



International Civil Aviation Organization

**The Twenty-First Meeting of the Regional Airspace Safety Monitoring  
Advisory Group (RASMAG/21)**

Bangkok, Thailand, 14-17 June 2016

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

**PARMO LTHM BURDEN ESTIMATE UPDATE**

(Presented by United States/PARMO)

**SUMMARY**

This working paper provides an assessment of the monitoring burden associated with the long term height monitoring requirements for airframes for which the PARMO is the responsible Regional Monitoring Agency (RMA). An estimate of the airframes remaining to be monitored or not monitored within the two-year window is provided. In addition, a coarse estimate for the monitoring burden is provided for the aircraft operating in the Pacific airspace, for which NAARMO is the responsible RMA. The PARMO and NAARMO approvals and global monitoring records as of 1 May 2016 were used to assess the monitoring burden.

**Strategic Objectives:**

A: *Safety* – Enhance global civil aviation safety

**Global Plan Initiatives:**

GPI-2 Reduced vertical separation minima  
GPI-8 Collaborative airspace design and management

**1. INTRODUCTION**

1.1 As a result of the amendments made to Annex 6 concerning global RVSM long-term monitoring requirements, APANPIRG/18 tasked Asia/Pacific RMAs in conjunction with RASMAG to prepare a regional impact statement to estimate consequences for each State in the Asia/Pacific Region, including the anticipated monitoring burden.

1.2 For RASMAG/11 PARMO prepared an estimate of its own monitoring burden using December 2008 traffic sample data (TSD). Combined with the same information from the other Asia/Pacific RMA's, the *ASIA/PACIFIC REGIONAL IMPACT STATEMENT* (reference 1) was developed by RASMAG and endorsed by APANPIRG/20 in September 2009.

1.3 At RASMAG/16, it was decided that “All RMAs should develop monitoring burden tables using the format presented in WP17 and provide this information to RASMAG17, and on an on-going basis” (reference 2) to maintain the current standing of the region's monitoring burden in relation to the November 2012 deadline set forth in Annex 6.

1.4 This paper provides an update of the PARMO monitoring burden based on the approvals contained within the PARMO approvals database and the global monitoring data available as of May 2016. In addition, an estimate for the NAARMO monitoring burden is provided for aircraft that operate in the Pacific oceanic airspace based on the collective December 2015 PARMO traffic sample.

## 2. DISCUSSION

### *PARMO Monitoring Burden*

2.1 The PARMO approvals database as of 1 May 2016 was examined to determine the current PARMO monitoring burden. The approvals for the countries under PARMO responsibility (Cook Islands, Fiji, Kiribati, Marshall Islands, Micronesia, New Zealand, Palau, Republic of Korea, Samoa, Tonga) were compiled and each airframe with a current full approval was mapped to a monitoring category from the most current version of the Minimum Monitoring Requirements (MMR) table (version as of May 2016) based on the respective aircraft type. Any aircraft not found in the current MMR table was assigned a category 3, resulting in 100% monitoring of the associated fleet.

2.2 The total of number of unique airframes identified as having a full RVSM approval from a State of registry under PARMO responsibility during December 2015 was **446**, with a resultant monitoring burden of **100** and a total of **18** aircraft not monitored within the past two years. Table 1 provides a summary by State of registry of the estimate of airframes that require monitoring due to having no monitoring record within two years as of 1 May 2016.

2.3 The results of the PARMO monitoring burden presented to RASMAG/20 as of 15 April 2015 are included for the purpose of comparison. The monitoring burden has decreased by 3 airframes since May 2015.

**Table 1.** Summary of PARMO monitoring burden

State of Registry	Total # Approved Airframes	Resultant Monitoring Burden (# Airframes)	Total # of Aircraft Not Monitored within 2 years as of 01/05/2016	Total # of Aircraft Not Monitored within 2 years as of 15/04/2015
Fiji	11	6	2	0
French Territory	4	4	1	1
New Zealand	80	27	7	7
Republic of Korea	347	59	4	11
Samoa	2	2	2	0
Tonga	1	1	1	1
<b>Grand Total</b>	<b>445</b>	<b>99</b>	<b>17</b>	<b>20</b>

### *NAARMO Monitoring Burden (aircraft operating in Pacific oceanic airspace)*

2.4 The NAARMO monitoring burden for the aircraft operating in the flight information regions (FIRs) under PARMO responsibility (United States, Canada and Mexico) was also examined. The assessment began with extracting the unique airframes that are associated with States under NAARMO responsibility from the December 2015 traffic samples provided by the Pacific States under PARMO responsibility.

2.5 The unique airframes extracted from the December 2015 were matched to the NAARMO approvals and global monitoring records as of 1 May 2016, and subsequently mapped to a monitoring category from the most current version of the Minimum Monitoring Requirements (MMR) table (version as of May 2016) based on the respective aircraft type. Any aircraft not found in the current MMR table was assigned a category 3, resulting in 100% monitoring of the associated fleet.

2.6 The total of number of unique airframes identified as having a full RVSM approval from the United States, Canada or Mexico and operating in the portion of the Pacific oceanic airspace

during December 2015 was **1,425**, with a resultant monitoring burden of **531** and a total of **10** aircraft not monitored within the past two years. Table 2 provides a summary by State of registry of the estimate of airframes that require monitoring, due to having no monitoring record within two years of 1 May 2016, for the aircraft under NAARMO responsibility that are observed to operate in the Pacific airspace.

2.7 The results of the NAARMO monitoring burden presented to RASMAG/20 as of 15 April 2015 are included for the purpose of comparison. The monitoring burden has decreased by approximately 3 airframes during the past year.

