INTERNATIONAL CIVIL AVIATION ORGANIZATION
ASIA AND PACIFIC OFFICE

REPORT OF THE ICAO SIXTH REDUCED VERTICAL SEPARATION MINIMUM (RVSM) SEMINAR AND TWENTY-FIFTH MEETING OF THE RVSM IMPLEMENTATION TASK FORCE (RVSM/TF/25)

INCHEON, REPUBLIC OF KOREA

21 – 25 MARCH 2005

The views expressed in this Report should be taken as those of the Task Force and not the Organization

Published by the ICAO Asia and Pacific Office, Bangkok

Page

History of the Meeting

Appendices

……..

1.1 Introduction

1.1.1 The Sixth RVSM Seminar (RVSM Seminar/6) and the Twenty-fifth Meeting of the Reduced Vertical Separation Minimum Implementation Task Force (RVSM/TF/25) were co-hosted by the Korea Civil Aviation Safety Authority (CASA), the Ministry of Construction and Transportation, Republic of Korea and the Korea Air Transportation Safety Authority (KOTSA), and held at Hotel Hyatt Regency in Incheon, Republic of Korea from 21 to 25 March 2005.

1.2 Attendance

1.2.1 The seminar was attended by 128 participants from Indonesia, Japan, Republic of Korea, Russian Federation, Singapore, Thailand, United States and IATA. The RVSM/TF/25 meeting was attended by 35 participants from China, Indonesia, Japan, Philippines, Republic of Korea, Russian Federation, Singapore, Thailand, United States, IATA and IFALPA. A complete list of participants is at **Appendix A** to the Report.

1.3 Officers and Secretariat

1.3.1 Mr. David J. Moores, Regional Officer, Air Traffic Management (ATM) from the ICAO Asia and Pacific Office, Bangkok, Thailand was the moderator of the seminar and was assisted by personnel of CASA and KOTSA.

1.3.2 Mr. Sydney Maniam, Head (Air Traffic Services), Civil Aviation Authority of Singapore (CAAS) continued as Chairperson of the Task Force. Mr. David Moores served as the Secretary for the meeting.

1.3.3 Mr. Yusfandri Gona, Head of Performance and Flight Test Section, Directorate General Air Communication (DGAC), Indonesia continued as Chairperson of the Aircraft Operations and Airworthiness Work Group (OPS/AIR/WG), Mr. Udaka Keizo, Special Assistant to the Director ATS System Planning Division, Japan Civil Aviation Bureau (JCAB) and Mr. Kim Guen Soo, Director ATS Planning Division, CASA, co-chaired the ATC Operations Work Group (ATC/WG), and Mr. Nopadol Sangngurn, Executive Expert, AEROTHAI, was the Chairperson of the Safety and Airspace Monitoring Work Group (SAM/WG).

1.4 Opening of the Seminar

1.4.1 The opening of the seminar was conducted by the official party made up of Mr. Lee, Sung-Kwon, Head of CASA and Mr. Kim, Jong-Hee, Chairman of KOTSA, Mr. David Moores, ICAO Regional Officer ATM and Mr. Sydney Maniam, Chairperson of the ICAO RVSM Task Force. The seminar had been convened to support the implementation of RVSM in the Incheon FIR and the Naha and Tokyo FIRs (domestic portion) scheduled on 29 September 2005.

1.5 Opening of the RVSM/TF/25 Meeting

1.5.1 Mr. Sydney Maniam welcomed the delegates and thanked CASA and KOTSA for the excellent arrangements and venue for the meeting. In his opening remarks, Mr. Maniam noted that this meeting was a significant milestone in the implementation process as it was the last meeting of the Task Force leading up to the Go/No-Go meeting scheduled on 4-8 July 2005. The primary purpose of the meeting was to finalize the operational RVSM plan for the Incheon, Tokyo and Naha

FIRs. In addition, the meeting would need to address vital issues such as ATC and flight crew training, RVSM operational and airworthiness approval, and most importantly the safety monitoring and safety assessments to support the application of RVSM. He urged all participants to cooperate and make full use of the limited time available to progress these critical issues in order to meet the target date for implementation of 29 September 2005.

1.5.2 Mr. David Moores, on behalf of Mr. L.B. Shah, Regional Director, Asia and Pacific Regional Office thanked CASA and KOTSA for their generous support for the seminar and meeting, and welcomed participants to the RVSM/TF/25 Meeting. He pointed out that the APANPIRG RVSM Implementation Plan for the international oceanic airspace of the Asia and Pacific Region had now reached the final and crucial stage, and with the implementation on 29 September 2005, this would complete the introduction of RVSM in the international oceanic airspaces in the region. The RVSM programme was highly successful and brought with it significant operational, economic and environmental benefits. It was also an excellent example of cooperation and team work by a wide cross section of the aviation industry. In particular, he thanked the members of the RVSM Task Force and their organizations for their contribution to advance the interests of civil aviation.

1.6 Documentation and Working Language

1.6.1 The working language of the meeting as well as all documentation was in English.

1.6.2 Fifteen (15) Working Papers and three (3) Information Papers were presented to the RVSM/TF/25 meeting. A list of papers is included at **Appendix B**.

…….

SUMMARY OF THE SIXTH RVSM SEMINAR

1.1 The seminar programme covered the main topics in the ICAO guidance material on RVSM implementation and operation as set out in the ICAO *Manual on Implementation of a 300 M (1000 ft) Vertical Separation Minimum Between FL 290 and FL 410 Inclusive* (Doc 9574), and a wide range of subjects related to RVSM. The speakers and subjects presented were as shown below.

RVSM Overview, Implementation Planning and Requirements
ATS Operational Procedures and ATC Training
Mr. Sydney Maniam, Head (Air Traffic Services) Civil Aviation Authority Singapore

Benefits of RVSM in Bay of Bengal and South China Sea
Mr. Soon Boon Hai
Assistant Director Safety Operations & Infrastructure Asia/Pacific, IATA, Singapore

Aircraft and Operator Approval Process
Aircraft and Operator Approval Documentation
Pacific Approvals Registry and Monitoring Agency (PARMO) and Minimum Monitoring Requirements
Mr. Robert Miller
Manager, Airspace Program, CSSI Inc, United States

Commercial Aircraft Operations
Airline Training Issues
Captain Aric Oh
Deputy Chief Pilot (Technical), Flight Operations, Singapore Airlines, Singapore

Regional Monitoring Agency (RMA) Duties and Responsibilities
Mr. Nopadol Sangngurn, Executive Expert, AEROTHAI, Thailand

Safety Monitoring Goals for RVSM Implementation
Safety Assessment Requirements
Dr. Paisit Herabat
Executive Officer, System Engineering, AEROTHAI, Thailand

ATM and Regional Safety Considerations
Mr. David Moores, Regional Officer ATM, Asia Pacific Office, Bangkok, Thailand

State Aircraft Issues
Coordination with Military Agencies
Mr. Allan Storm
Department of Defence Liaison Officer, United States

Operation of RVSM in Japan
Mr. Koji Kato, Senior Air Traffic Controller, Tokyo ACC, JCAB, Japan

RVSM Safety Assessment
Mr. Takashi Imuta,
Airspace Safety Monitoring Section, JCAB, Japan

RVSM Implementation in Korea
Mr. Kim Jeong-Min, Assistant Director, ATS Planning Division, CASA. Republic of Korea

1.2 The seminar had emphasized that RVSM implementation has been one of the most cost-effective means of increasing airspace capacity and provided for:

- six more flight levels between FL 290 and FL 410 providing greater airspace capacity
- operational flexibility for ATC
- more efficient use of airspace and optimum aircraft cruising levels
- better operating economies and reduced in-flight and ground delays for operators
- environmental benefits from reduced fuel burn

1.3 An important safety aspect of RVSM highlighted by the seminar was the attention given to ensuring that aircraft operations and air traffic management conformed to high safety standards, and that these were in place prior to implementation, with ongoing operations subject to a comprehensive safety monitoring programme. The establishment of global safety levels and requirements for RVSM implementation, and the success of the RVSM programme implemented worldwide had led to a high level of confidence in RVSM operations. However, the seminar drew attention to the importance of States giving due diligence to the safety management requirements established by ICAO for RVSM, to fully participate in the regional monitoring programme, and to cooperate fully with the regional monitoring agency.

1.4 The seminar was highly appreciative of the quality and depth of the material presented by the speakers, which greatly contributed to a better understanding and knowledge of the RVSM programme. Mr. Sydney Maniam on behalf of the seminar participants thanked ICAO, and CASA and KOTSA, who co-hosted this excellent event.

1.5 The seminar was closed by Mr. Lee Woo-Jong, Director General CNS & ATM Systems, CASA.

SUMMARY OF THE RVSM/TF/25 MEETING

Agenda Item 1: Adoption of Agenda

1.1 The meeting reviewed the provisional agenda presented by the Chairman and adopted it as the agenda for the meeting. This agenda is located at **Appendix C** to the Report.

Agenda Item 2: Operational Considerations

RVSM Operational Implementation Plan

2.1 The meeting was provided with an update on RVSM implementation in the Incheon, Naha and Tokyo FIRs. Planning details and operational readiness reports were provided by Japan and the Republic of Korea (ROK) for the introduction of RVSM.

Republic of Korea

2.2 The ROK had agreed with Japan to implement RVSM simultaneously and the date had been revised from 9 June 2005, previously reported to RVSM/TF/18 (June/July 2003) and the Special Coordination Meeting (July 2004) in order to allow time for Japan to complete legal formalities to introduce RSVM in Japan's airspace. The implementation date agreed would be 29 September 2005.

