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

INFORMATION PAPER

GTE/26 — IP/02
18/09/26

Twenty-Sixth Scrutiny Working Group Meeting (GTE/26)
of the CAR/SAM Regional Planning and Implementation Group (GREPECAS)
Asynchronous (virtual): 9 to 25 September 2026
In person: Mexico City, Mexico, 12 to 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)**
3.5 LHD Event Management and Progress for LHD Reduction by CAR/SAM States

LHD MITIGATION MEASURES IMPLEMENTATION – PROGRESS BY TRINIDAD AND TOBAGO

(Presented by Trinidad and Tobago)

EXECUTIVE SUMMARY	
This Information Paper contains a Large Height Deviation (LHD) analysis for the period January 2009 to July 2026 and provides an update on the progress made by the Trinidad and Tobago Air Navigation Services Provider (ANSP) to mitigate the occurrences within the Piarco FIR/CTA/UTA.	
Strategic Objectives:	• Every Flight is Safe and Secure • Aviation is Environmentally Sustainable • Aviation Delivers Seamless, Accessible, and Reliable Mobility for All • No Country Left Behind
References:	• Final Report of the GREPECAS GTE/25 Meeting – 18 to 22 August 2025 • CARSAMMA LHD Guidance Manual for Point of Contact Handbook

1. Introduction

1.1 The Piarco Flight Information Region, Control Area and Upper Control Area – (FIR/CTA/UTA), hereinafter referred to as the Piarco FIR, is bordered by nine (9) adjacent FIRs/CTAs (Appendix A). The Air Navigation Services Provider (ANSP) has been recording, monitoring and analysing reportable LHD occurrences attributable to the Piarco Area Control Centre (ACC) for a period of seventeen and a half (17 ½) years, commencing in 2009. This data is submitted monthly to the Caribbean and South American Regional Monitoring Agency (CARSAMMA) for monitoring and regional analysis.

1.2 To mitigate occurrences attributable to the Piarco ACC, the Air Traffic Service Provider (ATSP) has implemented and continues to employ a range of strategic and operational initiatives aimed at enhancing safety performance and reducing the frequency of LHD occurrences. These measures are continuously reviewed and refined based on trend analysis, safety investigations and lessons learned.

2. Discussion

2.1 Appendices B to F analysed data on LHD occurrences attributable to the Piarco ACC for the period January 2009 to July 2026. Analysis of this data over the seventeen-and-a-half-year period continues to indicate an overall downward trend in the number of attributable LHD occurrences.

2.2 Recently, the ATSP observed an increase in the number of LHD occurrences attributable to the Piarco ACC during the period 2023 to 2025, when compared with the period 2021 to 2023, which recorded a reduction in attributable occurrences (Appendix C).

2.3 For the period January to July 2026, one (1) LHD occurrence attributable to the Piarco ACC was reported, compared with five (5) occurrences reported during the corresponding period in 2025. This data represents a favourable outcome for the ATSP and could be attributed to the following strategic and operational mitigation measures, which assisted with the noticeable decline in LHD events attributable to Piarco ACC thus far:

- Certification of the ANSP;
- Collaborating with ANSP departments, including ATS, Aeronautical Information Management (AIM) and Communications, Navigation and Surveillance (CNS);
- Sharing safety data and coordinating with affected airline operators and ATSPs in adjacent FIRs/CTAs;
- Continuing to reinforce the importance of strict adherence to Standard Operating Procedures (SOPs);
- Establishing a Voluntary Reporting System;
- Promoting safety awareness through the dissemination of Safety Information Bulletins to operational staff;
- Promoting the voluntary use of the Critical Incident Stress Management (CISM) Programme and Employee Assistance Programme (EAP) to assist personnel in managing work-related stress that may affect performance; and
- Enhancing safety awareness through:
    - Implementation of remedial actions, including in-person safety debriefings and *"lessons learned"* sessions with the affected ATS personnel; and
    - Dissemination of *"lessons learned"* communications arising from operational occurrences to Air Navigation Services (ANS) personnel.
- Continuing initiatives to increase competent operational staffing (through OJT competency programme) who function more appropriately in the Air Traffic Service Unit (ATSU).

