出國報告（ 出國類別:會議 ）

非正式東亞管制作業協調會議

服務機關:民用航空局 飛航服務總臺

姓名職稱: 林正宗　主任管制員

王妍方　管制員

派赴國家: 日本東京

出國期間: 105 年 6 月 26 日至 29 日

報告日期: 105 年 8 月 25 日

提要表

計畫編號	FSFT-CAA-105-8-5			
計畫名稱	非正式東亞管制作業協調會議			
報告名稱	非正式東亞管制作業協調會議			
出國人員	姓名	服務單位	職稱	職等
	林正宗	飛航服務總臺	主任管制員	薦任八職等
	王妍方	飛航服務總臺	管制員	薦任七職等
出國地區	日本東京			
參訪機關				
出國類別	□實習（訓練） ■其他（□研討會 ■會議 □考察、觀摩、參訪）			
出國期間	105 年 6 月 26 日至 29 日			
報告日期	105 年 8 月 25 日			
關鍵詞	East Asia Air Traffic Management Coordination Group (EATMCG)			
報告書頁數	19			
報告內容摘要	East Asia Air Traffic Management Coordination Group (EATMCG)會議於 105 年 6 月 27 至 29 日於東京舉行，會議中針對建立 B576 平行航路、分散 B576 航路夜間航行壅塞分流及夜間東北向分流方案進行多方的討論，另外 Japan Civil Aviation Bureau (JCAB)於會中提出想邀請 EATMCG 會員國參與 Northeast-Asia Regional ATFM Harmonization Group (NARAHG)會議，結合東亞及東北亞共同討論區域 Air Traffic Flow Management (ATFM)議題。			

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壹、 目的

非正式東亞飛航管制作業協調會(The East Asia Air Traffic Management Coordination Group, EATMCG) 是臺北飛航情報區與相關鄰區航管作業的協商平臺，此次第九次會議(EATMCG 9)由日本主辦，會議於 105 年 6 月 27 日至 29 日於東京 MIELPARQUE HOTEL 舉行，與會的國家除了臺灣以外，還有香港、日本、韓國及菲律賓，由於我國不是國際民航組織(ICAO)成員，於是 EATMCG 會議便成為臺北飛航情報區與鄰區協調溝通之重要平台，近年來區域航行量與日俱增，航管區域整合及作業協調日益頻繁與緊密，臺北飛航情報區處於東亞關鍵位置，所有的整合動作都必須透過這平台來完成，不僅對本區的航管作業帶來效率，也能為東亞年年增長的航行量尋找到有效的解決方案，持續參與這個會議使其朝對我方有利的方向推動，是本區重要的工作。

此次 EATMCG 會議臺北區域管制中心針對本區尖峰時段的航行狀況，提出了兩項的分流的措施，影響的層面會包含香港、日本及韓國等鄰區，其中並包含了在日本及我國境內建立一條全新的航路，這是本區繼在 EATMCG7 會議中成功說服日本及韓國在其境內建立夜間分流的 Z401 航路後，再次提出建立新航路的要求，提案如果通過，將會對區域運作有顯著的貢獻。

另外，日本及韓國此次均提案建立 B576 航路平行航路，也是此次會議的重頭戲，事實上也與本區預計於 11 月 10 日實施的 Q11 航路是可以結合的，在會議當中及 SIDE BAR MEETING 都有熱烈的討論及互動。

貳、　行程

一、會議說明

這次我方代表包含民航局航管組薛副組長少怡、張技正涵妁及總臺臺北區域管制中心李副主任嘉玉、督導林正宗及崔曉梅、協調員王妍方及龍美琪;總臺除林正宗、崔曉梅及王妍方使用公費外,為經驗傳承,李嘉玉、龍美琪均自費參加。大會合計共有 40 多位各國的代表與會參與討論，本次會議計有 12 個 working paper 及 10 個 information paper，先以報告去年 5 月在香港舉辦的 EATMCG8 會議留下的未決議題開始進行，由 IFATCA 亞太 EVP John Wagstaff 主持，正式會議加上會中的 side bar meeting，整個議程進行的節奏非常緊湊。

參與會議的我方代表

誠如前言，本次的會議是以我方提出的兩個分流計畫及建立 B576 平行航路為此次會議的重點，會議主席 John Wagstaff 是多年合作的夥伴，也熟知 EATMCG 會議運作的模式，也就是以會議為表述，再以 side bar meeting 作面對面的討論及規劃，除了可以你來我往，暢所欲

言外，最重要的是可使用紙本圖表攤開來作細部研討，在會議進行當中就可以達成共識、時程及工作項目，會議進行得非常有效率。

以下是三天會議的議程:

Monday 27 June	
0830-0900	Registration
0900-0930	**Opening Addresses**
0930-1030	Session 1 **Adoption of Agenda** **Review of EATMCG/8 and Recent 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
Tuesday 28 June	
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**

Wednesday 29 June	
0900-1030	**Review Draft Meeting Report**
1030-1100	Morning Break
1100-1130	**Review Task List** **EATMCG / 10 Arrangements**
1130-1200	**Closing Remarks**

此次會議幾乎每一項議題都與本區有關，接下來將針對議題的內容及討論作說明。

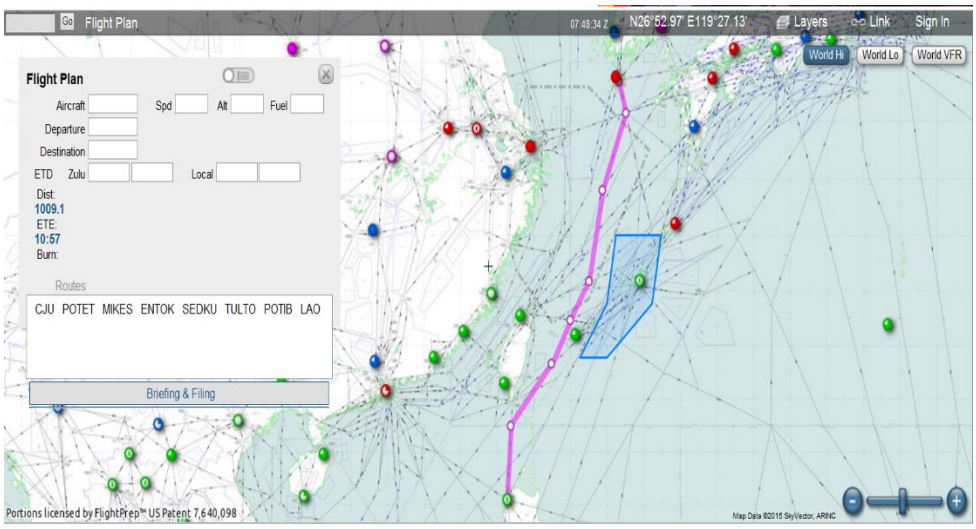
二、紓解 B576 航路西南向 1200-1600UTC 壅塞航情分流計畫

有鑑於 B576 航路航行量持續增長，加上近年來大量航情由上海飛航情報區經由 R596 航路匯入 B576 航路，致使航路交會點 BERBA 衝突頻繁，這批西南向航情數量龐大，同時造成與 A1 航路航機在 APU 的衝突，因此作業難度很高，更不用提天氣偏航時的狀況，分流就成了唯一且必要的解決方案。

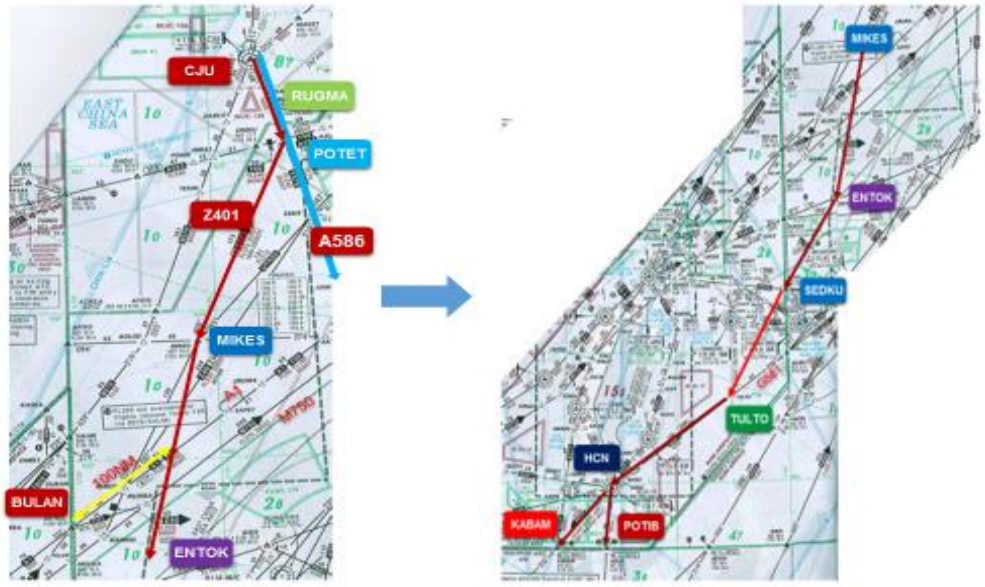
此外，仁川區域管制中心曾在去年 EATMCG 8 會議提議，希望能取消本區要求的 60 浬隔離限制，雖然當時加以拒絕，但我方仍持續構想可行的解決方案，除能夠紓解 B576 航路航情壅塞，還能增進空域的有效運用，更有機會減低仁川區域管制中心需執行 60 浬隔離限制的壓力，創造雙贏的局面。