Amendment to the *Regional Supplementary Procedures*

2.3 To allow for implementation of RVSM in the Incheon FIR, the ROK had submitted to the Regional Office a proposed amendment to the *Regional Supplementary Procedures* (Doc 7030), MID/ASIA/RAC, paragraph 6.5.1.1 to incorporate the Incheon FIR in the list of RVSM applicable airspace. The Secretary advised the meeting that the proposal was being processed and would be circulated shortly to States and international organizations for comment. As the proposed amendment was simple and straight forward, there should be no difficulty in gaining the approval of the Council of ICAO.

Revised RVSM airspace and transition areas within Incheon FIR

2.4 The meeting was provided with a thorough briefing on the Republic of Korea's airspace structure and restrictions necessary to accommodate military operations. Coordination with the military authority was being undertaken to address military requirements, and to seek more optimum use of the airspace. RVSM would be implemented in all controlled airspace in the Incheon FIR between FL 290 and FL 410 (inclusive) except for Special Use Airspace (SUAs) and the following airways segments;

a) Between TENAS and KANSU on ATS route B467

b) Between KANSU and IGRAS on ATS route B332

c) Between LAMEN and SADLI on ATS route A593

2.5 The transition areas would be established on ATS route segments adjoining the Pyongyang and Shanghai FIRs (Non-RVSM airspaces) to facilitate the safe and efficient transition of aircraft as follows:

a) Between AGAVO and NOPIK on ATS route G597 (83 NM)

b) Between AGAVO and ARIVA on ATS route Y64 (86 NM)

c) Between INTOS and TENAS on ATS route B467 (20 NM)

d) Between SADLI and 10 NM West of NIRAT on ATS route A593 (46 NM)

2.6 The meeting appreciated the detailed briefing provided, noted that ROK had prepared a proposed flight level allocation scheme for A593 and B756 and referred these matters to the ATC/WG for a detailed review. The Work Group was also requested to review the transition areas in the Incheon FIR and the ROK draft AIP Supplement contained in WP/5.

RVSM safety assessment

2.7 In accordance with the safety assessment requirements, CASA submitted large height deviation (LHD) reports collected during 12 months from March 2004 to February 2005 to MAAR. The Traffic Sample Data (TSD) as requested by the RVSM/TF meeting (18-22 October 2004) for 2 months from 1 August to 30 September 2004 had been collected as derived from flight plan electronic data, and provided to MAAR on 25 October 2004.

2.8 The meeting agreed that the period for collecting the LHD reports for the safety assessment should be for the period July 2004 to June 2005 to obtain a complete set of data.

Target of RVSM operator approvals

2.9 The meeting was informed that all aircraft (100 %) that were expected to operate in RVSM airspace within the Incheon FIR by the national carriers (Korean and Asiana Airlines) had obtained RVSM operational approval from CASA. Also, all approved aircraft were equipped with ACAS II (TCAS version 7).

RVSM training for air traffic controllers

2.10 CASA has been carrying out simulated RVSM ATC services from November 2004 using the advanced ATC system equipped with self contained simulation functions, with a view to familiarizing controllers with RVSM operations. In addition, CASA was planning for controllers to attend the “RVSM Operations Course” at the Singapore Aviation Academy (SAA) from 4 to 15 April 2005 for the purpose of understanding the RVSM concept and operations, as well as obtaining practical training on the control of aircraft on ATS routes within RVSM airspace.

2.11 The meeting noted the excellent progress made by CASA to complete its RVSM implementation plan. In this regard, the meeting sought more details of the flight level allocation scheme to be used on busy routes in the Incheon FIR in particular for A593 and crossing route B576, and the uni-directional parallel routes G597 and Y64. The meeting also requested ROK to finalize details of the transition arrangements with the Shanghai and Pyongyang FIRs where metric level systems were being used. The meeting referred these matters to the ATC/WG.

Japan

RVSM operations in the Pacific oceanic airspace

2.12 Japan presented a detailed briefing on how RVSM had been implemented and operated in the Tokyo FIR oceanic airspace and the adjacent Anchorage and Oakland FIRs, and the coordination arrangements in place with the United States to apply a flexible and tactical use of flight level allocation to optimize the traffic flows and provide maximum benefits to operators. The flight level orientation scheme (FLOS) used in the Tokyo FIR was based on the single alternate (SA), but by agreement through LOAs and coordination arrangements with the adjacent Anchorage and Oakland ACCs, all flight levels could be assigned. For example, on the major route systems of the NOPAC (Japan/Anchorage) and the PACOTS (Japan/Hawaii), a variety of level assignment configurations were being used including use of non-standard levels to take advantage of favourable wind conditions, timings of the direction of traffic flows and user requirements. The meeting congratulated JCAB and the Tokyo ACC for the excellent manner in which it applied tactical solutions to level assignment, thereby achieving maximum benefit to operators, at the same time contributing to significant fuel savings and environmental benefits.

2.13 In light of the above, the meeting considered that a similar approach to level assignment should be taken into account by States in the Bay of Bengal area where similar traffic flow patterns were being experienced during the night time westbound peak period. Adopting a more flexible approach and making use of non-standard levels would go a long way to improving the traffic flow problems. The Secretary would bring this to the attention of the next meeting of the Bay of Bengal ATS Coordination Group (BBACG).

RVSM safety assessment

2.14 The meeting was advised that the results of the RVSM safety assessment carried out in February 2005 by the Electronic Navigation Research Institute (ENRI) for JCAB had shown that the aircraft passing frequency on G581 had exceeded the maximum of 2.5 passings permitted for RVSM operation (Doc 9574 refers). As a result, mitigating action would be taken to implement two uni-directional domestic RNAV routes offset 12 ½ NM from G581, Y52 to the north andY57 to the south. G581 would continue to be used as a bi-directional conventional route. The routes were under radar coverage and would be subject to radar control service with separation between the tracks based on radar. To simplify the route arrangement and to cater for international traffic, it was suggested that consideration should be given to establishing a uni-directional parallel route to G581 from the Hong Kong FIR joining M750 (offset 20 NM and parallel to A1). It was assumed that the majority of aircraft operating RVSM along G581 would be RNAV equipped and the few non-RNAV aircraft could be catered for below FL 290 on G581. By making the offset route available to international flights, this would benefit operators to flight plan on this route, and simplify ATC radar operations. Adopting 20 NM track spacing would harmonize with M750, as well as ease controller workload. The matter would be given further consideration by JCAB.

Domestic implementation

2.15 JCAB confirmed that the single alternate FLOS would be used for domestic RVSM operations and non-standard levels would not be used due to traffic density and the traffic flow patterns. The transition of traffic from oceanic airspace westbound at non-standard levels would be taken care of by Tokyo ACC under radar service.

2.16 In regard to aircraft operational approval readiness, it was presently below 90 percent but was expected to reach about 94 percent by the implementation date (29 September 2005). JCAB

still had some TSD to provide to MAAR and this would be submitted shortly to complete the safety assessment before the Go/No-Go meeting in early July 2005.

Controller Training

2.17 Controller training was currently being planned, and based on previous RVSM implementation for the Tokyo FIR, about 2 hours of training for each controller would be required. There were about 400 controllers to be trained over a 2-3 month period starting in July to August 2005. Training would include classroom instructions and simulation exercises on contingency situations.

2.18 The meeting appreciated the information provided by Japan and the good progress being made to address outstanding issues. The ATC/WG was requested to further review the operational requirements for the Naha and Tokyo FIRs.

Review of the application of the RVSM FLOS for the Western Pacific and South China Sea Airspace

2.19 The Secretary updated the meeting on progress by the RVSM/TF to review the application of the modified single alternate (MSA) FLOS in use in the Western Pacific and South China Sea airspace (WPAC/SCS). The meeting was reminded that at the RVSM/TF/9 meeting (January 2001), IATA had proposed that a MSA FLOS be adopted for the initial phase of RVSM implementation, which had been agreed to by RVSM/TF9 and implemented by the States concerned in February and October 2001. Under this FLOS, the six parallel uni-directional routes, L642, M771, N892, L625, N884 and M767 would operate EVEN flight levels i.e. FL320, FL340, FL360 and FL380). On the bi-directional crossing tracks, the level assignment would be the corresponding ODD eastbound levels, i.e. FL330, FL370 and FL410 and westbound levels, FL310, FL350 and FL390. This arrangement provided an optimum flight level arrangement that simplified ATC and flight operations and was successfully operating without delays since RVSM was implemented in October 2001.

2.20 At the time of implementation, except for the Pacific airspace, where RVSM had been implemented in February 2000 using a single alternate FLOS, the remainder of adjacent airspaces to the WPAC/SCS area were still operating the conventional vertical separation minimum (CVSM) of 2000 ft at and above FL 290. Transition areas had been established but with CVSM, transition was only required for traffic operating on the parallel routes (east/west crossing routes were compatible with CVSM). With the introduction of RVSM in the Bay of Bengal area in November 2003 and the proposed implementation in the Incheon, Naha and Tokyo FIRs in late 2005, where the single alternate FLOS would be used, some States responsible for the WPAC/SCS airspaces had expressed concern at RVSM/TF/18 (June/July 2003) of additional difficulties controllers would face carrying out transition procedures between the two RVSM FLOS systems. A Special Coordinaion Meeting had been arranged in September 2003 to consider the matter, and it had been agreed to study the possibility to revise the MSA FLOS for the WPAC/SCS airspace to harmonize the flight level allocation with the adjacent single alternate airspaces. To effect any change, it was necessary to conduct a safety assessment as required by Annex 11.

2.21 The RVSM/TF/22 meeting (September 2004) reviewed a proposal submitted by the Philippines to revise the flight level assignment for the WPAC/SCS RVSM airspace. Recognizing the need to maintain safety, efficiency and regularity of operations, the RVSM/TF/22 meeting developed a revised plan for the flight level assignment and corresponding no pre-departure coordination (No-PDC) procedures based on changes proposed by Thailand. To progress this matter further, RVSM/TF/22 requested the States concerned to study the proposed change in detail and MAAR to undertake a safety assessment.

