to request FL390 which is also commonly accepted by Fukuoka ACC. It justifies the feasibility that Z401 traffic fully applies complete MOLKA FLAS.

2.3 Taipei is seeking upgrading the Z401 scheme to cover overall night traffic from POTIB by extending time frame as follows:

- The Z401 time frame starts from 1800UTC (40 minutes earlier) at MOLKA or 1850UTC at RUGMA
- The Z401 time frame extends to 2200UTC (40 minutes later) at MOLKA or 2250UTC at RUGMA

2.4 Fukuoka ACC is invited to review the Z401 FLAS at MOLKA.

2.5 Associated states are also requested to review the problem of wrong routing.

WP 6

THE EIGHTH MEETING OF THE INFORMAL EAST ASIA AIR TRAFFIC MANAGEMENT COORDINATION GROUP (EATMCG/8)

(Hong Kong, China, 21 - 22 May 2015)

Agenda Item 4

The proposal for the analysis of international air traffic flow control among EATMCG

(Presented by JCAB)

SUMMARY

This paper suggests to share the actual data concerning air traffic flow control implemented by EATMCG states and to analyze the flow control by utilizing the data. In order to execute efficient international flow control, it is indispensable to realize the air traffic flow through the states.

3 INTRODUCTION

1.1 With the recent growth of air traffic, the demand for a mature ATFM has been increasing. However, it has limitations to implement ATFM efficiently by oneself, so it is required to handle ATFM with cooperating together. Some states group in Asia Pacific region, like North-Asia Regional ATFM Harmonization Group (NARAHG) already has been introducing such an information exchanges.

1.2 The members of EATMCG had agreed to create a common report form in the 6th meeting and have been sharing information of traffic volume of each state as presented at this 8th meeting.

1.3 Besides above the information exchanges, ATMC propose to share the actual data on particular flow controls and inspect them so that EATMCG members can conduct the effective international ATFM.

2 SUGGESTION

2.1 In order to improve ATFM in East Asia region, it is essential to inspect and analyze the international ATFM implemented in the region by utilizing the real data. Therefore, it needs to collect the flight data, for instance ETD/ATD of each flight, ETA/ATA over FIR boundary or destination, and analyze the impact on each flight and FIR airspace. After inspecting and analyzing the international ATFM in the region by the data submitted from each state, ATMC will report to EATMCG.

2.2 As the immediate subject, ATMC suggest to compile some data regarding the present RCTP flow control caused by one runway closure. If any practicability is found in this case, it should be applied to other international flow controls to inspect and review.

2.3 Recently multilateral flow controls are implemented so often that ATMC regards such a post operation analysis as one of the most important scheme for implementing efficient international ATFM.

WP7

THE EIGHTH MEETING OF THE INFORMAL EAST ASIA AIR TRAFFIC MANAGEMENT COORDINATION GROUP (EATMCG/8)

(Hong Kong, 21-22 May 2015)

Agenda Item 6

Revision of EATMCG Terms of Reference

Presented by IFATCA

Summary

The EATMCG Terms of Reference were last revised at EATMCG/4. A revised Draft Terms of Reference is provided for

1. Introduction

1.1 The EATMCG Terms of Reference (ToR) were last revised at EATMCG/4 (see Attachment 1). Some further amendments to the ToR were proposed at EATMCG/5, but after some discussion there was no agreement and the original ToR are still in place.

2. Discussion

2.1 It is proposed that the ToR are revised to reflect the membership of EATMCG and the work in planning for the implementation of a number of major regional initiatives that are currently being developed.

2.2 A draft Revised ToR is at Attachment 2.

WP 8

THE 8th MEETING OF EAST ASIA ATM COORDINATION GROUP

(EATMCG/8)

(Hong Kong, 21~22 May 2015)

Traffic Risk Management on B576 Airway

(Presented by Incheon ACC, Republic of Korea)

SUMMARY

This paper presents a suggestion on traffic risk management on B576 airway among related parties. We have witnessed continuous traffic volume increase on this airway through past years. Incheon ACC hopes all the participants exchange ideas to enhance safety of air traffic on B576 and reach mutual consensus for this subject.

