



AP/ATM/5
WP/14
05/06/03

**International Civil Aviation Organization
UNDP/ICAO Regional Project RLA/98/003
Transition to the CNS/ATM Systems in the CAR and SAM Regions**

**Fifth Meeting/workshop of Air Traffic Management (ATM) Authorities and
Planners for RVSM, RNAV routes and RNP implementation in the CAR and SAM Regions
(AP/ATM/5 RVSM-RNAV-RNP)**

(Panama, Panama, 18 to 20 June 2003)

**Agenda Item 4: Review of the issues related to RVSM implementation in the CAR/SAM
Regions**

c) Aircraft Operation and Airworthiness Working Group (OPS/AIR/WG)

RVSM Minimum Monitoring Requirements Chart

(Presented by IATA)

Summary

This working paper presents a draft of the RVSM Minimum Monitoring Requirements-CAR/SAM Regions for review, discussion and approval

1. Introduction

1.1 The RVSM implementation date is rapidly approaching and Monitoring Requirements for operators based in the CAR/SAM regions are necessary. At the RVSM TF/2, WP 6 presented by the United States of America, proposed the Asia-Pacific RVSM Minimum Monitoring Requirements document be used for the CAR/SAM Regions. Based hereon, this working paper presents a draft of the RVSM Minimum Monitoring Requirements for the CAR/SAM Regions for review, discussion and approval.

2. Description of the Proposed Document

2.1 The proposed document is basically the same as the Asia-Pacific (APARMO), with the following changes:

- a) Complete document substitution of:
.... *“Asia-Pacific”*for..... *“Caribbean and South America”*
- b) Complete document substitution of:
..... *“APARMO”* for..... *“CARSAMMA”*
- c) Paragraph 3, substitution of:
Asia-Pacific RVSM Implementation...for... GREPECAS RVSM Implementation
- d) Paragraph number 6, deletion of:
.....being maintained by the Federal Aviation Administration (FAA) on behalf of the International Civil Aviation Organization (ICAO) Asia-Pacific regional planning group.
- e) Paragraph 6, APARMO website substituted by CARSAMMA website

<http://www.cgna.gov.br/carsam/español/index.htm>
<http://www.cgna.gov.br/carsam/english/index.htm>
- f) Paragraph 7, substitution of:
*.....all of its Pacific aircraft types or North Atlantic aircraft types
forother RVSM regions.*
- g) Group Chart Category 1, substitution of:
.....Pacific airspace and operators with prior experience planning to operate in the Western Pacific/South China Sea area.....forin Caribbean and South America with prior RVSM experience.....
- h) Group Chart row 3 (between category 1 and 2), deletion of:
..... Category 2 below has been adopted in preparation for RVSM implementation in the Western Pacific/South China Area on 21 Feb 2002....
- i) Group Chart Category 2, substitution of:
.....without prior RVSM experience whose operations are primarily in the Western Pacific/South China Sea Area forplanning to conduct operations in Caribbean and South America without prior RVSM experience.
- j) Group Chart Category 2/column 3/second paragraph, deletion of:
.....or not later than e months after the start of Western Pacific/South China Sea RVSM operations, whichever occurs later.

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2.2 **Appendix A** is the proposed document; **Appendix B** is the APARMO document with the above corrections.

3. **Action Requested**

- a) The meeting is invited to review the proposed changes, propose modifications if necessary and approval the final document.
- b) The meeting should approve the final “RVSM Minimum Monitoring Requirements to Operators/Aircraft Combination” report for immediate distribution and application.

Appendix A

CAR/SAM RVSM MINIMUM MONITORING REQUIREMENTS TO AN OPERATOR/AIRCRAFT-TYPE COMBINATION IN CONNECTION WITH APPLICATION OF THE STATE RVSM APPROVAL PROCESS

AS OF: 16 JUNE 2003

1. INITIAL MONITORING. All Caribbean and South American operators that operate or intend to operate in airspace where RVSM is applied are required to participate in the RVSM monitoring program. The attached chart of monitoring requirements establishes requirements for initial monitoring associated with the RVSM approval process. In their application to the appropriate State authority for RVSM approval, operators must show a plan for meeting the applicable initial monitoring requirements.