我方藉由本次會議提出一個紓解 B576 流量的計畫，主要的目的是針對 1200 至 1600 UTC 經由 B576 航路進入本區的西南向過境航機進行

分流，並以航空公司成本效益及善用航行量較少的空域為考量原則。



我方建議航路**示意圖**



我方建議航路**細分圖**

顯而易見的，將部分 B576 航路航機從仁川 FIR 境內 RUGMA 這點開始分流進入福岡 FIR 是最具效益的選項。RUGMA 之後接續的航路只有 A586 航路或 Z401 航路，但考量繞道 A586 航路航程多出太多，不符航空公司成本效益，因此分流至 Z401 航路應是唯一的選擇。

接續 Z401 航路南下通過 MIKES，我方提議建置一個 Conditional Route

(CDR)，從 MIKES – ENTOK – SEDKU - TULTO (67NM west of IGURU on 123°E)去加入 G581 航路，理由如下:

1. MIKES-ENTOK 與航路 A1 的交會點離 BULAN 約 100 海浬，福岡區域管制中心有較充裕時間處理衝突。
2. ENTOK 與 BORDO(R583 航路)有 57 海浬的距離，能避免與本區由 BORDO 出管的航機產生衝突。
3. SEDKU 航行量少，有可利用空間。
4. SEDKU-TULTO 路徑較短，可節省航空成本。
5. 此新路徑航程與原航路幾乎相等，我方如有機會協調使用軍方空域時，航程還可再得以縮減。

為紓解 B576 西南向航情壅塞，綜整本區的提議如下:

1. 分流路徑：CJU RUGMA POTET MIKES ENTOK SEDKU TULTO HCN POTIB/KABAM
2. 實施時段：1200-1600 UTC (按 SALMI 過點時間)
3. 限制西南向航機使用
4. 限制由韓國起飛且過境臺北由 KABAM 及 POTIB 出管航機使用
5. 使用空層：FL320、340、360、380 及 400

我方、韓國及日本三方代表針對上述議題在 SIDE BAR MEETING 進行延伸討論，透過充分詳細的溝通，傳達各方的想法、底限與顧忌，不僅要讓韓國了解接受此方案的確對其作業有所助益外，最重要的是能夠讓日本接受此方案，但是會增加福岡區域管制中心的作業難度，因此這個提案的困難度很高，日本會排斥這個提案是可以預期的。

韓國代表反映，對於建立此航路表示歡迎，但是對於同高度航機我方要求 60 浬隔離的限制仍需保留部分有所疑慮(因為我方在 KABAM 及 POTIB 這兩個與馬尼拉這兩個交管點是採用 10 分鐘或以上的前後隔離)，因為仁川與福岡間已有 RUGMA 以 15-20 浬的交接協議，韓國對航機改道從 RUGMA 由 SEDKU 過境臺北這部分，表示需要時間評估此分流計畫對於仁川飛航情報區整體作業效益再予答覆，但我方評估韓國接受的可能性是比較高，因為 60 海浬的限制不管在 B576 或新航路上都是一樣，分二條路走，航機不必塞在 B576 上，不管高度安排或前後隔離的建立都會容易一些。事實上這個方案主要是紓解韓國與我方 B576 航路作業的困難，真正困難的是在說服日本，原因如下:

1. 因為新航路是在日本境內，這條航路穿越了 A1、M750 及 R583 三條主要航路。
2. 跨越了福岡及那霸二個區域管制中心。
3. 航路亦可能穿越日本軍方的訓練空域。
4. SEDKU-TULTO 段位於 123 及 124 東經之間，雖在我飛航情報內，但卻在日本防空識別區內，並且穿越日本 Yonagumi 及 Ishigaki 等小島上空。

與鄰區討論航路規劃

對此提案，日本在會議上表示反對，指出此航路會造成 A1 航路同高度的衝突，於是在 SIDE BAR MEETING 討論時，我方採取的策略是認同日本在此方案所面臨的困難，再運用不管臺灣、韓國甚至日本都肯定 B576 的壅塞問題是區域共同的問題的前提去說明，我方所提出來的方案以距離而言與原航路無異，不會造成航空公司額外的成本，又利用到 SEDKU 這塊航行量少的空域，已經是目前最好的方案了，日本今年可以拒絕此方案，我方可以理解，但是問題依然存在也無法逃避，日本有責任提出更好的方案，否則過兩年當 B576 航路問題更形嚴重時，我方及韓國還是會再對日本施壓。

與日方代表討論溝通

有趣的是，原本白天會場上持反對的日本 JCAB 及福岡區域管制中心的代表，卻在當天晚上由日本管制員協會舉行的歡迎餐會上，一改其態度表示願意有條件接受我方的提案，條件是臺灣必須與日本進行第二階段 AIDC 作業，實施 TOC(Transfer of Control)及 AOC(Acceptance of Control)兩項報文的交換，以取代人工的 hand off 作業，先減輕管制員的工作壓力，再實施新的航路方案。

真是意外的驚喜，實施 TOC 及 AOC 兩項報文的交換，以取代人工的 hand off 作業本來就是本區既定的目標，只是礙於雙方格式不同才延後實施，由於日本所提的條件較容易處理，且對雙方都有利，有機會於明年達成，於是我方欣然同意日本的建議方案(有關 AIDC 議題於後續說明)。

不過，新航路會經過的空域可能涉及日本軍方空域，雖然 JCAB 初步表示同意，但是日本軍方的變數還是要繼續觀察，除此之外我方還是會再與韓國確認後逐步進行此方案。

三、夜間 ENVAR 主要流量分流至 KAPLI-HCN-IGURU 計畫

本區提議針對夜間 1700-2200 UTC，將 ENVAR 進入本區往日本的航機分流至 KAPLI 以紓解 M750 航路壅擠航情，並達到空域平衡的效益。

此提議的背景是臺北飛航情報區處於東北亞與東南亞間的樞紐位置，夜間有龐大數量的東北向航機前往日本及韓國，所有航情匯集於本區，造成管制員夜間作業極大壓力。為了改善往韓國的航情壅擠，使夜間三條航路匯集流量單純集中在兩條航路 M750 及 M646，以降低 TNN 衝突情形，於是第一階段臺北在數年前限制香港夜間不能由 KAPLI 進管航機，除非航機目的地為臺北或通過 HCN 從 IGURU 出管，此措施稍微緩解了臺北境內衝突頻繁的困境，但整體的航情壅塞情況仍有待改善。

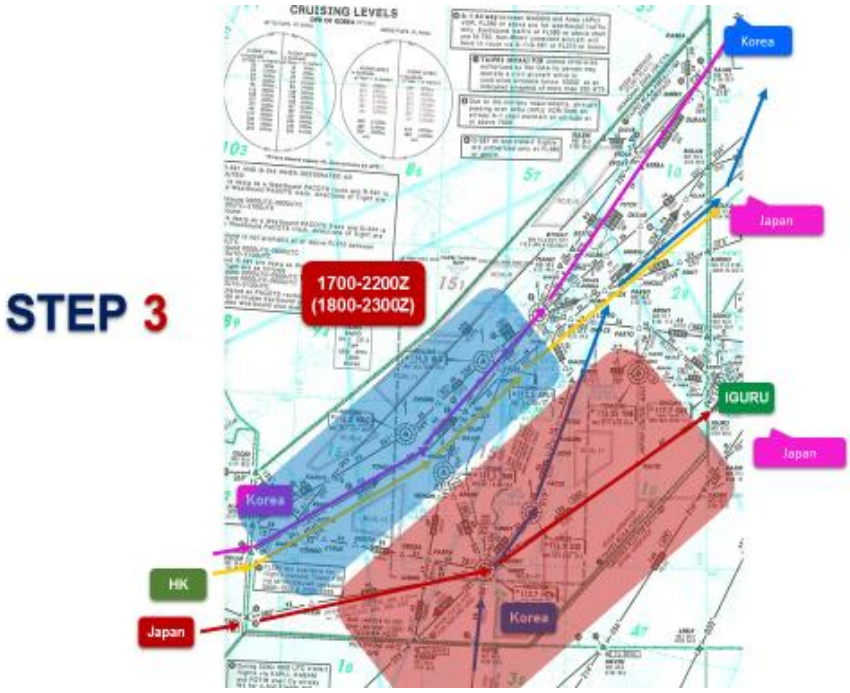
再經過三年的努力，CDR Z401 於兩年前正式實施，成功紓解 B576 航線之壅塞且成效卓越，但近年來往日本的航機也持續增加，尤其夜間廉價航空架次成長特別明顯，香港區域管制中心為了應付夜間於 ENVAR 的大量航情也採取了上下空層分席管制措施。

