INTERNATIONAL CIVIL AVIATION ORGANIZATION

REPORT OF THE FOURTH MEETING OF THE WESTERN PACIFIC/SOUTH CHINA SEA RVSM SCRUTINY WORKING GROUP (WPAC/SCS RSG/4)

BANGKOK, THAILAND, 26 TO 29 FEBRUARY 2008

The views expressed in this Report should be taken as those of the WPAC/SCS RSG and not of the Organization.

Adopted by the WPAC/SCS RSG
and published by the ICAO Asia and Pacific Office

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PART I – HISTORY OF THE MEETING

1. Introduction

1.1 The Fourth Meeting of the Western Pacific/South China Sea RVSM Scrutiny Working Group (WPAC/SCS RSG/4) was held in Bangkok, Thailand from 26 to 29 February 2008 at the Kotaite Wing of the ICAO Asia and Pacific Office.

2. Attendance

2.1 The meeting was attended by 42 experts from Cambodia, China, Hong Kong China, Indonesia, Japan, Malaysia, Philippines, Singapore, Thailand, United States, Viet Nam, IATA and IFATCA. A list of participants is at **Appendix A** to this report.

3. Officers and Regional Office

3.1. Mr. David Maynard, Manager, Oceanic and Offshore Services for the United States Federal Aviation Administration chaired the meeting.

3.2. Mr. Andrew Tiede, Regional Officer ATM, was the Secretary for the meeting. He was assisted by Mr. Polawat Chootai, Regional Officer ATM.

4. Opening of the Meeting

Secretariat

4.1. Mr. Andrew Tiede, on behalf of Mr. Mokhtar A. Awan, Regional Director, ICAO Asia and Pacific Regional Office, welcomed all participants to Bangkok. Following the period of the recent Spring Festival, he wished all participants a Happy New Year for 2008 and highlighted a number of successful ATM related implementations during 2007.

4.2. Mr. Tiede commented that the traffic growth for Asia in particular continues unabated and ANSPs must be in a position to increase airspace capacity and efficiency by whatever means available. Additionally, there is increasing awareness of global environmental issues and civil aviation activities do not escape criticism in this respect. Mr. Tiede considered that this simply means that as responsible civil aviation partners all participants must continue to deliver quantifiable environmental gains consistently and continuously.

4.3. In this respect, he was of the opinion that the implementation of the revised FLOS/FLAS arrangements for the WPAC/SCS would provide long term environmental, safety and efficiency benefits and would also demonstrate what could be achieved in a cooperative manner between States working in partnership with ICAO and IATA. Mr. Tiede wished the meeting every success in addressing the matters that lay before it.

Chairman

4.4. The Chairman, David Maynard, welcomed the members of the WPAC/SCS RSG to the 4th meeting of the RVSM Scrutiny Group. The Chairman stated there were 3 primary goals for this meeting. To review the LHD's contained within the MAAR report focusing on identifying causal factors and mitigation strategies. To finalize the AIP Supplement and to confirm that all States are prepared for the target implementation date of June 5, 2007. The Chairman noted that the various papers that had been

submitted indicated that a great deal of work had been accomplished by the States and that this was a positive indicator as to the anticipated outcomes of the meeting

5. Language and Documentation

5.1. All discussions were conducted in English. Documentation was issued in English. A total of ten (10) Working Papers and nine (9) Information Papers were considered by the meeting. A list of the Working and Information Papers is at **Appendix B.**

PART II - REPORT ON THE WPAC/SCS RSG/4 MEETING

Agenda Item 1: Adoption of Agenda

1.1 The meeting adopted the following agenda:

Agenda Item 1: Adoption of Agenda

Agenda Item 2: RMA update for WPAC/SCS area

Agenda Item 3: LHD Reduction Arrangements

Agenda Item 4: WPAC/SCS Implementation FLAS Developments

Agenda Item 5: Model AIP Supplement for FLOS/FLAS Implementation

Agenda Item 6: Implementation Management Considerations

Agenda Item 7: Update WPAC/SCS RSG Task List

Agenda Item 8: Any other business

Agenda Item 9: Date and venue of the WPAC/SCS RSG/4 Meeting

Agenda Item 2: RMA update for WPAC/SCS area

2.1 The Monitoring Agency for the Asia Region (MAAR) provided results of the airspace safety assessment for the RVSM implementation in the Western Pacific/South China Sea (WPAC/SCS) airspace in regard to the new FLAS. This RVSM safety assessment was conducted based on a one-month traffic sample data (TSD) collected in December 2006 and monthly Large Height Deviation (LHD) reports between January 2007 and December 2007 submitted by the concerned States in the WPAC/SCS region.

2.2 The meeting noted that TSD for December 2006 from all affected states had been submitted to MAAR and the Secretariat highlighted that this was a commendable result from States in terms of data provision. Also, the monthly submission of LHD reports (including "NIL" reports) was generally at a good standard and both MAAR and the Regional Office were working to overcome the remaining difficulties with the submission of this data.

2.3 Based on the received LHD reports, the LHD occurrences between January 2007 and December 2007 in the WPAC/SCS region are summarized as follows.

2.4 **Table 1** below summarizes the number of LHD occurrences and associated LHD duration (in minutes) by month in the WPAC/SCS RVSM airspace.

Month-Year	No. of LHD Occurrences	LHD Duration (Minutes)
January 2007	7	25
February 2007	4	12
March 2007	3	9
April 2007	8	17
May 2007	2	5
June 2007	4	4
July 2007	2	5
August 2007	6	19
September 2007	1	10
October 2007	8	25
November 2007	5	9
December 2007	6	29
Total	**56**	**169**

Table 1: Summary of LHD Occurrences and Duration in WPAC/SCS RVSM Airspace

2.5 **Table 2** below summarizes the number of LHD occurrences and associated LHD duration (in minutes) by cause of the deviation.

LHD Category Code	LHD Category Description	No. of LHD Occurrences	LHD Duration (Min)
A	Flight crew failing to climb/descend the aircraft as cleared	3	6
D	ATC system loop error; (e.g. ATC issues incorrect clearance or flight crew misunderstands clearance message)	4	9
E	coordination errors in the ATC-to-ATC transfer of control responsibility as a result of human factors issues (e.g. late or non existent coordination, incorrect time estimate/actual, flight level, ATS route etc not in accordance with agreed parameters)	46	150
I	Turbulence or other weather related causes	1	1
M	Others	2	3
Total		**56**	**169**

Table 2: Summary of LHD Causes in the WPAC/SCS RVSM Airspace (period Jan-Dec 2007)

2.6 In light of the above, the LHD occurrences in the WPAC/SCS RVSM airspace are summarized as follows:

- Significant portion of large height deviation occurrence (46 of 56 occurrences) as well as duration (150 of 169 minutes) is attributable to coordination errors in the ATC-to-ATC transfer of control responsibility as a result of human factors issues (Category E)

- Since last reported in the previous Meeting, there were 20 LHD occurrences in the four months September to December 2007 inclusive, accounting for 73 minutes

2.7 **Table 3** below summarizes the number of LHD occurrences and associated LHD duration (in minutes) by locations for the period January to December 2007 (Top 5 based on number of occurrences)

Location	Boundary FIR s	No. of LHD Occurrences	LHD Duration (Min)	Most Recent Occurrence Date
L625/L628 (ARESI)	Ho Chi Minh and Manila	10	40	26 Dec 07
A583 (SABNO)	Hong Kong and Manila	4	24	18 Sep 07
A590 (LAMOL)	Fukukoa and Manila	4	21	05 Apr 07
A582 (BISIG)	Fukuoka and Manila	4	14	25 Oct 07
A461 (NOMAN)	Hong Kong and Manila	3	3	27 Oct 07

Table 3: Summary of LHD Occurrence and Duration by Locations (Top 5, period Jan-Dec 07)

2.8 The meeting was pleased to note that since the WPAC/SCS/RSG/1 meeting in January, significant reductions in numbers and duration of LHD occurrences have occurred, as demonstrated in **Table 4** below.

Reference	LHD Period (12-Month)	No. of LHD Occurrences	LHD Duration (Min)	% Change	
				No. of LHD Occurrences	LHD Duration (Min)
WPAC/SCS/RSG/1 Meeting (Jan 2007)	Jan06 – Dec06	84	481		
WPAC/SCS/RSG/2 Meeting (June 2007)	May06 - Apr07	75	345	-11%	-28%
WPAC/SCS/RSG/3 Meeting (Oct 2007)	Sep06 - Aug07	56	240	-25%	-30%
WPAC/SCS/RSG/4 Meeting (Feb 2008)	Jan07 - Dec07	56	169	0.0%	-29.6%

Table 4: Variation to LHD Occurrence and Duration at milestone of Scrutiny Group meeting dates

Safety Oversight for the RVSM implementation in WPAC/SCS Airspace

2.9 **Table 5** below summarizes the results of the airspace safety oversight, as of September 2007, in terms of the technical, operational, and total risks for the RVSM implementation in the WPAC/SCS airspace.

Source of Risk	Lower Bound Risk Estimation	TLS	Remarks
Technical Risk	0.63×10^{-9}	2.5×10^{-9}	Below Technical TLS
Operational Risk	4.02×10^{-9}	-	-
Total Risk	**4.65×10^{-9}**	**5.0×10^{-9}**	**Below Overall TLS**

Table 5: Risk Estimates for the RVSM Implementation in WPAC/SCS Airspace

2.10 In addition **Figure 1** below graphically presents the trends of collision risk estimates for each month using the appropriate cumulative 12-month of LHD reports since January 2007.

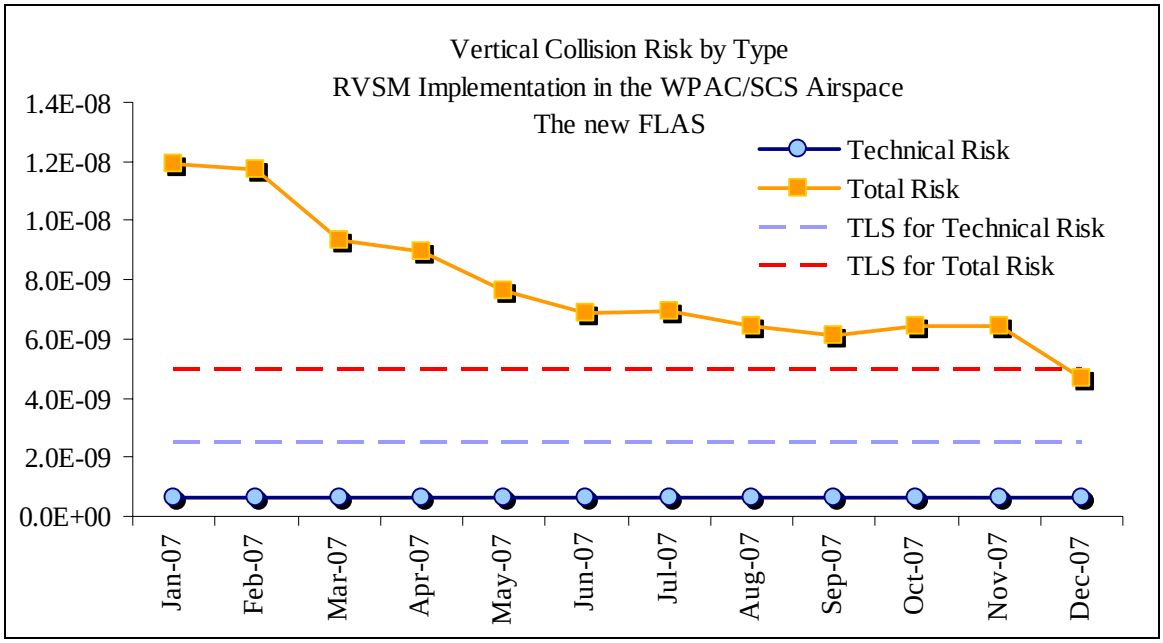

Figure 1: Trends of Risk Estimates for the RVSM Implementation in WPAC/SCS Airspace

2.11 Based on these risk estimates, both technical and total risks satisfy the agreed TLS value of no more than 2.5×10^{-9} and 5.0×10^{-9} fatal accidents per flight hour due to the loss of a correctly established vertical separation standard of 1,000 ft and to all causes, respectively.

2.12 MAAR informed the meeting that the overall improvement in total risk is attributable predominantly to a decline in LHD duration. Despite the recent reductions in LHD duration, the level of LHD occurrence in this region is considerably high. Therefore, MAAR continued to recommend that the situation be closely monitored and appropriate actions be applied to improve the safety performance.

2.13 The meeting was very pleased to note the continued improvements in RVSM safety performance of the WPAC/SCS airspace and attributed the improvements to the continued efforts of States involved under the strong focus and guidance of the WPAC/SCS RSG. Nevertheless, continued work was needed in addressing the high numbers of LHDs attributable to ATC Unit-to ATC Unit coordination errors.

Asia/Pacific actions to support global long-term RVSM monitoring requirements

2.14 APANPIRG/18 (September 2007) was of the opinion that work should be undertaken as soon as possible in order to assess the consequences for the Asia/Pacific Region of the pending implementation of ICAO Annex 6 provisions for the long term height monitoring of airframes used for RVSM operations. Under the terms of Conclusion 18/4, APANPIRG requested Asia/Pacific RMAs in conjunction with RASMAG to prepare a regional impact statement summarizing the estimated consequences for the Region, including consideration of the numbers of airframes required to be monitored.

2.15 In advancing this matter in the context of the Asia/Pacific region, RASMAG/8 considered that, although the final composition of the long term height monitoring provisions was still subject to final resolution, it was reasonable to expect, as a minimum, that an RMA would need to carry out the following tasks:

a) Educate States and airspace users as to the roles and functions of an RMA,

b) Establish the monitoring requirements to be satisfied by each operator,

c) Coordinate with other RMAs so that monitoring results are shared, and

d) Ensure that an adequate monitoring system infrastructure exists.

2.16 Accordingly, the meeting noted the 6 preparatory actions outlined by RASMAG as contained in the State Letter recently transmitted by the Regional Office (**Appendix C** refers) that were considered necessary for the Asia/Pacific region to accommodate the globally applicable minimum long-term monitoring requirements for RVSM operations which were expected to become effective from November 2010.

2.17 IATA highlighted their concerns arising from the recent ICAO State Letter on RVSM Long Term Height Monitoring requirements with a target date of 18 November 2010. Specifically, IATA expressed concern that the lack of ground based height monitoring units (HMUs) in the Asia Pacific region and the lack of inter-regional coordination in traffic data collection will make it difficult to achieve the target date. IATA further highlighted the need for all concerned to take care in deciding the numbers and location of HMUs to avoid airlines having to make inefficient and costly detours to overfly a ground based monitoring unit to satisfy the long term height monitoring requirements.