2.3 On 01 December 2025, the Piarco ACC and the New York Air Route Traffic Control Centre (ARTCC) officially implemented ATS Interfacility Data Communication (AIDC) between their respective ATSUs. Additionally, the ANSPs of Trinidad and Tobago and Puerto Rico are currently preparing for live testing and operational trials of AIDC between the Piarco ACC and the San Juan Combined Control Facility (CCF). States/Territories such as Senegal and French Guiana are also interested in implementing AIDC with Trinidad and Tobago. The implementation of AIDC is expected to enhance the accuracy, efficiency and reliability of inter-unit coordination. Consequently, should the system prove effective in operational use, a reduction in LHD occurrences between these ATSUs can reasonably be anticipated.

2.4 Forecasts indicate that for the period 2026 to 2028, the annual number of LHD occurrences attributable to the Piarco ACC is expected to remain at approximately nine (9) occurrences per year, while continuing to exhibit an overall downward trend (Appendix C).

3. Conclusion

3.1 The ANSP remains committed to advancing initiatives and achieving strategic objectives aimed at reducing reportable LHD occurrences within the Piarco FIR. Continued commitment and vigilance from ATS staff will be critical to the prevention and mitigation of such occurrences throughout 2026 and beyond.

3.2 Particular emphasis will be placed on strict adherence to established coordination procedures, effective communication practices, and the timely, accurate and comprehensive submission of all reports related to LHD occurrences. These measures are essential for effective safety oversight, enabling accurate monitoring, thorough analysis, and the timely implementation of corrective and preventive actions. Collectively, these support the continuous enhancement of safety performance and contribute to the delivery of safe, efficient and reliable ATS to aircraft operators and neighbouring ATSPs.

4. Suggested actions:

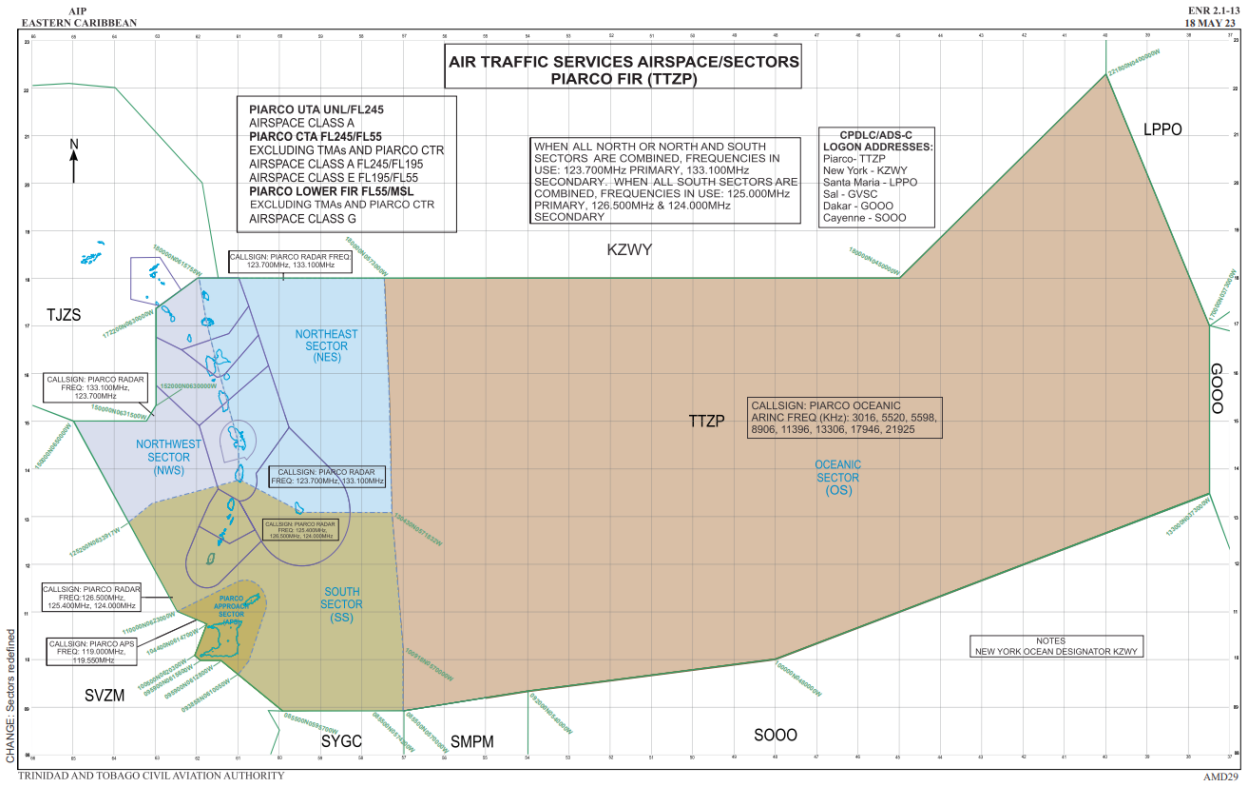
4.1 The Meeting is invited to:

a) Note the information contained in this paper; and
b) Provide guidance as deemed appropriate.