**Table 2.** Estimate of NAARMO monitoring burden for aircraft operating in Pacific

State of Registry	Total # Approved Airframes Operating in Pacific	Resultant Monitoring Burden (# Airframes)	Total # of Aircraft Not Monitored within 2 years as of 01/05/2016	Total # of Aircraft Not Monitored within 2 years as of 15/04/2015
Canada	87	33	0	1
Mexico	2	2	0	7
United States	1,336	496	10	5
<b>Grand Total</b>	<b>1,425</b>	<b>531</b>	<b>10</b>	<b>13</b>

2.8 Appendix A provides the details of the PARMO monitoring burden based on the PARMO approvals and global monitoring data as of 1 May 2016. In addition, Appendix A provides the details of the estimated NAARMO monitoring burden for aircraft operating in the Pacific oceanic airspace matched to the NAARMO approvals and global monitoring data as of 1 May 2016.

### 3. ACTION BY THE MEETING

3.1 The meeting is invited to:

- a) note the information provided in the paper and Appendix;
- b) consider the potential impact of the estimated remaining burden; and
- c) incorporate the information contained in this paper with similar data obtained from other Asia Pacific RMAs to update the estimate of the monitoring burden for the Asia Pacific region.

#### References

- 1) ICAO Asia/Pacific Regional Office. *ASIA/PACIFIC REGIONAL IMPACT STATEMENT, RVSM GLOBAL LONG TERM HEIGHT MONITORING REQUIREMENTS EFFECTIVE FROM NOVEMBER 2010*, October 2010.
- 2) Report of the Sixteenth Meeting of the Regional Airspace Safety Monitoring Advisory Group (RASMAG/16), Bangkok, Thailand, 20-23 February 2012.

**Appendix A.** Detailed Estimate of Monitoring Burden for PARMO

**FIJI:**

Operator	Operator Name	Aircraft Monitoring Group (e.g. [A342, A343])	MMR Category (1, 2 or 3)	Total # Approved Airframes	Resultant Monitoring Burden (# Airframes)	Total # of aircraft not monitored within 2 years as of 1 May 2016
FJI	AIR PACIFIC, LTD.	A330	1	4	2	0
FJI	AIR PACIFIC, LTD.	B737NX	1	5	2	0
FJI	AIR PACIFIC, LTD.	B744-5	1	2	2	2
<b>FIJI TOTALS</b>				11	6	2

**FRENCH TERRITORIES:**

Operator	Operator Name	Aircraft Monitoring Group (e.g. [A342, A343])	MMR Category (1, 2 or 3)	Total # Approved Airframes	Resultant Monitoring Burden (# Airframes)	Total # of aircraft not monitored within 2 years as of 1 May 2016
ACI	AIR CALEDONIE INTERNATIONAL	A320	1	2	2	1
ACI	AIR CALEDONIE INTERNATIONAL	A330	1	2	2	0
<b>FRENCH TERRITORY TOTALS</b>				4	4	1

**NEW ZEALAND:**

<b>Operator</b>	<b>Operator Name</b>	<b>Aircraft Monitoring Group (e.g. [A342, A343])</b>	<b>MMR Category (1, 2 or 3)</b>	<b>Total # Approved Airframes</b>	<b>Resultant Monitoring Burden (# Airframes)</b>	<b>Total # of aircraft not monitored within 2 years as of 1 May 2016</b>
<b>ANZ</b>	AIR NEW ZEALAND, LTD.	A320	1	27	2	0
<b>ANZ</b>	AIR NEW ZEALAND, LTD.	B737CL	1	2	2	0
<b>ANZ</b>	AIR NEW ZEALAND, LTD.	B767	1	5	2	0
<b>ANZ</b>	AIR NEW ZEALAND, LTD.	B772	1	8	2	0
<b>ANZ</b>	AIR NEW ZEALAND, LTD.	B773	1	7	2	0
<b>ANZ</b>	AIR NEW ZEALAND, LTD.	B787	2	6	4	0
<b>AWK</b>	AIRWORK, LTD.	B737CL	1	8	2	0
<b>QNZ</b>	JETCONNECT, LTD.	B737NX	1	8	2	0
<b>ZKJAK</b>		C510	1	1	1	1
<b>ZKKFB</b>		GLF6	2	1	1	0
<b>ZKLCA</b>		C510	1	1	1	1
<b>ZKNXJ</b>		BE40	1	1	1	1
<b>ZKPGA</b>		C25C	2	1	1	1
<b>ZKRML</b>		WW24	2	1	1	1
<b>ZKTLD</b>		B737CL	1	1	1	0
<b>ZKXVL</b>		LJ35-36	2	1	1	1
<b>ZKYDZ</b>		C510	1	1	1	1
<b>NEW ZEALAND TOTALS</b>				<b>80</b>	<b>27</b>	<b>7</b>