Traffic Sample Data State Letter

2.18 The meeting recalled that in considering the requirements for routine safety assessment, RASMAG/2 (October 2004) agreed that an annual provision by States of Traffic Sample Data (TSD) as well as ongoing provision of Large Height Deviation (LHD) and Gross Navigational Error (GNE) reporting – including NIL reporting -was sufficient for vertical and horizontal safety analysis. Under Conclusion 16/4 APANPIRG agreed that the month of December every year be adopted as the standard sample period for vertical and horizontal traffic sample data collection, commencing from December 2005.

2.19 Regrettably, APANPIRG/18 (September 2007) had found it necessary (Conclusion 18/2) to include some States on the List of Deficiencies in the ATM/AIS/SAR Fields as a result of the non provision of safety data. In this regard the meeting reviewed Regional Office State Letter Ref: T3/10.0, T3/10.1.17 – AP124/07 (ATM) dated 12 November 2007 requesting submission of December 2007 TSD to relevant regional monitoring agencies. The Secretariat urged all States to provide the December 2007 TSD to responsible RMAs as soon as possible.

Agenda Item 3: LHD Reduction Arrangements

3.1 Each of the States present at the meeting provided a summary of the activities directed at reducing LHD occurrences that had taken place since the last meeting updated. The meeting reviewed details of each of the 20 LHD occurrences that had been reported in the 4 month period September – December 2007 inclusive and, where possible, identified remedial strategies. The meeting was informed that investigations were regularly conducted into specific LHD occurrences and coordination completed with airlines which had been involved.

3.2 The guidance provided by previous WPAC/SCS RSG meetings had been helpful in identifying areas of weakness in ATC to ATC coordination and many States had implemented changes in this regard. However, the meeting identified that 18 of the 20 LHD occurrences were directly related to erroneous ATC coordination between ACCs and affected States agreed to intensify their efforts in this respect.

3.3 The meeting noted continuing initiatives by States to, amongst others, implement AIDC messaging, enhance usage of electronic flight strips, re-sectorise airspaces, increase assistance from Executive controllers to Planner controllers and replace unreliable HF radio installations and considered that each of these initiatives would prove useful in reducing occurrences of LHD. The reduction in flight level transition complexity into/out of China as a result of the recent RVSM implementation was also anticipated to be beneficial in reducing LHDs and similar outcomes were expected as a result of the scheduled July 2008 implementation of new flight level arrangements with reduced transitions in the WPAC/SCS area.

3.4 The meeting noted the continued need for good coordination to take place in a timely between States in the treatment of LHD (and other) occurrences. The inclusion of LHD management arrangements in operational LOAs was also expected to be of assistance. Ideally, the Watch Supervisor should contact the Watch Supervisor in the other centre as soon as the LHD occurrence was identified and pass on sufficient information verbally to enable an investigation to commence. This would enable immediate scrutiny of the circumstances involved whilst all the necessary information was fresh and readily available.

3.5 The meeting recognised that in most cases, this verbal coordination between Watch Supervisors should be a sufficient trigger to start an investigation. However, a number of States highlighted institutional arrangements under which Chief of ACC or higher grade officials held the responsibility and authority to instigate an investigation process. In these situations, the most effective means was for a formal letter or fax to pass from Chief of ACC to Chief of ACC as this formal notification would provide the basis and/or justification for any actions taken. It was evident that a wide variety of institutional arrangements existed amongst the States present and therefore the meeting encouraged these matters to be studied on a bi-lateral basis with the objective of putting in place effective communication, alerting and investigation mechanisms between neighbouring States.

Realignment of Manila, Ujung Pandang FIR Boundary

3.6 Indonesia and the Philippines reached in-principle agreement for the realignment of the complex joint FIR boundary with Oakland in the vicinity of position approximately N0400 E13220. A draft amendment proposal was prepared (**Appendix D** refers) which extends the primary east-west boundary between Ujung Pandang and Manila FIRs directly to where it intercepts the Oakland FIR boundary (see **Appendix E**). The amendment proposal would be finalized by the Regional Office in coordination with Indonesia and the Philippines and circulated for comment in accordance with normal ICAO procedures.

3.7 Additionally, Indonesia, the Philippines and the United States would coordinate directly to establish suitable ATC arrangements to streamline FIR boundary coordination procedures in this area. The finalised arrangements would be included in operational LOAs in due course.

Agenda Item 4: WPAC/SCS Implementation FLAS Developments

Singapore – proposed change to new FLAS for N891

4.1 Singapore presented a proposal to revise the flight levels allocated for southbound flights on ATS Route N891 taking into consideration the traffic movements and the new FLAS.

4.2 The meeting recalled that at the last RSG/3 meeting, two No Pre-Departure Coordination (No PDC) flight levels, FL330 and FL390 were allocated to southbound flights on ATS Route N891. However, ATS Route L642 (one of the six parallel routes) would also be allocated FL310, FL320, FL350, FL360, FL390 and FL400. As such, the intersection of ATS routes L642 and N891 would be a conflict point for flights operating at the same FL390. This would increase controllers' workload as the procedural separation minima are outside radar cover. The capacity on L642 and N891 would also be reduced.

4.3 The meeting reviewed the traffic movement data for the month of January 2008 in the Singapore FIR and noted that almost all southbound flights operating on N891 were not able to accept FL370 and above within the Singapore FIR. The meeting therefore recognized that allocating FL390 as a No PDC level for N891 would not serve any purpose nor bring any reduction in delay to the southbound flights. Hence, Singapore proposed that No PDC FL290 should replace FL390 for southbound flights operating on N891. FL290 is a viable initial flight level for southbound flights as higher flight level could generally be subsequently assigned within Singapore radar coverage.

4.4 In discussing the proposal from Singapore, the meeting recognized that traffic flows on N891 had an effect on the traffic on M753 and M765 . FL290 was already allocated to M765 and traffic data indicated that M765 had about 25 flights per day, whilst N891 had only about 10 flights per day. Reallocating FL290 to N891 would potentially have a negative impact on M765 traffic. Additionally the meeting was informed that the traffic volume and disposition over the affected routes during a typical 24-hour period was naturally dispersed and that it was therefore anticipated that coordinated flight levels would be available in most cases.

4.5 After discussion, the meeting agreed to remove FL390 from the allocation for N891, but considered that allocating FL290 to N891 would have an adverse impact on operations on M765. Accordingly, the meeting did not agree to allocate FL290 to N891.

Singapore – Malaysia flight level allocation

4.6 The meeting noted that as a result of meetings and coordination, Malaysia and Singapore had agreed to the flight level allocation for flights operating between East and West Malaysia taking into consideration the implementation of the new FLAS. These arrangements supported the new FLAS and would be included in operational Letters of Agreement between Singapore and Malaysia. The meeting thanked the two States for their coordinated efforts in this regard.

Indonesia/Malaysia – include No-PDC allocation for B592, R223 & A450

4.7 Indonesia brought the attention of the meeting to the need of flight levels allocated for ATS Route B592 to be listed in Flight Level Allocation Scheme (FLAS) for Western Pacific / South China Sea Area. The meeting was informed that currently there were more than 13 daily flights utilizing ATS route B592 where the OKADA way point is the TCP between Jakarta and Kinabalu ACC. Indonesia had noted the absence of B592 from the new FLAS proposals and requested that B592 be included.

4.8 The meeting thanked Indonesia for raising this matter and, after discussion, agreed to include B592 in the No-PDC FLAS arrangements, with flight levels north east bound as FL310, 350, 390 and south west bound as FL320, 360, 380, 400.

4.9 ATS route R223 was also proposed for inclusion by Indonesia and Malaysia. The meeting agreed to include R223 in conjunction with the existing No-PDC FLAS allocation for B584, being north east bound as FL 310, 350, 390 and south west bound as FL 320, 360, 400.

4.10 Similarly, A450 was added to the existing No PDC allocation for A339, being east bound as FL 310, 350, 390 and west bound as FL 320, 360, 400.

Singapore & Thailand – Traffic Data

4.11 Singapore provided the meeting with the traffic data for the Singapore FIR for the period January 2008 for review. The data is included as **Appendix F.**

4.12 Thailand provided data for the period 3-9 December 2007, which has been included as **Appendix G** to this report.

Japan/Philippines – Status of extension to N884 between CAB and YURIX

4.13 Japan and the Philippines provided the meeting with updated information on the establishment of the extension to N884 between Cabanatuan (CAB) and YURIX, which had been discussed during the past meetings of the Western Pacific and the South China Sea RVSM Scrutiny Group.

4.14 The meeting was informed that the segment between LBG-CAB-LEBIX-ALBAX would be established as an extension to RNP10 route N884 for northeast-bound traffic only, and the segments between ALBAX and the northern waypoints in the Fukuoka FIR were planned to be published as RNAV5 routes (Y531 and Y533) as well as a conventional connector route between ALBAX and Miyakojima. Y531 and Y533 connect from ALBAX to the established RNAV5 route network enabling connection to major airports on the mainland of Japan.

4.15 The flight inspection of the new route arrangements by the Civil Aviation Bureau of Japan (JCAB) had already been completed, with the results of the inspection meeting the requirements for commissioning. The flight inspection by Philippines had not been finished yet, but was planned for completion in the first quarter of 2008.

4.16 In order to establish lateral separation with A582 and B462, the extended N884 was designated an RNP10 route. Additionally, the respective directions for each route were assigned so that Manila ACC can perform the transit activities in the Manila FIR. The requirements for each route are as follows:

Route	Direction	Remarks
B462	Bidirectional	For flights which are not compliant with RNP10
N884	Unidirectional (northeast bound)	For northeast bound flights which are compliant with RNP10.
A582	Unidirectional (southwest bound)	For southwest bound flights which are not compliant with RNP10.

Table 6: Requirements for B462, N884 and A582

4.17 The meeting noted that the extension to N884 would become effective at the same date/time as implementation of the new flight level arrangements. The details of the routes and the draft of the AIP-Japan for the N884, Y531 and Y533 commissioning are contained in **Appendix H** to this report. The amendment to the AIP of Japan would be issued on 8 May 2008 and the AIP amendment by the Philippines would be issued at the appropriate timing, prior to the implementation of the route extension. The draft amendment proposal to the Asia/Pacific BANP has also been included, as **Appendix I.**

Philippines/USA - Realignment of R596

4.18 The meeting recalled that WPAC/SCS RSG/3 had agreed that ATS route R596 between Guam and Hong Kong would be decommissioned and replaced by new ATS route M501 to the south of the existing route. This change would reduce complexity at the FIR boundaries between Japan, Philippines, and the United States and was also anticipated to assist in the reduction of LHD events. As the introduction of this route could be undertaken independently of the FLAS implementation, M501 would be implemented by normal AIP supplement process with target date of AIRAC 14 February 2008.

4.19 In coordination with the Philippines and the Regional Office, the United States had implemented the portion of M501 contained in the Oakland FIR with effect from 14 February 2008 and the Philippines had issued an AIP supplement to implement the portion of this route in the Manila FIR from 13 March 2008. The Philippines and the United States continue to coordinate closely with the Regional Office and would submit a joint amendment proposal for the BANP (**Appendix J** refers) to the Regional Office in due course.

Thailand – Update on RVSM application in Bangkok FIR

4.20 Thailand informed the meeting that the implementation of RVSM in China during November 2007 has brought a benefit to flights that operate within this area and the smoother traffic flow has significantly improved operations in the Bangkok and adjacent FIRs. A number of the RVSM transition requirements in neighboring FIRs were eliminated which had improved ATC capability and flexibility.

4.21 With effect from 14 January 2008, the table below depicts major ATS routes in the Bangkok FIR which have been included in the use of RVSM single alternate FLOS.

ATS Routes	Previous FLAS	Present FLAS with No-PDC Arrangement
B346/B218	FL 310 350 390 10 minutes longitudinal	FL 290 350 370 410 40 NM spacing with radar surveillance at FL290 and above
R474	FL 290 330 370 41 10 minutes longitudinal	FL 290 310 370 390 410 40 NM spacing with radar surveillance at FL290 and above
A202	FL 290 330 370 410 40NM spacing with radar surveillance	FL 290 330 370 390 410 40 NM spacing with radar surveillance

Table 7: Bangkok FIR – Routes now included in single alternate FLOS

Thailand - RVSM study based on Scenario 3 FLOS

4.22 The meeting noted the following outcomes of the assessment conducted by Thailand which took into account the RVSM single alternate FLOS based on the Scenario 3 proposal.

Safety

4.23 The safety issue proved positive to the overall air traffic management, as the scenario 3 FLOS would eliminate all the flight level transitions along the eastern boundary of Bangkok FIR, thereby introducing a single alternate FLOS covering all airspace under the responsibility of Thailand.

Capacity and traffic flow

4.24 Based on the table of flight level assignment and the agreed No-PDC procedure to be implemented by WPAC/SCS States as part of the new flight level arrangements, the number of available flight levels would be increased and an enhanced traffic flow would be expected.

Operational efficiency

4.25 Thailand anticipates that following implementation more flight levels could be utilized based on No-PDC arrangements and that flight levels would be single alternate assignment.

Workload and Flexibility

4.26 There had already been a decrease in workload due to the elimination of transition requirements since the introduction of components of the scenario 3 FLOS agreed to at the past meetings and the recent implementation of RVSM in China. This has resulted in improved flexibility of controllers in their application of RVSM. The implementation of the new flight level arrangements in July 2008 will significantly enhance these aspects.

Indonesia - Expansion of RVSM level band

4.27 Indonesia informed the meeting of actions taken by the Indonesian DGCA to improve airspace capacity and to support the implementation of new FLAS which was developed by WPAC/SCS RSG/3 for RVSM operations in the South China Sea area.

4.28 The meeting recalled that RVSM had been implemented in Indonesia during November 2003 using a restricted flight level band, from FL310 to FL410 inclusive. However, in order to harmonize RVSM operations in the region and coincide with the implementation of the new FLAS for the WPAC/SCS area, from July 2008 the Indonesian DGCA will implement the full RVSM level band between FL290 and FL410 throughout Indonesian airspace in accordance with the level band required by ICAO provisions.

4.29 Following the WPAC/SCS RSG/4 meeting, the Indonesia DGCA will also review the inter-ACC operational coordination agreements and update LOAs between Indonesia – Malaysia, Indonesia – Philippines, Indonesia –Singapore and Indonesia – USA to ensure smooth transition of the new FLAS. Indonesia expected to make arrangements for invitations to be issued to affected States to attend the APODA meeting (normally Australia, East Timor, Indonesia and Papua New Guinea) to be held in Makassar from 8 – 10 April, 2008 in order to also use this opportunity to finalize and sign updated operational LOAs.

