International Civil Aviation Organization
CAR/SAM Regional Planning and Implementation Group (GREPECAS)

WORKING PAPER

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CAR/SAM Planning and Implementation Regional Group (GREPECAS)
Twenty-Sixth Scrutiny Working Group Meeting (GTE/26)
Virtual Phase (Asynchronous, 9 – 25 September 2026)
In-Person Phase (Mexico City, Mexico, 12 – 16 October 2026)

Agenda Item 3: **Review of the Results of the Analysis of Large Height Deviations (LHDs) and of the Collision Risk Model (CRM)**
3.6: FLIGHT PLAN AUDIT REPORT

NAARMO TRAFFIC COMPLIANCE MONITORING

(Presented by NAARMO)

EXECUTIVE SUMMARY

This paper provides an assessment of civilian operators using the Reduced Vertical Separation Minimum (RVSM) in airspace for which the North American Approvals Registry and Monitoring Organization (NAARMO) has monitoring responsibility (Canada, Mexico, the United States and New York West oceanic airspace). The assessment process is described and the results for the sample period of December 2025 are presented. RVSM approval records as of September 2026 were used in this assessment.

Strategic Objectives:	• Every flight is safe and secure • No country left behind • The International Civil Aviation Convention and Other Treaties, Laws and Regulations Address All Challenges
References:	• International Convention on Civil Aviation (ICAO) Document 9937, *Operating Procedures and Practices for Regional Monitoring Agencies in Relation to the Use of a 300 m (1 000 ft) Vertical Separation Minimum Between FL 290 and FL 410 Inclusive*, International Civil Aviation Organization, Second Edition, July 2022, Montréal.

1. Introduction

1.1 The North American Approvals Registry and Monitoring Organization (NAARMO), a service provided by the U.S. Federal Aviation Administration's William J. Hughes Technical Center, has served since 2003 as the Regional Monitoring Agency (RMA) for the airspace covering the United States, Canada and Mexico.

1.2 As part of the duties of an RMA, outlined in ICAO Doc 9937, the NAARMO performs regular checks of operator compliance with State RVSM approval requirements for operations observed in Canada, Mexico, the United States, and New York West oceanic airspace. The purpose of these checks is to ensure the safety of the airspace by identifying non-approved operators and aircraft.

1.3 This paper describes the process used by the NAARMO to identify airframes indicating RVSM approval in their flight plans for which a corresponding RVSM approval record could not be verified. This is accomplished through a systematic process of matching air traffic movement data and airframe approval records.

1.4 NAARMO requests an annual one-month traffic sample data (TSD) from the air traffic service (ATS) providers operating in Canada, Mexico New York West oceanic, and the contiguous United States (CONUS) airspace. **Table 1** lists the traffic data source from each of the ATS providers and the month of the TSD.

***Table 1**. Traffic data source and month by air traffic service provider*

Traffic Data Source	Sample(s) Received
Canada	December 2025
New York West	December 2025
Contiguous United States	December 2025
Mexico	None

2 Discussion

2.1 The TSD used for the CONUS traffic audit was obtained from the FAA's Streamlined Flight Data Publication Service (SFDPS), which provides flight plan and operational flight data for the National Airspace System (NAS). **Figure 1** shows the coverage area for one day of flight plan data. The SFDPS dataset used was based on retained flight plan records and does not include comprehensive coverage of international airspace therefore, differences in aircraft counts, particularly for Mexican operators, may be due to variations in geographic coverage.



***Figure 1**. Coverage area for one day (14 Dec 2025) of flight plan data.*

2.2 To verify the RVSM approval status of the operations contained in the TSD, NAARMO uses the Combined Approvals snapshot. The Combined Approvals snapshot contains the approval records provided by the ensemble of RMAs.

2.3 All records containing flight information for operations within the CONUS airspace were compiled, and a summary of unique operations was produced. Contained exclusively within this summary are flights that indicate an RVSM approval in their flight plans. For the analysis period December 2025, the count of operations within the CONUS airspace is 918,132.

2.4 Audit procedures include a process to identify U.S. registrations operating under the provisions of Section 9, an alternative to an RVSM-specific approval detailed in Title 14 of the Code of Federal Regulations (14 CFR) Part 91, Appendix G. Operators of U.S. registered aircraft who intend to operate solely within U.S. ADS-B rule airspace can take advantage of this provision and gain access to RVSM airspace without a specific approval. The process categorizes the approval status when auditing the traffic samples by identifying flights for which a successful ADS-B monitoring result was processed but which do not have a specific RVSM approval on record.