1. INTRODUCTION

1.1. The traffic volume for south-east bound in 2014 has been increased by 13.4% compared to previous year, which means flights increase on B576(Y711/Y722) airway. This statistics shows more efficient and safer measures should be considered among related ATC facilities on B576.

1.2. Early morning time on B576 (Y711/Y722) is burdensome to every air traffic controllers related as it gives high workload to them which may cause loss of separation to their aircrafts served. This may endanger the controllers' situational awareness.

1.3. With previous successful meeting with related parties, further consensus to solve current complicated traffic situation is necessary. The focal point will be on early morning peak time (1930~2200 UTC) on B576. In this time, the point is about aircraft whose destination is Gimhae airport (RKPK) and Daegu airport (RKTN) via ATOTI.

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2. DISCUSSIONS

2.1 The trend of air demand on B576

2.1.1 One of the major reasons that contributed to the increase of traffic volume on this route is the development of Low Cost Carriers (LCC) to meet the exploding air demand in South East Asian regions.

2.1.1.1 Departure and arrival delay in Korea is mostly concentrating during the specific peak times (1100~1400UTC and 1930~2200UTC) as all of you know. It may differ by each country, but all linked together like a chain.

2.1.1.2 With great effort of all related, the congestion has been greatly solved, but still needs closer coordination among parties concerned for matters that have been come out after the 7th meeting.

2.2 THE PROPOSALS OF INCHEON ACC

2.2.1 Suggest rerouting northbound aircraft which is landing RKPK(Gimhae airport) and RKTN (Daegu airport) from ATOTI to RUGMA during the early morning rush hour (1930~ 2200UTC) in order to reduce the risk of congestion between CJU(Jeju) and ATOTI. This has not been applied in accordance with the previous agreement.

- Proposal of new route for RKPK and RKTN : SALMI-MIKES-Z401-POTET-RUGMA
- Operation time: 1930-2200UTC (On the basis of RUGMA)

2.2.2 (2nd proposal) Suggest JAPAN coordinating with us to use FL300 during the early morning peak time (1930~2200UTC) for northbound traffic coming from ATOTI to solve traffic congestion.

WP 9

THE 8th MEETING OF THE INFORMAL EAST ASIA AIR TRAFFIC MANAGEMENT COORDINATION GROUP(EATMCG/8)

(Hong Kong, 21-22 May 2015)

The Use of Z401 Southbound During 1100-1500 UTC

(Presented by Incheon ACC, Republic of Korea)

SUMMARY

This paper presents traffic flow improvement plan to resolve traffic congestion at ATOTI(B576) for southbound traffic. Incheon ACC suggests using Z401 airway southbound during 1100-1500 UTC in order to disperse traffic to RUGMA.

3. INTRODUCTION

3.1. ATS Route B576 is one of the main air routes in East Asia, which is connecting from the APU in Taipei FIR to the point SEL in Incheon FIR. According to the statistical analysis for 2014, traffic volume for south-east Asia bound was increased about 13.4% compared with 2013, however, as a result of consent among Japan, Taiwan, Korea in EATMCG/7, traffic dispersion for northbound is being operated successfully during the morning time zone.

3.2. Northbound traffic congestion was improved as above. On the other hand, southbound traffic is converging at ATOTI especially during evening time zone (1100-1400 UTC) in Incheon FIR. So it is considered that southbound traffic also needs to solve traffic converging at ATOTI.

4. DISCUSSIONS

2.3 According to the statistical analysis of southbound traffic, Traffic volume at ATOTI(B576) occupied 86 percent and traffic volume at RUGMA(A586) occupied 14 percent of all the air traffic during 1100-1400 UTC. Traffic is concentrated on ATOTI.

2.4 In almost destinations, using ATOTI is faster than using RUGMA (Z401). But there are advantages if Z401 is opened. At first, concentration of traffic at ATOTI will be solved at some extent. This also means that airspace capacity will be enlarged. Secondly, it is expected that delay of RKSI and RKPK will be reduced.