**REPUBLIC OF KOREA:**

Operator	Operator Name	Aircraft Monitoring Group (e.g. [A342, A343])	MMR Category (1, 2 or 3)	Total # Approved Airframes	Resultant Monitoring Burden (# Airframes)	Total # of aircraft not monitored within 2 years as of 1 May 2016
AAR	ASIANA AIRLINES	A320	1	32	2	0
AAR	ASIANA AIRLINES	A330	1	15	2	0
AAR	ASIANA AIRLINES	A380	1	4	2	0
AAR	ASIANA AIRLINES	B744-5	1	14	2	0
AAR	ASIANA AIRLINES	B767	1	8	2	0
AAR	ASIANA AIRLINES	B772	1	12	2	0
ABL	AIR BUSAN	A320	1	14	2	0
ABL	AIR BUSAN	B737CL	1	7	2	0
AIH	ALPINE AIR CHILE	B737CL	1	2	2	2
ESR	EASTARJET	B737NX	1	13	2	0
JJA	JEJU AIR	B737NX	1	23	2	0
JNA	JIN AIR CO., LTD.	B737NX	1	16	2	0
JNA	JIN AIR CO., LTD.	B772	1	3	2	0
KAL	KOREAN AIR LINES CO., LTD.	A330	1	29	2	0
KAL	KOREAN AIR LINES CO., LTD.	A380	1	10	2	0
KAL	KOREAN AIR LINES CO., LTD.	B737NX	1	40	2	0
KAL	KOREAN AIR LINES CO., LTD.	B744-5	1	29	2	0
KAL	KOREAN AIR LINES CO., LTD.	B748	2	11	7	0
KAL	KOREAN AIR LINES CO., LTD.	B772	1	20	2	0
KAL	KOREAN AIR LINES CO., LTD.	B773	1	22	2	0
TWB	T'WAY AIR CO., LTD.	B737NX	1	11	2	0
HL7227		B737NX	1	1	1	0

Operator	Operator Name	Aircraft Monitoring Group (e.g. [A342, A343])	MMR Category (1, 2 or 3)	Total # Approved Airframes	Resultant Monitoring Burden (# Airframes)	Total # of aircraft not monitored within 2 years as of 1 May 2016
HL7576		GLEX	1	1	1	1
HL7748		GLEX	1	1	1	0
HL7749		GLEX	1	1	1	0
HL7770		B737NX	1	1	1	0
HL7787		B737NX	1	1	1	1
HL8080		A320	1	1	1	0
HL8200		GLF5	1	1	1	0
HL8230		GLEX	1	1	1	0
HL8270		B737NX	1	1	1	0
HL8288		GLF5	1	1	1	0
HL8290		B737NX	1	1	1	0
<b>REPUBLIC OF KOREA TOTALS</b>				347	59	4

**SAMOA:**

Operator	Operator Name	Aircraft Monitoring Group (e.g. [A342, A343])	MMR Category (1, 2 or 3)	Total # Approved Airframes	Resultant Monitoring Burden (# Airframes)	Total # of aircraft not monitored within 2 years as of 1 May 2016
PAO	POLYNESIAN AIRLINE OPERATIONS, LTD.	B737NX	1	2	2	2
<b>SAMOA TOTALS</b>				2	2	2

**TONGA:**

Operator	Operator Name	Aircraft Monitoring Group (e.g. [A342, A343])	MMR Category (1, 2 or 3)	Total # Approved Airframes	Resultant Monitoring Burden (# Airframes)	Total # of aircraft not monitored within 2 years as of 1 May 2016
HRH	ROYAL TONGAN AIRLINES	B752	1	1	1	1
<b>TONGA TOTALS</b>				1	1	1

PARMO GRAND TOTAL ( Fiji + French Territories + New Zealand + Republic of Korea + Samoa + Tonga )	Total # Approved Airframes	Resultant Monitoring Burden (# Airframes)	Total # of aircraft not monitored within 2 years as of 1 May 2016
	445	99	17



**CANADA:**

<b>Operator</b>	<b>Operator Name</b>	<b>Aircraft Monitoring Group (e.g. [A342, A343])</b>	<b>MMR Category (1, 2 or 3)</b>	<b>Total # Approved Airframes Operating in Pacific</b>	<b>Resultant Monitoring Burden (# Airframes)</b>	<b>Total # of aircraft not monitored within 2 years as of 1 May 2016</b>
ACA	AIR CANADA	A330	1	1	1	0
ACA	AIR CANADA	B767	1	10	2	0
ACA	AIR CANADA	B772	1	6	2	0
ACA	AIR CANADA	B773	1	14	2	0
ACA	AIR CANADA	B787	2	11	7	0
ROU	AIR CANADA ROUGE	B767	1	9	2	0
WJA	WESTJET AIRLINES, LTD.	B737NX	1	21	2	0
CFASD		CL600	1	1	1	0
CFEMT		LJ35-36	2	1	1	0
CFHYL		CL600	1	1	1	0
CFMHL		BD100	1	1	1	0
CFMPX		BD700	2	1	1	0
CFPFS		F900	1	1	1	0
CFVMW		F2TH	2	1	1	0
CGCDS		GLEX	1	1	1	0
CGCUL		FA7X	1	1	1	0
CGHSW		GLEX	1	1	1	0
CGKGN		CL600	1	1	1	0
CGOIL		F900	1	1	1	0
CGRLE		CL600	1	1	1	0

CGTJO		CL600	1	1	1	0
CGTLA		F900	1	1	1	0
<b>CANADA TOTALS</b>				87	33	0

**MEXICO:**

Operator	Operator Name	Aircraft Monitoring Group (e.g. [A342, A343])	MMR Category (1, 2 or 3)	Total # Approved Airframes Operating in Pacific	Resultant Monitoring Burden (# Airframes)	Total # of aircraft not monitored within 2 years as of 1 May 2016
AMX	AEROVIAS DE MEXICO, S.A. DE C.V.	B787	2	1	1	0
XAEAJ		GLF5	1	1	1	0
<b>MEXICO TOTALS</b>				2	2	0