至於在臺北飛航情報區內，由於航機數量龐大且集中，此時段單一管制員常需管制大量的過境航機，面臨繁重的工作量、無線電擁擠以及航機頻繁要求較好的巡航高度等困難，而由於航情壅塞導致衝突風險增加，顯示出改善 M750 航路航情壅塞成為臺北飛航情報區夜間面臨的挑戰。鑒於於 Z401 分流 B576 航路的成功經驗，研擬將往日本、韓國的航機再分流應是最好的策略，因此本區提議如下：

1. 過境香港往日本的航機改航路 KAPLI-G86-HCN-G581-IGURU
2. 過境香港往韓國的航機航行 ENVAR M750
3. 香港起飛的航機航行 ENVAR M750

本區規劃過境香港往日本航機改走 KAPLI 的理由如下：

1. KAPLI-HCN-IGURU 路段在日間時段已是日本航機往來東南亞間頻繁使用的航路，航機在夜間航行應該是很合理的。
2. 分流後航機密度稀釋了，航機普遍可以得到較好的巡航高度，能彌補增加的航程成本。
3. 此方案實施後，臺北 FIR 空域東西部流量趨於平衡，便可以在臺北區管中心人力較充足時，進行夜間分席措施，以提升飛航安全及航管服務品質。
4. 增加了空域的整體容量，可以面對未來航行量的增長。



ENVAR 分流至 KAPLI 規劃圖

SIDE BAR MEETING 討論

我方邀請香港及日本代表針對上述議題進行討論，香港代表對本區的提案無異議，但要求釋出 KAPLI 更多高度以滿足改航路後航情增加的需要；日本則提出改航路經 IGURU 往日本增加的航程及時間太多，不

會被航空公司接受。我方表示理解日本的考量，但應將飛航安全及管制員的工作量負荷情況加以考量，本區可依據航情分流狀況開設席位，以提供航空公司更有效益的服務。

另外我方也提出資料顯示依目的地機場的不同,所增加的航程為 20 至 50 海浬不等，並不如日本想像得那麼多，而且由 IGURU 出管航機可以得到最理想的巡航高度，也可以幫航空公司節省油料。

同時，我方也對日本表示，臺北飛航情報區在夜間這個時段的密集航行量，過度集中於 M750 是必須解決的問題，我方必須做風險控管，此項在臺北飛航情報區空域內分流的方案是勢在必行的，我方會提供更多的資料給日本確認，使計畫在適當的時機實施。

同時 IFATCA 亞太 EVP John Wagstaff 也認同我方的看法，航管規劃是以作業安全為最主要考量，航空公司的利益在航管規劃時是會放在較次要的順位。

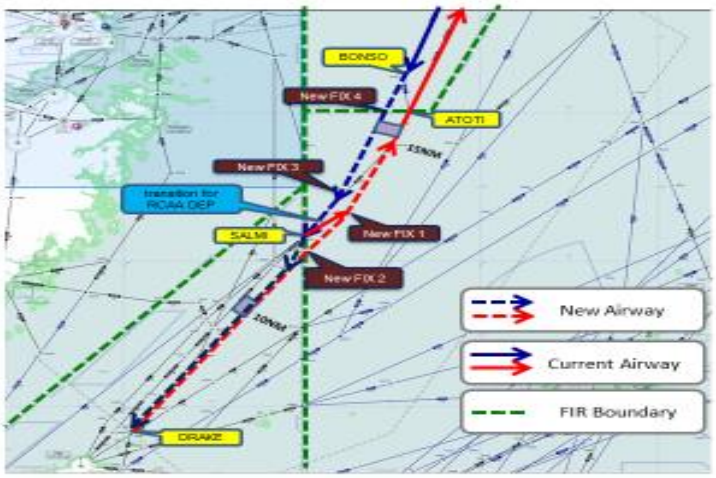
四、B576 平行航路的建立討論

B576 平行航路的建立已經討論了好些年了,韓國在幾年前就先行在其境內規劃了 Y711 及 Y722 兩條平行航路，這兩年 B576 航路航行量增長了不少，似乎已接近當初 A1 航路規劃 M750 平行航路的航行量，日本及韓國都在此次會議中提出 working paper，而且事實上他們雙方已經有建立航路的共識，只是臺北飛航情報區這一段該如何規劃需要與我們討論。剛好我們區內也在規劃 Q route，其中 Q11 也是採取平行於 B576 航路的方式規劃，只是由於由上海區域管制中心加入的航機造成 BERBA 的衝突，我方決定讓 Q11 為雙向航路，將 B576 航路留給到場航機使用。

整體歸納來說，在 SIDE BAR MEETING 討論時，由我方主持並經討論

後決定航路的規劃如下:

1. 航路南段部分由 B576 及 Q11 向東北延伸，北段的部分由 Y711 及 Y722 向西南延伸，會建立兩個交會點並形成平行航路。



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B576 平行航路示意圖

2. 本區離場東北向的航機由 SALMI 出管，再由 SALMI 定向東北向航路的轉折點，但是臺北區域管制中心應提供 SALMI 東北向與 Q11 航路東北向同高度航機之前後隔離。
3. 後續航路種類、命名、申請及時程都由 JCAB 負責統籌處理及協調臺灣與韓國。
4. 為建立平行航路，臺灣及韓國將各提供一邊境點位置，以作為航路建置的參考點。
5. 日、韓理解臺北飛航情報區 Q11 規劃將預計於 105 年 11 月 10 日先行實施，後續日、韓再以此作沿續的規劃。

五、日本及臺灣 AIDC 中 TOC/AOC 報文的交換

福岡飛航情報區與臺北飛航情報區的第一階段 AIDC 作業於民國 101

年就已開始實施，是航管作業重要的里程碑，減輕了雙方交接管作業的壓力，但後續第二階段 TOC/AOC 報文取代人工 hand off 的部分卻遇到雙方報文格式不符的情況，日本此次就是針對這個問題要求共同討論。

日本 JCAB 在報告中指出並證明其報文格式是符合 ICAO 文件要求，要求我方修改報文格式，經檢視後發現問題在於我方所使用的 ATM 系統是 THALES，其報文格式未符合 ICAO 文件要求，這個問題也同樣發生在上海、廣州及香港，於是我方運用談判技巧，以情勢分析日本與上海也將遭遇相同問題及我方購買 ATMS 備份系統、期中升級及新 AMHS 為由，表示短期將無法再撥預算去要求 THALES 修改程式，日本 JCAB 理解且於會議休息期間表示，會自行寫一個轉換程式解決格式的問題，不過他們需要我方告知如何在 AOC 沒有序列號碼的情況下，讓 AOC 與 TOC 配對，我方表示會把這個技術要求轉給 ATM 部門配合辦理。

至於我們與香港的測試雖然成功，但是香港知道格式不對並且計劃要求 Raytheon 修改，屆時格式不符的問題也會發生在臺北與香港之間。

另外我們與馬尼拉的測試發現，TOC/AOC 報文也發生格式不符的問題，馬尼拉的格式如同日本是符合 ICAO 的標準，因此我們事實上是必須自行修改格式符合 ICAO 標準才是解決之道，返臺我方與 THALES 討論後，決定向 THALES 提出修改格式的要求，如此便可以將 AIDC 作業與所有鄰區相結合，減輕航管作業壓力。

這個改變也已與通知日本 JCAB，日方表示歡迎，並靜候臺北的消息再作進一步測試。

六、臺北與福岡區管中心針對後機追前機同高度前後隔離協議書修訂

本議題是 EATMCG 會議的工項，在此次會議前雙方已經就隔離及文字內容進行多次的書信往來，利用本次會議做最後確認，主要修改的內容如下:

1. 後機追前機同高度前後隔離在 BULAN 及 MOLKA 為 30 海浬，在 SALMI 為 40 海浬，如為飛越臺北、香港情報區或是進入馬尼拉飛航情報區者為 70 海浬。
2. 允許雙方與接管航機後自行進行電碼的修改。
3. 非雷達作業的後機追前機同高度前後隔離及文字修改。

七、將 A1 及 M750 前後隔離由 20 海浬縮短為 15 海浬提議

本提案由福岡區域管制中心提出，事實上這個提案去年也曾提過，我方則以縮短後機追前機隔離作為增加容量的方法，獲得福岡區域管制中心及 JCAB 的同意，因此才修訂新版協議書。

但是今年福岡區域管制中心認為還是希望實行此方案以增加容量及作業彈性，我方則表示實際上雙方在作業面上使用 20 海浬前後隔離的機率是很低的，就其原因是航路雷達管制席位使用的雷達螢幕觀看的管制範圍都是在 220 海浬以上，如果是夜間席位合併時，更可以達到 570 海浬之遠，20 海浬甚至 15 海浬的距離在螢幕上看起來是非常的小的，管制員是很難以目測判斷到底是否有足夠的隔離，因此我方認為不宜實施。