2. AIRCRAFT STATUS FOR MONITORING. Aircraft engineering work that is required for the aircraft to receive RVSM airworthiness approval must be completed prior to the aircraft being monitored. Any exception to this rule will be coordinated with the State authority.

3. FOLLOW-ON MONITORING. Monitoring is an on-going program that will continue after the RVSM approval process. A follow-on sampling program for additional operator aircraft will be coordinated by the GREPECAS RVSM Task Force.

4. MONITORING OF AIRFRAMES THAT ARE RVSM COMPLIANT ON DELIVERY. If an operator adds new RVSM compliant airframes of a type for which it already has RVSM operational approval and has completed monitoring requirements for the type in accordance with the attached chart, the new airframes are not required to be monitored - except as targeted at a later date in the follow-on monitoring program. If an operator adds new RVSM compliant airframes of an aircraft type for which it has NOT previously received RVSM operational approval, then the operator should complete monitoring in accordance with the attached chart.

5. APPLICABILITY OF MONITORING FROM OTHER REGIONS. Monitoring data obtained in conjunction with RVSM monitoring programs from other regions can be used to meet CAR/SAM monitoring requirements. The Caribbean and South America Monitoring Agency (CARSAMMA), which is responsible for administering the Caribbean and South America monitoring program, has access to monitoring data from other regions and will coordinate with States and operators to inform them on the status of individual operator monitoring requirements.

6. UPDATE OF MONITORING REQUIREMENTS CHART AND WEBSITE. As significant data is obtained, monitoring requirements for specific aircraft types may change. When the chart is updated, a letter will be distributed to States and operators. The updated chart will be posted on the CARSAMMA website. The website address is:

Spanish <http://www.cgna.gov.br/carsam/español/index.htm>
English <http://www.cgna.gov.br/carsam/english/index.htm>

7. PRIOR RVSM EXPERIENCE. When a new-entrant-RVSM operator completes the regional monitoring requirements for State approval for other RVSM region, the operator is considered by CARSAMMA to have "Prior RVSM Experience."

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Appendix A

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For most aircraft types, monitoring is not required to be completed PRIOR to operational approval being granted, however participation in monitoring IS REQUIRED in accordance with the attached chart.

CARSAMMA
 CARIBBEAN AND SOUTH AMERICA APPROVALS REGISTRY AND MONITORING
 ORGANIZATION

EFFECTIVE AS 16 JUNE 2003

MONITORING NOT REQUIRED PRIOR TO THE GRANT OF RVSM APPROVAL, HOWEVER PARTICIPATION IN MONITORING IS REQUIRED IN ACCORDANCE WITH THIS CHART			
CATEGORY		AIRCRAFT TYPE	MINIMUM OPERATOR MONITORING FOR EACH AIRCRAFT GROUP
1	OPERATORS PLANNING TO CONDUCT OPERATIONS IN CARIBBEAN AND SOUTH AMERICA WITH PRIOR RVSM EXPERIENCE	New aircraft types from a manufacturer with a demonstrable track record of the production of MASPS compliant airframes or [A30B, A306], A310 (GE), A310 (PW), [A318, A319, A320, A321], [A332, A333] [A342, A343, A344, A345, A346]B712, [B721, B722] [B733, B734, B735] [B736, B737/BBJ, B738, B739] [B741, B742, B743, B74S] B744, [B752, B753], [B762, B763], B764, [B772, B773], DC10, MD10, MD11, MD80, L101,CL60, C560, CRJ1, CRJ2, GLEX, GLF3, GLF4, GLF5, [F900, F900EX] FA20, FA50, FA50EX, F2TH, LJ60, LJ45, H25B	Two airframes from each operator fleet* to be monitored as soon as possible but not later than 6 months after the issue of RVSM approval. <i>* Note. For the purposes of the minimum monitoring requirement, aircraft within parenthesis [] may be considered as the same type.</i>
2	OPERATORS PLANNING TO CONDUCT OPERATIONS IN CARIBBEAN AND SOUTH AMERICA WITHOUT PRIOR RVSM EXPERIENCE	Same types as above in section 1.	At least 3 airframes unless operator has only 1 or 2 of a type, then all operator airframes of that type should be monitored. Monitoring to be completed as soon as possible but not later than within 3 months after the issue of RVSM operational approval
MONITORING REQUIRED PRIOR TO THE GRANT OF RVSM APPROVAL			
3	OPERATORS OF AIRCRAFT TYPES SHOWN IN THE BLOCK TO THE RIGHT	Other group or non –group aircraft other than those listed above including: A124, ASTR, B707, B731, B732, C525, C550, C56X, C650, C750, DC8, DC9, E145, FA10, GLF2, GALX, H25A, H25C, IL62, LJ31, LJ35, LJ55, MD90 or new aircraft types from a manufacturer without a demonstrable track record of the production of MASPS compliant airframes.	60% of target number of airworthiness approved, same type, airframes of each operator to be monitored or individual monitoring of airworthiness approved airframes of a given operator.