2.5 Considering flight time between RUGMA and IGMON, Incheon ACC suggests the use of Z401 southbound during 1100-1500 UTC everyday for traffic dispersion at ATOTI.

WP 10

THE EIGHTH MEETING OF THE INFORMAL EAST ASIA AIR TRAFFIC MANAGEMENT COORDINATION GROUP (EATMCG/8)

(Hong Kong, 21-22 May 2015)

Agenda Item 3

Seamless ATM in North & East Asia

(Presented by JCAB)

SUMMARY

This paper provides proposal to discuss about harmonization with neighboring Sub-Regional group.

4 INTRODUCTION

4.1 Traffic volume has been increasing rapidly among APAC, especially in China.

1.2 At the 3rd meeting of the ICAO Asia and Pacific ATFM Steering Group (ATFM/SG/3) in March 2014, ICAO APAC Regional Sub-Office (RSO) was entrusted by China, Japan and the Republic of Korea to facilitate the establishment of the North-Asia Regional ATFM Harmonization Group (NARAHG)

1.3 The 2nd Meeting of NARAHG was held in Fukuoka, Japan from 17 – 19 March 2015. The outcomes of this meeting set-forth the future activities of NARAHG with the aim to enhance safety and efficiency to cope with the future growth of air traffic in North Asia.

1.4 At the 2nd Meeting of NARAHG, we agreed as follows;

1) to provide details on reason(s) for ATFM measures and look at improving notification lead time

2) to provide general traffic data several times a year for conduct Post Operations Analysis of ATFM measures between three countries

3) to work together to develop a consistent format for ATFM Daily Plan (ADP) and exchange available ADP upon finalization of data requirements

2 DISCUSSIONS

2.1 To enhance the seamless ATM, it is important to harmonize with neighboring Sub-Regional group.

2.2 Hong-Kong is one of the member of the distributed Multi-Nodal ATFM Network.

2.3 To enhance the seamless ATM in North & EAST Asia, JCAB propose to discuss about harmonization with NARAHG and Multi-Nodal Network at EATMACG in the future.

IP 2

THE EIGHTH MEETING OF THE INFORMAL EAST ASIA AIR TRAFFIC MANAGEMENT COORDINATION GROUP (EATMCG/8)

(Hong Kong, 21-22 May 2015)

Agenda Item 3

Information for redesign of airspace composition

(Presented by JCAB)

SUMMARY

This paper presents information for redesign of airspace composition in Japan.

5 INTRODUCTION

5.1 Traffic volume in Fukuoka Flight Information Region (FIR) is expected to increase 1.5 times in these ten years.

1.2 JCAB plans to redesign the current domestic airspace. En-route airspace will be divided to Upper and Lower. Hence, 15 ACA, which provides the terminal radar control service will be consolidated or expanded.

1.3 The current 4 ACCs (Sapporo, Tokyo, Fukuoka and Naha) structure will change to one Upper Area Control Center (UAC) and two ACCs.

2 OBJECTIVES OF REDESIGN

2.4 Correspondence to increasing air traffic

2.5 Improvement of aircraft operation efficiency

2.6 Enhancement of crisis management

IP3

THE EIGHTH MEETING OF THE INFORMAL EAST ASIA AIR TRAFFIC MANAGEMENT COORDINATION GROUP (EATMCG/8)

(Hong Kong, 21-22 May 2015)

Agenda Item 3

Booming Activities of Unknown Traffic Stack More Risk within Taipei FIR

(Presented by Taipei)

SUMMARY

The number of unknown flights within and surround Taipei FIR is stacking to higher record and has become a risk factor for civilian

1. INTRODUCTION

1.1 China's declaring Air Defence Identification Zone in the East China Sea on 23 November 2013 has triggered the tension in this region. Meanwhile, activities of unknown traffic has been increasing in northern Taipei FIR. These traffics are believed to be military aircrafts of China, US, etc.

