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International Civil Aviation Organization
North American, Central American and Caribbean Office

INFORMATION PAPER

GTE/24 — IP/12
01/08/24

**CAR/SAM Planning and Implementation Regional Group (GREPECAS)
Twenty Fourth Scrutiny Working Group Meeting (GTE/24)
Mexico City, Mexico, 5 to 9 August 2024**

- Agenda Item 3: Review of the Results of Large Height Deviation (LHD) and the Collision Risk Model (CRM) Analysis**
- 3.2 Actions taken for the enhancement of LHD event data capture and for the improvement of Reduced Vertical Separation Minimum (RVSM) status capture by Registration States or Operator**

NAARMO EXPERIENCE WITH THE RECEIPT OF LHD COORDINATION REPORTS

(Presented by NAARMO)

EXECUTIVE SUMMARY	
This information paper provides the NAARMOs experience with the receipt of LHD Coordination Reports and highlights the harmonization of reporting occurrences for the US Air Route Traffic Control Centers (ARTCCs) and Mexico Area Control Centers (ACCs). A summary of the reports reviewed is presented.	
<i>Strategic Objectives:</i>	<ul style="list-style-type: none">• Safety
<i>References:</i>	<ul style="list-style-type: none">• GTE/22-03 Conclusion – Validation and Sharing of LHD Data for Airspaces of the CAR Region Contiguous to the United States.• ICAO Doc 9574 (Manual on implementation of a 300m vertical separation minimum between FL290 and FL410 inclusive. International Civil Aviation Organization, Third Edition – 2012.

1. Introduction

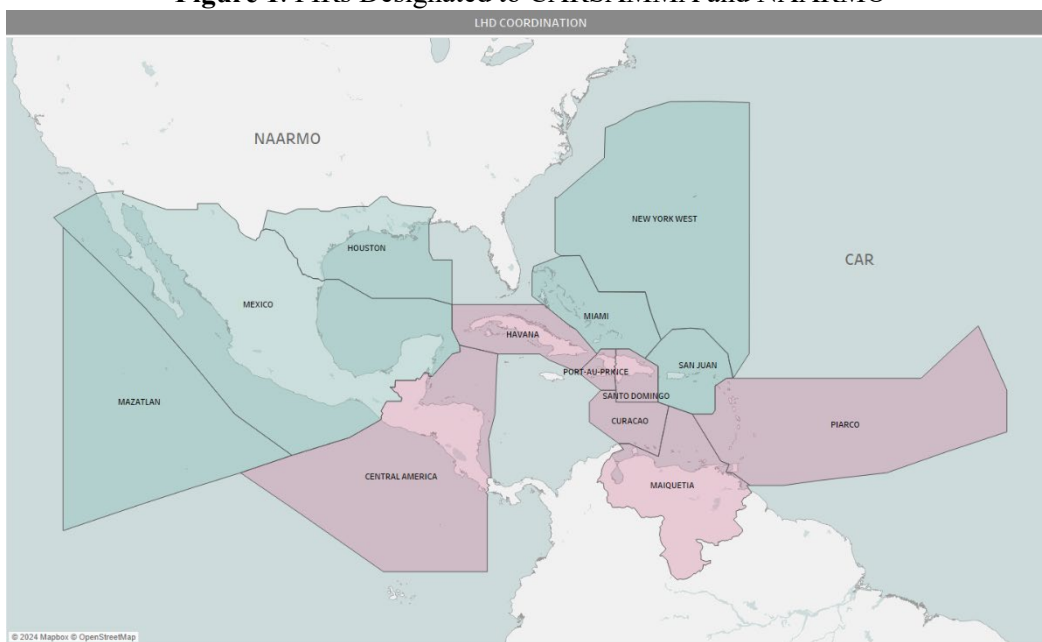
1.1 This paper provides a review of NAARMO’s experience related to receiving reports of LHD occurrences. A summary of NAARMO’s experience is provided.

1.2. This paper is related to Conclusion 3 from GTE/22 – Validation and Sharing of LHD Data for Airspaces of the CAR Region Contiguous to the United States.