2.22 To conduct the safety assessment, States had been requested by RVSM/TF/22 to collect traffic sample data for July 2004 and submit this to MAAR along with the monthly LHD reports, essential to completing the safety assessment. The safety assessment would be reviewed by the RVSM/TF/26 meeting scheduled on 25-29 April 2005. However, in spite of frequent reminders by MAAR and a State letter issued by the ICAO Asia and Pacific Office, several States responsible for significant portions of the airspace concerned failed to submit the required data in time for MAAR to complete the safety assessment to be reviewed at the RVSM/TF/26 meeting. To date, there were still some TSD and LHD reports missing. Consequently, the RVSM/TF/26 meeting had to be postponed and rescheduled as RVSM/TF/27 on 5-9 September 2005 (tentatively).

2.23 In light of the foregoing, the meeting expressed disappointment and concern that some States responsible for RVSM operations in the SCS airspace had not fulfilled their obligation to cooperate with MAAR and the ICAO RVSM/TF to submit data essential for updating the safety assessment that had been agreed to by the RVSM/TF, and by all States involved - including the States who had not provided the complete data.

2.24 The meeting reiterated that RVSM implementation and ongoing operations were contingent upon RVSM airspaces in the region meeting the TLS (5×10^{-9} fatal accidents per aircraft flight hour due to all causes of risk in the vertical dimension) established by APANPIRG for the Asia/Pacific Region (Doc 7030 MID/ASIA/PAC). Further, the meeting urged all States to continue to support as a matter of priority, the safety monitoring requirements established by ICAO for RVSM operations, and to fully cooperate with MAAR and PARMO who had been appointed by APANPIRG to undertake the RVSM regional monitoring responsibilities. The matter would be kept under review by the Regional Office and reported to the APANPIRG/16 meeting to be held on 22-26 August 2005

ATC Work Group

2.25 The ATC/WG considered the tasks assigned by the plenary and agreed that the first priority was to decide on the flight level allocation scheme to be used on A593 (east/west) and B576 (north/south) in the Incheon FIR. The traffic on these two-way routes was growing significantly with B576 having the greater traffic flow catering for traffic between ROK and the south via the Naha FIR. A593 served traffic between Shanghai and Japan, and Shanghai and ROK joining B576 at position NIRAT where the traffic turned north. As the Shanghai FIR operated under the China metric system of levels and was non-RVSM airspace, transition was presently necessary from CVSM to China metric for westbound flights. Eastbound flights from Shanghai operated at flight levels as the distance from Pudong Airport, Shanghai to position LAMEN on the Incheon FIR boundary was approximately 130 NM. With the introduction of RVSM, there would be no increase in levels available on the sector NIRAT-LAMEN and transition would now be required from RVSM to CVSM to China metric. However, RVSM would be applied on B576 and a revised flight level allocation scheme would be required. The airspace concerned was under radar and VHF coverage.

2.26 In regard to the transition procedures on A593, the meeting requested that China, ROK and Japan review the procedures with a view to simplifying the level changes by adopting a transition from RVSM to China metric without first having to change to a CVSM level. Similar circumstances existed between the Kunming and Yangon FIRs and the RVSM transition procedures originally adopted had recently been changed by China and Myanmar to avoid a double transition RVSM/CVSM/metric. In this regard, IATA requested that the portion of A593 between SADLI-LAMEN being referred to as non-RVSM airspace should be considered as transition airspace, as it was being used by aircraft to change levels from CVSM to China metric levels for westbound traffic, and when RVSM was implemented from CVSM to RVSM for traffic eastbound. A similar situation exists on B467 between Incheon and Pyongyang FIRs. This matter would be given further consideration by ROK.

2.27 The flight level allocation scheme proposed by ROK was reviewed by the meeting and several alternative proposals were considered. IATA also developed several alternative level schemes that would be acceptable to operators that were taken into account.

2.28 To find a way forward, the meeting agreed to several guiding principles:

a) the single alternate orientation of levels should be used, i.e. ODD levels eastbound and EVEN levels westbound;

b) the use of non-standard levels should not be assigned (but could be made available subject to coordination on a tactical basis); and

c) extra levels provided by RVSM on B576 should be allocated with priority given to the greater traffic flow. At present, the higher traffic flow was northbound to Incheon Airport with two traffic flows merging at NIRAT (one from Shanghai and the other from the south).

2.29 In regard to the traffic distribution referred to above, ROK provided the following statistics from a study in 2004 of the annual traffic flow as follows:

a) B576 - 30,700 flights;

b) Shanghai A593 to NIRAT northbound – 25,900 flights; and

c) Total northbound flights on B576 - 56, 600

2.30 IATA raised the problem of long haul traffic departing from Pudong Airport, eastbound on A593 not being able to reach FL 250 by the Incheon FIR boundary at LAMEN. These flights required FL230 initially, and IATA requested that States concerned accept these aircraft crossing LAMEN at FL230. Recognizing that opposite direction traffic westbound frequently operated at FL240, and it may not be possible to climb the aircraft from FL230 to FL250 after passing LAMEN, IATA requested that aircraft be permitted to continue at FL230 until clear of the opposite direction aircraft when further climb could be approved by ATC. This would avoid fuel wasting maneuvers in the Shanghai FIR to reach FL250 before setting course for LAMEN. China, Japan and the Republic of Korea were requested to review this practice and permit aircraft to fly at FL 230 on the sector LAMEN – SADLI, and for China to clear aircraft on a direct track to LAMEN climbing to FL250 whenever traffic permitted or to maintain FL230. China agreed to look into the matter.

2.31 In regard to the ROK draft AIP SUP, this would be revised to include the flight level allocation scheme for A593 and B576 described below in paragraph 2.36. With the implementation of RVSM, the LOAs with adjacent ACCs concerned would be revised as appropriate prior to the implementation date.

Review of RVSM Operational Plan

2.32 The meeting was updated on progress by the ATC/WG to determine the flight level allocation scheme for A593 and B576. However, there was insufficient time to complete discussions at the Work Group meeting, and Japan and the Republic of Korea agreed to continue discussion outside the meeting to progress this matter.

2.33 In regard to the request made by IATA for China, Japan and the Republic of Korea to permit aircraft to cross LAMEN at or above FL230 climbing to FL250, the Secretariat reminded the

meeting that with due regard to safety considerations and other unavoidable constraints in the ATM system, ATS providers should whenever possible, take into account user requirements and do their best to accommodate their requests. The issue of fuel wastage and environmental impact was a major concern of ICAO and considerable emphasis was being placed on States adopting fuel conservation measures to benefit the environment. In this regard, ATS providers had a significant role to play.

2.34 In regard to progressing airspace planning matters, IATA requested that States bear in mind the valuable insights that operators could provide on how the ATS system could meet user requirements. The airspace users had considerable experience and knowledge of the operating environment, and were always willing to cooperate and provide input to the ATS planning process. Much has been achieved in recent times to make operational improvements to airspaces and operating procedures in the region that benefit all parties and keeping all concerned fully in the picture on developments. IATA was pleased with the spirit of cooperation and willingness to find solutions to complex operational problems demonstrated at this meeting.

2.35 IFALPA reinforced IATA's views and confirmed that pilots also were more than willing to play their part in building a robust system that took into account all points of view. The consultation process was necessary at an early stage, and IFALPA continued to give its full support for the good efforts being made by States and ATS providers to enhance provision of their air traffic services and airspace arrangements in the region.

2.36 Following further discussions on the flight level allocation for A593 and B576, Japan. and the Republic of Korea reached agreement to implement RVSM on 29 September 2005 based on the current flight level allocation system and included RVSM levels on A593 and B576. The scheme to be used is shown below.

A593	E (Japan)	250, 290, 410
	E (Korea)	270, 330, 370
	W (Japan)	240, 280, 390
	W (Korea)	260, 320*, 340*
B576	N (Korea)	270, 310, 330, 350, 370
	S (Korea)	260, 320, 340, 360

** FL320 and FL340 will be changed to FL310 and FL350 within the transition area.*

2.37 In regard to the above, IFALPA requested that the level assignment be published in State AIPs so that they could be included in Jeppesen charts for that area. In addition, all RVSM levels should be made available subject to coordination.

2.38 IATA pointed out that the number of flight levels would not increase following RVSM implementation on A593 and B576 but recognized the difficulties and complexities of the airspace, and requested that more levels be made available to cater for increasing traffic and for greater operational efficiency. Accordingly, the meeting agreed that all parties concerned should study the flight level requirements for these routes and fully utilize the scheduled 90-day after implementation review meeting to progress these arrangements.

2.39 The meeting was advised that under the transition arrangements operated by China, aircraft westbound on A593 transition from flight level to China metric levels between LAMEN and NH.

2.40 IATA noted that the present flight level allocation had limited levels for traffic eastbound on A593 beyond NIRAT as Japan could only use FLs 250, 290 and 410, and Korea was assigned FLs 270, 330 and 370, and operators would have liked to have seen more RVSM levels made available. Korea and Japan advised that they adopted a flexible approach to sharing of levels and these were coordinated between the ACCs on a tactical basis.

2.41 The meeting requested that full details of the flight level assignment and transition procedures for A593 and B576, and especially for the Shanghai FIR should be provided at the July 2005 scheduled Go/No-Go meeting. Operators need to have a clear understanding of how the ATC procedures were applied in particular where transition took place between different level systems, i.e. metric and feet.

2.42 IFALPA drew attention to a proposal made by IATA in WP/15 on an alternative level arrangement that provided for more levels and requested that this should also be studied further.