**UNITED STATES:**

Operator	Operator Name	Aircraft Monitoring Group (e.g. [A342, A343])	MMR Category (1, 2 or 3)	Total # Approved Airframes	Resultant Monitoring Burden (# Airframes)	Total # of aircraft not monitored within 2 years as of 1 May 2016
AAH	ALOHA AIR CARGO (HONOLULU, HI)	B737CL	1	1	1	0
AAL	AMERICAN AIRLINES, INC.	A320	1	16	2	0
AAL	AMERICAN AIRLINES, INC.	B752	1	17	2	0
AAL	AMERICAN AIRLINES, INC.	B767	1	25	2	0
AAL	AMERICAN AIRLINES, INC.	B772	1	37	2	0
AAL	AMERICAN AIRLINES, INC.	B773	1	17	2	0
AAL	AMERICAN AIRLINES, INC.	B787	2	12	8	0
AAY	Allegiant Air, LLC	B752	1	5	2	0
ABX	AIRBORNE EXPRESS, INC.	B767	1	2	2	0

Operator	Operator Name	Aircraft Monitoring Group (e.g. [A342, A343])	MMR Category (1, 2 or 3)	Total # Approved Airframes	Resultant Monitoring Burden (# Airframes)	Total # of aircraft not monitored within 2 years as of 1 May 2016
	(WILMINGTON, OH)					
<b>AMX</b>	AEROVIAS DE MEXICO, S.A. DE C.V.	B772	1	4	2	0
<b>AMX</b>	AEROVIAS DE MEXICO, S.A. DE C.V.	B787	2	4	3	0
<b>ASA</b>	ALASKA AIRLINES, INC.	B737CL	1	5	2	0
<b>ASA</b>	ALASKA AIRLINES, INC.	B737NX	1	61	2	0
<b>ATN</b>	AIR TRANSPORT INTERNATIONAL (TULSA, OK)	B752	1	3	2	0
<b>CKS</b>	AMERICAN INTERNATIONAL AIRWAYS, INC. D/B/A CONNIE KALITTA SERVICES, INC. (YPSILANTI, MI)	B747CL	1	3	2	0
<b>CKS</b>	AMERICAN INTERNATIONAL AIRWAYS, INC. D/B/A CONNIE KALITTA SERVICES, INC. (YPSILANTI, MI)	B744-5	1	10	2	0
<b>DAL</b>	DELTA AIR LINES, INC.	A330	1	31	2	0
<b>DAL</b>	DELTA AIR LINES, INC.	B752	1	28	2	0
<b>DAL</b>	DELTA AIR LINES, INC.	B753	1	16	2	0
<b>DAL</b>	DELTA AIR LINES, INC.	B767	1	57	2	0
<b>DAL</b>	DELTA AIR LINES, INC.	B772	1	16	2	0
<b>DAL</b>	DELTA AIR LINES, INC.	B744-5	1	9	2	0
<b>DYA</b>	DYNAMIC AIRWAYS, LLC (WINSTON-SALEM, NC)	B767	1	1	1	0
<b>FDX</b>	FEDERAL EXPRESS CORP. (LITTLE ROCK, AR)	A306	1	3	2	0
<b>FDX</b>	FEDERAL EXPRESS CORP. (LITTLE	A310-GE	1	1	1	0

Operator	Operator Name	Aircraft Monitoring Group (e.g. [A342, A343])	MMR Category (1, 2 or 3)	Total # Approved Airframes	Resultant Monitoring Burden (# Airframes)	Total # of aircraft not monitored within 2 years as of 1 May 2016
	ROCK, AR)					
<b>FDX</b>	FEDERAL EXPRESS CORP. (LITTLE ROCK, AR)	B772	1	27	2	0
<b>FDX</b>	FEDERAL EXPRESS CORP. (LITTLE ROCK, AR)	MD11	1	54	2	0
<b>FDX</b>	FEDERAL EXPRESS CORP. (LITTLE ROCK, AR)	B744-5	1	3	2	0
<b>FLC</b>	FINFO FLIGHT INSPECTION AIRCRAFT (OKLAHOMA CITY, OK)	CL600	1	1	1	0
<b>GTI</b>	ATLAS AIR, INC. (JAMAICA, NY)	B748	2	3	2	0
<b>GTI</b>	ATLAS AIR, INC. (JAMAICA, NY)	B767	1	1	1	0
<b>GTI</b>	ATLAS AIR, INC. (JAMAICA, NY)	B744-5	1	7	2	0
<b>GTI</b>	ATLAS AIR, INC. (JAMAICA, NY)	B744-LCF	2	4	3	0
<b>HAL</b>	HAWAIIAN AIRLINES	A330	1	22	2	0
<b>HAL</b>	HAWAIIAN AIRLINES	B767	1	8	2	0
<b>HAL</b>	HAWAIIAN AIRLINES	B712	1	1	1	0
<b>KYE</b>	SKYLEASE CARGO	B744-5	1	1	1	0
<b>MGE</b>	Asia Pacific Airlines	B727	1	2	2	1
<b>NCR</b>	NATIONAL AIR CARGO GROUP, INC. (YPSILANTI, MI)	B752	1	1	1	0
<b>NCR</b>	NATIONAL AIR CARGO GROUP, INC. (YPSILANTI, MI)	B744-5	1	2	2	0
<b>OAE</b>	OMNI AIR EXPRESS, INC. (TULSA, OK)	B767	1	3	2	0
<b>OAE</b>	OMNI AIR EXPRESS, INC. (TULSA, OK)	B772	1	1	1	0