4.30 The meeting welcomed the expanded RVSM level band in Indonesia and strongly congratulated Indonesia for taking this step. The availability of the extra flight levels would be of significant assistance to RVSM operations through Indonesian FIRs, would assist with the implementation of the new FLAS and brought Indonesia into alignment with applicable ICAO provisions in this respect. IATA particularly welcomed the harmonised flight level arrangements that would result. The meeting encouraged Indonesia to issue the AIP Supplement for this change without delay, to ensure that the information was widely available to users.

WPAC/SCS FLAS Comparison Table

4.31 The meeting recalled that the WPAC/SCS RSG/3 meeting (Oct/Nov 2007) considered that a comparative document that describes the differences between the 'old' FLAS and the 'new' FLAS would be beneficial in readily demonstrating the advantages of the new arrangements. Accordingly, the Secretariat had prepared and circulated a draft comparison table and feedback received from the Philippines, Singapore and Thailand had been incorporated into the document.

4.32 The meeting reviewed and finalized the WPAC/SCS FLAS Comparison Table, as shown at **Appendix K.** The meeting noted that under the new FLAS arrangements the number of flight level transitions required had reduced by about two thirds and the remaining transitions had been simplified. Additionally, some of the remaining transitions were now located within areas of radar coverage, further simplifying transition activities.

4.33 The meeting considered that this was a very creditable outcome that clearly addressed the task force Terms of Reference in relation to the requirement to *"promote the minimization of transition activities and enhance the harmonization of flight level assignment with the adjacent regions where RVSM was implemented"*.

Agenda Item 5: Model AIP Supplement for FLOS/FLAS Implementation

5.1 In considering a suitable implementation strategy for implementation of the new flight level arrangements, the meeting recognised that the switchover to the new FLOS/FLAS would be best accomplished during a period of light traffic, in order to simplify the initial transition arrangements from the 'old' flight levels to the 'new' flight levels. However, the differing traffic flows and time zones applicable in the extensive area to which the changes would apply meant that it was not possible to agree a single time of day which would be optimum for all the FIRs involved. As such, a compromise solution was pursued and, after discussion, the meeting adopted 2100 UTC in the early hours of the morning as the switchover time.

5.2 The meeting appreciated that the implementation could not be undertaken as an instantaneous event, rather that implementation would be conducted over a period of time in the vicinity of 2100 UTC using transition arrangements that were suitable both within a State and between neighbouring States. In this regard, States would make suitable preparations for implementation, including bi-lateral coordination with neighbouring States, to agree to a suitable methodology and procedures to conduct the FLOS/FLAS change.

5.3 In agreeing to a date for the implementation, the meeting recalled that WPAC/SCS RSG/3 had established a target date of 5 June 2008. Hong Kong China had raised concerns with WPAC/SCS RSG/3 that although they were able to meet the 3 July AIRAC they were unlikely to be able to meet the June AIRAC, but would study the matter.

5.4 Hong Kong China informed the meeting that despite strong attempts to meet the June target, the high workload resulting from a number of changes in ATC operations as well as limited simulator capacity meant that training for the new FLAS arrangements could not be completed in time for a June implementation. As such, Hong Kong China was limited to an early July implementation. The meeting thanked Hong Kong China for their attempts to meet an earlier implementation but recognised that the additional time would be useful to all States in making preparations and considered the 3 July 2008 AIRAC cycle for implementation of the new flight level arrangements.

5.5 IATA presented information to the meeting in relation to airline aspects of AIRAC updates. The availability of up to date information in enroute navigation charts, flight planning databases and airborne navigation equipment were essential to enable operators to safely comply with the operational changes. Navigation data service providers(e.g. Jeppesen, Honeywell) adopt a switchover time strictly at 0001 UTC into an AIRAC date meaning that, in the case of the changed flight level arrangements, enroute navigation charts and computerized arrangements would switch airline airborne (and ground based) databases to the new configuration from 0001 UTC on 3 July.

5.6 IATA highlighted that as the WPAC/SCS RSG had considered 2100 UTC on 3 July as the ANSP operational switchover time for the new flight level arrangements, this meant that all airline operations were faced with a period of 21 hours from 0001 UTC in which each aircraft would have the new data set but have to manually comply with the old arrangements until the ANSP operational switchover occurred at 2100 UTC. IATA considered that this situation was undesirable, could result in confusion and possibly lead to adverse safety outcomes.

5.7 In this respect, IATA requested that the meeting consider implementing the FLOS/FLAS operational switchover from 2100 on the previous day, 2 July. This would result in only a 3 hour period (2100 UTC on 2 July to 0001 UTC on 3 July) until the airline AIRAC updates took effect, rather than the 21 hours described above. Additionally, the 3 hour period was at a time of day when relatively fewer flights were operating, thereby reducing the number of flights that would be affected.

5.8 Accordingly, in respect to the issues highlighted by IATA, the meeting adopted a switchover date/time of 2100 UTC on 2 July, 2008 (i.e. 0807022100 UTC) to implement the new flight level arrangements in the Western Pacific/South China Sea area.

5.9 The meeting finalised the text of a suitable model AIP Supplement, including details of the No-PDC flight levels applicable to each airway, based on the Scenario 3 proposal that had been the basis of the "Go" decision taken by WPAC/SCS RSG/3. The meeting recognised that the Large Scale Weather Deviations (LSWD) Table that was included in the model AIP Supplement did not include all related routes and therefore was not comprehensive in terms of LSWD procedures. In light of this, the meeting recommended that the LSWD situation be further reviewed by the SEACG/15 meeting scheduled in late May 2008 and, if supplementary AIS information was considered necessary, additional AIP Supplements could be issued at that time. The model AIP Supplement adopted by the meeting for implementation of the new flight level arrangements is shown as **Appendix L.**

5.10 Following adoption of the model AIP Supplement, the meeting agreed that the Regional Office would promulgate the model AIP Supplement by State Letter to all States and international organizations affected by the new flight level arrangements with a request to publish State AIP Supplements based on the model text as soon as possible but not later than AIRAC 8 May 2008 in order to provide sufficient notice of the early July 2008 implementation. This would include Cambodia, China, Hong Kong China, Indonesia, Japan, Lao PDR, Malaysia, the Philippines, Singapore, Thailand and Vietnam.

5.11 The meeting understood that individual States held full responsibility for the AIS information published by that State. Recognising that the appendix to the model AIP Supplement included route and flight level arrangements over a wide area and under the jurisdiction of a number of different States, the meeting agreed that it may not be appropriate for each State AIP Supplement to include the full appendix. States were encouraged to carefully review the appendix and ensure that details for the routes for which they held responsibility were published in the AIP Supplement, noting that broader information could be promulgated by AIC at the discretion of the State.

Agenda Item 6: Implementation Management Considerations

6.1 The meeting recalled that WPAC/SCS RSG/1 had developed a list of the critical activities that would need to be completed to implement any changes in the WPAC/SCS FLOS. As a result of discussions during WPAC/SCS RSG/2, the meeting had noted the importance of ensuring compatibility with the FLOS to be implemented in China in late 2007 and added this to the list. Accordingly, the meeting considered that the actions required would encompass at least the following activities:

a) Review of operational factors relating to the FLOS;
b) Review compatibility with China FLOS;
c) Review of traffic movement data for the WPAC/SCS area;
d) Revised assignment of cruising levels;
e) Revised No-PDC procedures;
f) Identification of transition areas;
g) Development of transition procedures;
h) Completion of simulation trials;
i) Completion of safety assessments by ATS providers as part of SMS;
j) Completion of safety assessments by MAAR;
k) Completion of modeling of traffic flows;
l) Preparation and publication of AIP Supplement;
m) Completion of controller training;

n) Publication of relevant documents; and
o) Completion of amendments to operational Letters of Agreement.

6.2 The meeting agreed that although many of the activities had been completed leading up to the taking of the 'Go" decision during WPAC/SCS RSG/3 in Oct/Nov 2007, a number of matters had to be completed by States to enable implementation to proceed.

6.3 The preparation and publication of State AIP Supplements based on the model text developed by the WPAC/SCS RSG was essential. The meeting recognised the importance of providing adequate warning to industry of such a complex change and urged States to finalise and issue AIP Supplements as early as possible. States may also like to consider publishing an AIC to provide an early advice and follow up with a more detailed AIP Supplement.

6.4 Training arrangements would need to be put in place to ensure that air traffic controllers were adequately prepared for the changes. This may include periods of simulator and other formal training to ensure that the flight level arrangements were fully understood at the workplace.

6.5 The completion of documentation was also an important task. Internal training, operational and related documentation should be prepared and promulgated. Importantly, operational letters of agreement had to be updated between ACCs. As well as including the revised flight level arrangements, States were urged to use this opportunity to undertake a full update of operational LOAs. As discussed previously in this report, incorporation of LHD reporting arrangements into LOAs should also be considered. Bringing LOAs into one standardised format was also a valuable activity and the Secretariat provided an example (**Appendix M** refers) of a model LOA that had been contained in the Asia/Pacific Air Navigation Plan Facilities and Services Implementation Document (FASID).

6.6 Appropriate implementation methodologies and arrangements would need to be agreed and documented between neighbouring States to ensure a smooth switchover to the new flight level arrangements. These could include buffering arrangements around the 2100 UTC switchover time to ensure that changes to airborne flights were conducted in a systematic manner. Detailed implementation plans would need to be available to assist implementation and ensure that nothing was overlooked.

6.7 The meeting recognised that some States already had current AIP and AIP Supplement material on issue that related to RVSM matters. RVSM implementation had been going on regionally since 2000 and, with the recent implementation in China, the implementation of the these new flight level arrangements in WPAC/SCS in early July would see a stable situation result regionally in terms of RVSM implementation. The Secretariat urged States to take maximum advantage of the opportunity presented by the July 2008 changes to fully review and update all relevant AIP and Supplement information. This was likely to lead to the cancellation of some AIS information and the amalgamation of other information into alternate documentation.

6.8 The Secretariat also reminded the meeting that the AIP Supplement format was intended by ICAO as a method of temporarily promulgating AIS information. The expectation is that the AIS information contained in AIP Supplements would either be withdrawn or be transferred in the primary AIP document in a timely manner. AIP Supplements were not intended by ICAO to have an indefinite lifespan and needed to be reviewed regularly.

Agenda Item 7: Update WPAC/SCS RSG Task List

7.1 In reviewing the WPAC/SCS RSG task list, the meeting updated the status of items considered complete and suitable for closure as well as those remaining open, noting the progress that had been made. The meeting agreed that the updated task list included as **Appendix N** accurately reflected the current work programme of the WPAC/SCS RSG.

Agenda Item 8: Any Other business

Singapore – LOA for Gross Navigational Error

8.1 The meeting recalled that in 2001, an Operational Letter of Agreement (LOA) was signed by States concerned for the monitoring of aircraft gross navigational errors (GNE) in the South China Sea area for the implementation of the Revised South China Sea Route Structure on 1 November 2001.

8.2 Subsequently, at the ATM/AIS/SAR Sub-Group/17 meeting held from 2 to 6 July 2007, Singapore had expressed willingness to monitor traffic movement data and gross navigational error reports on two additional ATS routes, namely L642 and M767 in the South China Sea area to facilitate the implementation of RNP10 (50/50NM) operations. The ATM/AIS/SAR Sub Group recognized that to ensure the successful implementation of RNP10 (50/50NM) horizontal separation by July 2008 and RNP4 implementation in the future, there was a need to amend the operational LOA to reflect the changes.

8.3 The meeting was informed that the amended operational LOA was presented at the RASMAG/8 Meeting held from 10 to 14 December 2007. RASMAG/8 had accepted the amendments in the operational LOA and urged Singapore to circulate the amended Operational LOA to the States concerned for their concurrences. Accordingly, Singapore presented the meeting with the draft Operational Letter of Agreement for monitoring of aircraft gross navigational errors in the South China Sea area and the collection of data for the conduct of safety assessment to implement 50/50NM and 30/30NM reduced horizontal separation in the South China Sea area.

8.4 The meeting noted that Singapore would coordinate with Regional Office for the circulation of the signed operational LOA to States concerned.

Review of FIT-SEA/7

8.5 The meeting was informed of the "Go" decision that was taken by the Seventh Meeting of FANS Implementation Team for South-East Asia (FIT-SEA/7), held from 30 January to 1 February 2008, for the operational implementation of datalink (ADS/CPDLC) in the Ho Chi Minh Flight Information Region (FIR) in harmony with the Singapore FIR from April 2008.

8.6 The "Go" decision followed a review of the South China Sea operational datalink trials, Phase 2 of which had commenced on 2 August 2007 involving six oceanic RNAV routes L625, L628, M765, M768, N500 and N892 in the Ho Chi Minh Flight Information Region (FIR) for all aircraft equipped with FANS-1/A.

8.7 Throughout the Phase 2 trial, ADS/CPDLC services were available H24 with an average of 3,246 messages per day and the success rate of uplinks was 98%. The success rate of the auto data link transfers from Ho Chi Minh Area Control Centre (ACC) to Singapore ACC was 95.2 % and the ground system in Ho Chi Minh ACC worked satisfactorily. In order to overcome VSAT problems during sun-induced outage, Viet Nam and ARINC would establish a land link for implementation by April 2008.

8.8 In taking the "Go" decision to commence operations in Ho Chi Minh from April 2008, FIT-SEA/7 adopted the following plan:

1) Commencement: from 0001 UTC on 10 April 2008;
2) Scope: ATS routes L625, L628, L642, M765, M768, M771, N500 and N892;
3) AIP Supplement to be published by Vietnam on 29 February 2008;
4) Training for air traffic controllers and technical staff would be conducted;
5) LOAs between Ho Chi Minh and Singapore ACCs would be revised;
6) JCAB to continue to assist Viet Nam in regard to the CRA services; and
7) After 18 months, Viet Nam would consider expanding the scope.

8.9 FIT-SEA/7 recognized that the Manila FIR was the last integral part for the seamless data link operations in the entire South China Sea area, and formulated the following draft recommendation for consideration by SEACG/15 in May 2008:

Draft Recommendation

That, in order for early realization of the full benefit of data link operation and the reduced longitudinal separations throughout the South China Sea airspace, the Philippines take appropriate steps for the data link service to be provided in the Manila Flight Information Region as soon as possible.

Review of PBN/TF/1

8.10 The First Meeting of the Asia/Pacific Performance Based Navigation Task Force (PBN/TF/1) was held from 9 to 11 January 2008 at the Regional Office. The PBN Task Force had been established by APANPIRG Conclusion 18/52 to develop a PBN implementation plan for the Asia/Pacific Region and address related regional PBN implementation issues.

8.11 PBN/TF/1 was informed that the Eleventh Air Navigation Conference took note of the lack of harmonization in the implementation of RNP and RNAV and recommended that ICAO address this issue and to also expedite the implementation of RNP and RNAV in a harmonized manner.