2. Discussion

2.1. NAARMO receives LHD occurrence reports for the Houston (ZHU), Mexico, Miami (ZMA), and New York West (ZWY) Flight Information Regions (FIRs). Figure 1 shows the location of the NAARMO designated FIRs highlighted in blue, the adjacent FIRs designated to CARSAMMA are highlighted in red.

Figure 1. FIRs Designated to CARSAMMA and NAARMO



2.2. During the period of January 2023 through June 2024, NAARMO received 20 coordination error reports via email from Miami and San Juan ARTCCs. Table 1 provides the summary information. Table A-1 in **Appendix** provides the detail log information. It is noted that NAARMO accesses the occurrence reports for ZMA, ZSU and ZWY directly from FAA Safety Data Bases. The occurrence reported tallied in Table 1 represent those sent via email.

Table 1. ZSU and ZMA Coordination Error Reports Received

Reporting ATC	MDCS	SVZM	TAPA (VC Bird)	TNCM (St. Maarten)	TTZP	MTEG	Total
ZMA	0	0	0	0	0	3	3
ZSU	2	11	1	1	2	0	17
Total	2	11	1	1	2	3	20

2.3. The email communication tallied in Table 1 for coordination error between ZSU and Santo Domingo (MDCS) included both ATS providers and RMAs (CARSAMMA and NAARMO). The remaining coordination error emails included only the sending ATS provider and the RMAs.

2.4. During calendar year 2023, NAARMO received 43 coordination error reports from Mexico ACCs. Table 2 provides the summary information. Table A-2 in Appendix A provides the detail log information.

Table 2: Coordination Occurrence Reports from Mexico ACCs – calendar year 2023

Reporting ATC	ZHU	MMEX	MMID	MMTY	MMZT	Total
MMID	10	2	11	5	0	28
MMTY	1	3	9	1	1	15
Total	11	5	20	6	1	43

2.5. The email communication tallied in Table 2 for coordination error between Mexico and Houston (ZHU) included only NAARMO. The remaining coordination occurrences listed in Table 2 involved Mexico Area Control Centres (ACCs), for these cases, NAARMO assumes the occurrence reports were shared with the adjacent Mexico ACC.

2.6. US ARTCCs do not routinely notify adjacent facilities when a coordination error occurs. Most ATC units will call the adjacent facility at the time of the occurrence, but this call does not always generate the necessary investigation to determine underlying causes. NAARMO will relay LHD occurrence reports involving ATC coordination errors, but it is recommended that ATC facilities communicate these reports with the adjacent ATC unit to ensure data retention has not expired.

2.7. It should be mentioned that it is unknown whether correspondence is occurring between the reporting FIR and the adjacent FIR, if the email received by NAARMO does not include that information.

2.8. When no report is received by NAARMO, it is unclear whether there are any LHD coordination occurrences, or if the report has not been sent.

APPENDIX
NAARMO Email Log for Coordination Events

1. **Table A-1** below presents a list of received coordination reports from the ZSU and ZMA ARTCCs, for the period of January 2023 through June 2024. It is noted that ZSU copies NAARMO on the coordination occurrence report emails sent to CARSAMMA.

Date Report Received	Reporting FIR	Adjacent FIR	Date of Occurrence	Adjacent Facility Notified? Yes/Unknown
2023				
01/03/2023	TJZS	MDCS	10/02/2023	Yes
03/04/2023	TJZS	TTZP	21/03/2023	Unknown
11/05/2023	TJZS	SVZM	13/04/2023	Unknown
11/05/2023	TJZS	SVZM	26/04/2023	Unknown
14/06/2023	KZMA	MTEG	14/05/2023	Unknown
14/07/2023	KZMA	MTEG	03/06/2023	Unknown
10/07/2023	TJZS	SVZM	29/06/2023	Unknown
31/08/2023	KZMA	MTEG	13/07/2023	Unknown
31/08/2023	TJZS	SVZM	26/08/2023	Unknown
03/10/2023	TJZS	SVZM	13/09/2023	Unknown
14/11/2023	TJZS	SVZM	09/10/2023	Unknown
14/11/2023	TJZS	SVZM	17/10/2023	Unknown
06/12/2023	TJZS	SVZM	13/11/2023	Unknown
09/01/2024	TJZS	TTZP	27/12/2023	Unknown
09/01/2024	TJZS	TAPA (VC Bird	27/12/2023	Unknown
09/01/2024	TJZS	TNCM (St. Maarten)	27/12/2023	Unknown
Date of ARTCC Report Received	Reporting FIR	Adjacent FIR	Date of Occurrence	Adjacent Facility Notified? Yes/Unknown
2024				
09/04/2024	TJZS	SVZM	12/03/2024	Unknown
09/04/2024	TJZS	SVZM	31/03/2024	Unknown
09/04/2024	TJZS	SVZM	12/03/2024	Unknown
24/06/2024	TJZS	MDCS	18/06/2024	Yes