Operator	Operator Name	Aircraft Monitoring Group (e.g. [A342, A343])	MMR Category (1, 2 or 3)	Total # Approved Airframes	Resultant Monitoring Burden (# Airframes)	Total # of aircraft not monitored within 2 years as of 1 May 2016
PAC	POLAR AIR CARGO, INC. (LONG BEACH, CA)	B748	2	6	4	0
PAC	POLAR AIR CARGO, INC. (LONG BEACH, CA)	B767	1	2	2	0
PAC	POLAR AIR CARGO, INC. (LONG BEACH, CA)	B744-5	1	8	2	0
QFA	QANTAS AIRWAYS, LTD.	B772	1	1	1	0
QFA	QANTAS AIRWAYS, LTD.	B744-5	1	2	2	0
SOO	Southern Air, INC. (Columbus, OH)	B772	1	5	2	0
UAL	UNITED AIR LINES, INC.	B737NX	1	142	2	0
UAL	UNITED AIR LINES, INC.	B752	1	35	2	0
UAL	UNITED AIR LINES, INC.	B753	1	20	2	0
UAL	UNITED AIR LINES, INC.	B764	1	16	2	0
UAL	UNITED AIR LINES, INC.	B767	1	1	1	0
UAL	UNITED AIR LINES, INC.	B772	1	60	2	0
UAL	UNITED AIR LINES, INC.	B787	2	26	16	0
UAL	UNITED AIR LINES, INC.	GLF4	1	1	1	0
UAL	UNITED AIR LINES, INC.	B744-5	1	21	2	0
UPS	UNITED PARCEL SERVICE CO., (LOUISVILLE, KY)	B767	1	51	2	0
UPS	UNITED PARCEL SERVICE CO., (LOUISVILLE, KY)	MD11	1	36	2	0
UPS	UNITED PARCEL SERVICE CO., (LOUISVILLE, KY)	B744-5	1	13	2	0
VRD	Virgin America, INC.	A320	1	3	2	0
WJA	WESTJET AIRLINES, LTD.	B767	1	2	2	0

Operator	Operator Name	Aircraft Monitoring Group (e.g. [A342, A343])	MMR Category (1, 2 or 3)	Total # Approved Airframes	Resultant Monitoring Burden (# Airframes)	Total # of aircraft not monitored within 2 years as of 1 May 2016
N100AK		ASTR	2	1	1	0
N100FL		CL600	1	1	1	0
N100QS		BD700	2	1	1	0
N1013		BD100	1	1	1	0
N101QS		BD700	2	1	1	0
N102AK		GLF4	1	1	1	0
N104QS		BD700	2	1	1	0
N105CX		GLF5	1	1	1	0
N109QS		BD700	2	1	1	0
N10XG		GLF5	1	1	1	0
N110QS		BD700	2	1	1	0
N111AM		GLF5	1	1	1	0
N111QS		BD700	2	1	1	0
N112CF		CL600	1	1	1	0
N113WJ		GLF4	1	1	1	0
N118WT		GLEX	1	1	1	0
N11BV		F2TH	2	1	1	0
N124EP		GLF3	2	1	1	0
N124TF		GLF4	1	1	1	0
N127BG		E135-145	1	1	1	0
N128TS		BD100	1	1	1	0
N143QS		GLEX	1	1	1	0
N144BS		F900	1	1	1	0
N144PK		GLF4	1	1	1	0

Operator	Operator Name	Aircraft Monitoring Group (e.g. [A342, A343])	MMR Category (1, 2 or 3)	Total # Approved Airframes	Resultant Monitoring Burden (# Airframes)	Total # of aircraft not monitored within 2 years as of 1 May 2016
N146BA		CL600	1	1	1	0
N146QS		GLEX	1	1	1	0
N150HM		G150	2	1	1	0
N150QS		GLEX	1	1	1	0
N15SD		GLEX	1	1	1	0
N15VC		CL600	1	1	1	0
N15Y		GLF4	1	1	1	0
N162JC		GLF5	1	1	1	0
N165PA		GLF3	2	1	1	0
N166CK		FA7X	1	1	1	0
N171EX		FA7X	1	1	1	0
N173PA		GLF3	2	1	1	0
N178B		GLF2	2	1	1	0
N17FJ		GLF5	1	1	1	0
N17ND		GLF5	1	1	1	0
N186DS		GLF4	1	1	1	0
N188SW		FA7X	1	1	1	0
N189DR		E135-145	1	1	1	0
N18S		GLF4	1	1	1	0
N18WZ		GLEX	1	1	1	0
N191MD		FA7X	1	1	1	0
N192RS		FA50	2	1	1	0
N194WM		GLEX	1	1	1	0
N1980Z		BD100	1	1	1	0

Operator	Operator Name	Aircraft Monitoring Group (e.g. [A342, A343])	MMR Category (1, 2 or 3)	Total # Approved Airframes	Resultant Monitoring Burden (# Airframes)	Total # of aircraft not monitored within 2 years as of 1 May 2016
N198GS		GLF4	1	1	1	0
N199XP		C750	1	1	1	0
N1AL		GLF6	2	1	1	0
N1BN		GLF5	1	1	1	0
N1EB		GLF5	1	1	1	0
N1TM		GLF4	1	1	1	0
N200BH		GALX	1	1	1	0
N203R		CL600	1	1	1	0
N211HS		GLF6	2	1	1	0
N22		GLF4	1	1	1	0
N220DF		F2TH	2	1	1	0
N221CM		GLF3	2	1	1	0
N221DG		GLF6	2	1	1	0
N222LX		GLF5	1	1	1	0
N226RS		GLF4	1	1	1	0
N228PK		BD100	1	1	1	0
N229AR		GLF4	1	1	1	0
N232K		GLF4	1	1	1	0
N233KC		F900	1	1	1	0
N235HR		LJ55	2	1	1	0
N236FS		GLF4	1	1	1	0
N24JR		GLF4	1	1	1	0
N250DL		F2TH	2	1	1	0
N250DV		GLF5	1	1	1	0