2.43 The meeting recognized that operation of A593 and B576 presented operational difficulties that could not be resolved at this meeting; however, the measures agreed to at this meeting for the flight level assignment provided a basis for implementing RVSM. In order to realize the full benefits of RVSM and provide additional capacity, there was a need to examine in detail the various options for assigning of flight levels and ATC procedures. The meeting requested all concerned to examine the issues in detail and be prepared to discuss them further at the next meeting.`

Agenda Item 3: Issues Relating to Airworthiness and Approval of Aircraft

Assessment of Operator Readiness

3.1 The OPS/AIR Work Group meeting was attended by Indonesia, Japan, Korea, Philippines and USA.

3.2 The meeting reviewed the readiness of aircraft and airlines for RVSM operations on the domestic and international routes in Naha, Tokyo and Incheon FIRs, and noted that almost 90 percent were RVSM-approved, and in the case of Korean fleets, they were 100 percent RVSM approved. There were some aircraft of airlines in Japan that were progressing RVSM approval and these would be finalized before implementation of RVSM. The meeting noted that most non-commercial jet aircraft operated by Japanese and Korean companies were already RVSM compliant.

3.3 The meeting recalled that implementation of ACAS II (TCAS II V.7) was a mandatory requirement of ICAO Annex 6 since January 2003. The meeting noted that all Korean and Japanese operators and aircraft approved for RVSM were equipped with ACAS II (TCAS II V.7).

Monitoring Program for Height-Keeping Performance

3.4 The meeting reviewed the monitoring programme for aircraft height-keeping performance and large height deviation and highlighted the following:

a) The meeting agreed to remind Contracting States within the Asia Pacific Region including Korean and Japan of their responsibility to submit continuously, Large Height Deviation reports on a monthly basis and TSD when required to MAAR to sustain safety assessments and continuous monitoring purposes.

b) The meeting reported that during year of 2004 there was only one LHD occurrence due to the TCAS Resolution Advisory warning on a KAL aircraft in the Incheon FIR, and there were no LHD reported causes by aircraft system failure, piloting error and adverse weather during the report period in 2004 in Naha, Tokyo and Incheon FIRs.

Continuous Airworthiness Program and Monitoring

3.5 The meeting considered that continuous airworthiness, monitoring and training programmes for RVSM operations should be included in the airline manual in order to ensure airlines operate in compliance RVSM requirements, and that aircraft RVSM primary means were reliable and compliant within the limits of RVSM system tolerances.

3.6 The meeting considered the follow-on monitoring and minimum monitoring requirement which would be established as a global standard by the ICAO in the near future. In this regard, the meeting was reminded that ICAO would be distributing a draft of these requirements to airlines and Contracting States in order to allow them to review and feedback before they were established by ICAO.

3.7 The meeting addressed some aspects to be considered for efficiency and reducing the time for monitoring purposes such as: time period; sampling methodology and population of fleets for monitoring; flexibility to allow selection of using either HMU or GMU for monitoring; flexibility to conduct monitoring in other regional monitoring areas; and flexibility to perform self monitoring by airlines with supporting GMU equipment provided by the RMA.

In-flight Contingency Procedures

3.8 The meeting reviewed the in-flight contingency and lateral offset procedures as developed by the ICAO Separation and Airspace Safety Panel (SASP), which provided guidance for implementation of a 2 NM lateral offset procedure. In this regard, the meeting considered that the procedures applied in the Incheon, Naha and Tokyo FIRs were consistent with the ICAO guidelines. Also, they were harmonized with the Western Pacific/South China Sea and North Pacific areas. The meeting highlighted that it was important for all States to incorporate these procedures in their respective State AIPs and AIP SUP documents.

Future OPS/AIR Work Program

3.9 The meeting considered a need to expand the RVSM level band up to FL 430 in order to accommodate the future operational needs of the new generation aircraft for long range and ultra-long range operations. In this regard, the meeting suggested that the operational aspect of new generation aircraft, their limitation and training issues need to be examined. The meeting recommended that this issue should be reviewed by the ICAO Separation and Airspace Safety Panel (SASP). In this regard, the Secretary advised the meeting that this matter would be raised with ICAO Headquarters to determine if work was underway to expand RVSM to include levels up to FL430 inclusive, and the ATM/ATS/SAR/SG would be advised of the situation.

Agenda Item 4: Safety and Airspace Monitoring Considerations

4.1 The Safety and Airspace Monitoring Work Group (SAM/WG) reviewed the tasks assigned to MAAR at the RVSM/TF/23 meeting. Regarding the readiness and safety assessments for RVSM implementation in Japan/Republic of Korea (ROK) domestic airspace, MAAR presented four working papers for the SAM/WG to review. These working papers were WP/9 - WP/12 on the following topics, respectively:

- Summary of Know Your Airspace (KYA) analyses
- Summary of LHD occurrences
- Result of preliminary readiness assessment
- Results of preliminary safety assessment

Review of the Know Your Airspace (KYA) Analyses in the planned RVSM airspace

4.2 The SAM/WG reviewed WP/9 which presented the summary of the KYA analyses regarding the collected traffic sample data between 1 August to 30 September 2004 submitted by JCAB and CASA. In this regard, the following issues were discussed:

- The average daily flights for Japan and ROK
- Predominant traffic flows by State and City pairs
- Major airlines and aircraft types
- Current flight level utilization

4.3 The information obtained from the KYA analyses would be used in conducting the safety assessment of the RVSM implementation in Japan/ROK domestic airspace.

Review the LHD occurrences in the planned RVSM airspace

4.4 The Group reviewed WP/10, which summarized the LHD occurrences in Japan/ROK domestic airspace. Due to the incomplete set of LHD data before July 2004, the Group agreed to revise the months of data collection to start from July 2004 instead of January 2004. This would still give adequate LHD data for conducting the safety assessment for the Go/No-Go decision, which would be made at RVSM/TF/26 scheduled on 4-8 July 2005.

4.5 From the available set of data, MAAR reported 8 LHD occurrences with a total duration of 11 minutes. The most frequent cause of LHD was error in the ATC-unit to ATC-unit transferred/transition message. The States concerned were informed to take note of the causes of the occurrences in order to avoid reoccurrences of these LHD in the future.

Review the readiness assessment for the planned RVSM airspace

4.6 The SAM/WG reviewed WP/11, which reviewed the result of preliminary readiness assessment of the RVSM implementation in Japan/ROK domestic airspace. The Group noted that 71 percent of the aircraft that operated in the planned RVSM airspace were State RVSM approved, based on the RVSM approval records provided to MAAR from JCAB and CASA on 4 October 2004 and 2 March 2005, respectively. It should be noted that the percentage of RVSM approved aircraft in the previous RVSM implementation in other regions also showed a similar percentage before the actual implementation date of RVSM. Nonetheless, Japan and Republic of Korea further informed the Group that the aircraft that had not received the State RVSM approvals yet were in the process of obtaining approvals. States were urged to continue to update MAAR in respect of aircraft which were RVSM approved.

Review of the preliminary safety assessment for the planned RVSM airspace

4.7 The SAM/WG reviewed WP/12, which presented the result of the preliminary safety assessment of RVSM implementation in Japan/ROK domestic airspace. Due to a minimal understanding of the ATS route structure and FLOS utilization within Japan and ROK domestic airspace, MAAR made two conservative assumptions in conducting the preliminary safety assessment based on the traffic sample provided and LHD occurrence data. These assumptions include:

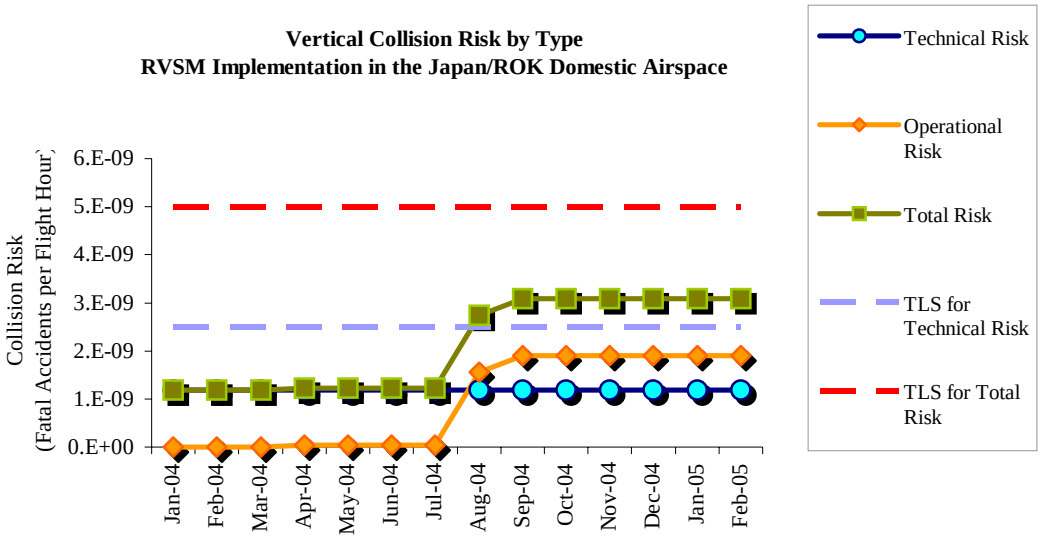
- All routes and fixes within Japan and ROK domestic airspace, including Naha, Tokyo, and Incheon FIRs, are planned for RVSM implementation.

- Single alternative flight orientation scheme (FLOS) is applied to all ATS routes in Japan and ROK domestic airspace.

4.8 MAAR presented the estimated values of the parameters in the Collision Risk Model (CRM) and how to obtain them. Accordingly, the preliminary estimates of technical, operational, and total risks for the RVSM implementation in the Japan/ROK domestic airspace are as shown in the table below.