同時我方與香港式採 30 海浬前後隔離，目前與日本所使用的 20 海浬隔離已經讓我方須採取更改部分航機高度的措施才能符合香港這端的 30 海浬隔離，縮短隔離為 15 海浬會讓本區作業更加困難。

日方得知我方與香港的隔離之後，便取消全面實施的想法，改要求

BULAN(A1 航路)落桃園及松山的航機及 MOLKA(M750 航路)往日本的航機使用此新隔離，我方表示需進行內部討論再作答覆。

為此，臺北區域管制中心經討論後認為目前無此強烈需要且作業規格無法配合，因此否決了日本的提議，但不排除未來部分實施的可能。

八、 臺灣桃園國際機場滑行道整建實施流管措施說明

臺北區域管制中心利用本次 EATMCG9 會議機會，向與會各國代表說明臺灣桃園機場跑道、滑行道整建工程進度及完工時程預計為 2019 年底，且雖然單一跑道流管已於去年底取消，目前正進行的滑行道整建，部分重要與跑道連接的滑行道如 N1、N2、NC、NE 關閉，致使航機落地後必須全跑道脫離，因此對跑道容量造成嚴重衝擊，施工期間因應跑道使用容量降低，在到場航情尖峰時段必需實施流量管制，臺北區域管制中心對此深切感謝各鄰區長期的配合及體諒，鄰區觀看我方提出的簡報及圖片後均表示理解。

九、 日本 JCAB 邀請 EATMCG 成員參與東北亞流量管理協調小組(NARAHG)會議

會議的主要報告及討論進行到最後時，日本 JCAB 提出聲明表示為促進東亞與北亞的空中交通管理，JCAB 想邀請臺灣等 EATMCG 會員國參加東北亞流量管理協調小組(NARAHG)會議。

NARAHG (Northeast-Asia Regional ATFM Harmonization Group)目前的會員國有中國、日本及韓國，去年 EATMCG8 會議中，JCAB 就曾聲明要將 NARAHG 的議題帶到 EATMCG 來討論，今年 JCAB 雖沒有提出任何東北亞的議題，但這個聲明確表示東北亞及東亞整個作業整合有機會進入下一個里程碑。

JCAB 表示 NARAHG 將於七月開會，如果大會同意將會發出邀請函給會員國，由於 NARAHG 每年會開二到三次會議，因此最快年底就會再次舉行會議，屆時我方或許有機會參加第二個航管體系的國際會議。

叁、心得與建議

一、此次 EATMCG9 我方提出的兩個夜間分流計畫，加上 B576 平行航路的建構，都是東亞航管整合的最佳表現，會議的成果豐碩，誠如 IFATCA 代表 John Wagstaff 所說，EATMCG 是他見過最有成效及效率的會議，經過這些年的耕耘，我方不斷地在 EATMCG 會議這個平台上與鄰區共同建立互信及互利，不僅為臺北飛航情報區爭取了作業的便利、增加空域容量、降低衝突提升飛航安全，也讓南從香港、北到日韓的整片區域的作業及容量提升，各國互利互榮，接下來還可能有 NARAHG 會議，亞洲日益增長的航行量都需要位於地理要衝的臺灣好好發揮自己的有利角色，為航空產業努力，也感激各級長官的持續支持。

二、2017 年 EATMCG 可能由臺灣舉辦，雖然我方已經舉辦過二次，但是整體的規劃、人力及預算都需要預作準備，屆時總臺臺北區域管制中心將全力配合民航局的規劃，努力達成任務，協助會議圓滿成功。

三、針對 NARAHG，如果我方受到邀請，將會是很值得雀躍的事，只是 NARAHG 每年會開二到三次會議，開會的地點必然是國外，相關會議的出國預算及人員安排後續均需要提早編列及規劃，以為因應。

四、有關延續去年 EATMCG8 出國報告的建議：

由於 EATMCG 會議主要議題都是直接關係到總臺臺北區域管制中心與相關鄰區各項作業，歷屆多由區管中心代表進行會談與互動，非常感謝民航局在出國預算及配額上給予的資源與協助；惟本會議為國際性會議，相關的事前準備、議題研究、溝通協調、談判人才的培養與訓練，會後

的追蹤及工作，都需要足夠的人手持續進行，尤其是談判人員，藉由一次次實際參與會議及上臺簡報，也是最直接且有效的培育方式，期待未來有機會增列 EATMCG 會議出國員額及預算。

肆、附錄

WP/2

EATMCG 9

27-29 June 2016

THE NINTH MEETING OF THE INFORMAL EAST ASIA AIR TRAFFIC MANAGEMENT COORDINATION GROUP (EATMCG/9)

Tokyo, Japan, 27 – 29 June 2016

Agenda Item 1

Review of EATMCG/8 Meeting

Presented by IFATCA

This paper provides a brief review of the EATMCG/8 Meeting held in Hong Kong, 21-22

1. Introduction

1.1 The Eighth Meeting of the East Asia ATM Coordination Group (EATMCG) was hosted by the Hong Kong Civil Aviation Department and Hong Kong Air Traffic Control Association in Hong Kong on 21 and 22 May 2015.

1.2 The meeting was attended by 32 delegates from Japan, the Philippines, South Korea and Hong Kong.

2. Discussion

2.1 Japan proposed a plan to reduce the spacing of traffic at certain transfer points with Incheon and Taipei FIRs. Taipei advised that due to separation requirements of some downstream FIRs, they were unable to consider this proposal. However a further proposal to establish new requirements for spacing between aircraft where the following is faster was discussed. Further coordination on this matter is planned.

2.2 Discussion on extending the operational hours of CDR Z401 and the availability of flight levels were inconclusive, but all parties agreed to give further consideration to these matters.

2.3 Japan requested the Philippines to review the FLOS on B462 to accommodate standard levels. The Philippines advised that the available flight levels on B462 are in accordance with the South China Sea FLOS/FLAS plan.

2.4 Hong Kong gave a presentation on the operational trial of the Distributed Multi-Nodal ATFM Network. The trial involves Australia, China (Sanya FIR), Hong Kong, Indonesia, Malaysia, Singapore, Thailand and Vietnam. The first part of the trial in mid-2015 will be a table-top exercise on the communication process and information flow. The next stage is planned for late 2015 and will be a series of capacity-demand exercises. The final phase is schedule for mid-2016 with the issuing of sample CTOTs with revisions and cancellations.

2.5 Japan provided information on the North Asia Region ATFM Harmonisation Group (NARAHG) Meeting. They suggested that the progress of the NARAHG and Distributed Multi-Nodal ATFM Network projects should on the agenda for future EATMCG Meetings.

2.6 Japan provided a summary of the analysis of the data submitted on the most recent Common Report Form on ATFM in East Asia. They requested States to provide additional data in future to enable them to provide more comprehensive data. It was noted that the extra information being requested may already available via the detailed traffic data for December that each State provides to ICAO for their record purposes.

3. Task List

3.1 The meeting updated the EATMCG Task List. After consideration eight items were deemed to be completed and were closed, and five new items were added to the list. (The Task List for EATMCG/9 is attached.)

TASK LIST FOR EATMCG/9

No.	Description	Responsibility	Remarks
5-1	Philippines to consider withdrawing use of FL360 on B462 for traffic to Fukuoka FIR	Philippines Japan	*Use of FL360 in accordance with South China Sea FLOS/FLAS. SCS MTFRG to review FLOS/FLAS.* ~~***ONGOING***~~ ***CLOSED***
6-3	Consider introduction of new radar handover procedures without verbal coordination through automated AIDC system	South Korea Japan Taiwan Hong Kong	*Japan confirms TOC/ AOC could be adopted with Taipei after system modification. Japan will update the test schedule and test plan to Taipei* ~~***ONGOING***~~ ***CLOSED***
7-1	Review proposal for Hong Kong to pass flow control information direct to Japan and South Korea	South Korea Japan Taiwan Hong Kong	*Superseded by NARAHG and Multi-Nodal ATFM Plans* ~~***ONGOING***~~ ***CLOSED***
7-2	Each POC will send the last year's common report form to all POC before 30 April each year by the attachment of email and Japan will collect and share the results	Japan Taiwan Hong Kong	*Forms submitted each year* ~~***ONGOING***~~ ***CLOSED***
7-3	Designate Hong Kong as liason between ICAO ATFM Steering Group and EATMCG to share ATFM development information	Hong Kong IFATCA	*Information provided at each EATMCG Meeting* ~~***ONGOING***~~ ***CLOSED***
7-4	FL320 on B576 should be fully released to Fukuoka ACC according to the conclusion of EATMCG/6	Japan Taiwan	*Fukuoka ACC will draft a new MoU and update it with Taipei* ~~***ONGOING***~~ ***CLOSED***