8.12 The Required Navigation Performance Special Operational Requirements Study Group (RNPSORSG) was created in June 2003 and developed the concept of Performance Based Navigation (PBN). The attention of PBN/TF/1 was drawn to the deliberations of 36th Session of ICAO Assembly, wherein States were urged to implement RNAV and RNP air traffic services (ATS) routes and approach procedures in accordance with the ICAO PBN concept laid down in the *Performance Based Navigation Manual* (Doc 9613).

8.13 IATA stressed to PBN/TF/1 that the navigation capability of aircraft had outstripped the service capabilities of the ground based ATM system. Airlines continued to acquire or equip existing aircraft with improved and more capable avionics. A more autonomous operation of the aircraft, utilizing on-board systems, would reduce complexity and controller workload therefore unlocking latent capacity within the ATM system. IATA further illustrated the safety benefits of PBN, which included: CFIT reductions, stabilized approaches, safer missed approaches, safer non-normal procedures, less stress on flight crews, more consistency, and no ILS signal distortion. Other PBN benefits were potentially high because of a high level of RNAVequipage in the Asia Pacific region. These included track shortening saving time/fuel and PBN would provide significant safety, efficiency, economic and environmental benefits to airlines.

8.14 PBN/TF/1 reviewed the TORs critically and put forward proposed amendments/ observations on the viability of the TORs in terms of PBN implementation, including consideration of the following:

1) Requirement of Training and continued education;

2) ICAO must continue to provide assistance and direction; and further develop guidance on separation standards and approach procedures;

3) Shortage of Procedure Designers;

4) ICAO should effectively and efficiently take up framing of design standards;

5) The participants (TF members and Focal Contact Persons) need to go back and review their State legislation, regulations, and guidance so as to ensure that their State material adequately reflected the PBN requirements / material necessary to move forward with implementation;

6) Continued awareness of the need to educate the industry in relation to buying new aircraft/ equipment, and upgrading the avionics on board the aircraft; and

7) Complexity and need for PBN compliant aircraft.

8.15 PBN/TF/1 reviewed a worksheet providing detailed status regarding current and planned implementation of PBN terminal instrument procedures (SIDs and STARs) and approaches that each State should complete and submit to ICAO, then keep them updated. It was recommended that the Focal Contact Person in each State should be responsible for providing the initial data to the ICAO APAC Regional office by 30 June 2008, and for updating the data as implementation occurs, or no less than an annual basis, by 15 January of each year.

8.16 PBN/TF/1 noted that the worksheet proposal called for data to be collected for every end of every runway in the Asia/Pacific region. Recognizing that this would necessitate data gathering and continuous update in respect of the thousands of runway ends in use regionally, the meeting agreed to confine the data collection to runway ends at international aerodromes only and the data be submitted to ICAO by June 2008. This was in accordance with ICAO's normal primary focus on international aerodromes. Data on domestic runways was to be submitted to ICAO by December 2008.

8.17 The PBN/TF formed two subsidiary groups in order to progress the two primary objectives agreed by the task force:

a) Preparation of a Regional PBN Plan; and

b) Preparation of State PBN Implementation Plan and associated documentation.

8.18 The meeting noted that the Second Meeting of the PBN Task Force is scheduled for 1-3 April 2008 in Bangkok and the Third Meeting of the PBN Task Force for the 16 – 18 July 2008, also in Bangkok.

Outcomes from RASMAG/8

8.19 The meeting reviewed the relevant parts of the Report of the Eighth Meeting of the Regional Airspace Safety Monitoring Advisory Group (RASMAG/8, December 2007), noting information under the following headings:

a) SMA Handbook;

b) RMA Manual;

c) Approval of JCAB RMA as APANPIRG RMA;

d) HMU implementation in Japan;

e) Quantify effectiveness of AIDC;

f) China – preparation for APANPIRG RMA status;

g) Issues limiting effectiveness of Asia/Pacific RMAs;

h) Singapore to assume SMA responsibilities for South China Sea area;

i) RASMAG List of Competent Airspace Safety Monitoring Organizations;

j) Datalink performance requirements for reduced horizontal separation minima;

k) Large Height Deviation – Lost Communication between Aircraft and ATC; and

l) Development of Long Term Height Monitoring provisions

Agenda Item 9: Date and venue of the WPAC/SCS RSG/5 meeting

9.1 The meeting recognised the need for a post implementation review meeting to be held approximately 90 days after the implementation of the new flight level arrangements in early July, to provide a suitable forum to raise and correct any issues that had resulted from the implementation.

9.2 Accordingly, the meeting agreed to plan for a 3 day review meeting to be held from Tuesday 14 October to Thursday 16 October 2008, inclusive. The Secretariat would make suitable arrangements for the meeting to be held at the Regional Office premises.

10. Closing Remarks

Chairman

10.1 The Chairman, Mr. Maynard, expressed his thanks to the members of the WPAC/SC SRSG for their participation and commitment to working through difficult issues in order to achieve the goals of the fourth meeting of the WPAC/SCS RSG. Special note was made that the latest safety assessment from MAAR indicated that the TLS for RVSM had been met and the meeting considered that this was directly attributable to the hard work undertaken by affected States. Additionally, the MAAR

analysis of the new FLOS/FLAS arrangement indicates that it will support the continued safe use of RVSM within the region.

10.2 Mr. Maynard pointed out that although we are enjoying many successes there is still work to be done. The number one causal factor for LHDs continues to be "controller to controller" coordination and that the States need to continue their due diligence towards eliminating this and other causal factors. Also, that there is still a great deal of pre-implementation work to be completed by the States before the implementation of the new flight level arrangements could proceed - from the signing of amended operational LOAs to training of the controllers. All of these factors will have a direct impact on the seamlessness implementation that we all look forward too.

10.3 Mr. Maynard acknowledged the many comments that were made during the meeting as to the overall effectiveness of this group and the potential for this or a similar group to continue to work on safety and efficiency gains in the region. It was pointed out that this would be a significant resource commitment on behalf of the States and the Regional Office. Mr. Maynard suggested that the members discuss this with their respective States to see if there was real interest in doing this and to report back at the next meeting.

10.4 Mr. Maynard thanked the Secretariat and the Asia/Pacific Regional Office for their invaluable support which has been and continues to be a significant contributor to the progress being realized by the WPAC/SCS RSG. He expressed his positive anticipation for the implementation of the new flight level arrangements in early July and looks forward to the positive feedback at the post implementation review meeting scheduled for October 2008.

Secretariat

10.5 In closing the meeting, Mr. Tiede also highlighted that the many positive interactions between States had led to the very positive outcomes in the work of the Scrutiny Group. Strategies implemented by States for the management of LHDs were already having an effect and this resulted in very positive trends in safety performance that were expected to ensure the regional TLS continued to be met in the foreseeable future. Implementation of the new routes and revised flight level arrangements in the WPAC/SCS area are significant operational changes which will result in safety, efficiency and environmental benefits for many years to come. Mr. Tiede urged all parties to continue to work closely together to ensure that the early July implementation was a success.

10.6 Mr. Tiede thanked the United States FAA for their ongoing support of the RVSM Scrutiny Group. The availability of Mr. Maynard as Chairman was very valuable in the work processes of the group and had measurably assisted the excellent progress made so far. He thanked Mr. Maynard for his professional efforts over the last few days and wished all participants a safe trip home.

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LIST OF WORKING PAPERS (WPs) AND INFORMATION PAPERS (IPs)

WORKING PAPERS

NUMBER	AGENDA	TITLE	PRESENTED BY
WP/1	1	Provisional Agenda for WPAC/SCS RSG/4	Secretariat
WP/2	2	Global Long Term Height Monitoring for RVSM Operations	Secretariat
WP/3	4	The current status on the new route between CAB and YURIX	Japan Philippines
WP/4	4	Scenario 3 FLOS Developments in relation to RVSM Application within the Bangkok FIR	Thailand
WP/5	5	Draft AIP Supplement	Secretariat
WP/6	4	WPAC/SCS FLAS Comparison Table	Secretariat
WP/7	7	Update WPAC/SCS RSG Task List	Secretariat
WP/8	2	Summary of the Airspace Safety Review for the new FLAS in the Western Pacific/South China Sea (WPAC/SCS) RVSM Airspace	MAAR
WP/9	4	RVSM Flight Level Allocation System (FLAS) for ATS Route B592	Indonesia
WP/10	4	Change of Flight Level Allocation for Southbound Flights on ATS Route N891 based on the New FLAS in the Singapore FIR	Singapore

INFORMATION PAPERS

NUMBER	AGENDA	TITLE	PRESENTED BY
IP/1	-	List of Working Papers (WPs) and Information Papers (IPs)	Secretariat
IP/2	8	Review of the Eighth Meeting of the Regional Airspace Safety Monitoring Advisory Group (RASMAG/8)	Secretariat
IP/3	8	Review of the Seventh Meeting of FANS Implementation Team, South-East Asia (FIT-SEA/7)	Secretariat
IP/4	8	Outcomes of the Western Pacific/South China Sea RVSM Scrutiny Group	Secretariat
IP/5	8	Revised Operational Letter of Agreement (LOA) for Monitoring of Aircraft Gross Navigational Errors in the South China Sea Area	Singapore
IP/6	3	Realignment of Oakland, Manila, and Ujung Pandang FIR Boundary	Indonesia

NUMBER	AGENDA	TITLE	PRESENTED BY
IP/7	2	Traffic Sample Data (TSD) State Letter	Secretariat
IP/8	4	Expansion of RVSM Level Band within Indonesia FIR	Indonesia
IP/9	8	Summary of the First Meeting of Asia/Pacific PBN Task Force	Secretariat

……

Long Term RVSM Height Monitoring Actions – Asia/Pacific Region

APANPIRG/18 (September 2007) was of the opinion that work should be undertaken as soon as possible in order to assess the consequences for the Asia/Pacific Region of the implementation of global long term RVSM height monitoring requirements from 2010 and, under the terms of Conclusion 18/4, requested Asia/Pacific Regional Monitoring Agencies (RMAs) in conjunction with RASMAG to prepare a regional impact statement summarizing the estimated consequences for the Region, including consideration of the numbers of airframes required to be monitored.

In advancing this matter in the context of the Asia/Pacific region, RASMAG/8 (December 2007) considered that although the final composition of the global long term height monitoring provisions was still subject to final resolution, it was reasonable to expect that an RMA would need to carry out at least the following tasks:

a) Educate States and airspace users as to the roles and functions of an RMA,

b) Establish the monitoring requirements to be satisfied by each operator,

c) Coordinate with other RMAs so that monitoring results are shared, and

d) Ensure that an adequate monitoring system infrastructure exists.

In order to progress these matters in a timely fashion, RASMAG/8 formulated six Long Term Height Monitoring (LTHM) Actions for promulgation, as outlined below. More details in respect to each LHTM can be found in the RASMAG/8 report, available from the website of the ICAO Asia/Pacific Office at http://www.bangkok.icao.int/ under the “Meetings” menu.

LTHM Action 1: Based on the final draft of the RMA Manual which was expected to be available from June 2008, Asia/Pacific RMAs in conjunction with RASMAG prepare and widely promulgate an information circular detailing, as a minimum, the roles and responsibilities of an RMA, the height monitoring process and equipment required, and the reasons and quantum of the global long term height monitoring requirements.

LTHM Action 2: To maintain effective delivery of existing RMA services and facilitate planning specifically designed to prepare for application of global long-term RVSM height monitoring requirements from 2010, each Asia/Pacific RMA should, as a matter of priority, bring to the attention of State regulators the difficulties being experienced by RMAs in receiving timely and accurate information (including routine large height deviation [LHD] reporting) from States. Asia/Pacific RMAs should seek assistance from States in implementing robust processes to:

a) continuously update RMA databases of operators and aircraft holding State RVSM approvals;

b) enable the expeditious forwarding of all LHD and related reports to RMAs, and

c) ensure availability of current details for State RVSM Point of Contact (POC) officials.

LTHM Action 3: Whilst recognizing that responsibility for compliance with Annex 6 height monitoring provisions remains the responsibility of States, as soon as practicable each Asia/Pacific RMA, in conjunction with State regulatory authorities and airspace user organizations, should develop a methodology for reviewing the RMA database of RVSM approvals in order to develop and promulgate a list of the minimum height monitoring which must be accomplished by each operator to which the RMA provides services. In preparing this list, account should be taken of special circumstances pertaining to infrequent airspace users recognizing that some operators may be required to complete minimum monitoring requirements which are a function of the proposed 1,000-flying-hour limit rather than the two-year limit.

LTHM Action 4: After determining the potential monitoring burden posed by the operators to which it provides service, each Asia/Pacific RMA should examine monitoring results accumulated by all other authorized global RMAs, regardless of region, in order to utilize monitoring results from other regions to avoid duplication and reduce the actual monitoring burden the RMA faces.

LTHM Action 5: Each Asia/Pacific Region RMA should, in light of its anticipated height monitoring burden, propose recommendations through RASMAG to APANPIRG useful in determining the regional ground-based and GPS-based Monitoring System (GMS) height monitoring infrastructure necessary to enable its affiliated operators to meet the global long-term RVSM monitoring requirements applicable from November 2010.

LTHM Action 6: Asia/Pacific RMAs collaboratively investigate the technical feasibility of using the aircraft geometric height produced by ADS-B and Multilateration surveillance systems to support monitoring of aircraft height keeping performance.

…… *End* ……

Proposal for Amendment of Basic Air Navigation Plan
(Serial No. APAC 08/... – ATS)

a) **Plan:** ASIA/PAC, Basic ANP Doc 9673

b) **Proposed Amendment:** Editorial note: Amendments are arranged to show "deleted text" using strikeout (~~text to be deleted~~), and "added text" with grey shading (text to be inserted).