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Appendix B

ASIA-PACIFIC CAR/SAM RVSM MINIMUM MONITORING REQUIREMENTS TO AN OPERATOR/AIRCRAFT TYPE COMBINATION IN CONNECTION WITH APPLICATION OF THE STATE RVSM APPROVAL PROCESS

AS OF: ~~24 JANUARY 2002~~–16 JUN 2003

1. INITIAL MONITORING. All ~~Asia-Pacific~~ *Caribbean and South American* operators that operate or intend to operate in airspace where RVSM is applied are required to participate in the RVSM monitoring program. The attached chart of monitoring requirements establishes requirements for initial monitoring associated with the RVSM approval process. In their application to the appropriate State authority for RVSM approval, operators must show a plan for meeting the applicable initial monitoring requirements.

2. AIRCRAFT STATUS FOR MONITORING. Aircraft engineering work that is required for the aircraft to receive RVSM airworthiness approval must be completed prior to the aircraft being monitored. Any exception to this rule will be coordinated with the State authority.

3. FOLLOW-ON MONITORING. Monitoring is an on-going program that will continue after the RVSM approval process. A follow-on sampling program for additional operator aircraft will be coordinated by the ~~Asia-Pacific~~ GREPECAS RVSM Implementation Task Force

4. MONITORING OF AIRFRAMES THAT ARE RVSM COMPLIANT ON DELIVERY. If an operator adds new RVSM compliant airframes of a type for which it already has RVSM operational approval and has completed monitoring requirements for the type in accordance with the attached chart, the new airframes are not required to be monitored - except as targeted at a later date in the follow-on monitoring program. If an operator adds new RVSM compliant airframes of an aircraft type for which it has NOT previously received RVSM operational approval, then the operator should complete monitoring in accordance with the attached chart.

5. APPLICABILITY OF MONITORING FROM OTHER REGIONS. Monitoring data obtained in conjunction with RVSM monitoring programs from other regions can be used to meet ~~Asia-Pacific~~ *Caribbean and South America* monitoring requirements. The ~~Asia-Pacific Caribbean and South America Approvals Registry and Monitoring Agency Organization (APARMO)~~, (*CARSAMMA*) which is responsible for administering the ~~Asia-Pacific Caribbean and South America~~ monitoring program, has access to monitoring data from other regions and will coordinate with States and operators to inform them on the status of individual operator monitoring requirements.

6. UPDATE OF MONITORING REQUIREMENTS CHART AND WEBSITE. As significant data is obtained, monitoring requirements for specific aircraft types may change. When the chart is updated, a letter will be distributed to States and operators. The updated chart will be posted on the ~~APARMO CARSAMMA~~ website ~~being maintained by the Federal Aviation Administration (FAA) on behalf of the International Civil Aviation Organization (ICAO) Asia Pacific regional planning group.~~ The website address is:

http://www.tc.faa.gov/act-500/niaab/rvsm/aparmo_intro.html

Spanish <http://www.cgna.gov.br/carsam/español/index.htm>
English <http://www.cgna.gov.br/carsam/english/index.htm>

7. PRIOR RVSM EXPERIENCE. When a new-entrant-RVSM operator completes the regional monitoring requirements for State approval for ~~all of its Pacific aircraft types or North Atlantic other RVSM Regions~~ aircraft types, the operator is considered by ~~APARMO~~ *CARSAMMA* to have “Prior RVSM Experience.”