Operator	Operator Name	Aircraft Monitoring Group (e.g. [A342, A343])	MMR Category (1, 2 or 3)	Total # Approved Airframes	Resultant Monitoring Burden (# Airframes)	Total # of aircraft not monitored within 2 years as of 1 May 2016
N251GV		GLF5	1	1	1	0
N251TD		GLF6	2	1	1	0
N251VP		GLF4	1	1	1	0
N253QS		F2TH	2	1	1	0
N254CA		GLF4	1	1	1	0
N257AL		F2TH	2	1	1	0
N259CA		C680	1	1	1	0
N259QS		F2TH	2	1	1	0
N260ER		FA50	2	1	1	0
N265QS		F2TH	2	1	1	0
N265SJ		GLF4	1	1	1	0
N267BW		BD700	2	1	1	0
N2707		BD700	2	1	1	0
N278L		GLF6	2	1	1	0
N282Q		GLF5	1	1	1	0
N283DM		CL600	1	1	1	0
N284CC		GLF5	1	1	1	0
N284QS		F2TH	2	1	1	0
N286JS		BD700	2	1	1	0
N286MJ		F900	1	1	1	0
N288WR		GLF6	2	1	1	0
N292QS		F2TH	2	1	1	0
N2CC		GLF4	1	1	1	0
N2N		GLF6	2	1	1	0

Operator	Operator Name	Aircraft Monitoring Group (e.g. [A342, A343])	MMR Category (1, 2 or 3)	Total # Approved Airframes	Resultant Monitoring Burden (# Airframes)	Total # of aircraft not monitored within 2 years as of 1 May 2016
N2T		GLEX	1	1	1	0
N302AK		GLEX	1	1	1	0
N310		GLF4	1	1	1	0
N311CG		GLF6	2	1	1	0
N313V		BD100	1	1	1	0
N317LL		E135-145	1	1	1	0
N31GJ		LJ35-36	2	1	1	0
N320GX		GLEX	1	1	1	0
N322K		GLF5	1	1	1	0
N324JW		GLF3	2	1	1	0
N327FX		CL600	1	1	1	0
N328MM		GLF5	1	1	1	0
N333GW		GLF4	1	1	1	0
N349K		GLF4	1	1	1	0
N356WW		GLF5	1	1	1	0
N360LA		GLEX	1	1	1	0
N360PL		CL600	1	1	1	0
N361PJ		LJ35-36	2	1	1	1
N363JG		GLF5	1	1	1	0
N370JL		GLF3	2	1	1	1
N371JC		GLF5	1	1	1	0
N374FS		GLF6	2	1	1	0
N37AL		GLF5	1	1	1	0
N37TY		FA7X	1	1	1	0

Operator	Operator Name	Aircraft Monitoring Group (e.g. [A342, A343])	MMR Category (1, 2 or 3)	Total # Approved Airframes	Resultant Monitoring Burden (# Airframes)	Total # of aircraft not monitored within 2 years as of 1 May 2016
N383KK		GLF4	1	1	1	0
N383T		GLF5	1	1	1	0
N3FS		G150	2	1	1	0
N3PG		GLF5	1	1	1	0
N3VF		FA50	2	1	1	0
N401QS		GLF4	1	1	1	0
N403QS		GLF4	1	1	1	0
N405GA		GLF5	1	1	1	0
N40TE		BD700	2	1	1	0
N412WW		GLF4	1	1	1	0
N415LT		GLF4	1	1	1	0
N415P		GLF5	1	1	1	0
N415QS		GLF4	1	1	1	0
N415SE		GALX	1	1	1	0
N416KC		F900	1	1	1	0
N418SG		GLF5	1	1	1	0
N426CM		C750	1	1	1	1
N432HC		GLF4	1	1	1	0
N436QS		GLF4	1	1	1	0
N445QS		GLF4	1	1	1	0
N450FX		GLF4	1	1	1	0
N450QS		GLF4	1	1	1	0
N450XX		GLF4	1	1	1	0
N451CS		GLF6	2	1	1	0

Operator	Operator Name	Aircraft Monitoring Group (e.g. [A342, A343])	MMR Category (1, 2 or 3)	Total # Approved Airframes	Resultant Monitoring Burden (# Airframes)	Total # of aircraft not monitored within 2 years as of 1 May 2016
N451FX		GLF4	1	1	1	0
N451PW		GLF4	1	1	1	0
N455QS		GLF4	1	1	1	0
N4570X		GLF4	1	1	1	0
N461QS		GLF4	1	1	1	0
N467AM		GLF3	2	1	1	0
N468KL		GLEX	1	1	1	0
N472MM		GLF4	1	1	1	0
N472QS		GLF4	1	1	1	0
N4818C		GLF4	1	1	1	0
N484JM		CL600	1	1	1	0
N488CH		GLEX	1	1	1	0
N498QS		GLF4	1	1	1	0
N4T		GLEX	1	1	1	0
N501RP		G150	2	1	1	0
N503VJ		BD700	2	1	1	0
N508QS		GLF5	1	1	1	0
N509QS		GLF5	1	1	1	0
N50JE		GLF5	1	1	1	0
N50KC		GLF5	1	1	1	0
N510QS		GLF5	1	1	1	1
N512LT		GLF4	1	1	1	0
N518FX		BD100	1	1	1	0
N518QS		GLF5	1	1	1	0