Amend the boundaries of the following FIRs.

i) Manila FIR

…
21 00 N 130 00 E direct to 07 00 N 130 00 E direct to ~~03 30 N 133 00 E direct to 03 30 N 132 00 E direct to 04 00 N 132 00 E~~ 04 00 N xxx yy E direct to 04 00 N 120 00 E direct to
…

ii) Ujung Pandang FIR

Beginning at 04 00 N 118 00 E direct to ~~04 00 N 132 00 E direct to 03 30 N 132 00 E~~ 04 00 N xxx yy E direct to 03 30 N 133 00 E direct to 03 30 N 141 00 E direct to 09 50 S 141 00 E direct to
…

(cf. Charts ATS 1, ATS 2, ATS 3D)

c) **Originated by:** Indonesia and the Philippines

d) **Originators reasons for amendment:** Refer to Secretariat comment below**……..**

e) **Intended date of implementation:** Upon approval by the Council

f) **Proposal circulated to the following States and organizations**:

Australia
Brunei Darussalam
Cook Islands
Federated States of Micronesia
Fiji
Indonesia *
Malaysia
New Zealand
Papua New Guinea
Philippines *
Singapore
United States *
IATA
IFALPA

* For Information

g) **Secretariat comments:** The Secretariat supports the proposal noting that Indonesia, Philippines and United States consider it desirable to transfer the proposed area from the Manila FIR to the Ujung Pandang FIR in order to:

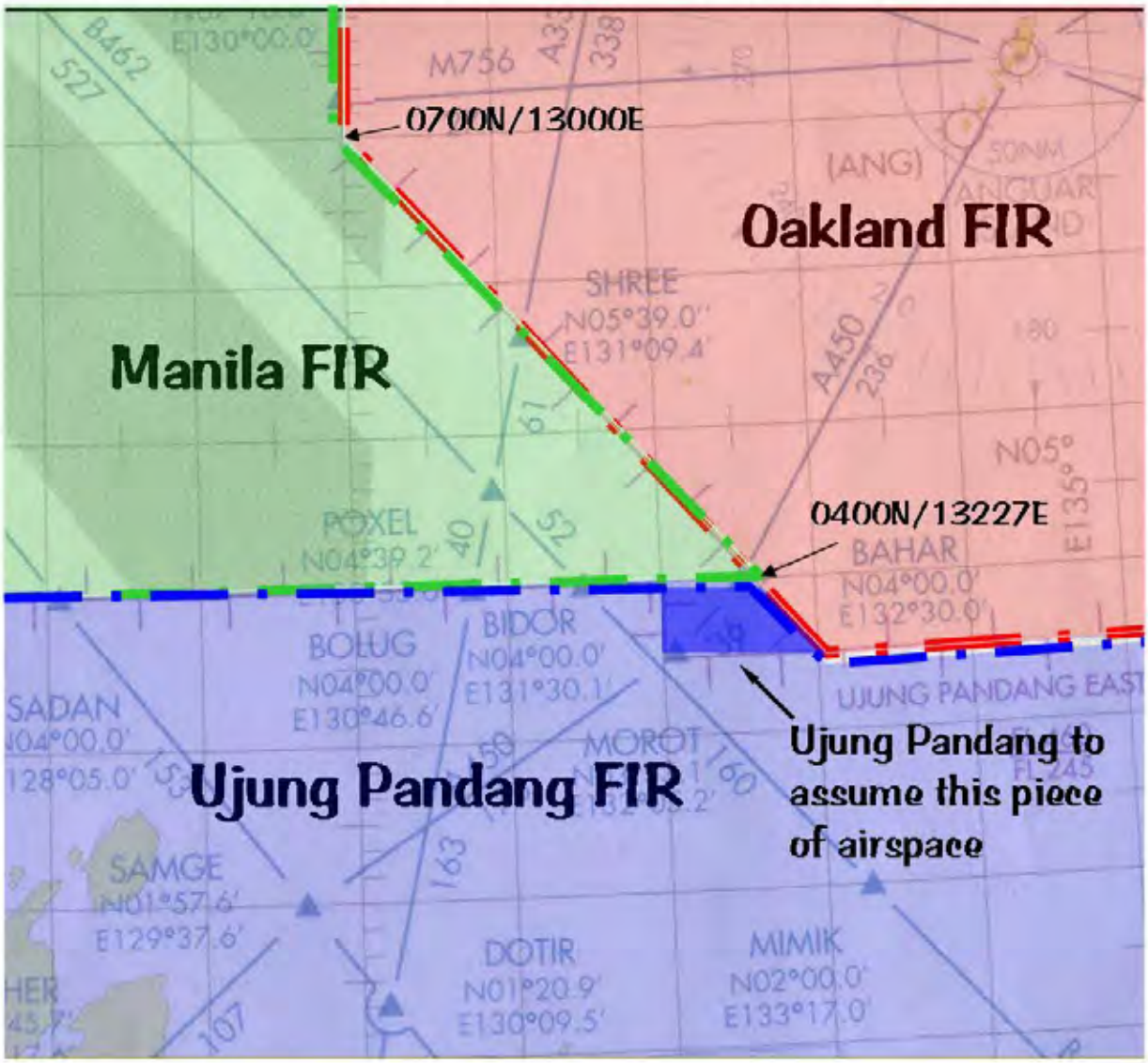
i) Simplify the coordination processes among Makassar ACC, Manila ACC and Oakland ARTCC with consequential safety benefits;

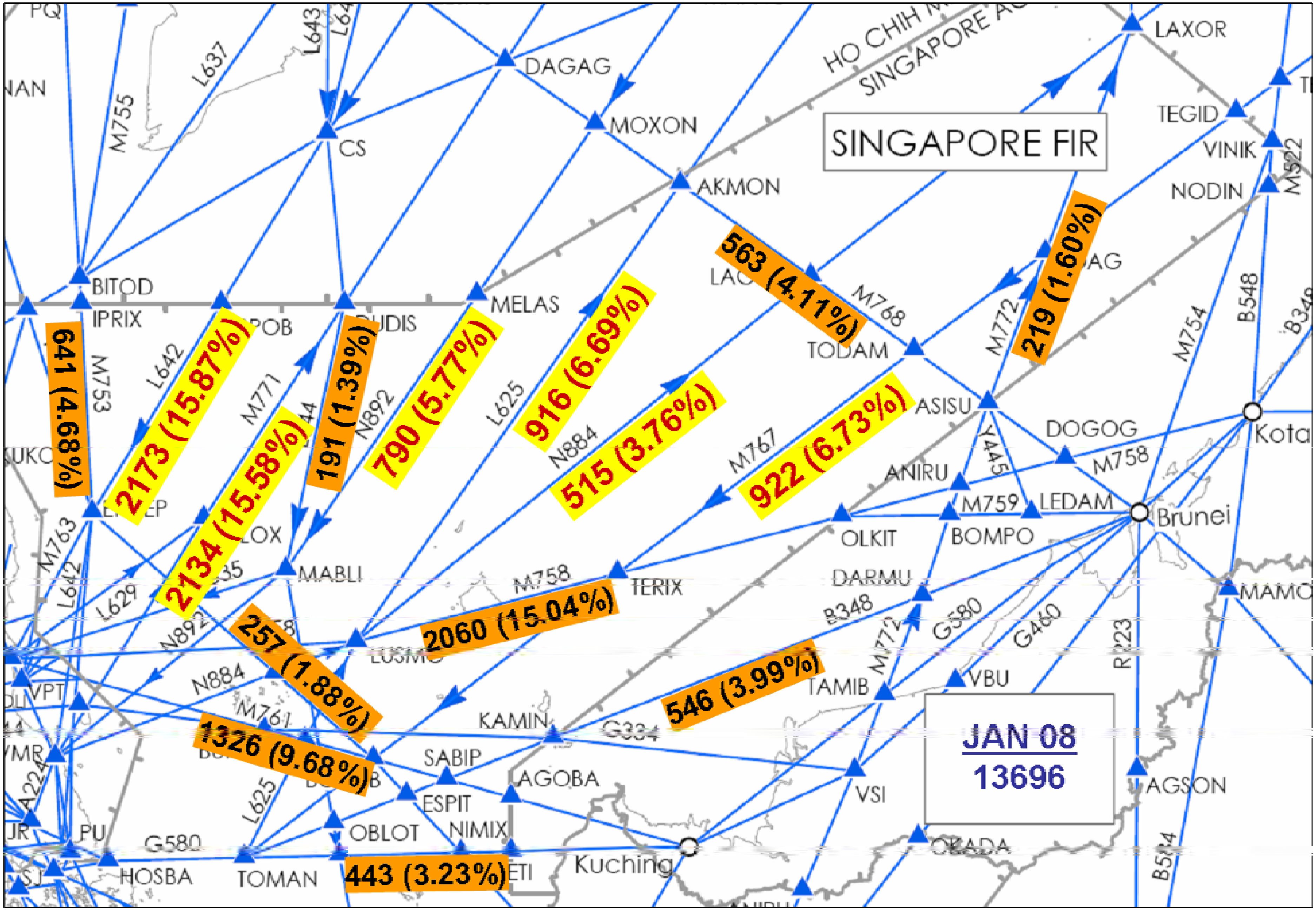
ii) Recognize the requirements of major traffic flows along the ATS route B462;

iii) Reduction of ATS route and flex track constraints with consequential environmental and economic benefits; and

iv) Rationalize workload between ATC sectors in the ACCs/ARTCC to facilitate airspace.

Proposal for New FIR Boundaries

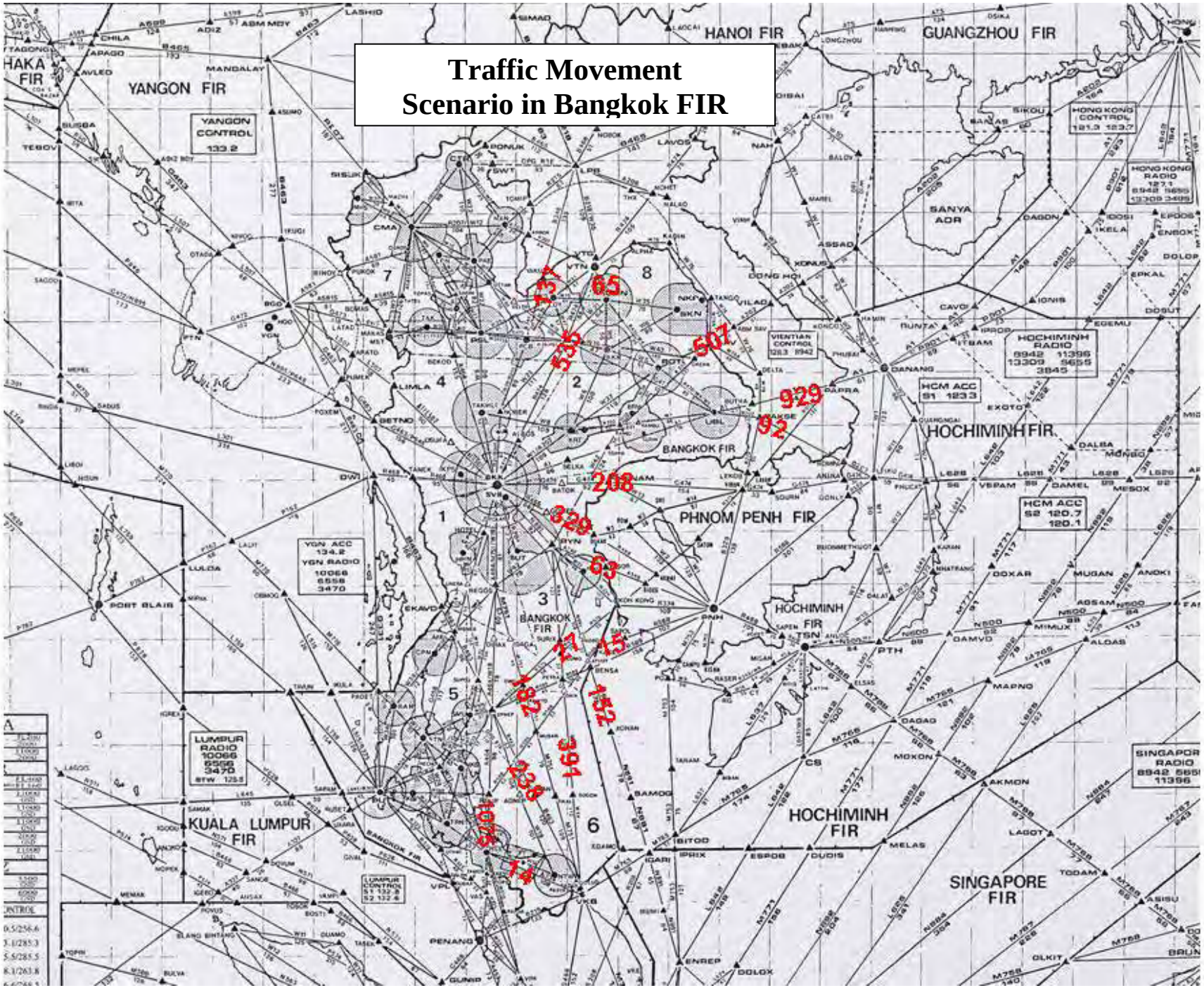


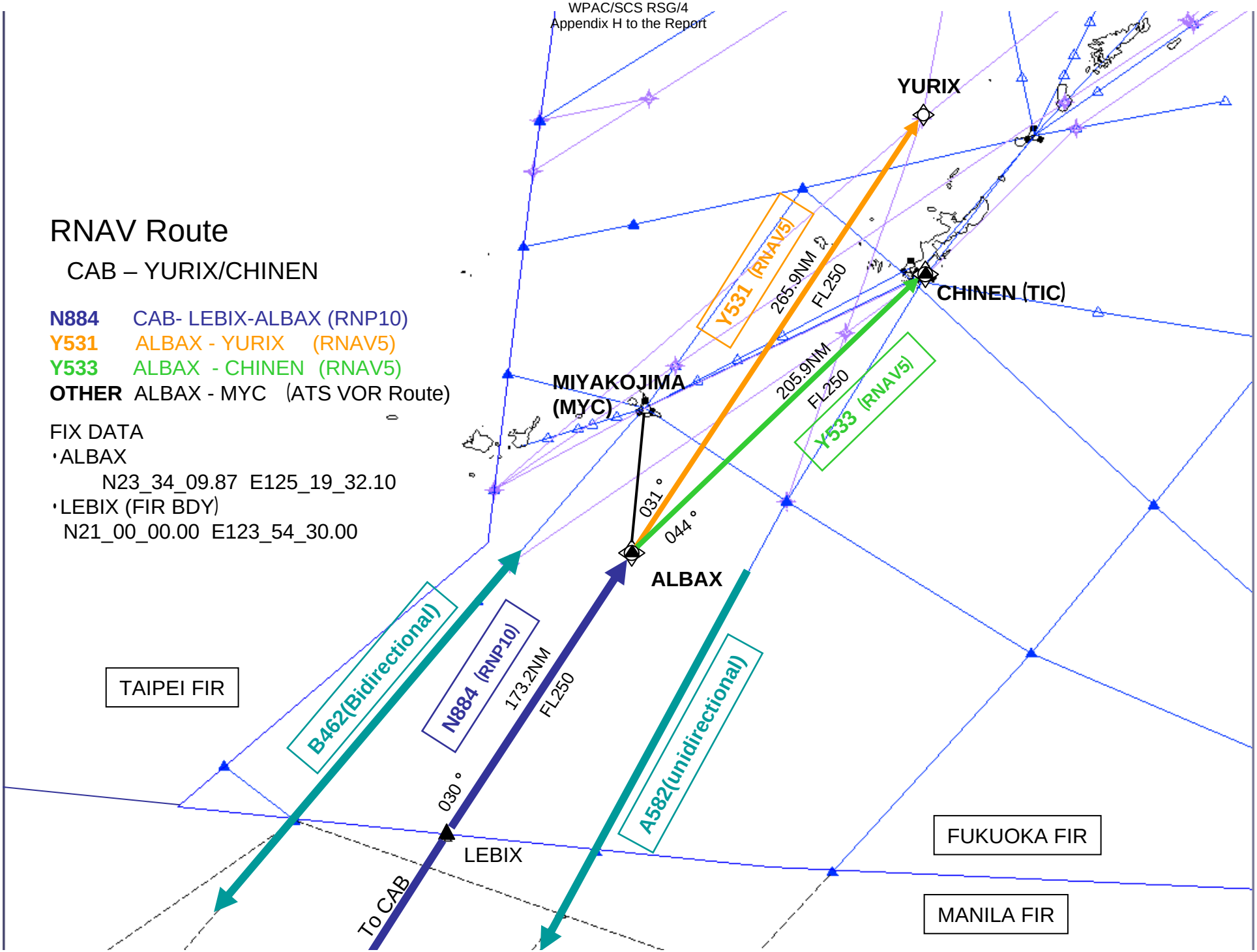

SINGAPORE FIR
HO CHIH MINH
SINGAPORE
JAN 08
13696
641 (4.68%)
2173 (15.87%)
2134 (15.58%)
191 (1.39%)
790 (5.77%)
916 (6.69%)
515 (3.76%)
563 (4.11%)
922 (6.73%)
219 (1.60%)
2060 (15.04%)
257 (1.88%)
1326 (9.68%)
546 (3.99%)
443 (3.23%)
DAGAG
MOXON
AKMON
CS
BITOD
IPRIX
MELAS
TODAM
ASISU
DOGOG
ANIRU
OLKIT
BOMPO
LEDAM
TERIX
DARMU
TAMIB
VBU
VSI
KAMIN
SABIP
LAGOBA
ESPIT
OBLOT
NIMIX
HOSBA
TOMAN
MABLI
LAXOR
TEGID
VINIK
NODIN
AGSON
MAMO
Kota
Brunei
Kuching
L637
L643
M755
L642
M753
M771
N892
L625
N884
M767
M768
M772
M754
B548
M758
M759
B348
G580
G460
R223
M761
G334
L629
M763
G580
A224
M522