2.5 Each of the remaining entries in the traffic samples containing observed operations within Canada, the United States, and New York West oceanic airspace were compared with the September 2026 combined approvals snapshot to determine the approval status of the airframe. Entries found to have no approval, or an expired approval are identified for further verification.

2.6 The verification process considers possible reasons for removing entries. These reasons include, but are not limited to:

1) lags in State notification of approval to the RMA
2) lags in updates to the RVSM approval database
3) mistakes and typographical errors in the original traffic data exported, deregistered, or changes to registration numbers after the analysis period.

2.7 **Appendix A** contains a summary of the results of the NAARMO traffic RVSM compliance survey for the CONUS airspace following the initial verification process. The appendix cites a total of 70 civilian aircraft with non-RVSM-approved operations from 9 States listed alphabetically by RMA. Ten aircraft identified in bold font were repeated from the previous year's audit. The aircrafts with a star (*) are aircraft that are currently on the EUR Bulletin and the double stared aircraft (**) are aircraft with a high Altimetry System Error Report (ASE-R).

2.8 The traffic sample for New York West oceanic airspace containing 21,077 operations was compiled from December 2025 Advanced Technologies and Oceanic Procedures (ATOP), the FAA oceanic automation system, data. **Appendix B** provides a summary of the results of the NAARMO traffic RVSM-compliance survey for New York West oceanic airspace following the initial verification process. The results contain 13 civilian aircraft with non-approved operations from 5 States and are listed alphabetically by RMA. The aircrafts with a star (*) are aircraft that are currently on the EUR Bulletin.

2.9 Canada provided a December 2025 traffic sample containing 121,308 operations within RVSM airspace. **Appendix C** provides a summary of the results of the NAARMO traffic RVSM-compliance survey for Canada following the initial verification process. The results are listed alphabetically by RMA. The results contain 6 civilian aircraft with non-RVSM-approved operations from 2 States and are listed alphabetically by RMA.

2.10 Mexico did not provide December 2025 traffic samples from the area control centers (ACCs) Mexico (MMEX), Mérida (MMID), Monterrey (MMTY), and Mazatlán (MMZT).

2.11 The availability of complete and representative Traffic Sample Data (TSD) is essential for the effective monitoring and assessment of RVSM compliance. TSD provides the information necessary to identify aircraft operating within RVSM airspace and to compare those operations against available RVSM approval records. This comparison enables the RMA to identify aircraft that may be operating without a valid RVSM approval, as well as potential discrepancies or gaps in approval information that require further verification. Consistent and timely provision of TSD from the applicable ACCs supports the RMA's ability to conduct safety assessments and continuous oversight within RVSM airspace.

2.12 **Figure 2** illustrates the proportion of unapproved airframes relative to total traffic volume for each sample. Mexico did not provide a sample and is therefore not represented in the chart. New York West Oceanic had the highest proportion at 0.062%, followed by CONUS at 0.008% and Canada at 0.005%.

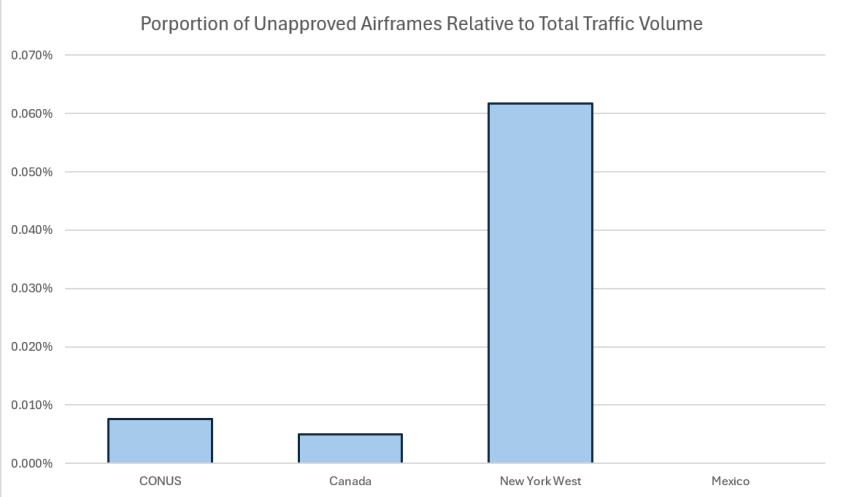


***Figure 2**. Proportion of unapproved airframes relative to total traffic volume for each sample*

2.13 **Table 2** summarizes aircraft that were observed in more than one ICAO region and aircraft included in the EUR Bulletin. The RVSM status of the operators registered to NAARMO States is currently under review.