Operator	Operator Name	Aircraft Monitoring Group (e.g. [A342, A343])	MMR Category (1, 2 or 3)	Total # Approved Airframes	Resultant Monitoring Burden (# Airframes)	Total # of aircraft not monitored within 2 years as of 1 May 2016
N519CP		GLEX	1	1	1	0
N51SE		GLEX	1	1	1	0
N528MP		GLEX	1	1	1	0
N528QS		GLF5	1	1	1	0
N534QS		GLF5	1	1	1	0
N541FX		BD100	1	1	1	0
N5465M		GLF5	1	1	1	0
N547FX		BD100	1	1	1	0
N54BS		GLF5	1	1	1	0
N54HA		BD100	1	1	1	0
N550WW		GLF5	1	1	1	0
N558GA		GLF5	1	1	1	0
N55TD		GLF4	1	1	1	0
N560DM		GLF5	1	1	1	0
N567YX		CL600	1	1	1	0
N56CL		FA7X	1	1	1	1
N574FX		BD100	1	1	1	0
N579RS		CL600	1	1	1	0
N57AL		F2TH	2	1	1	0
N57EL		GLF4	1	1	1	0
N583AJ		GLF4	1	1	1	0
N585JC		GLF5	1	1	1	0
N586GV		GLF5	1	1	1	0
N588LQ		GLEX	1	1	1	0

Operator	Operator Name	Aircraft Monitoring Group (e.g. [A342, A343])	MMR Category (1, 2 or 3)	Total # Approved Airframes	Resultant Monitoring Burden (# Airframes)	Total # of aircraft not monitored within 2 years as of 1 May 2016
N58LC		BD100	1	1	1	0
N5950C		G150	2	1	1	0
N5956B		GLF4	1	1	1	0
N600JM		F900	1	1	1	0
N604CD		CL600	1	1	1	0
N604SB		CL600	1	1	1	0
N605CM		GLF4	1	1	1	0
N605RA		GLF4	1	1	1	0
N605RT		CL600	1	1	1	0
N608CL		GLF4	1	1	1	0
N60XC		GLEX	1	1	1	0
N610HC		C750	1	1	1	0
N612FG		GLEX	1	1	1	0
N616DC		GLEX	1	1	1	0
N617XT		GLF4	1	1	1	0
N618WF		GLEX	1	1	1	0
N621JH		GLF4	1	1	1	0
N626NT		F2TH	2	1	1	0
N628BD		GLF5	1	1	1	0
N62NW		F900	1	1	1	0
N650AB		GLF6	2	1	1	0
N650AF		GLF6	2	1	1	0
N650EW		GLF6	2	1	1	0
N650GD		GLF6	2	1	1	0

Operator	Operator Name	Aircraft Monitoring Group (e.g. [A342, A343])	MMR Category (1, 2 or 3)	Total # Approved Airframes	Resultant Monitoring Burden (# Airframes)	Total # of aircraft not monitored within 2 years as of 1 May 2016
N650GL		GLF6	2	1	1	0
N650JS		FA50	2	1	1	0
N653MK		GLF5	1	1	1	0
N663PD		GLF4	1	1	1	0
N666GL		E170-190	1	1	1	0
N671PP		F2TH	2	1	1	0
N683SV		C680	1	1	1	0
N691CC		CL600	1	1	1	0
N6D		GLF6	2	1	1	0
N700MV		GLF4	1	1	1	0
N702DR		GLEX	1	1	1	0
N702TY		GLF5	1	1	1	0
N706VA		GLF4	1	1	1	0
N70EW		GLEX	1	1	1	0
N70PS		GLEX	1	1	1	0
N711MC		GLEX	1	1	1	0
N711SW		GLF6	2	1	1	0
N712KT		GLF6	2	1	1	0
N716AS		GLF4	1	1	1	0
N720MM		B737NX	1	1	1	0
N721MJ		GLF4	1	1	1	0
N726AF		GLEX	1	1	1	0
N726DC		F2TH	2	1	1	0
N730LM		F900	1	1	1	0

Operator	Operator Name	Aircraft Monitoring Group (e.g. [A342, A343])	MMR Category (1, 2 or 3)	Total # Approved Airframes	Resultant Monitoring Burden (# Airframes)	Total # of aircraft not monitored within 2 years as of 1 May 2016
N737KA		B737NX	1	1	1	0
N740SS		GLF5	1	1	1	0
N741SP		F2TH	2	1	1	0
N747GE		B747CL	1	1	1	0
N747RL		FA7X	1	1	1	0
N74GG		GLF4	1	1	1	0
N750GS		C750	1	1	1	0
N755PA		GALX	1	1	1	1
N763DB		GLF4	1	1	1	0
N764XJ		C750	1	1	1	0
N765QS		BD100	1	1	1	0
N765RM		GLF4	1	1	1	0
N766QS		BD100	1	1	1	0
N767QS		BD100	1	1	1	0
N769MS		GALX	1	1	1	0
N770QS		BD100	1	1	1	0
N772MC		F2TH	2	1	1	0
N774QS		BD100	1	1	1	0
N775QS		BD100	1	1	1	0
N775RP		CL600	1	1	1	0
N776QS		BD100	1	1	1	0
N776RB		GLF5	1	1	1	0
N77WL		GLF4	1	1	1	0
N780QS		BD100	1	1	1	0