7-5	Notification of RCTP Runway Reconditioning Schedule and Relevant Procedure od Flow Control to be reviewed	Taiwan Japan	*Taiwan will revise ATFM plan to reduce airborne delays* ~~***ONGOING***~~ ***CLOSED***
7-6	The operation of CDR Z401	Japan, Taiwan South Korea	*Successfully implemented 18 September 2014* ~~***ONGOING***~~ ***CLOSED***
No.	**Description**	**Responsibility**	**Remarks**
8-1	Reduction of radar spacing at FIR transfer points BULAN, MOLKA and SALMI	Japan Taiwan	*LoAs to be amended* ***ONGOING***
8-2	FLOS on B462	Japan Philippines	*SCS MTFRG to review overall FLOS/FLAS plan* ***ONGOING***
8-3	Taipei to review Flow Control procedures required for single runway operations	Taiwan	*Review ATFM plan to reduce delays* ***ONGOING***
8-4	Use of revised ATFM Common Report Form	Japan	*Japan will resend new form to all users* ***ONGOING***
8-5	Analysis of International Air Traffic Flow Control measures	Japan	*Will review and discuss with States concerned.* ***ONGOING***

WP/2

EATMCG 9

27-29 June 2016

THE NINTH MEETING OF THE INFORMAL EAST ASIA AIR TRAFFIC MANAGEMENT COORDINATION GROUP (EATMCG/9)

Tokyo, Japan 27-29 June 2016

CNS Replacement Plan in Hong Kong, China and Proposed Re-designation of ATS Routes within Hong Kong FIR

Presented by Hong Kong, China

SUMMARY

This paper presents the CNS replacement plan in Hong Kong, China and the proposal for re-designation of ATS routes within Hong Kong FIR which form part of the Asia and Pacific (APAC) regional network of route structure.

1. INTRODUCTION

1.1 Most of the existing communications, navigation and surveillance (CNS) equipment have been in operation since 1996 before the commissioning of the Hong Kong International Airport. There is a need for a comprehensive planning on CNS replacement prior to the end of the normal equipment lifespan in order to sustain the continued growth of air traffic with minimal disruption to ATC operations.

1.2 Taking into consideration the advances in aviation technology, and with due consultation with the stakeholders in the industry, it is considered that some of the DVORs can be decommissioned given the widespread application of GPS and redundant inputs to the FMS. One of the DVORs (i.e. CH DVOR) which is tentatively targeted for decommissioning in 2017 is currently a significant point defining the conventional ATS routes within Hong Kong FIR which forms part of the APAC regional network.

2. DISCUSSION

Re-designation of ATS routes from conventional routes to performance-based navigation (PBN) routes

2.1 With the decommissioning of CH DVOR, all conventional ATS routes within Hong Kong FIR will be re-designated as PBN routes defined by waypoint coordinates. In accordance with Annex 11 Appendix 1, the preceding letter of the designator for the area navigation routes which form part of the regional networks of ATS routes has to be "L, M, N or P". In this connection, the ATS route designators will have to be revised.

2.2 The route re-designation will be limited within Hong Kong FIR initially. Subject to the readiness of other adjacent States, Hong Kong will coordinate with other States to extend the PBN routes outside Hong Kong FIR. The meeting is invited to review the possible impacts of the proposed re-designation of ATS routes on the APAC regional ATS route network.

2.3 Hong Kong will submit proposed amendment to BANP to ICAO in due course.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

a) note the information contained in this paper;

b) discuss the proposed changes to route designation stated in para 2.1 and review its impacts on the APAC regional ATS route network; and

c) discuss any relevant matters as appropriate.

THE NINTH MEETING OF THE INFORMAL EAST ASIA AIR TRAFFIC MANAGEMENT COORDINATION GROUP (EATMCG/9)

Tokyo, Japan, 27-29 June 2016

Agenda Item 2

MITIGATE CONGESTION ON B576 DURING 1200-1600 UTC BY A NEW ROUTE ASSIGNMENT FOR MANILA BOUND FLIGHTS FROM KOREA

(Presented by Taipei)

SUMMARY

This paper proposes a routing specific for Manila bound flights from Korea during 1200-1600 UTC. This improvement will not only resolve traffic congestion on B576, but also increase the effective use of airspace. The above-mentioned flows are required to fly CJU-RUGMA-POTET-MIKES-ENTOK-SEDKU-TULTO and to join ATS G581, then connect F/P route to KABAM or POTIB respectively.

1. INTRODUCTION

1.1. Statistics constantly shows an uprising trend of traffic volume on ATS B576. The establishment of ATS R596 and B591 which connect Mainland China and Taipei has deteriorated the situation by injecting more traffic onto the airway and also posed a major conflict fix, BERBA.

1.2. BERBA as the intersection of B576 and R596 has been an identified hotspot of incidents that lost standard separation. After deliberate evaluation considering the density of traffic volume and frequent conflicts at BERBA, Taipei is seeking solutions by looking into other space where can share the loading on B576, and would like to propose a new routing at the Meeting.

2. DISCUSSIONS

2.1. According to a proposal raised by Incheon ACC at EATMCG 8 meeting, Korea explained the difficulties of releasing A/C in their FIR under a 60-NM constraint made by Taipei. Though their proposal was declined by both Fukuoka ACC and Taipei ACC, Taipei keeps conceiving feasible solutions to fix the congestion on B576 faced by Incheon and Taipei FIR, and minimizing the impact of the above-mentioned constraint on Korea.

2.2. Taipei believes that there are two principles should be fulfilled when develop a new routing:

- Airlines cost effectiveness
- Utilizing airspace where traffic volume is light.

So we start to think about:

- RUGMA

- Z401
- The space between SEDKU and IGURU

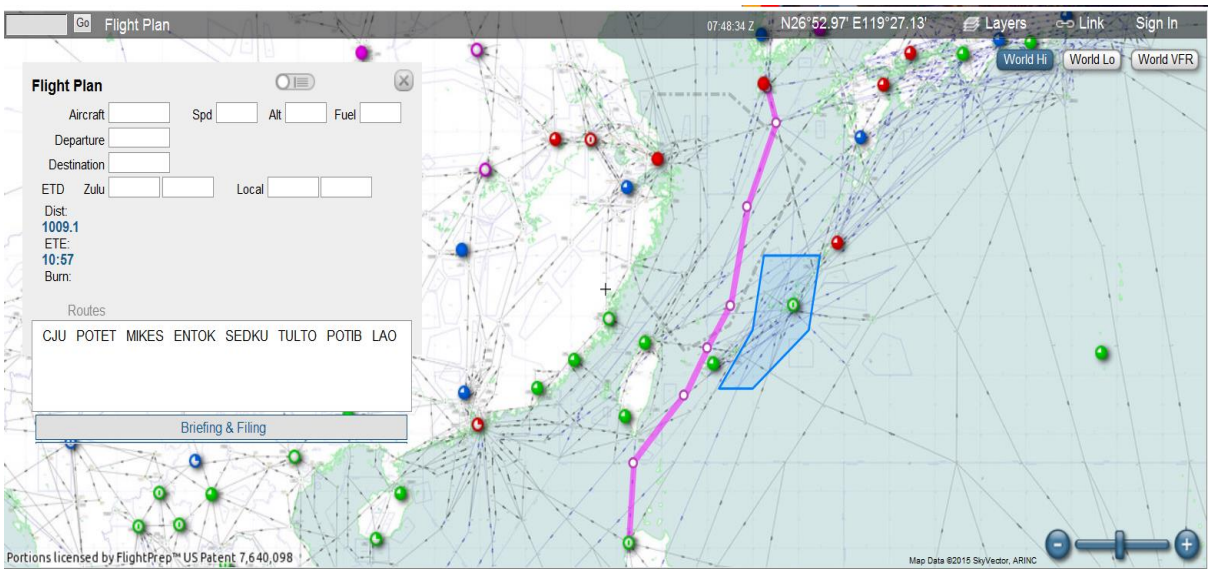
2.3. It seems so obvious that if some of B576 flights can detour via RUGMA to enter Fukuoka FIR is the most effective option. Then after RUGMA, the choices of downstream route are merely A586 or Z401. Taking A586 is too costly for airlines due to much longer distance, and which will make Z401 the only option.

2.4. Following Z401 down south and after MIKES, Taipei proposes to build a CDR, from MIKES-ENTOK-SEDKU-TULTO (67NM west of IGURU on 123°E). The reasons are:

- MIKES-ENTOK will cross A1 at farther distance from BULAN to provide enough lead time for Fukuoka to respond conflicts.
- ENTOK: provide sufficient distance from BORDO (R583) to eliminate conflicts from Taipei traffic.
- SEDKU: where has few traffic volume, implying capacity should be used.
- SEDKU-TULTO: shorter route to save airlines cost

2.5. To summarize, the overall proposal is:

- Routing: CJU RUGMA POTET MIKES ENTOK SEDKU TULTO HCN POTIB/KABAM
- Daily period: 1200-1600UTC (on the basis of SALMI time)
- Southeast bound only
- Only available for traffic from Korea and vacate Taipei FIR via KABAM and POTIB
- FLAS: FL320, 340, 360, 380, 400



2.6. The distances of original and new routings are almost exactly the same. The 60-NM restriction on Incheon FIR and the congestion of B576 are eased.