***Table 2**. Aircraft that were observed in more than one ICAO region and aircraft included on the EUR Bulletin*

Aircraft that Repeat in more than one ICAO Region				
RMA	**State**	**Registration**	**ICAO AC Type**	**Ops**
ARMA	Ethiopia	ETBAC	B77L	2
NAARMO	Canada	CFDUY	BCS3	2
NAARMO	Canada	CFHMO	BCS3	2
NAARMO	Canada	CFHNB	BCS3	2
NAARMO	Canada	CGKWJ	B38M	3
NAARMO	Canada	CGSWJ	B38M	3
NAARMO	Canada	CGYLQ	BCS3	2
NAARMO	Canada	CGYLY	BCS3	2

Aircraft that Appear on the EUR Bulletin				
RMA	**State**	**Registration**	**ICAO AC Type**	**Ops**
ARMA	Equatorial Guinea	3CNOM	B77L	1
CARSAMMA	Chile	CCDOI	A21N	1
NAARMO	United States	N411NB	C750	13
NAARMO	United States	N69DJ	GLF6	1
NAARMO	United States	N940VT	TMB9	14
NAARMO	Mexico	XBRKA	GALX	1

2.14 Experience has shown that the primary 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 highlighted by these results.

2.15 The NAARMO has notified the pertinent RMAs and responsible States regarding the airframes detailed in this paper and has incorporated the feedback received.

3 Action by the Meeting

3.1 The Meeting is invited to:

a) Note and review the contents of the NAARMO traffic scrutiny work presented in this paper.
b) Discuss the importance of Traffic Sample Data as outlined in paragraph 2.11.

— END —

Appendix A
Summary of the Non-RVSM-Approved Operations Observed in the Contiguous United States Airspace During December 2025

A total of 70 civilian aircraft with non-RVSM-approved operations from 9 States listed alphabetically by RMA. 10 aircraft identified in **bold font** were repeated from last year's sample. The starred aircraft (*) appear on the EUR Bulletin. The double starred aircraft (**) also have a high Altimetry System Error-Report (ASE-R) issued.

RMA	State	Registration	ICAO AC Type	Ops
CARSAMMA	Argentina	LVKNR	B38M	1
CARSAMMA	**Bahamas**	**C6BSG**	**C550**	**2**
CARSAMMA	Bahamas	C6MIP	BE20	3
CARSAMMA	Brazil	PRGAE	E550	1
CARSAMMA	Brazil	PRGYW	E550	2
CARSAMMA	Brazil	PRGYZ	E545	1
CARSAMMA	Brazil	PRGZB	E550	1
CARSAMMA	Brazil	PRGZO	E550	1
CARSAMMA	Brazil	PRGZX	E550	1
CARSAMMA	Brazil	PRGZY	E550	1
CARSAMMA	Chile	*CCDOI	A21N	1
CARSAMMA	Guatemala	TGDAE	C441	1
CARSAMMA	Guatemala	TGPAG	LJ40	1
CARSAMMA	Venezuela	YV3394	C25A	2
RMA	**State**	**Registration**	**ICAO AC Type**	**Ops**
NAARMO	Canada	CFBYG	PC12	2
NAARMO	Canada	CFDUY	BCS3	25
NAARMO	Canada	CFHMO	BCS3	25
NAARMO	Canada	CFHNB	BCS3	36
NAARMO	Canada	CFHOY	BCS3	6
NAARMO	Canada	CFHYY	BCS3	16
NAARMO	Canada	CFKWS	B38M	1
NAARMO	Canada	CFTRP	F2TH	5
NAARMO	Canada	CFXAW	WW24	1
NAARMO	**Canada**	**CFXDP**	**WW24**	**6**
NAARMO	Canada	CGKWJ	B38M	11
NAARMO	Canada	CGLWO	P180	2
NAARMO	**Canada**	**CGPPU**	**E55P**	**2**
NAARMO	Canada	CGSWJ	B38M	5
NAARMO	Canada	CGUWS	B38M	10
NAARMO	Canada	CGYLQ	BCS3	28
NAARMO	Canada	CGYLY	BCS3	40
NAARMO	United States	N32NS	SF50	11
NAARMO	United States	*N411NB	C750	13