TRAFFIC MOVEMENT DATA IN BANGKOK FIR

3-9 DECEMBER 2007

ATS ROUTE	AMOUNT	PERCENT
A464	1075	21.55
A1	929	18.59
R474	535	10.70
A202	507	10.15
M644	391	7.83
R468	329	6.59
B463	238	4.77
G474	208	4.16
M751	182	3.65
N891	152	3.04
B346	137	2.74
B202	92	1.85
R470	65	1.30
A340	63	1.26
R215	32	0.65
R575	27	0.55
R588	15	0.30
A334	14	0.28
TOTAL	4991	100 (99.96)


Traffic Movement
Scenario in Bangkok FIR
HANOI FIR
GUANGZHOU FIR
YANGON FIR
BANGKOK FIR
PHNOM PENH FIR
HOCHIMINH FIR
KUALA LUMPUR FIR
SINGAPORE FIR
SANYA AOR
65
535
507
929
92
208
329
63
27
15
182
152
394
239
106
14


RNAV Route
CAB – YURIX/CHINEN
N884 CAB- LEBIX-ALBAX (RNP10)
Y531 ALBAX - YURIX (RNAV5)
Y533 ALBAX - CHINEN (RNAV5)
OTHER ALBAX - MYC (ATS VOR Route)
FIX DATA
・ALBAX
N23_34_09.87 E125_19_32.10
・LEBIX (FIR BDY)
N21_00_00.00 E123_54_30.00
YURIX
CHINEN (TIC)
MIYAKOJIMA
(MYC)
ALBAX
LEBIX
Y531 (RNAV5)
265.9NM
FL250
Y533 (RNAV5)
205.9NM
FL250
031°
044°
B462(Bidirectional)
N884 (RNP10)
173.2NM
FL250
030°
To CAB
A582(unidirectional)
TAIPEI FIR
FUKUOKA FIR
MANILA FIR

ENR 3.2 - AREA NAVIGATION(RNAV) ROUTE

Route designator (Navigation specification) Name of significant points Coordinates [Available SENSOR]	Way-point IDENT of VOR/DME BRG & DIST	**MAG** TRACK [TRUE TRACK]	Geodetic DIST	Upper limits Lower limits Airspace classification	**MEA** [**MOCA**] (**FTorFL**)	Direction of crusing level Odd	Even	Critical DME	DME GAP	Remarks Controlling unit Frequency
1	2	3	4	5	6	7		8	9	10
N884 (RNP10) [INS or IRS, GNSS] ▲ ALBAX *233410N 1251932E*										
			173.2	UNL	**FL250** [**2000**]					Naha ACC Freq:123.9(132.1)276.5(276.1) MHZ
▲ LEBIX *210000N 1235430E*		**030** [**026.8**]				↑ **FL250**				
Y531 (RNAV5) [VOR/DME, DME/DME, INS or IRS, GNSS] YURIX *272917N 1273654E*										Naha ACC Freq:132.35(132.1)301.2(276.1) MHZ
			265.9	UNL	**FL250** [**3000**]			MYC <ALBAX / 261.0nm to YURIX > KXC <176.0nm to YURIX / 126.0nm to YURIX >		
▲ ALBAX *233410N 1251932E*		**031** [**027.3**]				↑ **FL250**				Naha ACC Freq:123.9(132.1)276.5(276.1) MHZ
Y533 (RNAV5) [VOR/DME, DME/DME, INS or IRS, GNSS] ▲ CHINEN(TIC) *260939N 1274803E*										
			205.9	UNL	**FL250** [**3000**]			MYC <ALBAX / 204.9nm to TIC > MYC <180.9nm to TIC / 165.9nm to TIC > KXC <57.9nm to TIC / 50.9nm to TIC > KXC <45.9nm to TIC / 25.9nm to TIC >		Naha ACC Freq:123.9(132.1)276.5(276.1) MHZ
▲ ALBAX *233410N 1251932E*		**044** [**040.4**]				↑ **FL250**				

Proposal for Amendment of Basic Air Navigation Plan
(Serial No. APAC 08/… – ATS)

a) **Plan:** ASIA/PAC, Basic ANP Doc 9673

b) **Proposed Amendment:** Editorial note: Amendments are arranged to show "deleted text" using strikeout (~~text to be deleted~~), and "added text" with grey shading (text to be inserted).

Amend requirement for N884 as follows:

N884 MERSING
LUSMO, 0333.7N 10655.7
LAGOT, 0716.6N 11132.5E
LAXOR, 0950.3N 11447.9E
LULBU, 1108.0N 11631.4E
LEGED, 1255.5N 11854.3E
~~MANILA~~
LUBANG
CABANATUAN
MIYAKOJIMA

(cf. Table ATS 1, Charts ATS 3A and D)

c) **Originated by:** Japan and the Philippines

d) **Originators reasons for amendment:** Refer to Secretariat comment below

e) **Intended date of Implementation:** 3 July 2008

f) **Proposal circulated to the following States and Organizations**:

Japan *	IATA
Philippines *	IFALPA
Singapore	IFATCA
United States	

* for information

g) **Secretariat comments:** The Third Meeting of the Western Pacific/South China Sea RVSM Scrutiny Working Group (WPAC/SCS RSG/3, October-November 2007) agreed that implementation of a new ATS route between Manila and Naha as an extension of N884 would reduce complexity at the Philippines/Japan FIR boundary and would directly assist in reducing large height deviation occurrences in this RVSM airspace. Japan and the Philippines have worked closely with the Regional Office and submitted a joint amendment proposal. As this route extension was integral to the operation of the new flight level allocations agreed at WPAC/SCS RSG/3, the meeting recognized that the implementation should occur simultaneously with the new flight level allocations implementation. Subsequently, WPAC/SCS RSG/4 (February 2008, Bangkok) agreed to a target date of AIRAC 3 July 2008.

Proposal for Amendment of Basic Air Navigation Plan
(Serial No. APAC 08/… – ATS)

a) **Plan:** ASIA/PAC, Basic ANP Doc 9673

b) **Proposed Amendment:** Editorial note: Amendments are arranged to show "deleted text" using strikeout (~~text to be deleted~~), and "added text" with grey shading (text to be inserted).

Add requirement for M501 as follows:

M501	NIMITZ VORTAC, 1327.27N 14444.0E MOGLE, 1402.4N 14307.5E LADSS, 1451.0N 14050.0E LEETA, 1553.8N 13500.0E LIMLE, 1639.7N 13000.0E OMDOB 1707.0N 12633.0E SKATE, 1722.2N 12425.6E DAGRI 1732.6N 12337.5E BEDIP 1750.2N 12213.8E LAOAG, 1810.7N 12031.7E DEMSA, 1824.4N 12003.6E ALDIS, 1835.9N 11939.8E MIKIN, 1920.1N 11806.6E NOMAN, 2000.0N 11640.3E

(cf. Table ATS 1, Charts ATS 3A and D)

Delete requirement for R596 as follows:

~~R596~~	~~HENGCHUN TIDEL, 1912.24N 130000.00E GUAM~~

(cf. Table ATS 1, Charts ATS 3A and D)

c) **Originated by:** Philippines and United States

d) **Originators reasons for amendment:** Refer to Secretariat comment below

e) **Intended date of Implementation:** 14 February 2008

f)	**Proposal circulated to the following States and Organizations**:	China (cc: Hong Kong China) Japan Philippines *	United States * IATA IFALPA IFATCA

* for information

g) **Secretariat comments:**

The Third Meeting of the Western Pacific/South China Sea RVSM Scrutiny Working Group (WPAC/SCS RSG/3, October-November 2007) agreed that the ATS route R596 between Guam and Hong Kong be decommissioned and replaced by the new RNP 10 route M501 to be established south of R596. This change would reduce complexity at the FIR boundaries between Philippines and United States close to Japan and was also anticipated to assist in the reduction of large height deviation occurrences in the RVSM environment. Philippines and United States have coordinated closely with the Regional Office and submitted this joint amendment proposal.

WPAC/SCS FLAS COMPARISON TABLE

WPAC/SCS Flight Level Allocation Scheme (FLAS) and Flight Level Transitions, before and after 3 July 2008 implementation.

Route	***BEFORE 3 July 2008*** Previous No-PDC Flight Levels	***AFTER 3 July 2008*** No-Pre-Departure Coordination (No-PDC) Flight Levels. ***Other levels available with prior approval***	Flight Information Regions	***BEFORE 3 July 2008*** Previous FL Transition	***AFTER 3 July 2008*** Flight Level Transition
L642 M771 N892 L625	EB & WB FL 300, 320, 340, 360, 380, 400	Eastbound (EB) & Westbound (WB) FL 310, 320, 350, 360, 390, 400	Hong Kong, Sanya, Ho Chi Minh, Manila, Singapore, Taibei	L625 AGVAR B348: *Manila ACC* from FL300,320,340,360,380, 400 to FL290,330,370,410 before AGVAR	For L642 & M771 – NIL
					For L625 joining B462 – **Naha ACC** from FL 320, 360, 400 to odd levels after MEVIN on B462
				L625 MEVIN B462: *Manila ACC* from FL300,320,340,360,380, 400 to FL290,310,330,350,370, 390, 410 before MEVIN	For L625 joining B348 – **Manila ACC** from FL 320, 360, 400 to odd levels, or FL 290 for landing Taibei FIR, by POTIB on B348
					For N892 – **Taibei ACC** from FL 300, 340, 380 to FL 310, 350, 390 before KABAM

Route	***BEFORE 3 July 2008*** **Previous No-PDC Flight Levels**	***AFTER 3 July 2008*** **No-Pre-Departure Coordination (No-PDC) Flight Levels.** ***Other levels available with prior approval***	**Flight Information Regions**	***BEFORE 3 July 2008*** **Previous FL Transition**	***AFTER 3 July 2008*** **Flight Level Transition**
G86	EB – FL290, 330, 370, 410 WB – F280, 310, 350, 390	EB – FL290, 330, 370, 390, 410 WB – F280, 300, 340, 380, 400	Hong Kong Taibei	Single alternate on westbound levels to CVSM by *Taibei ACC*	NIL
L628	EB –FL 290, 370 WB – FL 280, 390	EB – FL 330, 370, 410 WB – FL 280, 340	Manila, Ho Chi Minh	G474 & B202 bunching Transition to single alternate by *Bangkok ACC*	NIL
N500	EB – FL 290 WB - FL 280	EB – FL 330 WB – FL 300	Manila, Ho Chi Minh	NIL	NIL
M765	EB – FL 270, 370 WB – FL 260, 280, 390	EB – FL 290, 370, WB – FL 280, 340	Kuala Lumpur, Manila, Ho Chi Minh	NIL	NIL
M768	EB – FL 290 WB – FL 280	EB – FL 270, 330, 410 WB – FL 300, 380	Singapore, Ho Chi Minh, Kota Kinabalu	Transition to single alternate by *Bangkok ACC*	NIL
M753 M755	SB – FL 290, 330 NB- FL 280, 310	Northbound (NB) & Southbound (SB) NB – FL 260, 300, 380 SB – FL 270, 330	Singapore, Ho Chi Minh, Phnom Penh	NIL	NIL

Route	***BEFORE 3 July 2008*** **Previous No-PDC Flight Levels**	***AFTER 3 July 2008*** **No-Pre-Departure Coordination (No-PDC) Flight Levels.** ***Other levels available with prior approval***	**Flight Information Regions**	***BEFORE 3 July 2008*** **Previous FL Transition**	***AFTER 3 July 2008*** **Flight Level Transition**
L644	SB – FL 330 370	SB - FL 330, 410	Ho Chi Minh, Singapore, Jakarta	NIL	NIL
N891	SB – FL 330 410 NB – FL 310 350	NB – FL 260, 300, 380 SB – FL 330	Singapore, Kuala Lumpur Ho Chi Minh Phnom Penh, Bangkok	Transition to single alternate by *Bangkok ACC*	NIL
A1	EB - FL 290, 330, 370, 410 WB – FL 280, 310, 350, 390	EB – FL 290, 330, 370, 390, 410 WB – FL 280, 300, 340, 380, 400	Sanya, Ho Chi Minh, Bangkok, Vientiane	*Ho Chi Minh ACC* from CVSM levels to RVSM levels and vice versa for traffic joining/exiting W1 Also transition to single alternate by *Bangkok ACC* for Vientiane FIR	NIL
P901	EB - FL 290, 330, 370, 410 WB – FL 280, 310, 350, 390	EB – FL 290, 330, 370, 390, 410 WB – FL 280, 300, 340, 380, 400	Hong Kong	*Ho Chi Minh ACC* from CVSM levels to RVSM levels and vice versa for traffic joining/exiting W1	NIL