Table A-1: Coordination Occurrence Reports from ZMA and ZSU ARTCCs

2. **Table A-2** below presents a log of the incoming coordination reports received from the Mexico ACCs for the 2023 calendar year.

Date Report Received	Reporting FIR	Adjacent FIR	Date of Occurrence	Adjacent Facility Notified? Yes/Unknown
2023				
17/02/23	MMID	KZCH	31/01/23	Unknown
18/08/23	MMID	KZCH	09/02/23	Unknown
18/08/23	MMTY	MMID	01/03/23	Yes
18/08/23	MMID	KZCH	24/03/23	Unknown
18/08/23	MMID	KZCH	30/03/23	Unknown

Date Report Received	Reporting FIR	Adjacent FIR	Date of Occurrence	Adjacent Facility Notified? Yes/Unknown
18/08/23	MMID	KZCH	01/04/23	Unknown
18/08/23	MMID	MMID	15/04/23	Yes
18/08/23	MMID	MMTY	15/04/23	Yes
18/08/23	MMID	KZCH	15/04/23	Unknown
18/08/23	MMID	MMID	17/04/23	Yes
18/08/23	MMID	MMTY	17/04/23	Yes
18/08/23	MMTY	MMID	16/04/23	Yes
18/08/23	MMTY	MMID	16/04/23	Yes
18/08/23	MMID	KZCH	19/04/23	Unknown
18/08/23	MMID	KZCH	20/04/23	Unknown
24/08/23	MMID	MMID	01/05/23	Yes
24/08/23	MMTY	MMID	03/05/23	Yes
24/08/23	MMID	MMID	03/05/23	Yes
24/08/23	MMID	MMTY	15/05/23	Yes
24/08/23	MMID	KZCH	15/05/23	Unknown
24/08/23	MMTY	MMTY	15/05/23	Yes
24/08/23	MMTY	MMID	21/05/23	Yes
24/08/23	MMTY	MMEX	27/05/23	Yes
24/08/23	MMTY	MMID	30/05/23	Yes
24/08/23	MMTY	MMEX	01/06/23	Yes
24/08/23	MMID	MMID	03/06/23	Yes
24/08/23	MMID	MMTY	03/06/23	Yes
24/08/23	MMID	MMID	04/06/23	Yes
24/08/23	MMTY	MMID	04/06/23	Yes
24/08/23	MMID	MMTY	07/06/23	Yes
24/08/23	MMID	MMID	07/06/23	Yes
24/08/23	MMID	MMID	05/07/23	Yes
24/08/23	MMTY	MMID	05/07/23	Yes
24/08/23	MMTY	MMEX	05/07/23	Yes
24/08/23	MMTY	MMID	08/07/23	Yes
24/08/23	MMID	MMID	17/07/23	Yes
24/08/23	MMID	MMID	23/07/23	Yes
24/08/23	MMID	MMID	23/07/23	Yes
24/08/23	MMTY	MMZT	25/07/23	Yes
24/08/23	MMTY	KZCH	31/07/23	Unknown
09/07/23	MMID	KZCH	03/08/23	Unknown
12/05/23	MMID	MMEX	08/11/23	Yes
12/05/23	MMID	MMEX	24/11/23	Yes

Table A-2: Coordination Occurrence Reports from ACC: Mexico FIRs – calendar year 2023