1.2 Unknown flights operate from couple hundred feet to 60,000 feet, and move from north to east or contrariwise in our northern airspace. Unknown traffic can be secondary targets with transponder code and altitude indication or simply primary ones which are mostly threatening since there's no way to spot their real vertical positions. Tracks of unknown traffic cross civilian airways including departing and landing routes and hence burden ATC by bringing in an unpredictable risk for civilian aviation safety.

1.3 In our southern FIR, unknown traffics fly between Taipei and Manila FIR or between Taipei and Hong Kong FIR.

2. INFORMATION

2.1 Unknown traffic may enter Taipei FIR from adjacent FIRs:

(1) To and from Fukuoka FIR

(2) To and from Shanghai FIR accessing Senkaku/Diaoyutai Islands
(3) Group of flights around the Senkaku/Diaoyutai islands
(4) Traffic to/from Hong Kong FIR or Manila FIR

2.2 In recent years, although Taipei ACC has taken measures to avoid convergences, conflicts between unknown traffic and civilian aircrafts constantly happen. There are cases of TCAS RA like ANA8445 around 123° E, PAC237 at 90 NE of APU, KAL660 at 50 E of HCN and so on. More cases were properly prevented due to ATC's early actions, for example EVA6288 20 S of POTIB (the boundary fix between Taipei and Manila) and more, which were off the record.

2.3 Both of unknown and civilian air movements steadily increase every year in our airspace. So if the trends hold, the air safety in this airspace will be at stake. However, some actions should be taken to mitigate the risk. One of the most effective ways is to apply point out procedures to adjacent FIR.

3. ACTION BY THE MEETING

3.1 The meeting is invited to note the information and bring in comments from member states to mitigate the risk induced by unknown traffic.

IP4

THE EIGHTH MEETING OF THE INFORMAL EAST ASIA AIR TRAFFIC MANAGEMENT COORDINATION GROUP (EATMCG/8)

(Hong Kong, China, 21 - 22 May 2015)

Agenda Item 4

The outcome of the common report forms for ATFM in East Asia from 2012 to 2014

(Presented by JCAB)

SUMMARY

This paper presents the outcome of the common report forms for ATFM in East Asia which was agreed among EATMCG members in EATMCG/6 and amended some contents in EATMCG/7. Since the reports for 3 years have been tallied up, they are shown with being compared to each year.

1. Introduction

1.1 JCAB proposed the rules to collect and share the traffic data with EATMCG members in the 6th meeting. All members recognized its importance and utility to enhance the mutual understanding and agreed to the proposal.

1.2 In the 7th meeting, EATMCG members discussed the original form and concluded some contents were to be improved in order to make them more effective and practical for the analysis of air traffic flow management.

1.3 Now that the data has piled up for 3 years, ATMC provides the outcome with comparing those data.

2. Discussion

2.1 As mentioned above, the common report form has revised after the 7th meeting and applied new one from this meeting, however, it seems to be still room for

improvement to make it more useful and more compact. Furthermore, EATMCG members should reconfirm the definition of the number in some particular items. Also some figures in particular items are somewhat obscure to fill in. In addition, a few blanks are shown in the report. It must be some reasons for it. If needed, some items are to be revised.

(*see attachment 3)

2.2 According to attachment 1 and attachment 2, it can be recognized that air traffic passing FIR boundary steadily increases year by year. Especially, the air traffic growth on A1, B576 and M750 are remarkable.

2.3 As for major airports, traffics of all airports (exc. RPLL because of no data) have increased from 5% to 7% compared 2014 to 2013.

2.4 In order to recognize the circumstances of each state concerned, this scheme should be continued forward. Such information sharing would lead to the next stage of effective international ATFM.

IP 5

THE EIGHTH MEETING OF THE INFORMAL EAST ASIA AIR TRAFFIC MANAGEMENT COORDINATION GROUP (EATMCG/8)

(Hong Kong, 21 – 22 May 2015)

Agenda Item 4

Reviews on Flow Control Tactics for RCTP Single Runway Operation and Regional Hubs in Asia

(Presented by Taipei)

This paper reviews the flow control procedures for RCTP single runway operations this year and for neighbouring ACCs to deal with their difficulties.