For most aircraft types, monitoring is not required to be completed PRIOR to operational approval being granted, however participation in monitoring IS REQUIRED in accordance with the attached chart.

~~ASIA-PACIFIC CARIBBEAN AND SOUTH AMERICA APPROVALS REGISTRY AND MONITORING ORGANISATION MONITORING AGENCY~~

EFFECTIVE AS OF: 24 JANUARY 2002-16 JUNE 2003

MONITORING NOT REQUIRED PRIOR TO THE GRANT OF RVSM APPROVAL, HOWEVER PARTICIPATION IN MONITORING IS REQUIRED IN ACCORDANCE WITH THIS CHART			
CATEGORY	AIRCRAFT TYPE	MINIMUM OPERATOR MONITORING FOR EACH AIRCRAFT GROUP	
1	<p>OPERATORS PLANNING TO CONDUCT OPERATIONS IN PACIFIC AIRSPACE AND OPERATORS CARIBBEAN AND SOUTH AMERICA WITH PRIOR RVSM EXPERIENCE PLANNING TO OPERATE IN THE WESTERN PACIFIC/SOUTH CHINA SEA AREA</p>	<p>New aircraft types from a manufacturer with a demonstrable track record of the production of MASPS compliant airframes or</p> <p>[A30B, A306], A310 (GE), A310 (PW), [A319, A320, A321], A330, A340, B712, [B721, B722] [B733, B734, B735] [B736, B737/BBJ, B738, B739] [B741, B742, B743, B74S] B744, [B752, B753], [B762, B763], B764 [B772, B773], DC10, MD10, MD11, MD80, L101 CL60, GLEX, GLF3, GLF4, GLF5 [F900, F900EX] FA50, FA50EX, F2TH, LJ45 LJ60, H25B</p>	<p>Two airframes of each type* to be monitored as soon as possible but not later then 6 months after the issue of RVSM operational approval.</p> <p><i>* Note. For the purposes of the minimum monitoring requirement, aircraft within parenthesis [] may be considered as the same type.</i></p>
<p>Category 2 below has been adopted in preparation for RVSM implementation in the Western Pacific/South China Sea Area on 21 Feb 2002</p>			
2	<p>OPERATORS PLANNING TO CONDUCT OPERATIONS IN CARIBBEAN AND SOUTH AMERICA WITHOUT PRIOR RVSM EXPERIENCE WHOSE OPERATIONS ARE PRIMARILY IN THE WESTERN PACIFIC/SOUTH CHINA SEA AREA</p>	<p>Same types as above in section 1.</p> <p>At least 3 airframes of each type unless operator has only 1 or 2 of a type, then all operator airframes of that type should be monitored.</p> <p>Monitoring to be completed as soon as possible but not later then 3 months after the issue of RVSM operational approval or not later then 3 months after the start of Western Pacific/South China Sea RVSM operations, whichever occurs later.</p>	
MONITORING REQUIRED PRIOR TO THE GRANT OF RVSM APPROVAL			
3	<p>OPERATORS OF AIRCRAFT TYPES SHOWN IN THE BLOCK TO THE RIGHT</p>	<p>Other group or non –group aircraft other than those listed above including:</p> <p>A124, ASTR, B707, B731, B732, C525, C560, C650, C750, DC8, DC9, E145, FA10, FA20, F100, GLF2, GALX, H25A, H25C, IL62, LJ31, LJ35, LJ55, MD90</p> <p>or</p> <p>new aircraft types from a manufacturer without a demonstrable track record of the production of MASPS compliant airframes.</p> <p>60% of target number of airworthiness approved, same type, airframes of each operator to be monitored or individual monitoring of airworthiness approved airframes of a given operator.</p>	