Route	***BEFORE 3 July 2008*** **Previous No-PDC Flight Levels**	***AFTER 3 July 2008*** **No-Pre-Departure Coordination (No-PDC) Flight Levels.** ***Other levels available with prior approval***	**Flight Information Regions**	***BEFORE 3 July 2008*** **Previous FL Transition**	***AFTER 3 July 2008*** **Flight Level Transition**
A202	EB – FL 290, 330, 370, 410 WB – FL 280, 310, 350, 390	EB – FL 290, 330, 370, 390, 410 WB – FL 280, 300, 340, 380, 400 *Note: Implemented AIRAC 22 Nov 2007*	Hong Kong, Sanya, Hanoi, Bangkok, Vientianne	*Hanoi ACC* from CVSM levels to RVSM levels and vice versa for traffic joining/exiting W1 Also transition by *Vientiane ACC*	NIL
N884	FL 300, 320, 340, 360, 380, 400	FL 310, 320, 350, 360, 390, 400	Singapore, Manila, Fukuoka	N884 MIA JOM A582/A590: *Manila ACC* from FL300,320,340,360,380, 400 to FL290,310,330,350,370, 390,410 before MIA	**Manila ACC** from FL 320, 360, 400 to odd levels after LBG
M767	FL 300, 320, 340 360, 380, 400		Manila, Singapore	NIL	**Manila ACC** from FL300, 340, 380 to FL 310, 350, 390 after TOKON
A341	WB – FL 320,340,360,380 EB – FL 290,330,370,410	EB – FL 310, 370 WB – FL 320, 360, 400	Kota Kinabalu, Manila	NIL	NIL

Route	***BEFORE 3 July 2008*** **Previous No-PDC Flight Levels**	***AFTER 3 July 2008*** **No-Pre-Departure Coordination (No-PDC) Flight Levels.** ***Other levels available with prior approval***	**Flight Information Regions**	***BEFORE 3 July 2008*** **Previous FL Transition**	***AFTER 3 July 2008*** **Flight Level Transition**
M754	NB = FL 270, SB = FL 310, 350, 390	NB – FL 300, 340, 380 SB – FL 290, 330, 370, 410	Kota Kinabalu, Manila, Singapore	M754 AKOTA A583: *Manila ACC* from FL290,330,370,410 to FL310,350,390 before AKOTA A583 AKOTA M754: *Manila ACC* from FL290,330,370,410 to FL310,350,390 after AKOTA	NIL
A461, R590 B472, B473 B462	EB - FL 290,330, 370,410 WB - FL 310,350,390	EB – FL 290, 330, 370, 410 WB – FL 300, 340, 380	Hong Kong, Manila, Ujung Pandang	Westbound flights by *Ujung Pandang ACC*	NIL
B462	NEB – all odd levels SWB – all even levels	NEB- 310, 320, 350, 360, 390, 400 SWB – FL 300, 340, 380	Fukuoka Manila	NIL	**Naha ACC** from FL 320, 360, 400 to odd levels after MEVIN
A339 A450	EB FL 370,410 WB FL 360	EB – FL 310, 350, 390 WB – FL 320, 360, 400	Ujung Pandang, Manila, Oakland	NIL	NIL

Route	***BEFORE 3 July 2008*** **Previous No-PDC Flight Levels**	***AFTER 3 July 2008*** **No-Pre-Departure Coordination (No-PDC) Flight Levels.** ***Other levels available with prior approval***	**Flight Information Regions**	***BEFORE 3 July 2008*** **Previous FL Transition**	***AFTER 3 July 2008*** **Flight Level Transition**
G578	EB FL 330, 370, 410 WB FL 380	EB – FL 350, 390 WB – FL 320, 360, 400	Ujung Pandang, Manila	NIL	NIL
B583	EB- FL330, 370, 410 WB – FL 310, 350, 390	EB- FL 290, 330, 370, 410 WB- FL 300, 340, 380	Kota Kinabalu. Ujung Pandang	NIL	NIL
B348 Northbound before OSANU	EB FL 290, 330, 370, 410 WB FL 310, 350, 390	EB – FL 310, 350, 390 WB- FL 320, 360, 400	Kota Kinabalu, Manila	NIL	NIL
B348 Southbound before OSANU		NB – Odd levels SB- FL 300, 340, 380	Taibei, Manila	NIL	NIL
M772	FL 310, 390	FL 300, 340 until ANIPU, 380	Hong Kong, Jakarta, Kota Kinabalu, Manila, Singapore	NIL	NIL
B584	EB – FL 330, 370, 410 WB – FL 320, 340, 360, 380, 400	NEB –FL 310, 350, 390 SWB – FL 320, 360, 400	Kota Kinabalu, Ujung Padang	NIL	NIL

Route	***BEFORE 3 July 2008*** **Previous No-PDC Flight Levels**	***AFTER 3 July 2008*** **No-Pre-Departure Coordination (No-PDC) Flight Levels.** ***Other levels available with prior approval***	**Flight Information Regions**	***BEFORE 3 July 2008*** **Previous FL Transition**	***AFTER 3 July 2008*** **Flight Level Transition**
R223	WB – FL 320, 340, 360, 380, 400 EB – FL 310, 330, 370, 390, 410	NEB –FL 310, 350, 390 SWB – FL 320, 360, 400	Kota Kinabalu, Ujung Padang	NIL	NIL
A583	EB FL 290, 330, 370, 410 WB FL 310, 350, 390	SEB – FL 290, 330, 370, 410 NWB – FL 300, 340, 380	Hong Kong, Manila	NIL	NIL
B592	NEB – FL 330, 370, 410 SWB – FL 320, 340 360, 380, 400	NEB – FL 310, 350, 390 SWB – FL 320, 360, 380, 400	Kota Kinabalu, Jakarta	NIL	NIL
N875	EB – FL 290, 330 WB – FL 350, 390	EB – FL 290, 330, 370 WB – FL 300, 340, 380	Jakarta, Singapore	NIL	NIL
M758, M761, G580, B348		EB – FL 270, 290, 330 WB – FL 300, 340, 380	Kuala Lumpur, Kota Kinabalu, Singapore	NIL	NIL

Effective from 2 July 2008 @ 2100 UTC (0807022100 UTC)

ICAO Western Pacific/South China Sea RVSM Scrutiny Working Group

MODEL TEXT FOR AIP SUPPLEMENT

IMPLEMENTATION OF REVISED FLIGHT LEVEL ARRANGEMENTS IN THE WESTERN PACIFIC/SOUTH CHINA SEA AREA

1 Introduction

1.1 During 2002, in two stages during February and October respectively, the States of the ICAO Asia/Pacific Region within the Western Pacific/South China Sea (WPAC/SCS) area implemented RVSM operations using a modified single alternate flight level orientation scheme (FLOS), with a complementary flight level allocation scheme (FLAS) for ATC flight level assignment.

1.2 To assist expeditious traffic handling, ATC operational arrangements termed 'no pre-departure coordination' (i.e. 'No-PDC') procedures are mutually agreed between affected ATC Area Control Centres (ACCs). Using No-PDC procedures means the initial flight level for departing flights is allocated in accordance with the pre-agreed FLAS without real time flight level coordination being undertaken between adjacent ACCs. After departure, other flight levels may be available subject to prior coordination between ACCs to agree alternative flight levels for assignment.

1.3 Subsequent to the commencement of RVSM operations in the WPAC/SCS area, implementation of RVSM has continued in airspaces surrounding the WPAC/SCS area but utilizing a single alternate FLOS in accordance with the Tables of Cruising Levels contained in the Table "RVSM-FEET" of Appendix 3 of ICAO Annex 2 – *Rules of the Air*. This resulted in a need to continuously transition the flight levels of many flights entering and leaving the WPAC/SCS area between the modified single alternate FLOS in the WPAC/SCS area and the single alternate FLOS in surrounding RVSM areas.

2 Implement revised FLOS and FLAS in WPAC/SCS area

2.1 In order to minimise flight level transition requirements for flights entering and leaving the WPAC/SCS area, affected States working under the auspices of the ICAO WPAC/SCS RVSM Scrutiny Working Group (WPAC/SCS RSG) will implement revised flight level arrangements for the WPAC/SCS area in association with the 3 July 2008 AIRAC date.

2.2 With effect from 0807022100 UTC, simultaneous and permanent implementation of the following flight level arrangements in the WPAC/SCS area will occur:

Version 2, of 29 February 2008
Authorized: ICAO WPAC/SCS RSG

a) a single alternate FLOS (i.e. 'east odd flight levels, west even flight levels') in compliance with the Table "RVSM-FEET" of Appendix 3 of Annex 2 and in accordance with the FLOS in surrounding areas;

b) special high capacity arrangements for six unidirectional parallel routes (L642, M771, N892, L625, N884 & M767) that involve managed use of odd and even flight levels in the same direction of flight; and

c) an associated FLAS agreed between affected ACCs to facilitate ATC 'No-PDC' operations.

2.3 Details of the flight level arrangements to be implemented, including those applicable to Large Scale Weather Deviations (LSWD), have been included in the Appendix to this Supplement.

3 Cancellation

3.1.1 This AIP Supplement supersedes the provisions of AIP Supplement xxx/xxxx and also incorporates provisions from AIP Supplement yyy/yyyy. Accordingly, AIP Supplements xxx/xxxx and yyy/yyyy are cancelled with effect from the implementation of this AIP Supplement.

3.1.2 This AIP Supplement will be cancelled when the contents have been incorporated into AIP.

Flight Level Allocation Scheme (FLAS) for Western Pacific/South China Sea Area

ATS Route	No-Pre-Departure Coordination (No-PDC) Flight Levels. *Other levels available with prior approval*	Flight Information Regions	Flight Level Transition
L642 M771 N892 L625	Eastbound (EB) & Westbound (WB) EB & WB FL 310, 320, 350, 360, 390, 400	Hong Kong, Sanya, Ho Chi Minh, Manila, Singapore, Taibei	For L642 & M771 – NIL
			For L625 joining B462 – **Naha ACC** from FL 320, 360, 400 to odd levels after MEVIN on B462
			For L625 joining B348 – **Manila ACC** from FL 320, 360, 400 to odd levels, or FL 290 for landing Taibei FIR, by POTIB on B348
			For N892 – **Taibei ACC** from FL 300, 340, 380 to FL 310, 350, 390 before KABAM
G86	EB – FL 290, 330, 370, 390, 410 WB – FL 280, 300, 340, 380, 400	Hong Kong Taibei	NIL
L628	EB – FL 330, 370, 410 WB – FL 280, 340	Manila, Ho Chi Minh	NIL
N500	EB – FL 330 WB – FL 300	Manila, Ho Chi Minh	NIL
M765	EB – FL 290, 370, WB – FL 280, 340	Kuala Lumpur, Manila, Ho Chi Minh	NIL
M768	EB – FL 270, 330, 410 WB – FL 300, 380	Singapore, Ho Chi Minh, Kota Kinabalu	NIL

ATS Route	No-Pre-Departure Coordination (No-PDC) Flight Levels. ***Other levels available with prior approval***	Flight Information Regions	Flight Level Transition
M753 M755	Northbound (NB) & Southbound (SB) NB – FL 260, 300, 380 SB – FL 270, 330	Singapore, Ho Chi Minh, Phnom Penh	NIL
L644	SB - FL 330, 410	Ho Chi Minh, Singapore, Jakarta	NIL
N891	NB – FL 260, 300, 380 SB – FL 330	Singapore, Kuala Lumpur Ho Chi Minh Phnom Penh, Bangkok	NIL
A1	EB – FL 290, 330, 370, 390, 410 WB – FL 280, 300, 340, 380, 400	Sanya, Ho Chi Minh, Bangkok, Vientiane	NIL
P901	EB – FL 290, 330, 370, 390, 410 WB – FL 280, 300, 340, 380, 400	Hong Kong	NIL
A202	EB – FL 290, 330, 370, 390, 410 WB – FL 280, 300, 340, 380, 400 ***Note:*** *Implemented AIRAC 22 Nov 2007*	Hong Kong, Sanya, Hanoi, Bangkok, Vientiane	NIL
N884	FL 310, 320, 350, 360, 390, 400	Singapore, Manila, Fukuoka	**Manila ACC** from FL 320, 360, 400 to odd levels after LBG
M767		Manila, Singapore	**Manila ACC** from FL300, 340, 380 to FL 310, 350, 390 after TOKON
A341	EB – FL 310, 370 WB – FL 320, 360, 400	Kota Kinabalu, Manila	NIL

ATS Route	No-Pre-Departure Coordination (No-PDC) Flight Levels. ***Other levels available with prior approval***	Flight Information Regions	Flight Level Transition
M754	NB – FL 300, 340, 380 SB – FL 290, 330, 370, 410	Kota Kinabalu, Manila, Singapore	NIL
A461,R590 B472,B473 B462	EB – FL 290, 330, 370, 410 WB – FL 300, 340, 380	Hong Kong, Manila, Ujung Pandang	NIL
B462	NEB- 310, 320, 350, 360, 390, 400 SWB – FL 300, 340, 380	Fukuoka Manila	NIL
A339 A450	EB – FL 310, 350, 390 WB – FL 320, 360, 400	Ujung Pandang, Manila, Oakland	NIL
G578	EB – FL 350, 390 WB – FL 320, 360, 400	Ujung Pandang, Manila	NIL
B583	EB- FL 290, 330, 370, 410 WB- FL 300, 340, 380	Kota Kinabalu. Ujung Pandang	NIL
B348 Northbound before OSANU	EB – FL 310, 350, 390 WB- FL 320, 360, 400	Kota Kinabalu, Manila	NIL
B348 Southbound before OSANU	NB – Odd flight levels SB- FL 300, 340, 380	Taibei, Manila	NIL
M772	NB - FL - 300, 340 until ANIPU, 380	Hong Kong Jakarta, Manila Kota Kinabalu, Singapore	NIL
B584 R223	NEB – FL 310, 350, 390 SWB – FL 320, 360, 400	Kota Kinabalu, Ujung Pandang	NIL
A583	SEB – FL 290, 330, 370, 410 NWB – FL300, 340, 380	Hong Kong, Manila	NIL

ATS Route	No-Pre-Departure Coordination (No-PDC) Flight Levels. ***Other levels available with prior approval***	Flight Information Regions	Flight Level Transition
B592	NEB – FL310, 350, 390 SWB – FL320, 360, 380, 400	Kota Kinabalu, Jakarta	NIL
N875	EB – FL290, 330, 370 WB – FL300, 340, 380	Jakarta, Singapore	NIL
M758, M761, G580, B348	EB – FL270, 290, 330 WB – FL300, 340, 380	Kuala Lumpur, Kota Kinabalu, Singapore	NIL

FLAS for Large Scale Weather Deviations (LSWD) in Western Pacific/South China Sea area

as applicable by

Fukuoka ATMC, Ho Chi Minh, Hong Kong, Manila, Naha, Sanya, Singapore and Taibei ACCs

Flight Level Allocation (LSWD)	ATS Route and Direction of Flight									
	N892	**L625**	**N884**	**M767**	**A582/B462**		**A590**		**L642**	**M771**
	SW	NE	NE	SW	E	W	E	W	SW	NE
410					410					
400	400			400				400	400	
390		390	390				390			390
380						380				
370					370					
360	360			360				360	360	
350		350	350				350			350
340						340				
330					330					
320	320			320				320	320	
310		310	310				310			310
300						300				
290					290					

LETTER OF AGREEMENT

BETWEEN

The

(Insert the signatory Authorities to this Agreement)

Notes for Completion.