Source of Risk	Lower Bound Risk Estimation	TLS	Remarks
Technical Risk	1.19×10^{-9}	2.5×10^{-9}	Below Technical TLS
Operational Risk	1.90×10^{-9}	-	
Total Risk	3.09×10^{-9}	5.0×10^{-9}	Below Overall TLS

4.9 In addition, the trends of collision risk estimates for the 12-month period are shown in the figure below:



Apparently, the technical risk for the RVSM implementation in the Japan/ROK domestic airspace is 1.19×10^{-9} fatal accidents per flight hour. The total risk attributed to all causes is 3.09×10^{-9}. Therefore, the estimates of 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.

4.10 The meeting noted that MAAR would require updated information regarding the RVSM planned area of implementation and for the FLOS utilization from the ATC Operation Work Group in order to justify the safety assessment to support a Go/No-Go decision to be made at the next meeting of the RVSM/TF.

4.11 In view of the short time period before the Go/No-Go meeting in July 2005, MAAR was requested to estimate how long they would need to complete the safety assessment. MAAR advised that it was difficult to give an accurate time as there were too many variables to consider, which could make the assessment process complex. In the best case, if the updated data for the final safety assessment and the flight level assignment to be used were close to the assumptions included in the CRM, as described above, the time to complete the assessment may not be long, perhaps about a month assuming the data was complete and accurate. However, if the level assignment adopted was significantly different to the single alternate that had been assumed, the result could be different and it was not possible to predict what this would be. But more time may be needed to examine all the safety issues and coordinate with the parties concerned.

4.12 The meeting recognized that time was pressing, as a minimum of two AIRAC cycle notification of RVSM implementation was required by Annex 15 (RVSM implementation constitutes a major airspace change) for the details of the airspace changes including the RVSM operating procedures and flight level assignments, and details of the transition areas and procedures to be made known to all concerned.

4.13 To meet the 29 September 2005 implementation date, the State AIP Supplements should be issued no later than 7 July 2005, and ideally these should be published as soon as practicable. Operators, pilots and controllers require adequate lead time for training and the RVSM procedures to be applied needed to be known well in advance of the commencement of training. Also, AIS, map and charting service providers required adequate lead time to publish essential aeronautical information and based on this information, operators needed to update aircraft navigation and flight planning databases. This could be a complex task especially where major changes were concerned. A short period of notification could lead to the possibility that many aircraft and operators would not be fully prepared and this could have adverse operational consequences.

4.14 The meeting agreed that Japan and the Republic of Korea should now take a close look at the remaining work to be done, complete all outstanding issues as soon as possible, and amend Letters of Agreement including those with neighboring States involved in transition and changes to flight level allocation. In this regard, a deadline to complete coordination on procedures and arrangements should be determined by the States, and follow-up action taken to harmonize their AIP Supplements. The meeting agreed that a deadline of 30 April 2005 should be set for States to submit their data including the RVSM planned area of implementation and the applicable FLOS to be implemented to MAAR, and the safety assessment to be completed by the end of June 2005 to be submitted to the Go/No-Go meeting.

Agenda Item 5: Implementation Management Considerations

5.1 The meeting reviewed and updated the Task List as shown in **Appendix D**.

Agenda Item 6: Future Work – Meeting Schedule

6.1 The meeting agreed on the future work programme of the Task Force as follows:

4-8 July 2005	RVSM/TF/26	(Go/No-Go)	Bangkok, Thailand
5-9 September 2005	RVSM/TF/27	(WPAC/SCS FLOS)	Bangkok, Thailand (Tentative)
January 2006	RVSM/TF28	(90-Day Review)	Bangkok, Thailand
September 2006	RVSM/TF/29	(One-year Review)	Bangkok, Thailand

Agenda Item 7: Other Business

7.1 The US Department of Defence asked when the Japan airspace reorganization would take place to consolidate the Naha and Tokyo FIRs into the Fukuoka FIR. Japan advised that this would take place on 16 February 2006 and full details would be published in the near future giving details of the airspace arrangements and ATC procedures and operations.

7.2 The meeting agreed that the switchover date and time and procedures for the implementation of RVSM would be decided at the Go/No-Go meeting. In this regard, Japan and the Republic of Korea should coordinate on the details of the switchover procedures to be effected by their respective ACCs.

7.3 In regard to the change to the RVSM implementation date from 24 November 2005 to 29 September 2005, Japan has issued an amendment to their AIC, and the Republic of Korea advised that they would amend their AIC as soon as practicable.

8. **Closing of the Meeting**

8.1 Mr. Sydney Maniam expressed sincere appreciation to the Civil Aviation Safety Authority of Korea for the excellent preparations and organization of the Seminar and Task Force Meeting and for the outstanding hospitality extended to all delegates. He urged all concerned to continue to work together to complete all related activities in order for the target date of implementation to be met.

8.2 Mr. David Moores on behalf of ICAO expressed appreciation to CASA and KOTSA for the excellent arrangements and support provided for the RVSM Seminar and RVSM/TF/25. He wished to acknowledge the considerable planning and progress that had been made by Japan and ROK to prepare for RVSM implementation on 29 September 2005. This would be a considerable milestone as it completed the ICAO APANPIRG implementation plan for the international oceanic airspace in this region. As RVSM implementation was now well established worldwide, he thanked all the RVSM members, their administrations and organizations for their contribution to the success of the RVSM programme in this region.

……..……

LIST OF PARTICIPANTS

	State/Organization/ Name	Title or Official Position	Telephone/Fax Number	E-Mail
	Republic of Korea / Civil Aviation Safety Authority, KMOCT			
1	LEE, SUNG KWON	Head of CASA	82-2-2662-5045 / 82-2-6342-7289	sung428@moct.go.kr
2	LEE, WOO JONG	Director General, ATS & CNS System	82-2-2662-5045 / 82-2-6342-7289	woo1380@moct.go.kr
3	KIM, GEUN SOO	Director, ATS Planning Division	82-2-2662-5271	kimgs@moct.go.kr
4	CHOI, SEUNG YEON	Deputy Director, ATS Planning Division	82-2-2669-6427	sylchoi@moct.go.kr
5	KIM, JEONG MIN	Assistant Director, ATS Planning Division	82-2-2669-6422	kimida@moct.go.kr
6	KIM, GYU HEE	International Coordinator	82-2-2669-6452 / 82-2-6342-7219	quehee42@moct.go.kr
7	JOO, EUN-A	Assistant Director of flight Standards division, CASA	82-2-2669-6357 / 82-2-6342-7249	airsafekr@moct.go.kr
8	PARK, SUNG-SIK	Aviation Safety Inspector, CASA	82-2-2669-6361	captspark@moct.go.kr
9	KWAK, YOUNG PIL	Assistant director of Airworthiness Division, CASA	82-2-2669-6473 / 82-2-6342-7269	kwakyp@moct.go.kr
10	KIM, HWA JUN	Aviation Safety Inspector	82-2-2669-6479	ka777@moct.go.kr
11	SHIN,OK SIG			
	Republic of Korea/Seoul Regional Aviation Administration			
12	PARK, HYANG GYU	Director, Aviation Safety and Flight Operations Bureau	82-740-2149 / 82-740-2140	parkhgyu@moct.go.kr
	Republic of Korea/Busan Regional Aviation Administration			
13	KIM, SANG HEE	Director, ATS Division	82-51-970-2241 / 82-51-971-1220	kim0102@moct.go.kr
14	KANG, JUNG HYUN	Assistant Direct	82-51-970-2889	gang10@moct.go.kr
	Republic of Korea/Jeju Aviation Office, ATC Division			
15	HAN, PAN SIG	Director of ATS Division	82-64-797-2218 / 82-64-742-2306	atcdiv@moct.go.kr
	Republic of Korea/Air Traffic Control Center, CASA			
16	CHUNG, BO HWA	Director	82-32-880-0201 / 82-32-889-2383	bhchung@moct.go.kr
17	KIM, SEUNG HWAN	Director of Airspace Division	82-32-880-0220 / 82-32-889-2376	fi0001@moct.go.kr
18	KIM, JIN SUNG	Assistant Director of Airspace Division	82-32-880-0225	accsung@moct.go.kr
19	YANG, SEON HWAN	Assistant Director of Airspace Division	82-32-880-0221	goodsheep@moct.go.kr
20	JANG, JAE SOO	Assistant Director of Airspace Division	82-32-880-0224	atcchang@moct.go.kr

	State/Organization/ Name	Title or Official Position	Telephone/Fax Number	E-Mail
21	SO, EUN JUNG	Assistant Director of Airspace Division	82-32-880-0223	atcsej@moct.go.kr
22	LEE, YUN BOK	Assistant director of Air Navigation Facilities Division	82-32-880-0217 / 82-32-889-2375	jblee00@moct.go.kr
23	JEOUNG, KYU CHANG	Assistant director of Air Navigation Facilities Division	82-32-880-0218	huinari@moct.go.kr
24	KIM, SEOUNG NAM	Assistant director of Air Navigation Facilities Division	82-32-880-0216	ksn9412@moct.go.kr
25	LIM, CHEOL HOI	Assistant director of Air Navigation Facilities Division	82-32-880-0213	skylch@moct.go.kr
26	LEE, DUK YOUNG	Chief of Supervisor		accking@moct.go.kr
27	KANG, CHANG JIN	Assistant Director of ATC Division	82-32-880-0233 / 82-32-889-2381	acckang@moct.go.kr
28	LEE, DEUCK KYUN			dglee41@moct.go.kr
29	LEE, SEUNG EUN	Assistant Director of Airspace Division	82-32-880-0225	se7500@moct.go.kr
30	BAEK, TAE YONG	Assistant Director of Airspace Division	82-32-880-0226	btbtbt@moct.go.kr
31	CHOI, JA YOUNG			jayoung76@moct.go.kr
32	SEO, SEONG KWAN	Chief of Supervisor		controller74@moct.go.kr
33	AN, JIN SEOB			alfa9029@moct.go.kr
34	JO, SEONG YONG			sun9sang@moct.go.kr
35	KWON, HYUN CHEAL			hyunchi07@moct.go.kr
36	KIM, GUK CHUL			accbbang@moct.go.kr
37	YOO, CHOO HYENG			ocococ@moct.go.kr
38	JEON, YONG KI			accnice@moct.go.kr
39	CHOI, YOON GEUN			choiyd@moct.go.kr
40	HAM, IN CHAN			in21ham@moct.go.kr
41	HWANG, IN JEONG			injeong@moct.go.kr
42	JUNG, JONG MIN	Assistant Director of Aeronautical Information Division	82-32-880-0241 / 82-32-889-5905	Golf597@moct.go.kr
43	KWON, JAE SEUNG	Chief of FIS	82-32-880-0245 / 82-32-889-5906	iaccjs@moct.go.kr
44	LIM, EUI SEUK	Supervisor of International NOTAM Office	82-32-880-0255 / 82-32-889-5906	ficlss@moct.go.kr
45	KO, SANG YONG	Officer(Responsible for AIS)	82-32-880-0246 / 82-32-889-5905	kosy@moct.go.kr
46	LEE, EUN JIN	Officer(Responsible for FIS)	82-32-880-0242 / 82-32-889-5905	leepretty@moct.go.kr
47	Park, Ok Hee		82-32-880-0260 / 82-32-889-2381	watchair@korea.com