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APPENDIX A

Piarco's FIR/CTA/UTA with Adjacent FIRs/CTAs



Source: *E/CAR AIP*

APPENDIX B

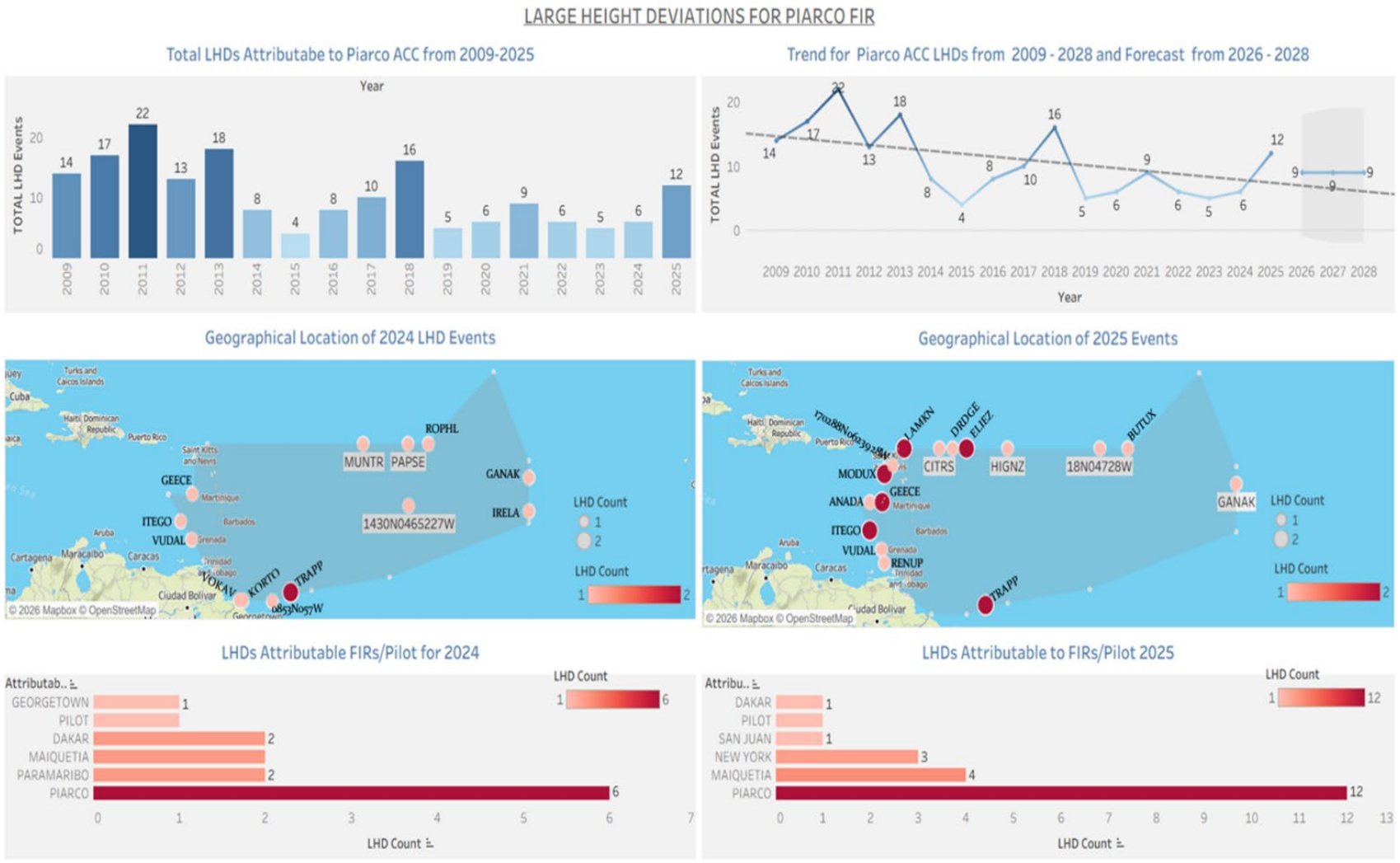
LHD Occurrences Attributable to Piarco ACC for the Years 2009 to July 2026