When compiling a Letter of Agreement (LOA), complete those sections necessary to describe or identify the airspace, service providers, procedures and services to be provided at the common FIR boundary. When the procedures conform to ICAO documentation and further amplification is unnecessary, the relevant section in the standard LOA may be deleted. Conversely, other sections may be included at the discretion of the signatory States if amplification would aid the understanding of the States concerned.

Letter of Agreement

Document Management

Table of Contents

Checklist of Effective Pages

Subject	Pages	Issue Date
Letter of Agreement	1 - (*Number of Pages)*	(*Insert effective date)*
Attachment A-ATS Units		
Attachment B- AIDC Message Set		

Letter of Agreement

Overview

Introduction	The following document is a letter of agreement between (*insert the signatory authorities to this agreement).* The letter of agreement details separation standards, level assignment and co-ordination procedures between the following Air Traffic Service (ATS) units: *(Insert the ATS Units covered by the Agreement)*
Objective	A statement of agreed procedures applicable between *(insert State names)* ATS Units in respect of aircraft operating on routes between the *(insert FIR names)* Flight Information Regions.
Scope	The procedures contained in this operational Letter of Agreement supplement or detail, where so required in the vicinity of the common FIR boundary, those prescribed by ICAO Annex 2, Annex 11, PANS-RAC (Document 4444), Regional Supplementary Procedures (Document 7030) and local AIP and ATS Instructions.
Effective Date	This letter of agreement becomes effective on *(Insert date on which the LOA becomes effective)*

Letter of Agreement

Airspace

(The preferred means to depict airspace is with a pictorial presentation. Should a text description be necessary the following wording is suggested)

Airspace Definition	Within the *(insert FIR name(s))* FIR (*insert ICAO airspace classification)* airspace is established in the Oceanic Controlled Airspace (OCA) between *(insert levels).* The remainder is classified as (*insert ICAO airspace classification)* uncontrolled airspace. Within the *(insert FIR name(s))* FIR (*insert ICAO airspace classification)* airspace is established in the Oceanic Controlled Airspace (OCA) between *(insert levels).* The remainder is classified as (*insert ICAO airspace classification)* uncontrolled airspace. The ATS responsibilities of the applicable *(insert State names)* ATS Units are outlined at Attachment A.

Letter of Agreement

Separation

Vertical Separation	Assignment of cruising levels shall comply with the IFR Table of Cruising Levels in Appendix C of ICAO Annex 2, except cruising levels which do not correlate to track may be assigned subject to prior co-ordination and agreement. *(Insert as required, if the exception is to be used).*
Longitudinal Separation	The longitudinal separation minima between aircraft operating on route segments between the *(insert FIR names)* FIRs shall be: *(insert the separation minima, if necessary)*
Longitudinal Crossing Separation	For the application of longitudinal crossing separation as specified in PANS RAC Document 4444, Section III, paragraph 8.2.1.2, the *(insert State names)* positions are as follows: *(insert the positions of the States, if required)*
Longitudinal Separation - Crossing Tracks	For the application of longitudinal separation on reciprocal tracks *(insert State names)* both apply a *(insert standard if required).*
Application of Differences	While specifying the difference outlined in horizontal separation the appropriate *(insert State names)* standard shall be effective at the common boundary.

Letter of Agreement

Co-ordination Procedures - General

Transfer of Control Point

The Transfer of Control (TCP) shall be the common FIR boundary, which shall also be the point of acceptance of primary guard.

All ATS units shall co-ordinate an estimate for the TCP at least thirty (30) minutes prior to the TCP. Such co-ordination constitutes an offer of transfer of responsibility.

After the estimate for the TCP has been advised, units shall relay any revised TCP estimate that varies by 3 minutes or more.

Communication Systems

Use of communications systems for co-ordination between adjacent units shall in the following order of priority:

- ATS Interfacility Datalink Communications (AIDC) - AIDC message set at Attachment B;
- ATS direct speech circuits;
- international telephone system;
- Aeronautical Fixed Telecommunications Network (AFTN);
- any other means of communications available.

(insert others in sequence and re-order the priority listing as required).

AFTN Estimate (EST) and Acceptance messages (ACP) are not required when voice communication has been successful to offer or accept transfer of control, or exchange of primary guard.

Continued on next page

Estimate Messages

The EST message shall contain, in the order shown:

- aircraft identification as advised on the flight plan, or subsequent change (CHG) message; and
- the FIR boundary position and time; and
- the assigned level; and

when applicable, in the application of Mach Number Technique:

- Mach Number; and
- the longitudinal distance between aircraft; and/or
- the time interval between aircraft at the entry gate.

When an AFTN EST message is required, the following format shall be used:

(EST-ANZ350-YSSY-LESPI0345/M084F370-NZAA)

Readbacks

Readbacks shall comprise all elements of the Estimate Message listed above. Readback by the receiving unit confirms acceptance of the offer of transfer of control, subject to any other conditions negotiated.

Near Boundary Operations

ATS units shall relay significant details of any flight which is, or intends, operating within fifty nautical miles (50NM) of the common FIR boundary.

Letter or Agreement

Co-ordination Procedures - Controlled Airspace

Clearance Amendment	After the EST message has been advised, prior co-ordination is required with the adjacent unit before amending the ATC clearance.
Co-ordination Timings	Clearances shall be co-ordinated with the adjacent unit, prior to issue, when the flying time to the TCP is less than thirty (30) minutes. Within fifteen (15) minutes after an aircraft has passed the TCP, co-ordination shall occur prior to any amendments to the ATC clearance.

Letter of Agreement

Co-ordination Procedures - Uncontrolled Airspace

Level Changes	After the estimate for the TCP has been advised, ATS units shall co-ordinate any level change to IFR aircraft occurring prior to the aircraft crossing the FIR boundary.

Revision

Revision Conditions

This agreement shall be subject to revision whenever a modification to ICAO Standards, Recommended Practices and/or Regional Supplementary Procedures and *(insert State names)* operating procedures or instructions, which might affect the procedures contained in this agreement occurs, or when new communications facilities, or air traffic services which might affect these procedures, are commissioned.

In the case of changes in ICAO regulations, either State shall initiate the modification procedures, and in the case of new installations or modification to existing installations, the State concerned shall initiate the modification procedure.

For any other reason which might make it advisable to change this agreement and its associated attachments, the interested State shall propose the pertinent revision.

When less than thirty (30) days exists between an identified need to amend this agreement and the effective date of the amendment, the respective Centre Managers and/or Civil Aviation Authority or their designated deputies shall agree via telephone, followed by a confirming fax message signed by all parties, on the nature of the change and publish the change to staff by a suitable local unit instruction. Formal exchange of signed copies of the amended document shall take place as soon as practicable thereafter.

Letter of Agreement

Dissemination

Dissemination Agreement	Notwithstanding the provision outlined in para 7.1.3, the dissemination of this agreement and its subsequent modification shall normally be made in full 30 days before the effective date.
Authority	SIGNED in *(insert location where signatures to the LOA are made)* *(insert signature blocks)*

Letter of Agreement

Attachment A

ATS Units

Introduction	This attachment describes the (*insert State names)* ATS units involved in this agreement, with their area of responsibility at the FIR boundary and direct speech contact.
(Insert name of unit)	*(insert name of unit)* is responsible for the provision of *(describe service)* to aircraft operating in *(insert as appropriate)* along the common FIR boundary. Supervisor: Fax:
(Insert name of unit)	*(insert name of unit)* is responsible for the provision of *(describe service)* to aircraft operating in *(insert as appropriate)* along the common FIR boundary. Supervisor: Fax:

Letter of Agreement

Attachment B

ATS Interfacility Datalink Communication Message Set

AIDC Message	Event
Enter AIDC message	*Enter corresponding Event*

WPAC/SCS RSG — TASK LIST

(last updated 29 February, 2008)

ACTION ITEM	DESCRIPTION	TIME FRAME	RESPONSIBLE PARTY	STATUS	REMARKS
1/4	Conduct traffic sampling to identify traffic loading on each of the ATS routes involved to enable prioritization of routes. Identify most frequent used flight levels on each route to enable underutilized flight levels to be reallocated to another route whilst considering the flight level requirements of ultra long range operations.	WPAC/SCS RSG/5	States	~~Open~~ Ongoing	
1/5	Consider introduction of additional parallel "crossing" ATS routes to enable bi-directional routes to be treated as uni-directional routes to increase capacity and availability of optimum flight levels	SEACG/15 then WPAC/SCS RSG/5	States	~~Open~~ Ongoing	Present proposals to SEACG/15 in May 2008
1/6	Review ATC coordination procedures and practices between ACCs to ensure procedures and/or practices do not contribute to LHD.	WPAC/SCS RSG/5	States	~~Open~~ Ongoing	WPAC/SCS RSG/3 & RSG/4 reviewed actions taken so far, States to continue work in this area
~~**1/7**~~	~~Review outstanding LHD data to ensure non-LHD are not being reported and submit remaining LHD reports to MAAR~~	~~July 2007~~	~~Jakarta, Ujung Pandang, Sanya, Vientiane, Hanoi, Ho Chi Minh, Bangkok, Phnom Penh~~	~~Open~~ Ongoing ~~**Completed**~~	~~MAAR has followed up with these parties, also Regional Office has contacted Vietnam All data has been provided to RSG/4~~
1/13	Increase awareness of identified pilot contributory factors to LHD	Update WPAC/SCS RSG/5	States, IFALPA, IATA	~~Open~~ Ongoing	State reports of specific LHD occurrences identified as having pilot contributory factor to be provided to operators. IATA Singapore Office will assist to relay this information if required.

ACTION ITEM	DESCRIPTION	TIME FRAME	RESPONSIBLE PARTY	STATUS	REMARKS
~~**2/3**~~	~~Bring concerns raised by IFALPA and IATA in relation to loss of communications being included as LHD to the attention of RASMAG for review~~	~~RASMAG/8 December 2007~~	~~IFALPA, IATA, Secretariat~~	~~Open~~ ~~**Completed**~~	~~This matter was considered by RASMAG/8 (December 2007), who agreed that these events should be counted as LHD. A note was added to LHD category M (others) and RASMAG will promulgate information accordingly.~~
2/4	Consider implementation of MOU between States in relation to mutual reporting of LHD occurrences	Update WPAC/SCS RSG/5	States	~~Open~~ Ongoing	Use existing MOU between Fukuoka ATMC, Naha ACC & Manila ACC as the model WPAC/SCS RSG/4 informed that many States will include LHD reporting procedures in operational LOAs
3/1	~~Provide update on LHD reports to WPAC/SCS RSG/4.~~	~~WPAC/SCS RSG/4~~	~~MAAR~~	~~Open~~ ~~**Completed**~~	~~Present MAAR working paper to WPAC/SCS RSG/4~~ ~~WP/8 presented to RSG/4~~
~~**3/2**~~	~~Prepare a "know your airspace" analysis of WPAC/SCS area for RSG/4 review.~~	~~WPAC/SCS RSG/4~~	~~MAAR~~	~~Open~~ ~~**Completed**~~	~~WP/8 presented to RSG/4~~
~~**3/3**~~	~~Provide coordination to China about outcomes of RSG/3 meeting in relation to Sanya operations.~~	~~December 2007~~	~~Regional Office~~	~~Open~~ ~~**Completed**~~	~~China did not attend RSG/3~~ ~~Regional Office Letter Ref. T3/10.1.19 – AP-ATM0407 of 23 November 2007 sent to China~~

ACTION ITEM	DESCRIPTION	TIME FRAME	RESPONSIBLE PARTY	STATUS	REMARKS
~~**3/4**~~	~~Prepare and circulate draft AIP Supplement for implementation of revised WPAC/SCS FLAS.~~	~~December 2007~~	~~Regional Office~~	~~Open~~ ~~**Completed**~~	~~Ensure advanced draft is available for review and adoption by RSG/4 in March 2008.~~ ~~Regional Office Letter Ref. T3/10.1.19 – AP133/07 (ATM) of 10 December 2007 sent to affected States. Raised as WP5 to RSG/4~~
~~**3/5**~~	~~Circulate State letter to affected States and Organisations about outcomes of RSG/3 and highlighting target date of 5 June 2008 for new FLAS implementation, include new FLAS as Appendix.~~	~~December 2007~~	~~Regional Office~~	~~Open~~ ~~**Completed**~~	~~Regional Office Letter Ref. T3/10.1.19 – AP133/07 (ATM) of 10 December 2007 sent to affected States~~
3/6	Conduct preparations for implementation of new FLAS including preparation of ATCO training materials, amendments to operational LOAs, changes to procedures etc	Before July 2008	States	Open	
4/1	MAAR to provide update on LHD reports to WPAC/SCS RSG/5.	WPAC/SCS RSG/5	MAAR	Open	
4/2	MAAR to prepare a “know your airspace” analysis of WPAC/SCS area for RSG/5 review.	WPAC/SCS RSG/5	MAAR	Open	
4/3	Regional Office to promulgate model AIP Supplement adopted by WPAC/SCS RSG/4 to affected parties	March 2008	Regional Office	Open	

ACTION ITEM	DESCRIPTION	TIME FRAME	RESPONSIBLE PARTY	STATUS	REMARKS
4/4	States to publish AIP Supplement based on model text adopted by WPAC/SCS RSG/4 for implementation of amended flight level arrangements at 2100 UTC on 2 July 2008	Publish AIP Supp on or before AIRAC 8 May 2008, & publish AIC at State discretion	Affected States- Cambodia, China, Hong Kong China, Indonesia Japan, Lao PDR, Malaysia, the Philippines, Singapore, Thailand and Vietnam.	Open	
4/5	States to coordinate bi-lateral implementation arrangements as required including strategies and methodologies for 2100 UTC switchover on 2 July 2008	For implementation	Affected States	Open	
4/6	The status of Large Scale Weather Deviation (LSWD) procedures for the WPAC/SCS area to be brought to the attention of the SEACG/15 meeting in May 2008 for review/resolution	May 2008	Regional Office, States	Open	

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