



*International Civil Aviation Organization*

**ICAO Twenty-Eighth Meeting of the Regional Airspace Safety Monitoring Advisory Group (RASMAG/28)**

Bangkok, Thailand, 21 – 24 August 2023

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

**PARMO RVSM LONG TERM HEIGHT MONITORING BURDEN**

(Presented by PARMO)

**SUMMARY**

This paper presents an assessment of the monitoring burden associated with the long-term height monitoring requirements for airframes for which PARMO is the responsible Regional Monitoring Agency (RMA). The PARMO approvals and global monitoring records as of 30 June 2023 were used to assess the monitoring burden.

**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 Northeast Asia.

1.2 To meet the ICAO Annex 6 Long Term Height Monitoring (LTHM) requirements, PARMO maintains a database of approvals and height monitoring history for aircraft registered within States under PARMO responsibility (Cook Islands, Fiji/Tonga, Kiribati, Marshal Islands, Micronesia (Federated States of), New Zealand, Republic of Korea, and Samoa). This paper provides the PARMO monitoring burden based on the approvals contained within the PARMO approvals database and global monitoring data available as of **30 June 2023**.

**2. DISCUSSION**

2.1 The PARMO approvals database as of **30 June 2023** was examined to determine the current PARMO monitoring burden. First, the approvals for the countries under PARMO responsibility were compiled. Then, each airframe having a current full approval was paired with the appropriate monitoring category by applying the most current version of the Minimum Monitoring Requirements (MMR) table (as of 6 April 2023). Any aircraft types missing from the current MMR table were assigned to Category 3.

2.2 The total of number of unique airframes identified as having a full RVSM approval from a state of registry under PARMO responsibility as of **30 June 2023** was **558**, with a resultant monitoring burden of **127** and a total of **17** aircraft not successfully monitored within the past two years (or 1,000 flight hours, whichever interval was longer).

2.3 **Table 1** provides a summation by State of Registry of airframes that require monitoring due to having no successful monitoring record within two years as of **30 June 2023**. For a more detailed list of the Monitoring Burden per State, see **Appendix A**.

State	Total # of Approved Airframes	Resultant Monitoring Burden (# Airframes)	Number of Fleet Aircraft not Monitored	Total # of Airframes Not Monitored within two years as of 30 June 2023
<b>Cook Islands</b>	1	1	0	0
<b>Fiji/Tonga</b>	17	8	3	0
<b>Kiribati</b>	0	0	0	0
<b>Marshal Islands</b>	0	0	0	0
<b>Micronesia</b>	0	0	0	0
<b>New Zealand</b>	88	28	43	10
<b>Republic of Korea</b>	452	90	102	7
<b>Samoa</b>	0	0	0	0
<b>PARMO Total</b>	<b>558</b>	<b>127</b>	<b>148</b>	<b>17</b>

**Table 1:** PARMO Long Term Height Burden as of 30 Jun 2023

### 3. ACTION BY THE MEETING

3.1 The meeting is invited to:

- a) note the information contained in this paper and Appendix A; and
- b) consider the potential impact of the estimated remaining burden.

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### References

*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

Appendix A

Long Term Height Monitoring Details

STATE	OPERATOR_3LTR	MONGRP	MONCAT	FLEET_COUNT	MMR_METRIC	MON_TOTAL	NOT_MON_TOTAL	MON_BURDEN As of 30 Jun 2023
NC	IGA	C550-II		2	1	1	0	0
			<b>Cook Islands Total</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>0</b>
NF	FJI	A330		1	6	2	0	0
NF	FJI	A350		2	1	1	0	0
NF	FJI	B38M		2	5	3	0	0
NF	FJI	B737NX		1	5	2	3	0
			<b>Fiji Total</b>	<b>17</b>	<b>8</b>	<b>14</b>	<b>3</b>	<b>0</b>
NZ	ANZ	A20N		2	2	2	0	0
NZ	ANZ	A320		1	31	2	25	0
NZ	ANZ	B737CL		1	1	1	0	0
NZ	ANZ	B767		1	1	1	0	0
NZ	ANZ	B772		1	6	2	5	1
NZ	ANZ	B773		1	7	2	0	0
NZ	ANZ	B787		1	12	2	0	0
NZ	AWK	B737CL		1	14	2	4	0
NZ	IGA	B737CL		1	1	1	0	0
NZ	IGA	B787		1	1	1	0	0
NZ	IGA	BE30		2	2	0	2	2
NZ	IGA	BE40		1	1	1	0	0
NZ	IGA	C510		1	2	0	2	2
NZ	IGA	C680		1	1	1	1	1
NZ	IGA	CL604		1	1	1	0	0
NZ	IGA	E50P		1	1	1	1	1
NZ	IGA	F2TH		2	1	1	0	1
NZ	IGA	LJ60		1	1	1	0	0
NZ	SKN	C510		1	1	1	1	1
NZ	TNZ	B737NX		1	1	1	0	1
			<b>New Zealand Total</b>	<b>88</b>	<b>28</b>	<b>45</b>	<b>43</b>	<b>10</b>
RK	AAR	A20N		2	4	3	0	0
RK	AAR	A320		1	28	2	14	0
RK	AAR	A330		1	15	2	0	0
RK	AAR	A350		2	13	8	0	0
RK	AAR	A380		1	6	2	4	0
RK	AAR	B744-10		1	14	2	13	0
RK	AAR	B767		1	8	2	3	0
RK	AAR	B772		1	9	2	9	0
RK	ABL	A20N		2	5	3	5	0
RK	ABL	A320		1	26	2	22	0
RK	AIH	B737NX		1	4	2	4	0
RK	APV	E135-145		1	1	1	0	1
RK	APZ	B39M		2	1	1	1	0
RK	APZ	B787		1	3	2	3	0
RK	ASV	A320		1	7	2	4	0
RK	EOK	A320		1	1	1	0	1
RK	ESR	B737NX		1	26	2	0	26
RK	FGW	A330		1	1	1	0	0
RK	FGW	B737NX		1	3	2	3	0
RK	IGA	A320		1	1	1	1	0
RK	IGA	B737NX		1	2	2	2	0
RK	IGA	GLEX		1	1	1	1	0
RK	IGA	GLF5		1	1	1	1	0
RK	IGA	GLF6		2	1	1	1	0
RK	JJA	B737NX		1	48	2	40	8
RK	JNA	B38M		2	1	1	1	0
RK	JNA	B737NX		1	22	2	21	1
RK	JNA	B772		1	4	2	4	0
RK	KAL	A20N		2	2	2	0	2
RK	KAL	A330		1	30	2	25	5
RK	KAL	A380		1	10	2	5	0
RK	KAL	B38M		2	5	3	4	1
RK	KAL	B737NX		1	19	2	9	10
RK	KAL	B744-10		1	5	2	5	0
RK	KAL	B748		1	17	2	16	1
RK	KAL	B772		1	22	2	17	5
RK	KAL	B773		1	29	2	29	0
RK	KAL	B787		1	11	2	11	0
RK	KAL	BCS1		2	10	6	5	1
RK	KAL	GLEX		1	1	1	1	0
RK	KAL	GLF6		2	1	1	1	0
RK	TWB	A330		1	3	2	3	0
RK	TWB	B38M		2	2	2	2	0
RK	TWB	B737NX		1	29	2	27	0
			<b>Republic of Korea Total</b>	<b>452</b>	<b>90</b>	<b>350</b>	<b>102</b>	<b>7</b>
			<b>Grand Total</b>	<b>558</b>	<b>127</b>	<b>410</b>	<b>148</b>	<b>17</b>