3. ACTION BY THE MEETING

3.1 The meeting is invited to discuss the proposal among concerned states.

– End –

THE NINTH MEETING OF THE INFORMAL EAST ASIA AIR TRAFFIC MANAGEMENT COORDINATION GROUP (EATMCG/9)

Tokyo, Japan 27 – 29 June 2016

Agenda Item 2

Dispersing ENVAR major flow to KAPLI - HCN - IGURU

(Presented by Taipei)

This paper presents the improvement plan that relaxes the congestion on M750 during early morning by dispersing Japan-bound flights that overfly Hong Kong and Taipei FIR to KAPLI-HCN-IGURU, so as to balance

1. INTRODUCTION

1.1 ATS Route M750 is the major route for traffic from Southeast Asia transiting Hong Kong and Taipei FIR to Korea and Japan between 1700 to 2200 UTC. Therefore years ago, Taipei imposed a restriction to refrain Hong Kong from transferring aircraft at KAPLI, unless those flights are destined in Taipei FIR or transiting Taipei to Fukuoka FIR via ATS Route G86 HCN G581 IGURU. The purpose of the restriction is to relax the congestion in Taipei. However, air traffic volume on M750 has been increasing constantly, in particular, the growth from low-cost airlines in recent years. The statistics shows a 77% rise on overfly traffic within 6 years in Taipei FIR. The space is saturated again with the surge.

2. DISCUSSION

2.1 In the above daily period, excessive congestion on ATS route M750 has brought in some problems that Taipei is desperate to solve, such as extreme controller workload, rising operational risk and low cruising levels, and hence frequent calls from pilots for higher levels.

2.2 The percentage of M750 inbound traffic is super-weighing that accounts for almost 100% of Japan-bound traffic during 1700-2200UTC. In addition, M750 (MOLKA)

and G581 (IGURU) are both appropriate routings to Japan, so the best solution found to mitigate the congestion on M750 is to put Korea-bound and Japan-bound traffic into different routings within Taipei FIR.

2.3 To maximize the benefits of ATC operation, Taipei concludes that:

- Korea-bound traffic from Hong Kong FIR should route ENVAR M750
- Flights departing from Hong Kong FIR should route ENVAR M750
- Japan-bound traffic from Hong Kong FIR should route KAPLI G86 HCN G581 IGURU
- Daily duration: 1700 – 2200 UTC

2.4 According to the observation of traffic overflying Taipei FIR between Southeast Asia and Japan, the routing (KAPLI-HCN-IGURU) has been bi-directionally and frequently used in the daytime. Therefore, flights transiting Taipei FIR to Japan by the newly stipulated routing should be reasonable during the night time.

2.5 Furthermore, after dividing the major M750 flow, pilots can expect better cruising levels to save fuel so as to compensate the additional expense due to longer routing, and again higher safety level – our common and ultimately pursued goal.

3. ACTION BY THE MEETING

The meeting is invited to be notified and discuss on the implementation.

THE NINTH MEETING OF THE INFORMAL EAST ASIA AIR TRAFFIC MANAGEMENT COORDINATION GROUP (EATMCG/9)

Tokyo, Japan, 27-29 June 2016

Agenda Item 2

Proposal for double track of B576 with Fukuoka FIR

(Presented by Incheon ACC)

SUMMARY

This paper proposes double track of B576 between Fukuoka FIR and Incheon FIR in order to ensure lateral separation for head-on aircraft at ATOTI. One is used only for northbound and the other is used only for southbound.

3. INTRODUCTION

3.1. B576 is one of the main air routes in East Asia, which connects from the APU in Taipei FIR to the point SEL in Incheon FIR. Korea has been researching a way to solve the congestion of B576. As a result, Korea established Y711 and Y722 as double track of B576. Operation began in Incheon FIR as of June 2012.

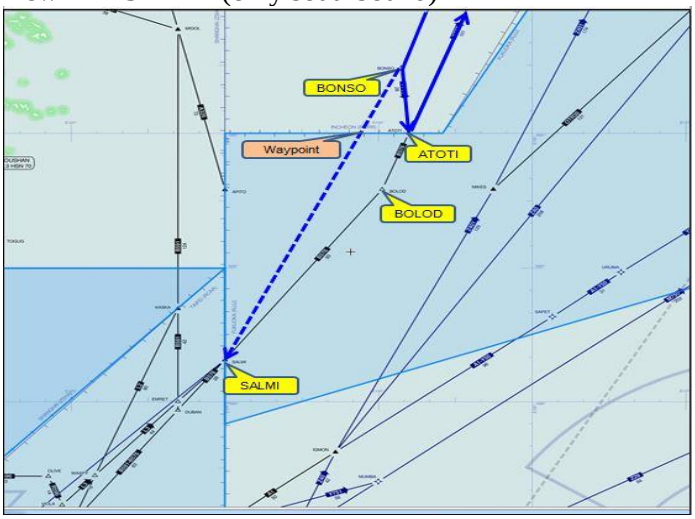
3.2. Even though double track (Y711/Y722) operation of B576 has many advantages such as safety and more efficient flow, this is limited to only Incheon FIR. Therefore, transfer of control for northbound/southbound aircraft between Incheon ACC and Fukuoka ACC has still been conducted at one waypoint (ATOTI).

4. DISCUSSIONS

4.1. This subject was already raised by Japan at the bi-lateral meeting between Japan and Korea last year. At that time, Japan proposed SALMI - New fix – BONSO - (Y711) as northbound CDR. But Korea disagreed with this proposal because Y711 is only for southbound aircraft. Flight direction was the main cause of the disagreement.

4.2. Incheon ACC would like to again suggest a double track of B576 considering the flight direction of Y711 and Y722. It needs a new airway and new waypoint as follows:

- BONSO - New fix - SALMI (only southbound)



4.3. The above is identical to the Japanese proposal last year except for flight direction. On the other hand, Incheon ACC proposes that SALMI - B576 - ATOTI segment be used as northbound for ensuring lateral separation.

4.4. This proposal is beneficial to Fukuoka ACC as well as Incheon ACC since lateral separation is ensured from SALMI to ATOTI. It can prevent head-on aircraft with only 1,000ft vertical separation at ATOTI.

4.5. It was known that BONSO – New fix – SALMI segment could be covered by radar at or above FL290. This requires confirmation by Fukuoka ACC, as Incheon ACC prefers at or above FL260 if possible.

3. ACTION BY THE MEETING

3.1 The meeting is invited to discuss the proposal among concerned states.

(Tokyo, Japan 27-29 June 2016)

Agenda Item 4

The proposal for the analysis of cross-border ATFM by visualization

(Presented by JCAB)

SUMMARY

This paper reports the outcome of the issue of WP06 in the 8th meeting. In order to review the cross-border ATFM mutually, Taiwan, Hong Kong and Japan internally collected the data on a particular day and then JCAB merged them and made a chart as the attachment. Visualization of the chart is a means to understand the entire air traffic flow crossing FIR boundaries easily. This is one example about what the members can do cooperating together, which makes it possible to address any challenges of cross-border ATFM.

1 INTRODUCTION

1.1 JCAB proposed this analysis in the last meeting as WP6. Although it seemed difficult to collect necessary data from each members in the meeting, while Taiwan and Hong Kong cooperated to provide JCAB with the data.

1.2 The collected data was from 3rd December 2015 when the restriction was imposed due to the runway closure of Taipei international airport.
This time, the chart was made based on very limited data, such as EOBT, ATOT, actual over time (ATO) of some particular FIXs and actual time of arrival (ATA) of RCTP. If more data is available, the analysis would be much more accurate and detailed. In order to address challenging issues concerning cross-border ATFM, it's important to analyze the data even if it's not visualized.

2 DISCUSSIONS

2.1 As mentioned above, countries concerned provided JCAB with the data and JCAB made the chart based on the collected data described below. The restrictions imposed on aircraft which passed FIR boundary from 0200z to 0700z were 5minutes in trail regardless of altitude from VHHH/VMMC,

10minutes for transit flight from VHHK and 4minutes in trail regardless of altitude from RJJJ.

(1) from Taiwan
C/S, ATA of RCTP
C/S, ATO of BULAN/ELATO

(2) from Hong Kong
C/S, EOBT, ATD, ATO of ELATO

(3) from Japan
C/S, EOBT, ATD, ATO of BULAN

2.2 In the chart, vertical axis shows time and horizontal axis shows geographic position of each airport and FIXs. The proportion of distance is almost equal to real distance. On the horizontal axis, each airport has EOBT part and ATOT part separately in order to grab the delay of each aircraft.

2.3 On the chart, it is shown how the traffic flows and demand/capacity balances were (for domestic and international flights) and so on. Considering surplus time at BULAN, JCAB might be able to reduce delays to meet the restriction on boundary. However, it is difficult to clarify if the delays were really caused by ATFM or not. This is about demand/capacity balance within one country. Judging from the ground delays of all, the balance among all the aircraft in each FIR seems to be maintained. However, taxiing time and operational delays must be taken into account in order to be the data accurate.