Operator	Operator Name	Aircraft Monitoring Group (e.g. [A342, A343])	MMR Category (1, 2 or 3)	Total # Approved Airframes	Resultant Monitoring Burden (# Airframes)	Total # of aircraft not monitored within 2 years as of 1 May 2016
N780W		GLF5	1	1	1	0
N781QS		BD100	1	1	1	0
N782XJ		C750	1	1	1	0
N783QS		BD100	1	1	1	0
N78KN		F2TH	2	1	1	0
N797KK		GLEX	1	1	1	0
N7MR		FA7X	1	1	1	0
N800AK		B727	1	1	1	0
N800DL		GLF5	1	1	1	0
N801KF		GLEX	1	1	1	0
N801WW		F2TH	2	1	1	0
N803TM		GLF5	1	1	1	0
N805WM		GLEX	1	1	1	0
N808MF		GLF4	1	1	1	0
N80LD		C680	1	1	1	0
N810TS		GLEX	1	1	1	0
N811AM		H25B-700	2	1	1	0
N813QS		GLF5	1	1	1	0
N814RR		GLF4	1	1	1	0
N816SP		GLF4	1	1	1	0
N817GS		GLF6	2	1	1	0
N818LF		GLF5	1	1	1	0
N818TS		GLF4	1	1	1	0
N820MS		GLF4	1	1	1	0

Operator	Operator Name	Aircraft Monitoring Group (e.g. [A342, A343])	MMR Category (1, 2 or 3)	Total # Approved Airframes	Resultant Monitoring Burden (# Airframes)	Total # of aircraft not monitored within 2 years as of 1 May 2016
N8228N		GLF5	1	1	1	1
N82CA		FA50	2	1	1	0
N830GS		C680	1	1	1	0
N835BA		B737NX	1	1	1	0
N838KE		GLF5	1	1	1	0
N83SV		F900	1	1	1	0
N840ER		GLF4	1	1	1	0
N848JA		GLF5	1	1	1	0
N851CB		GLF4	1	1	1	0
N855SA		GLF3	2	1	1	0
N870CM		GLF5	1	1	1	0
N871FR		GLF6	2	1	1	0
N874C		GLF4	1	1	1	0
N8767		B737NX	1	1	1	0
N878CC		CL600	1	1	1	0
N885AR		GLF4	1	1	1	0
N886WT		GLF6	2	1	1	0
N887WT		GLF6	2	1	1	0
N888GJ		H25C	2	1	1	0
N888GX		GLEX	1	1	1	0
N888HK		GLF5	1	1	1	0
N888ML		E135-145	1	1	1	1
N888XY		GLF5	1	1	1	0
N888ZP		GLEX	1	1	1	0

Operator	Operator Name	Aircraft Monitoring Group (e.g. [A342, A343])	MMR Category (1, 2 or 3)	Total # Approved Airframes	Resultant Monitoring Burden (# Airframes)	Total # of aircraft not monitored within 2 years as of 1 May 2016
N889AB		FA7X	1	1	1	0
N889JA		GLEX	1	1	1	0
N889MR		GALX	1	1	1	0
N88ND		F900	1	1	1	0
N897NC		GLF5	1	1	1	0
N900EM		E135-145	1	1	1	0
N900ES		GLF5	1	1	1	0
N900KJ		F900	1	1	1	0
N900RX		F900	1	1	1	0
N900YG		F900	1	1	1	0
N904FL		E135-145	1	1	1	0
N905QS		C750	1	1	1	0
N907WS		CL600	1	1	1	0
N90FX		GLEX	1	1	1	0
N90R		B737NX	1	1	1	0
N910FL		E135-145	1	1	1	0
N918QS		C750	1	1	1	0
N918TA		BD700	2	1	1	0
N919PE		GLF5	1	1	1	0
N91FX		GLEX	1	1	1	0
N91MS		F900	1	1	1	0
N928ST		G150	2	1	1	0
N930HB		B737NX	1	1	1	0
N933ML		BD700	2	1	1	0

Operator	Operator Name	Aircraft Monitoring Group (e.g. [A342, A343])	MMR Category (1, 2 or 3)	Total # Approved Airframes	Resultant Monitoring Burden (# Airframes)	Total # of aircraft not monitored within 2 years as of 1 May 2016
N939KM		GLF3	2	1	1	0
N940AJ		GLF5	1	1	1	0
N94LF		GLF5	1	1	1	0
N955GH		C750	1	1	1	0
N961V		GLF4	1	1	1	0
N966H		FA7X	1	1	1	0
N966MS		E170-190	1	1	1	1
N96UA		GLF5	1	1	1	0
N970NX		BD700	2	1	1	0
N973MW		GLF4	1	1	1	0
N976CB		GLEX	1	1	1	0
N97DQ		GLEX	1	1	1	0
N982QS		C750	1	1	1	0
N988H		F900	1	1	1	0
N988LS		GLF4	1	1	1	0
N98LT		GLF4	1	1	1	0
N98RP		F2TH	2	1	1	0
N998FA		GLF5	1	1	1	0
N998SS		FA7X	1	1	1	0
N999LR		GLF5	1	1	1	0
N999ND		BD100	1	1	1	0
N999PM		F900	1	1	1	0
N999YY		GLEX	1	1	1	0
N9TJ		GLEX	1	1	1	0

Operator	Operator Name	Aircraft Monitoring Group (e.g. [A342, A343])	MMR Category (1, 2 or 3)	Total # Approved Airframes	Resultant Monitoring Burden (# Airframes)	Total # of aircraft not monitored within 2 years as of 1 May 2016
<b>UNITED STATES TOTALS</b>				1,336	496	10

NAARMO GRAND TOTAL (estimate for aircraft operating in Pacific only) ( Canada + Mexico + United States)				Total # Approved Airframes	Resultant Monitoring Burden (# Airframes)	Total # of aircraft not monitored within 2 years as of 1 May 2016
				1,425	531	10