	State/Organization/ Name	Title or Official Position	Telephone/Fax Number	E-Mail
48	LEE JEONG MIN		82-32-880-0239 / 82-32-889-2381	mint88@empal.com
	Republic of Korea/ROKAF			
49	KIM, YUL HAN	Chief, ATC Division	82-31-669-3280 / 82-31-669-6669	kyh7091@nate.com
50	CHOI, MIN HO	Officer of ATC Division, AFOC	82-31-669-3281/ 82-31-669-6669	cmhygb@hotmail.com
51	LEE, GONWOO	31st MCRC, ROKAF	82-31-669-7533 / 82-31-669-6669	gonwoolee@hanmail.net
	Republic of Korea/Korean Air			
52	KIM, DO HUN	Manager	82-2-2656-6273 / 82-2-2656-6289	dohun@koreanair.co.kr
53	JUN,JOO SHIN	Maintenance Instructor	82-2-2656-3803 / 82-2-2656-6289	joosjun@hanafos.com
54	BAE, CHONG TAE	Captain, B737 Fleet Manager, Flight Safety Team	82-2-2656-66395 / 82-2-2656-6299	seloyf@korean.co.kr
55	CHUNG, KI HYUN	Director of Operations Control Dept.	82-2-2656-6414 / 82-2-2656-6040	ocz@koreanair.co.kr
56	LIM,JAE SEONG	Deputy General Manager of Operations Control Center	82-2-2656-7139 / 82-2-2656-6086	jslim@koreanair.co.kr
57	PARK, SANG WON	Deputy General Manager	82-2-2656-3489 / 82-2-2656-3484	parksw@koreanair.co.kr
58	LEE, UIN	Assistant Manager	82-2-2656-3556 / 82-2-2656-3484	uinlee@koreanair.co.kr
59	KIM, HYUNSIC	Korean Air Instructor/Korean Air Training Center	82-2-2656-6975 / 82-2-2656-6821	getoray@hotmail.com
60	WON, SANG WOONG	Instructor	82-2-2656-6836 / 82-2-2656-6821	swwon@hotmail.com
61	RO, HYUNGWOO	Instructor	82-2-2656-6526/ 82-2-2656-6821	flyingboy777@naver.com
62	KIM, IN GYU	Captain/Manager Flight Safety Team	82-2-2656-6392 / 82-2-2656-6299	a330cap@koreanair.co.kr
63	YOON,SUNG YONG		82-2-2656-6414	phoenix745@yahoo.co.kr
64	NOH,KUN SOO	Senior Ground Instructor	82-2-2656-6838	ksnoh@koreanair.co.kr
65	CHOI,JOUNG MIN	Instructor	82-2-2656-6847	cjmhyh@koreanair.co.kr
	Asiana Airlines			
66	HAN, SHIN	Deputy Senior Manager, flight Operations Engineering	82-2-2669-3678 / 82-2-2669-3530	hansin@flyasiana.com
67	CHOI,YOUNG HO	Engineer, Flight Operations Engineering	82-2-2669-3679 / 82-2-2669-3530	yhchoi05@flyasiana.com
68	KIM,JUNWON	General Manager, Flight Operations Engineering	82-2-2669-3621 / 82-2-2669-3530	junwonk@flyasiana.com
69	JEON, DONG HOON	Manager, Airlines	82-32-744-265 / 82-32-744-26994	dhjun@flyasiana.com

	State/Organization/ Name	Title or Official Position	Telephone/Fax Number	E-Mail
70	MAENG, HONG YEOL	Assistant Manager, Engineering	82-32-744-2887 / 82-32-744-2699	hymaeng@flyasiana.com
71	YOO, BYEONG GYUN	Captain, B747 Flight Crew	82-32-744-2747 / 82-32-744-2758	bgyoo@flyasiana.com
72	LEE, YEON JOO	Captain, B747 Flight Crew	82-32-744-2747 / 82-32-744-2758	yjlee3@flyasiana.com
73	JANG, SOO WANG	First Officer, B747 Flight Crew	82-32-744-2747 / 82-32-744-2758	swchang@flyasiana.com
74	HWANG, NAM SIK	First Officer, B747 Flight Crew	82-32-744-2747 / 82-32-744-2758	hnstommy@flyasiana.com
75	SHIM,KUN HYUNG	General Manager, Engineering-Avionics	82-32-744-2882 / 82-32-744-2699	khshim@flyasiana.com
76	KWON, SANG YONG	Instructor		3ykwon3@flyasiana.com
77	BAE, EUN HYUNG	Assistant Manager	82-2-2669-3686 / 82-2-2669-3530	ehbae52@flyasiana.com
	Republic of Korea/Korea Aerospace Research Institute			
78	LEE, JONG-HEE	Director/Aerospace Safety & Certification Center	82-42-860-2500 / 82-42-860-2501	leejh@kari.re.kr
79	PARK, JONG-HYUK	Head/Airworthiness & Safety Department	82-42-860-2506 / 82-42-860-2501	jhpark@kari.re.kr
80	SHIN, DAI-WON	Korea Civil Aviation Certification Agency(KCA)	82-42-860-2508 / 82-42-860-2501	dwshin@kari.re.kr
81	KIM, PHIL-SOO	Airworthiness & Safety Department	82-42-860-2532 / 82-42-860-2501	pskim@kari.re.kr
82	KIM, SEUNG-KYEM	Airworthiness & Safety Department	82-42-860-2503 / 82-42-860-2501	Skykim@kari.re.kr
	Republic of Korea/Korea Transportation Safety Authority			
83	KIM, JONG HEE	Chairman	82-31-481-0254 / 82-31-401-8201	kjh3216@kotsa.or.kr
84	CHA, JUNG IN	Managing Director	82-31-481-0254 / 82-31-401-8201	c-ji48@kotsa.or.kr
85	GANG, HYUN CHUL	Director	82-31-481-0251 / 82-31-401-8201	kotsakang@kotsa.or.kr
86	IM, DONG HEUNG	General Manager	82-31-481-0251 / 82-31-401-8201	dhim@kotsa.or.kr
87	PARK, HEE YONG	Manager	82-31-481-0254 / 82-31-401-8201	skyman@kotsa.or.kr
88	LEE, JUNG IK	Aviation Specialist	82-31-481-0263 / 82-31-401-8201	iey6888@kotsa.or.kr
89	KIM, WEON HO	Aviation Specialist	82-31-481-0281 / 82-31-401-8202	weonho@kotsa.or.kr
90	LEE, SEUNG YEON	Staff	82-31-481-0254 / 82-31-401-8201	sophie@kotsa.or.kr
	Republic of Korea/Korea Airport Corporation			
91	SONG, IN SUN	Air Traffic Control Instructor	82-43-290-2372 / 82-42-290-2400	savvy8@airports.co.kr

	State/Organization/ Name	Title or Official Position	Telephone/Fax Number	E-Mail
	Republic of Korea/Regional Office, Korea, Japan Airlines International Co. Ltd.			
92	HA, SOO DONG	General Manager/Flight Operation Section	82-32-744-3673 / 82-32-744-3676	
	Korea Civil Aviation Development Association			
93	LEE, SANG IL	Director Aviation Technology and Information Center	82-2-2662-6271 / 82-2-2662-6791	lsi@airtransport.or.kr
	Korea Civil Aviation Development Association			
94	SONG, GIL HO	General Manager, Aviation Research Dept.	82-2-2662-6274 / 82-2-2662-5590	songgh@airtransport.or.kr
	Hankuk Aviation University			
95	KIM, MAENG SEN	ATS Professor	82-16-280-3700 / 82-2-3158-1305	kimms@hau.ac.kr
96	LEE, HYEAN JO	ATC INSTRUCTOR	82-16-664-0150 / 82-2-3158-1305	hjolee@hau.ac.kr
	Hanseo Univesity			
97	LEE,KANG SEOK	Professor	82-41-671-6221 / 82-41-671-6221	kasulee@hanseo.ac.kr
	CHINA			
98	ZHU SHI-XIN	Deputy Director of ATMB of Eastern China, CAAC	86-21-5112 5010 86-21-6268 8685	zhusx@sh.atmb.net.cn
99	ZHAO KAI	Deputy Director of Qingdao ATMB	86-0532-6126005 86-0532-4710038	0532zhxn@sina.com
	INDONESIA			
100	YUSFANDRI GONA	Directorate General Air Communication(DGCA) DEPHUB, Gd. Karya Lt.22 Jin Medan Merdeka Barat No.8 Jakarta, 10110 Indonesia	62-21-350-6664 / 62-21-350-6665	E-mail: yugo_gona2001@yahoo.com
	JAPAN			
101	KATO KOJI	Air Traffic Controller Operation & Planning, ATC Office Tokyo Area Control Centre, JCAB, MLIT 1-12 Namiki Tokorozawa-shi Saitama-ken JAPAN 35900042	81-42-992-1181(ext. 311) / 81-42-992-1925	katou-k03hm@tacc.mlit.go.jp
102	KEIKO TSUKUDA	Special Assistant to the Director JCAB, 2-1-3 Kasumigaseki Chiyoda-ku, Tokyo 100-8918 JAPAN	81-3-5253-8111(ext. 51239) / 81-03-5253-1664	tsukuda-k2eh@mlit.go.jp