2.4 Although the cross-border ATFM wouldn't change dramatically by this kind of review, it is important for us to share data and look back some implemented ATFMs in order to improve for the future ATFM. It is certain that collecting data is very demanding, but JCAB propose that all the members cooperate to collect data and review when needed.

3. ACTION BY THE MEETING

3.1 The meeting is invited to note and discuss the information provided in this paper.

THE NINTH MEETING OF THE INFORMAL EAST ASIA AIR TRAFFIC MANAGEMENT COORDINATION GROUP (EATMCG/9)

Tokyo, Japan 27 - 29 June 2016

Agenda Item 3

For establishment of framework of ATFM information sharing

(Presented by JCAB)

SUMMARY

This paper proposes to establish of framework of information sharing about ATFM information between FIR and strive actualize well-planned flow management among relative organizations.

1. Introduction

Hong Kong ATCC shares “Capacity Notification” about HKIA with Taipei ACC and ATMC twice a day. Daily Capacity Notification includes HKIA capacity level and the acceptable number of aircraft per hour and the weather condition around the airport. If the capacity level rises, the restriction is often carried out between Hong Kong FIR and Taipei FIR, which leads the restriction between Taipei FIR and Fukuoka FIR. The restriction between Fukuoka FIR and Incheon FIR is required depending on restriction contents

Capacity Notification <Example>
CAPACITY RELATED INFORMATION
(FOR ARRIVALS)
VALID: 290000 to 290300 UTC
CAPACITY LEVEL: 2
AIRPORT ACCEPTANCE RATE: 29 flights per hour
EXPECTED DELAY: Up to 30 mins
REASON: Reduced Holding Capacity due Weather
REMARK: Isolated CB expected to affect HKIA and ABBEY holding stack.

2. Discussion

2.1 If the capacity level rises, a restriction is often carried out between Hong Kong FIR and Taipei FIR. However, it is difficult to assume when and what kind of restriction will be carried out by the Capacity Notification.

2.2 The restrictions between Hong Kong FIR and Taipei FIR cause the restrictions between Taipei ACC and ATMC. We should share information on these restrictions from the prediction stage. We can perform effective ATFM by sharing information on “when”, “where” and “how” the restrictions are carried out.

2.3 ATMC proposes the following trias in order to crystallize the contents of “Daily Capacity Notification” and establish procedures to share information (including schedules) on restrictions.

2.3.1 Regular ATFM information exchange

The contents will be exchanged via emails twice a day. The time will be at 2200UTC and 0530UTC. Information sharing on a temporary basis is available if there is a remarkable change.

<sample : contents of Regular ATFM information exchange >
Effective date and valid time
Reason
Airway or/and FIR fix
Target
Duration
Restriction

2.3.2 Occasional ATFM information exchange
Organizations concerned shall exchange via emails the information on the restriction with the other in case a restriction between FIRs is carried out.

<sample : contents of Occasional ATFM information exchange>
Effective date and issue time,
Reason,
Airway or/and FIR fix
Target,
Duration
Restriction,

2.3.4 ATMC will record all the data and report the implementation status of information sharing between the organizations concerned in the EATMCG/10.

3. Action by the meeting

The meeting is invited to note and discuss the information provided in this paper.

THE NINTH MEETING OF THE INFORMAL EAST ASIA AIR TRAFFIC MANAGEMENT COORDINATION GROUP (EATMCG/9)

Tokyo, Japan 27-29 June 2016

Agenda Item 3

Proposal the double-track of B576

(Presented by JCAB)

SUMMARY

This paper provides a proposal to discuss the double-track plan of B576.

1. INTRODUCTION

1.1 With the increasing traffic volume on B576, Fukuoka ACC recognized that it needs to be double-tracked for the safety and efficiency of aircraft.
In Incheon FIR, B576 has already been double-tracked (Y711/Y722). JCAB proposes to establish the double-track airway connecting between Incheon FIR and Taipei FIR through Fukuoka FIR.

2. EXPLANATIONS

2.1 We have been researching to establish the route as follows:
South bound: BONSO - SALMI - BERBA
North bound: BERBA /or other fix in RCAA – New fix - ATOTI

2.2 The establishment of the paralleled routes above enables to segregate the air traffic by flight direction, which can solve the facing oncoming traffic situation. It can contribute to enhance safety and efficiency of aircraft operation.

2.3 However the route of double-tracking (including current B576) is placed at the edge of our ARSR coverage, we need further study on the ATC procedure during radar outage.

3. ACTION BY THE MEETING

3.1 The presentation invites Taipei ACC and Incheon ACC to cooperate for establishment of double-track in the future.

THE NINTH MEETING OF THE INFORMAL EAST ASIA AIR TRAFFIC MANAGEMENT COORDINATION GROUP (EATMCG/9)

Tokyo, Japan 27-29 June 2016

Agenda Item 2

Trial of reduced radar separation on A1/M750

(Presented by JCAB)

SUMMARY

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

3. INTRODUCTION

3.1 The number of air traffic flying on A1, M750 and B576 is rapidly increasing as the establishment of LCC companies.
In EATMCG8 we suggested reducing of radar separation, but we could not reach the agreement on this due to conditions.
Nevertheless in order to accommodate the increasing traffic, we suggest again with new conditions.

4. DISCUSSION

4.1 Reduced radar separation on A1 and M750.

4.1.1 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.

4.1.2 We suggest reducing radar separation to 15NM in case of 2.1.1. i, ii,iii and iv.

4.1.3 We suggest period of trial as everyday (24 hours a day). If it is difficult, we can accept to limit the duration of trial. (ex. Only Saturdays and Sundays.)

4.1.4 The operation of reducing separation already put into action between Incheon ACC and Fukuoka ACC on Saturdays and Sundays.

3. ACTION BY THE MEETING

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

THE NINTH MEETING OF THE INFORMAL EAST ASIA AIR TRAFFIC MANAGEMENT COORDINATION GROUP (EATMCG/9)

Tokyo, Japan, 27-29 June 2016

Agenda Item 5

IMPLEMENTATION OF AIDC (TOC/AOC) MESSAGES BETWEEN FUKUOKA/NAHA ACCs AND TAIPEI ACC

(Presented by JCAB)

SUMMARY

This paper proposes the solution of the technical problem for adopting AIDC(TOC/AOC) messages to automated radar-handover between Japan ACCs and Taipei ACC.

3 INTRODUCTION

1.1 At the EATMCG/7 which was held in Taipei in May 2014, it was agreed that the AIDC TOC and AOC messages will be used for automated radar-handover between Fukuoka/Naha ACCs and Taipei ACC in the future.

1.2 Taipei ACC conducted application test for AIDC messages including TOC and AOC with JCAB test system prior to replacement of AIDC interface device in Oct 2014. As a result, it was found that JCAB system could not receive AOC from Taipei because the AOC included incorrect format in the message header.

1.3 Specifically, JCAB system refers to the information written in optional data field 3(ODF3) of the AOC message header to identify the referenced TOC, but there is no information in ODF3 of AOC message received from Taipei system.

1.4 JCAB has already finished ATC system update for correspond automated radar-handover functions by TOC/AOC message exchange. But in order to realize it, it is necessary to find a solution of this problem caused by AOC message header.

4 DISCUSSION

4.1 According to Asia/Pacific AIDC ICD v3.0, PART II, para. 2.1 Message Headers, there is a description about "Optional Data Field" as follows;

*2.1.1 **Optional Data Field.** The optional data field provides a flexible way to convey information on an end-to-end basis, undisturbed by the communication processes along the path. Since the information is optional it is necessary to specify a unique number and ending for each defined use.*
Option 1 has already been allocated for additional addressing use, and will be found in ICAO Annex 10, Volume II in due course. Option numbers 2 and 3 have been defined for computer applications to convey message/data unit identification and message/data unit reference information, respectively, and are adopted in this ICD.

4.2 Also there is another description on APPENDIX D(IMPLEMENTATION GUIDANCE MATERIAL) as follows;

2.3.2. Operational Response
2.3.2.1 Several ASIA/PAC AIDC messages require a response, in addition to the normal application response, by another AIDC message. Such a response is termed an Operational Response.
Table D-1 below indicates the required response to a received message. ASIA/PAC AIDC messages not listed in Table D-1 have no operational response.

Table D-1. Required Operational Response

Received Message	Required Operational Response
CPL	ACP or CDN
EST	ACP
PAC	ACP
CDN	ACP, CDN, or REJ
TOC	AOC

2.3.2.4 An operational response shall employ the AFTN header optional data field 3 to reference the original message being responded to.

4.3 The AIDC ICD between Taipei FIR and Fukuoka FIR is compliant with Asia/Pacific AIDC ICD which is an upper document.
JCAB system has been designed to meet the provisions described above.