5. INTRODUCTION

Taiwan Taoyuan International Airport (RCTP) is reconstructing Runway 05L/23R, estimated to be accomplished by January 7, 2016 according to NOTAM A0148/15. CAA has been watching and working with Taoyuan Airport Corporation closely for runway repair plan and will keep the upstream ACCs informed the most updated information of runway re-open schedule.

6. REVIEWS ON ESTABLISHING FLOW CONTROL PROCEDURES FOR RCTP

6.1 As a regard to the appeal from the adjacent FIRs to improve our flow control procedures for RCTP single runway operations, Taipei would like to share you how we review the history data, learn from previous experience of single runway operations and adopt neighbouring ACCs' suggestions to establish current flow control procedures.

6.2 RCTP runway capacity drops because of this single runway operation. Appropriate flow control measures balance between waiting time and fuel cost by holding aircrafts on the ground or in the air, and alleviate ATC workload in the meantime. That's unquestionably a task of wisdom and knowledge.

Receiving experiences from previous flow control procedures for runway 05R/23L last year and inputs from neighbouring ACCs in

EATMCG 7, this year we implement new flow control measures to minimize impact on upstream FIRs. The following flow control pattern is executing for the single runway operation:

Separation on individual TFC basis as follows:

1. BULAN

   At Least 30NM BTN 0200-0700

   At Least 40NM BTN 1030-1400

2. SALMI

   At Least 30NM BTN 1030-1400

3. ENVAR

   BTN 0230-0700

   A. DEP from VHHH, At Least 40NM

   B. DEP from VMMC, At Least 60NM

   C. Transit VHHH Destination RCTP, At Least 10 MIN OR 80NM

   BTN 1030-1400

   A. DEP from VHHH, AT Least 60NM

   B. DEP from VMMC, At Least 80NM

   C. Transit VHHH Destination RCTP, At Least 10 MIN OR 80NM

4. KAPLI

   At Least 30NM BTN 0200-0700

   At Least 30NM BTN 1030-1400

5. SULEM AND KASKA

   At least 50 NM BTN 0200-0700

   At least 50 NM BTN 1030-1400

6. POTIB

   BTN 0700-1400

   A: DEP from MANILA, At Least 8 MIN OR 60NM

   B: Transit MANILA Destination RCTP, At Least 8 MIN OR 60NM

   C: BTN DEP from MANILA AND Transit MANILA Destination RCTP, At Least 4 MIN OR 30NM.

(1) There’re couple differences compared with the tactics used last year:

1. Time frames

(2) Last year: 0230-0500UTC and 0500-1400UTC
This year: 0200-0700UTC and 1030-1400UTC
(There is a break between 0700-1030UTC)

2. For POTIB inbound:

(1) Last year: at least 8 MIN or 60NM between 0230-1400UTC

(2) This year: between 0700-1400UTC

A: DEP from MANILA, At Least 8 MIN or 60NM

B: Transit MANILA Destination RCTP, At least 8 MIN OR 60NM

C: BTN DEP from MANILA AND Transit MANILA Destination RCTP, At Least 4 MIN OR 30NM.

3. FLOW CONTROL ON REGIONAL HUBS IN ASIA

3.1 Taipei ACC acts as the coordinator when neighbouring ACCs carry out flow control for mega hubs, namely VHHH, RKSI, VTBS and RJAA, due to adverse weather, heavy traffic or FOD on runway, etc.

3.2 Among those, flow controls from VHHH are most frequent. In recent years, Hong Kong has been undergoing moves of reform to shape their work into a logical and efficient format (ref. the EATMCG 7 Task List Item 7.1 for this meeting).