	State/Organization/ Name	Title or Official Position	Telephone/Fax Number	E-Mail
103	TAKASHI IMUTA	Airspace Safety Monitoring Section JCAB, 2-1-3 Kasumigaseki Chiyoda-ku, Tokyo100-8918 JAPAN	81-3-5253-8111 (ext. 51238) / 81-03-5253-1664	timura-t2in@mlit.go.jp
104	UDAKA KEIZO	Special Assistant to the Director ATS System Planning Division ATS Department, JCAB, MLIT, 2-1-3 Kasumigaseki, shiyoda-ku, Tokyo JAPAN	81-3-5253-8739 / 81-03-5253-1663	udaka-k2s5@mlit.go.jp
105	HIROYUKI NAKANO	Chief, Operations Section, ATC Division 2-1-3 Kasumigaseki Chiyoda-ku, Tokyo 100-8918 JAPAN	81-3-5253-8749 / 81-03-5253-1664	nakano-h2rn@mlit.go.jp
106	MANABU GOMAZAKI	Air Traffic Controller Sapporo Area Control Centre Ministry of Land, Infrastructure and Transport 1-25, Higashi, 26-chome, Kita 37-jo, Higashi-ku, Sapporo 007-0837 JAPAN	81-11-782-0126	gomazaki-m05kc@sacc.mlit.go.jp
	PHILIPPINES			
107	ANDREW V. FLORENTINO	Chief, Air Carrier Operations Section Air Transportation Office Old MIA Rd Pasay City 1301 Philippines	632-8340150 632-8799218	ato-asd@compass.com.ph
108	ARMINDA B. MENDADOR	Chief, Air Carrier Operations Section Manila Area Control Centre Old MIA Rd Pasay City 1300 Philippines	632-8799179 632-8510639	arminda.m@pacific.net.ph
	RUSSIAN FEDERATION			
109	YURY STEPANOV	Director Naviagtion Russia/Siberia Airlines OB 4 Siberia Airlines, Novosibirsk, 633104 Russia	7-383-2-599122 / 77-383-2-59906	NAVI@S7.RU

	State/Organization/ Name	Title or Official Position	Telephone/Fax Number	E-Mail
	SINGAPORE			
110	SYDNEY MANIAM	Head of Air Traffic Services CAAS Singapore Aviation Academy 1Aviation Drive Singapore 499867	65-6542-9890 / 65-6540-6247	sydney_maniam@caas.gor.sg
	THAILAND			
111	NOPADOL SANG NGURN	Executive Expert Aeronautical Radio of Thailand Ltd 102 Soi ngarmduplee Tungmahamek, Sathorn Bangkok 10120, Thailand	66-2-285-9054 / 66-2-285-9488	E-mail: Nopadol@aerothai.co.th
112	SIRI PICHIENSOPON	Vice President Air Traffic Services Planning and Standards Bureau 102 Soi ngarmduplee Tungmahamek, Sathorn Bangkok 10120, Thailand	66-2-287-8339 / 66-2-287-8341	siri.pi@aerothai.co.th
113	PAISIT HERABAT	Executive Officer, Systems Engineering Air Traffic Services Planning Department 102 Soi ngarmduplee Tungmahamek, Sathorn Bangkok 10120, Thailand	66-2-285-9191 / 66-2-285-9716	paisit@aerothai.co.th
114	NUTTAKAJORN YARPIRAT	Senior Systems Engineer Planning Deparment 102 Soi ngarmduplee Tungmahamek, Sathorn Bangkok 10120, Thailand	66-2-287-8311	nuttakajorn.ya@aerothai.co.th
	UNITED STATES			
115	ALLAN STRORM	Civil/Military Aviation Issues Division Air Force Flight Standards Agency United States Air Force 1535 Command Dr, Suite D/E, Andrews Air Force Base, MD 20762, U.S.A	1-240-857-3194 / 1-240-857-2146	allan.storm@andrewws.af.mil
116	MICHAEL BISHOP	5 AF Director of Aviation Affairs, HQ 5 AF (USFJ), Yokota Air Base Japan	315-225-6454 / 81-90-9317-2535 031-661-1539	michael.bishop@andrews.af.mil

	State/Organization/ Name	Title or Official Position	Telephone/Fax Number	E-Mail
117	MAX LOPEZ	Chief, 7AF ATC and Airspace 7 AF, OSAN AIR BASE, ROK PSC 3 Box 5295 APO AP 96266	031-661-1508 / 808-449-4013	max.lopez@osan.af.mil
118	KEN SAYLER	PACAF Command Airspace Manager 25 E Street, Suite I 232 Hickam AFB, Hawaii, USA, 96797	808-449-4889 / 1-202-863-2398	KEN.SAYLER@Hickam.af.mil
119	BOB MILLER	Airspace Analysis & Modeling 400 Virginia Avenue,Sw,Suite210 Washington,Dc20024	1-202-484-3359	RMILLER@CSSIINE.COM
	IATA			
120	SOON BOON HAI	Assistant Director Safety Operations & Infrastructure-Asia/Pacific IATA, 77 Robinson Road 05-00 SIA Building, Singapore 068896	65-6239-7267 / 65-6540-3694	soonbh@iata.org
121	CAPT ARIC OH	Deputy Chief Pilot(Technical) Flight Operations Technical SINGAPORE AIRLINES SIA Training Centre, 04-C, 720 Upper Changi Road East, Singapore 486852	65-6542-9564 65-6542-6564	aric_oh@singaporeair. com.sg
122	VICTOR YEOH	Assistant Manager Flight Operations Technical Flight Operations Technical SINGAPORE AIRLINES SIA Training Centre, 04-C, 720 Upper Changi Road East, Singapore 486852	65-6540-3406 65-6542-9564	Victor_yeoh@singaporeair. com.sg
123	OWEN DELL	Manager International Operations International Affairs Department Cathay Pacific Airways 9/F Central Tower, Cathay Pacific City 8 Scenic Rd, HKIA Hong Kong, China	852-27478829 852-21418829	Owen_dell@cathaypacific.com

	State/Organization/ Name	Title or Official Position	Telephone/Fax Number	E-Mail
124	MASAMI MASUMOTO	Manager, Flight Standards All Nippon Airways 3-3-2 Haneda Airprot Ota-ku, Tokyo 144-0041 Japan	81-3-57575317 81-3-57575404	masumoto@ana.co.jp
125	KAZUO NAKATA	Manager, Flight Dispatch, Pacific Div Northwest Airlines P.O. Box 161, Narita Airport Narita City Japan 282-0011	81-476-327319 81-476-327427	masumoto@ana.co.jp
126	MAKOTO FUJINO	Manager Flight Operations Japan Airlines International 3-3-2 Haneda Airport Ota-ku, Tokyo 144-0041 Japan	81-3-8756 3134 81-3-5756 3527	Makoto.fujino@jal.com
	IFALPA			
127	CAPT NG KOK SEONG	IFALPA Representative ALPA Singapore 47 Limau Grove Singapore 467841	65-6444 9425 65-6444 9425	kokseong@singnet.com.sg
	ICAO			
128	DAVID MOORES	Regional Officer ATM ICAO Asia & Pacific Office P.O. Box 11, Samyaek Ladprao Bangkok - 10901, Thailand	66-2-5378-8189 / 66-2-5378-8199	dmoores@bangkok. icao.int

---

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

WORKING PAPERS

NUMBER	AGENDA	WORKING PAPERS	PRESENTED BY
WP/1	1	Provisional Agenda	Secretariat
WP/2	5	Task List for the Implementation of the Reduced Vertical Separation Minimum (RVSM) by Japan and Republic of Korea	Secretariat
WP/3	6	Proposal of the Next Meeting (Go/No-go Decision Meeting for the Incheon, Naha and Tokyo FIRs)	Japan
WP/4	2	Revised Implementing date of RVSM in the Incheon, Naha and Tokyo FIRs	Republic of Korea/Japan
WP/5	2, 3	Review of Draft AIP Supplement for RVSM Implementation in the Incheon FIR	Republic of Korea
WP/6	5	Proposal for Amendment of the Regional Supplementary Procedures (Doc 7030)	Republic of Korea
WP/7	2	Review of Revised Flight Level Allocation Scheme Agreed at the Twenty-second Meeting of the RVSM Implementation Task Force	Secretariat
WP/8	2	Planned Transition Arrangement Between Manila ACC and Taipei ACC	Philippines
WP/9	4	Summary of Know Your Airspace (KYA) Analysis for the Japan/Republic of Korea Domestic Airspace Where RVSM is Provisionally Applied	Thailand
WP/10	4	Summary of Large Height Deviation (LHD) Occurrences in Connection with the RVSM Implementation in the Japan/Republic of Korea Domestic Airspace	Thailand
WP/11	4	Assessment of the Readiness of Operators and Aircraft Types for the RVSM Implementation in the Japan/Republic of Korea Domestic Airspace	Thailand
WP/12	4	Summary of the Preliminary Safety Assessment for the RVSM Implementation in the Japan/Republic of Korea Domestic Airspace	Thailand
WP/13	3	Proposed Agenda for the Operations/Airworthiness (OPS/AIR) Working Group	Chairperson OPS/AIR/WG
WP/14	7	Issues Arising from the Implementation of RVSM in the Incheon FIR and Japan's Domestic Airspace	IATA
WP/15	2	Flight Level Allocation for A593 and B576	IATA