3. ACTION BY THE MEETING

3.1 The meeting is invited to consider solution of the problem.
JCAB is recognizing that this problem occurred due to the difference in recognition of the ICD between Japan and Taiwan.
Issue needs to be discussed.

THE NINTH MEETING OF THE INFORMAL EAST ASIA AIR TRAFFIC MANAGEMENT COORDINATION GROUP (EATMCG/9)

(Japan, 27-29 June 2016)

Agenda Item xx

The outcome of the common report forms for ATFM in East Asia from 2013 to 2015

(Presented by JCAB)

SUMMARY

This paper reports the outcome of the common report forms which had already submitted by each of EATMCG members. The collected data provides the recent status of air traffic in East Asia region so that the members can share and recognize the transition of air traffic volume and air traffic flow of the past few years. Two attachments are included with this report, which are in the common report form from each country (attachment 1) and the material made by PPT (attachment 2), which includes some graphs and charts comparing the last 3 years.

5 INTRODUCTION

1.1 JCAB revised the report form twice in the 7th and 8th meeting after EATMCG members agreed to collect data in the 6th meeting. This time, all the members submitted the data in the revised form.

1.2 The outcome includes the traffic volume of FIR/major airports in each country and also the transitions in the number of aircrafts passing several FIXs on FIR boundaries.

6 DISCUSSIONS

2.1 According to attachment 2, the traffic volume in each FIR has been increasing remarkably year after year. Referred to classification of flights in each FIR, domestic flights occupy more than half of the traffic in Fukuoka FIR. Similarly, in Manila FIR, the majority of flights are domestic flights. On the other hand, in Taipei and Hong Kong FIR, the number of international flights to/from domestic airports is much larger than the others. Especially, international flights and passing flights occupy almost all the flights in Hong Kong FIR except 1% domestic flights which are helicopters for to/from the oil rigs located in the ocean. The increase in traffic at the major airports is noticeable as well.

2.2 Traffic volume on FIR boundaries is also trending up continuously. While most of the traffic passing over FIR has been increasing, the traffic volume on B576 has decreased compared to last year. This is thought to result from establishment of the detour route of B576, Z401 (CDR1) in September 2014. Actually, it has reduced the traffic on B576 to some extent, however, the traffic on M750 connecting to Z401 via Z40 (CDR2), has remarkably increased since then.

2.3 It is very helpful to share data among members and mutually understand the present status in order to consider ATC operations and borderless ATFM for the future.

3. ACTION BY THE MEETING

3.1 The meeting is invited to note and discuss the information provided in this paper.

IP/3

EATMCG 9

27-29 June 2016

THE NINTH MEETING OF THE INFORMAL EAST ASIA AIR TRAFFIC MANAGEMENT COORDINATION GROUP (EATMCG/9)

Tokyo, Japan 27 – 29 June 2016

Agenda Item 3

Arrangement Affecting Adjacent FIRs During Cutover of Hong Kong ATC Operations

(Presented by Hong Kong, China)

SUMMARY

This paper focuses on the possible impacts of implementation of the new Air Traffic Management System in Hong Kong on adjacent FIRs. The arrangements of switching over of the communication networks and the possible measures to regulate air traffic entering Hong Kong FIR are presented. The understanding and support from all working counterparts are essential for the success of Hong Kong ATC operation

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 new ANC and AIMC commenced operation in October 2015 and December 2015, respectively. The target implementation date of the core system - Air Traffic Management System (ATMS) in the new ATCC and Tower is end-2016.

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. DISCUSSION

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

2.2 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.

2.3 AIDC between Hong Kong and Taipei ACC has been in operation for a number of years. The technical arrangement for testing and switching over of the AIDC network is in progress. 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. When AIDC is not available, all flight transfer messages will be coordinated verbally via IASC.

2.4 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 all counterparts. The telephone numbers of Hong Kong ATCC and Tower will remain unchanged.

2.5 Regulating Traffic Flow Entering Hong Kong FIR During Cutover Period – It is generally understood that operational colleagues, though provided with adequate training, have only limited experience on the new equipment/systems. Despite ATC operations cutover is a carefully planned event, there is a genuine need to cater for any unexpected issue in the cutover process particularly in the initial stage of the full H24 operation. To guard against an 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.

2.6 Traffic operating at Hong Kong International Airport (HKIA) – Runway Capacity Reduction Scheme will be imposed in HKIA during the initial cutover period. The hourly Runway Acceptance Rate of 68 movements will be suitably adjusted. The maximum capacity at HKIA will be revised to 60 movements per hour between 0000 UTC and 1559 UTC with 3 hours of 58 movements as traffic recovery zones. The night slots are untouched. The scheme has been announced to operators in April 2016. The implementation of the scheme will be confirmed in mid-July.

2.7 Traffic transiting Hong Kong to and from Macao International Airport – These flights will be regulated by flow measure. The detailed flow measures will be released to ACCs concerned as soon as possible to ensure sufficient response time available.

2.8 Traffic transiting Hong Kong FIR – Flow measures for these overflights will be implemented to maintain the amount of traffic entering Hong Kong FIR at a manageable level. 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.

2.9 Hong Kong CAD endeavors 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 colleagues is essential for the successful implementation of the new ATMS in Hong Kong.

3. ACTION BY THE MEETING

3.1 The Meeting is invited to note the information contained in this Paper.

Appendix 1

TASK LIST FOR EATMCG/10

No.	Description	Responsibility	Remarks
8-1	Reduction of radar spacing at FIR transfer points BULAN, MOLKA and SALMI	Japan Taiwan	*LoAs to be amended* ***CLOSED***
8-2	FLOS on B462	Japan Philippines	*SCS MTFRG to review overall FLOS/FLAS plan* ***CLOSED***
8-3	Taipei to review Flow Control procedures required for single runway operations	Taiwan	*Review ATFM plan to reduce delays* ***CLOSED***
8-4	Use of revised ATFM Common Report Form	Japan	*Japan will resend new form to all users* ***CLOSED***

8-5	Analysis of International Air Traffic Flow Control measures	Japan	*Will review and discuss with States concerned.* ***CLOSED***
9-1	Implementation of AIDC Messages between Japan and Taiwan	Japan Taiwan	*Will continuously investigate the solution with States concerned.* ***ONGOING***
9-2	Trial of reduced radar separation on A1/M750	Japan Taiwan	*Consideration of a brief trial.* ***ONGOING***
9-3	Mitigate congestion on B576 during 1200-1600 UTC	Taiwan Japan Republic of Korea	***ONGOING***
9-4	Proposal for double track of B576	Taiwan Japan Republic of Korea	***ONGOING***
9-5	Dispersing ENVAR major flow to KAPLI-HCN-IGURU	Taiwan Japan Hong Kong	***ONGOING***
9-6	Progress of AIDC tests in the Manila FIR	Philippines Hong Kong Taiwan	***ONGOING***

LIST OF EATMCG/9 DELEGATES

IFATCA	
Mr. John Wagstaff	Asia Pacific Representative
HONG KONG	
Mr. Patrick Yeung	Senior Operations Officer
Mr. Anthony Tsui	Training Manager
Mr. Ivan Chan	Controller
PHILIPPINES	
Ms. Joy Papag	Chief Manila ACC
Ms. Melba Acurantes	Deputy Chief Manila ACC
REPUBLIC OF KOREA	
Ms. Jung Yun-Ju	Enroute Procedure Designer
Mr. Lee Jun-ho	ATC Operations Assistant Manager
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Mr. Tony Lin	Supervisor, Taipei ACC
Ms. Yen Fang Wang	Coordinator, Taipei ACC
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Mr.Yoshimichi Hamahata	Special Assistant to the director, ATC Division
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Mr. Takumi Takebe	Chief, ATC Division
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Mr. Akira Kojima	Special Assistant to the director, ATC System Office

Mr. Hideomi Hasegawa	Chief, ATC System Office
Ms. Miho Tsuru	Chief, ATC System Office
Mr. Yukio Imada	Senior Air Traffic Management Officer, ATMC
Mr. Nobuteru Isaka	Senior Air Traffic Management Officer, ATMC
Mr. Takashi Yokoyama	Air Traffic Management Officer, ATMC
Mr. Yasutaka Hashimoto	Air Traffic Controller, Fukuoka ACC
Mr. Kaoru Taketa	Senior Air Traffic Controller, Naha ACC
Mr. Hidehisa Hashimoto	Senior Controller, Tokyo ACC
Mr. Jyunya Tanaka	Senior Controller, Tokyo ACC
Mr. Takahiro Taguchi	Controller, Tokyo ACC
Ms. Azusa Okamoto	Controller, Tokyo ACC
Ms. Akiko Oishi	Controller, Tokyo International Airport
Mr. Toru Nakamura	President, ATCA-J
Mr. Masahiro Kimura	Managing Director, ATCA-J
Mr. Fujio Horii	Deputy Director, ATCA-J
Mr. Hiroshi Yasuda	Deputy Director, ATCA-J
Mr. Kenichi Furukawa	Researcher, ATCA-J
Mr. Hideaki Yajima	Researcher, ATCA-J