



ICAO

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**Twenty-Sixth Meeting of the Regional Airspace
Safety Monitoring Advisory Group (RASMAG/26)**
Video Teleconference, 20 – 24 September 2021

Agenda Item 5: Airspace Safety Monitoring Activities/Requirements in the Asia/Pacific Region

PARMO RVSM TRAFFIC COMPLIANCE MONITORING

(Presented by USA/PARMO)

SUMMARY

This paper provides an assessment of non-State-approved operators using the Reduced Vertical Separation Minimum (RVSM) airspace overseen by the Pacific Approvals Registry and Monitoring Agency (PARMO) in the Pacific and a portion of North East Asia. The assessment process is described and the results for period from **December 2020** are presented.

1. INTRODUCTION

1.1. The Pacific Approvals Registry and Monitoring Organization (PARMO), a service provided by the U.S. Federal Aviation Administration's William J. Hughes Technical Center since 2001, serves as the regional monitoring agency (RMA) for the airspace in the Pacific and a portion of North East Asia.

1.2. As part of the duties of a Regional Monitoring Agency (RMA), outlined in ICAO Doc 9937 (Reference 1), the PARMO performs regular checks of the operator compliance with State approval requirements within the Pacific and North East Asia airspace. The purpose of these checks is to identify non-approved operators and aircraft using the RVSM airspace to ensure the safety of the airspace.

1.4. This paper describes the process used by the PARMO to identify airframes operating within RVSM airspace, FL290 to FL410, inclusive, without the mandatory approval. This is accomplished through systematic process of matching air traffic movement data and airframe approval records. The results for the period from **December 2020** for the RVSM airspace within the Pacific and for a portion of North East Asia airspace are presented.

2. DISCUSSION

2.1 The PARMO requests an annual one-month traffic movement sample in addition to all of the large height deviation reports from the air traffic service providers (ATS) providers in Pacific and North East Asia airspace. The traffic sample data (TSD) for **December 2020** for Pacific and North East Asia airspace was received from all of the six FIRs under PARMO responsibility: Auckland (New Zealand), Incheon (Republic of Korea), Nadi (Fiji), Tahiti, Oakland (United States, ZAK) and Anchorage (United States, ZAN).

2.2 Appendix K of ICAO Doc 9937 (Reference 1) contains the sample content and format for collection of sample of traffic movements. In this table, the aircraft registration number is listed as optional. Therefore, the registration number is not available in some of the traffic samples. For the operations without a registration number, the operator-aircraft combination is used when matching the traffic data to the approvals. Use of this technique does not ensure complete verification of approval status. PARMO will investigate the potential for requiring aircraft registration number with all TSD.

2.3 The aggregate approvals database containing the approval records provided by the collective RMAs is used to verify the RVSM approval status of the operations identified in the traffic movement data sample. Updates to the aggregate database are provided by most of the RMAs on a monthly basis.

2.4 All civil aircraft operations observed in each of the **December 2020** traffic samples were compiled into one master traffic sample, or superset, consisting of approximately **37, 254** airframes. The superset was compared against the collective approvals database as of **5 April 2021**. The registration numbers and operator-aircraft combinations identified in the superset as asserting approval for operations in RVSM airspace (“W” in Field 10 of the ICAO flight plan) were cross-examined with the collective approvals database. Any of these operations for which an RVSM approval was not found was placed on a list for further examination and verification.

2.5 The verification process involves the exploration of systematic reasons for removing entries from the list. These reasons include but are not limited to:

- lags in State notification of approval to the RMA;
- lags in updates to the approvals database and the local version of ICAO Doc 8585;
- mistakes and typographical errors in the original traffic data; and
- code-sharing and lease arrangements between airlines.

2.6 **Table 1** contains the detailed summary of these results. These operations will be further investigated and the appropriate parties will be queried if no additional information is obtained.

2.7 The TSD from Incheon (Republic of Korea) did not include registration marks. For these entries, an operator aircraft type combination was used to identify an appropriate approval.

2.8 Experience has shown that the primary systematic reason for failure to match operations and approvals is a delay in State notification of the approval status of some operators to the appropriate RMA. Thus, the importance of timely notification by States of operator approval status to RMAs is emphasized by these results.

2.9 In review of the **December 2020** assessment of non-State-approved RVSM operation results, most of the noncompliant entries could be the result of registration number changes, registration entry errors or the use of a call sign rather than a registration number. It was determined that a more frequent review of traffic data will better identify errors for mitigation.

RMA	STATE	REGISTRATION
PARMO		3
	Greece	SXAPX
	Solomon Islands	H4ZYH
	Netherlands (Aruba)	P4MLO

Table 1 – PARMO Non-State-Approved RVSM Summary

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

- a) note and review the contents of the PARMO traffic scrutiny work presented in this paper; and
- b) provide any relevant updates on the records contained within the results.

References

1. *Doc 9937 - Operating Procedures and Practices for Regional Monitoring Agencies in Relation to the Use of a 300 m (1000 ft) Vertical Separation Minimum Between FL 290 and FL 410 Inclusive*, International Civil Aviation Organization, First Edition - 2010.

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