3.3 In term of geographical position, Taipei is in the middle of all sorts of flow control events. Coordination for flow control with upstream ACCs becomes more and more important. Taipei would like to take this opportunity to present Taipei's flow control strategies to cope with different flow control scenarios. Taipei would also encourage open discussion to stretch scope and then facilitate mutual understanding on how Taipei and other ACCs help solve neighbouring ACCs' difficulties, and hopefully to share methods of setting flow control with one another.

IP 6

THE 8th MEETING OF THE INFORMAL EAST ASIA AIR TRAFFIC MANAGEMENT COORDINATION GROUP(EATMCG/8)

(Hong Kong, 21-22 May 2015)

Agenda Item 3

The Result of Traffic Flow Dispersion and Improvement for B576

(Presented by Republic of Korea)

SUMMARY

This paper presents to share the result of traffic flow dispersion and improvement for aircraft which is departed from south-east Asia region to Incheon FIR after 18th Sep. 2014, which was agreed among 3 nations at EATMCG/7.

1. INTRODUCTION

1.1 Japan, Taiwan and Korea at EATMCG/7 agreed that the need of any solution has arisen for traffic increase which is departed from south-east Asia region to Incheon FIR in the morning time.

1.2 In order to make an efficient flow management and safety enhancement, 3 nations reached an agreement to disperse traffic which flies via POTIB to Incheon FIR in the morning time zone as of 18th Sep. 2014. The consents are as follows;

- Application : aircraft which flies via POTIB to Incheon FIR.
- Time Zone: 1930~2200 UTC (RUGMA)
- Air route : POTIB – M646 – HCN – B591 – TINHO – L2 – KUDOS – M750 – MOLKA – MAMOD – Z40 – IGMON – Z401 – POTET - RUGMA

- Separation : 20NM on Z401
- Altitude : FL330, FL350, FL370, FL410 (FL270 is only available after coordination)

2. RESULT SHARING

2.1 As a result of the statistical analysis, traffic congestion was dramatically resolved at ATOTI, which leads to improve aviation safety. Past ATOTI traffic was divided into 2 points (ATOTI: 70%, RUGMA: 30%).

2.2 By applying traffic dispersion during morning time zone, it made aircraft fly at more economical altitude and improve operation efficiency. It also contributed to facilitate air traffic flow even if traffic volume has been increasing.

2.3 After meeting, Incheon ACC coordinated with military authority for using short-cut (RUGMA-OSPOT) only during morning time. Consequently, Incheon ACC could make fast and safe short-cut in Incheon FIR.

3. CONCLUSION

3.1 We appreciate the cooperation of EATMCG members solving traffic congestion at ATOTI. Especially, we are very thankful to Japan and Taiwan’s close coordination for this project.

3.2 We expect EATMCG meeting would greatly contribute to safety and development in East Asia through close coordination among members.

IP 7

THE EIGHTH MEETING OF THE INFORMAL EAST ASIA AIR TRAFFIC MANAGEMENT COORDINATION GROUP (EATMCG/8)

(Hong Kong, China, 21-22 May 2015)

Agenda Item 5

ARRANGEMENT AFFECTING ADJACENT FIRs DURING CUTOVER OF HONG KONG ATC OPERATIONS

Presented by Hong Kong, China

1. INTRODUCTION

1.1 In an effort to manage the increasing regional demand for air navigation service, Hong Kong CAD has launched several initiatives in upgrading the civil aviation infrastructure. One important project is the replacement of air traffic control systems. The scope of the project consists of renewal of all ATC and supporting equipment and relocation of operation facilities namely Aeronautical Information Management Centre (AIMC), Aeronautical Communications Centre (ANC), Air Traffic Control Centre (ATCC), Aerodrome Control Tower (Tower) and Rescue Coordination Centre.

1.2 The target implementation date of the core system - Air Traffic Management System (ATMS) in the new ATCC and Tower is mid-2016, whereas new AIMC and ANC are scheduled to commence operation in late 2015.

1.3 A detailed cutover plan has been worked out to ensure a safe and orderly flow of air traffic will be maintained during the implementation of the replacement ATC systems and the transition of ATC operations to the new facilities.