INFORMATION PAPERS

NUMBER	AGENDA	INFORMATION PAPERS	PRESENTED BY
IP/1	-	List of Working Papers (WPs) and Information Papers (IPs)	Secretariat
IP/2	2	An Updated RVSM Readiness of the Republic of Korea	Republic of Korea
IP/3	4	Provision of RVSM Height-Keeping Performance Monitoring Services in Asia Region by AEROTHAI	Thailand

---

AGENDA

Agenda Item 1:	Adoption of Agenda
Agenda Item 2:	Operational Considerations
Agenda Item 3:	Issues relating to Airworthiness and approval of aircraft
Agenda Item 4:	Safety and Airspace Monitoring Considerations
Agenda Item 5:	Implementation management considerations
Agenda Item 6:	Future Work – Meeting Schedule
Agenda Item 7:	Other business

Appendix D to the Report

Task List

SN	Activity	Start	Complete	Present Status	Group Responsible	
1	**Identify Operational Need**					
2	Agree operational concept for Japan Domestic Airspace and Incheon FIR, Korea	5-Jul-04	7-Jul-04	**Completed**	ATC/WG, RVSM Task Force	
3	**Safety Assessment**					
4	Review available summary data (non-compliant aircraft, aberrant aircraft etc)	5-Jul-04	30-Jun-05		SAM/WG, MAAR, RVSM Task Force	
5	Examine history of height keeping errors related to ATC clearances and assess possible RVSM impact	5-Jul-04	30-Jun-05		SAM/WG, MAAR, RVSM Task Force	
6	Confirm RVSM risk model assumptions/parameters are consistent with airspace where RVSM is to be applied	5-Jul-04	30-Jun-05		SAM/WG, MAAR, RVSM Task Force	
7	Conduct simulations to predict occupancy after RVSM implementation	5-Jul-04	30-Jun-05		SAM/WG, MAAR, RVSM Task Force	
8	Collect weather and turbulence data for analysis	5-Jul-04	On-going		SAM/WG, OPSAIR, RVSM Task Force	
9	Report monthly large height deviations (including operational errors) to MAAR	1-Mar-04	30-Jun-05		ATS Providers, Users	
10	Collect traffic sample data for safety assessment for RVSM implementation	1-Aug-04	30-Sep-04	**Completed**	ATS Providers	
11	**Feasibility Analysis**					
12	Examine the operational factors and workload associated with RVSM implementation	5-Jul-04	30-Jun-05		ATC/WG, RVSM Task Force	
13	**Determination of Requirements (airborne & ground systems)**					
14	States assess the impact of RVSM implementation on controller automation systems and plan for upgrades/modifications	5-Jul-04	30-Jun-05		States	
15	**Aircraft & Operator Approval Requirements**					
16	Promulgate the operational approval process	5-Jul-04	7-Jul-05		OPS/AIR/WG, RVSM Task Force	
17	Notify States when significant changes occur to RVSM documentation	5-Jul-04	On-going		OPS/AIR/WG, RVSM Task Force	
18	**Perform Rulemaking (if required)**					
19	Recommend State airspace regulatory documentation	5-Jul-04	30-Jun-05		States	
20	**Perform Necessary Industry & International Co-ordination**					
21	Establish target implementation date	5-Jul-04	7-Jul-04	**Completed**	RVSM Task Force, States	
22	Report to ATM/AIS/SAR/SG/15	25-Jul-05	29-Jul-05		RVSM Task Force Chairman	
23	Process Doc 7030 amendment	5-Jul-04	7-Jul-05		ICAO Regional Office (to include BOB FIRs)	
24	Publish advance AIC	5-Jul-04	31-Jul-04	**Completed**	States	
25	Publish AIP Supplement containing RVSM policy/procedures	5-Jul-04	7-Jul-05		States	
26	Review inter-facility coordination procedures	5-Jul-04	30-Jun-05		States	
27	Finalize changes to Letters of Agreement	5-Jul-04	30-Jun-05		States	
28	Disseminate information on RVSM policy and procedures through RVSM Website	5-Jul-04	On-going		OPS/AIR WG, RVSM Task Force	
29	**Approval of Aircraft & Operators**					
30	Establish approved operations readiness targets	5-Jul-04	30-Jun-05		IATA, ATC/WG, RVSM Task Force	
31	Assess operator readiness	5-Jul-04	30-Jun-05		IATA, OPS/AIR/WG	
32	**Develop Pilot & ATC Procedures**					

Task List

SN	Activity	Start	Complete	Present Status	Group Responsible	
33	Review application of tactical offset procedure to mitigate the effects of wake turbulence and TCAS alerts	5-Jul-04	On-going		RVSM Task Force	
34	Review weather and contingency procedures for applicability under RVSM	5-Jul-04	30-Jun-05		RVSM Task Force	
35	Publish appropriate Pilot/ATC policy & procedures on RVSM website	5-Jul-04	30-Jun-05		RVSM Task Force	
36	Identify transition areas and procedures	5-Jul-04	30-Jun-05		States, ATC/WG	
37	Conduct simulation modelling to assess impact of RVSM operations	5-Jul-04	30-Jun-05		States, ATC/WG	
38	Report on simulation activity	5-Jul-04	4-Jul-05		ATC/WG, RVSM Task Force	
39	Coordinate use of ACAS II (TCAS V.7) for RVSM operations	5-Jul-04	On-going		OPS/AIR/WG, RVSM Task Force	
40	Develop procedures for handling non-compliant aircraft (inc ferry & mntce) in ATS documentation	5-Jul-04	7-Jul-05		OPS/AIR/WG, ATC/WG, RVSM Task Force	
41	Develop mutually acceptable ATC procedures for non-approved State acft to transit RVSM airspace	5-Jul-04	7-Jul-05		ATC/WG, RVSM Task Force	
42	Implement procedures for suspension of RVSM	5-Jul-04	7-Jul-05		ATC/WG, RVSM Task Force	
43	Liaise with State defense authorities regarding military operations	5-Jul-04	7-Jul-05		States	
44	**Pilot & ATC Training**					
45	Provide Pilot/ATC training documentation based on past experience	31-Oct-04	30-Jun-05		IATA, RVSM Task Force	
46	Conduct local RVSM training for air traffic controllers	5-Jul-04	30-Jun-05		States, ATC/WG	
47	**Perform System Verificiation**					
48	Height keeping performance monitoring needed to undertake initial safety analysis	5-Jul-04	On-going		MAAR and SAM/WG, RVSM Task Force	
49	Provide representative traffic movement data to MAAR	1-Aug-04	30-Sep-04	**Completed**	States	
50	Undertake initial safety analysis	1-Oct-04	30-Jun-05		SAM/WG, RVSM Task Force	
51	Prepare/maintain regional status report detailing RVSM implementation plans	5-Jul-04	30-Jun-05		RVSM Task Force	
52	**Final Implementation Decision**				RVSM Task Force	
53	Review aircraft altitude-keeping performance and operational errors	5-Jul-04	30-Jun-05		SAM/WG, OPS/AIR/WG	
54	Complete ATS State documentation	5-Jul-04	7-Jul-05		States	
55	Publish Trigger NOTAM	19-Sep-05	19-Sep-05		States	
56	Complete readiness assessment	31-May-05	30-Jun-05		MAAR and SAM/WG, RVSM Task Force	
57	Complete safety analysis	31-May-05	30-Jun-05		MAAR and SAM/WG, RVSM Task Force	
58	**Declare Initial Operational Capability**				MAAR and SAM/WG, RVSM Task Force	
59	**Monitor System Performance**					
60	Perform Follow-On Monitoring	29-Sep-05	On-going		PARMO, MAAR, OPS/AIR/WG, SAM/WG	
61	Adopt the global use of Minimum Monitoring Requirements (MMR)	5-Jul-04	On-going		RVSM Task Force	
62	**Declare Full Operational Capability**				RVSM Task Force	
63	Special ATS Coordination Meeting (Bangkok) - Japan & Korea Implementation - 3 days	5-Jul-04	7-Jul-04	**Completed**	RVSM Task Force	
64	Task Force/22 (Bangkok) - Review of FLOS for Western Pacific/South China Sea - 5 days	20-Sep-04	24-Sep-04	**Completed**	RVSM Task Force	
66	Task Force/23 (Bangkok) - Japan & Korea Implementation - 5 days	18-Oct-04	22-Oct-04	**Completed**	RVSM Task Force	

Task List

SN	Activity	Start	Complete	Present Status	Group Responsible	
67	Task Force/24 (Bangkok) - 1 year follow up Bay of Bengal and Beyond implementation - 5 days	8-Nov-04	12-Nov-04	**Completed**	RVSM Task Force	
68	RVSM Seminar/6	21-Mar-05	22-Mar-05	**Completed**	RVSM Task Force	
69	Task Force/25 (Incheon) - Japan & Korea Implementation - 3 days	23-Mar-05	25-Mar-05	**Completed**	RVSM Task Force	
70	Task Force/26 (Bangkok) - Japan & Korea Implementation (Go/ No-Go Meeting) - 5 days	4-Jul-05	8-Jul-05		RVSM Task Force	
71	Task Force/27 (Bangkok) - Review of FLOS for Western Pacific/South China Sea - 5 days	5-Sep-05	9-Sep-05		RVSM Task Force	
70	Task Force/28 (Bangkok) - 90 days follow up Japan-Korea implementation - 3 days	00 Jan 05	00 Jan 05		RVSM Task Force	
71	Task Force/29 (Bangkok) - 1 year follow up Japan-Korea implementation - 3 days	00 Sep 06	00 Sep 06		RVSM Task Force	