NAARMO	United States	N904DH	E55P	25
NAARMO	United States	*N940VT	TBM9	14
NAARMO	Mexico	XAAAL	H25B	7
NAARMO	**Mexico**	**XAALV**	**LJ35**	**8**
NAARMO	Mexico	XABUX	LJ35	3
NAARMO	Mexico	XADST	C56X	1
NAARMO	Mexico	XAFAF	BE40	2
NAARMO	Mexico	XAGFM	BE20	1
NAARMO	Mexico	XAGJC	C650	4
NAARMO	Mexico	XAGRB	E545	3
NAARMO	Mexico	XAIZA	H25B	5
NAARMO	**Mexico**	**XAJAI**	**LJ55**	**2**
NAARMO	Mexico	XAJGN	HDJT	1
NAARMO	Mexico	XAJOC	LJ35	1
NAARMO	Mexico	XAKIM	CL60	3
NAARMO	Mexico	XAMAM	H25B	1
NAARMO	Mexico	**XAMMN	LJ35	8
NAARMO	**Mexico**	**XAMRX**	**GLF5**	**4**
NAARMO	Mexico	XARAY	GLF4	1
NAARMO	**Mexico**	**XARET**	**GLF5**	**9**
NAARMO	Mexico	XASRR	LJ35	1
NAARMO	Mexico	XATFR	CL60	2
NAARMO	**Mexico**	**XAVFN**	**G150**	**1**
NAARMO	**Mexico**	**XAXAX**	**H25B**	**9**
NAARMO	Mexico	XBCTE	GALX	1
NAARMO	Mexico	XBGRN	BE30	2
NAARMO	Mexico	XBGTT	C650	2
NAARMO	Mexico	**XBIXT	C501	1
NAARMO	Mexico	XBJLC	C550	3
NAARMO	Mexico	XBOYD	C650	1
NAARMO	Mexico	XBRJF	LJ45	6
NAARMO	Mexico	*XBRKA	GALX	1
NAARMO	Mexico	XBSJP	BE40	2
NAARMO	Mexico	XBSYJ	CL60	1
NAARMO	**Mexico**	**XBTHL**	**C551**	**1**
NAARMO	Mexico	XBURH	LJ45	2
NAARMO	Mexico	XBVIP	C750	7

Appendix B

Summary of the Non-RVSM-Approved Operations Observed in New York West Oceanic Airspace During December 2025

13 civilian aircraft with non-approved operations from 5 States are listed alphabetically by RMA. The starred aircraft (*) appear on the EUR Bulletin.

RMA	STATE	REG	ICAO AC TYPE	OPS
ARMA	Equatorial Guinea	*3CNOM	B77L	1
ARMA	Ethiopia	ETBAC	B77L	4
RMA	**STATE**	**REG**	**ICAO AC TYPE**	**OPS**
CARSAMMA	Barbados	8PASD	GLF6	2
RMA	**STATE**	**REG**	**ICAO AC TYPE**	**OPS**
NAARMO	Canada	CFDUY	BCS3	1
NAARMO	Canada	CFHMO	BCS3	1
NAARMO	Canada	CFHNB	BCS3	4
NAARMO	Canada	CGFVE	B38M	18
NAARMO	Canada	CGKWJ	B38M	2
NAARMO	Canada	CGSWJ	B38M	4
NAARMO	Canada	CGYLQ	BCS3	2
NAARMO	Canada	CGYLY	BCS3	2
NAARMO	United States	*N69DJ	GLF6	1
NAARMO	United States	N982CC	GLEX	1

Appendix C

Summary of the Non-RVSM-Approved Operations Observed in Canada Airspace During December 2025

6 civilian aircraft with non-approved operations from 2 States are listed alphabetically by RMA.

RMA	STATE	REG	ICAO AC TYPE	OPS
ARMA	Ethiopia	ETBAC	B77L	5
RMA	**STATE**	**REG**	**ICAO AC TYPE**	**OPS**
NAARMO	Canada	CFKWS	B38M	63
NAARMO	Canada	CFTRP	F2TH	6
NAARMO	Canada	CGKWJ	B38M	86
NAARMO	Canada	CGSWJ	B38M	80
NAARMO	Canada	CGUWS	B38M	80