2. ARRANGEMENT TO SUPPORT CUTOVER OF HONG KONG ATC OPERATION

2.1 ATC Communication Networks – The major communication networks supporting inter Area Control Centre (ACC) coordination include Inter Area Speech Circuit (IASC), ATS Inter-Facility Data-Link Communication (AIDC) and telephone lines. The switchover of these networks may interrupt the data / information flow. ATC operation needs to be safeguarded.

2.1.1 IASC is the most frequently used direct communication network between ACCs. The switching of the IASC network will be conducted internally and should be transparent to counterparts during the cutover of Hong Kong ATC operations.

2.1.2 AIDC between Hong Kong and Taipei ACC and between Hong Kong and Sanya ACC has been in operation. The technical arrangement for testing and switching over of the AIDC network will be discussed upon completion of the System Integration Test (tentatively scheduled for early August 2015) of the ATMS. During ATC operations cutover, AIDC networks will be patched to the new ATC facilities. To minimize the risk of data loss in the switchover process, AIDC operation may be suspended for a defined period before and after cutover. Without AIDC, all flight transfer messages will be coordinated verbally via IASC.

2.1.3 Telephone lines serve as an effective means of coordination between ACCs. Similar to IASC, the switching of telephone lines will be performed internally and should be transparent to outsiders. The telephone numbers of HK ATCC and Tower remain unchanged.

2.2 Regulating Traffic Flow Entering Hong Kong FIR During Cutover Period

2.2.1 Despite ATC operations cutover is a carefully planned event, given the fact that operational colleagues, though provided with conversion training, have only limited experience on the new equipment/systems, there is a genuine

need to cater for any unexpected issue in the cutover process particularly in the initial stage of the new operation. To guard against unexpected surge of traffic, appropriate air traffic flow measures will be imposed. ATC operations after cutover will be closely monitored and the traffic regulating measures will be constantly reviewed. It is envisaged that such safeguarding measures can be removed approximately one month after cutover.

2.2.2 Traffic operating at Hong Kong International Airport (HKIA) – Tactical Air Traffic Flow Management (ATFM) measures will be introduced to regulate the traffic volume at HKIA. The hourly Runway Acceptance Rate will be suitably adjusted during the initial cutover period. However, the total daily flight movements would not be reduced. HKIA flight movements would be regulated by one of the following measures.

2.2.2.1 Application of Calculated Take-off Time (CTOT) – CTOT will be assigned to all flights to and from HKIA. The concerned flights would be delayed on ground, as necessary. Operators will be briefed on the CTOT mechanism and the significance of their cooperation to adhere to the assigned CTOT.

2.2.2.2 Imposing ATFM Measure on HKIA arrivals and departures – In order to minimize the impact of flow control on upstream FIRs, all flow controls will be tailor-made. In general, the flow interval at the FIR transfer point is determined by traffic frequency of the point. The higher the traffic frequency, the smaller will be the flow interval. The detailed flow measures will be released to ACCs concerned as soon as possible to ensure sufficient response time available.

2.2.3 Traffic transiting Hong Kong to and from Macao International Airport – These flights will be regulated by Fflow measure as mentioned in paragraph 2.2.2, ii.

2.2.4 Traffic transiting Hong Kong FIR – Flow measures for these overflights aim at adjusting the amount of traffic entering Hong Kong FIR in a manageable manner. Adjacent ACCs will be requested to hand-off traffic at 15 to 20 NM in trail. Controllers would have sufficient time to handle flights entering their ATC sectors from multiple transfer (traffic handoff) points.

3. CONCULSION

3.1 Hong Kong CAD endeavours to provide safe, orderly and expeditious Air Traffic Services under all circumstances. The switchover of ATC operations may affect adjacent ACCs to a certain extent. The understanding and support from all working counterparts are essential for the successful implementation of new ATC systems in Hong Kong.

4. ACTION BY THE MEETING

4.1 The meeting is invited

4.1.1 to note the information provided on this paper.

4.1.2 to actively participate in the discussion of HK ATC operation cutover related issues affecting adjacent ACCs in future.