MONTH	YEAR																	
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
JANUARY	0	2	2	1	3	1	1	0	1	2	1	2	0	1	0	2	0	0
FEBRUARY	4	0	0	0	0	1	0	2	2	0	0	1	1	0	0	0	2	0
MARCH	0	2	2	2	2	1	0	0	3	2	0	1	0	1	1	0	0	0
APRIL	0	2	3	1	2	0	1	1	0	2	0	0	0	0	1	0	3	0
MAY	1	0	2	1	1	1	0	0	1	1	0	0	1	0	0	0	1	1
JUNE	1	1	2	0	2	0	0	1	0	0	0	0	0	0	1	0	1	0
JULY	0	1	0	1	0	1	0	0	1	1	0	0	1	0	2	0	0	0
AUGUST	1	1	3	1	3	0	1	1	0	0	1	1	0	3	0	1	1	
SEPTEMBER	0	1	1	1	2	0	1	0	1	0	0	0	1	0	0	1	0	
OCTOBER	3	3	2	0	0	1	0	0	0	1	0	0	0	0	0	0	0	
NOVEMBER	2	1	2	1	0	0	0	1	1	4	0	1	3	0	0	0	2	
DECEMBER	2	3	3	4	3	2	0	2	0	3	3	0	2	1	0	2	2	
TOTAL	**14**	**17**	**22**	**13**	**18**	**8**	**4**	**8**	**10**	**16**	**5**	**6**	**9**	**6**	**5**	**6**	**12**	**1**

Source: *TTCAA ATS & ANS Safety Department*

APPENDIX C

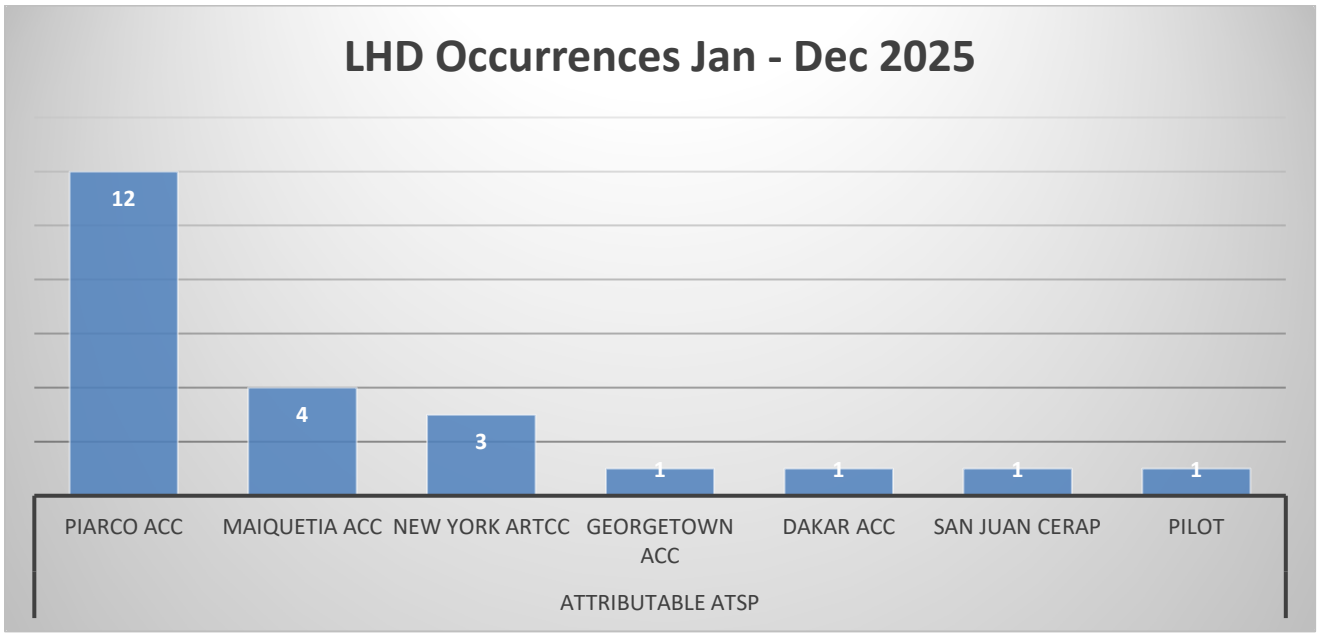
Large Height Deviations, Trends and Forecasts Associated with Piarco FIR

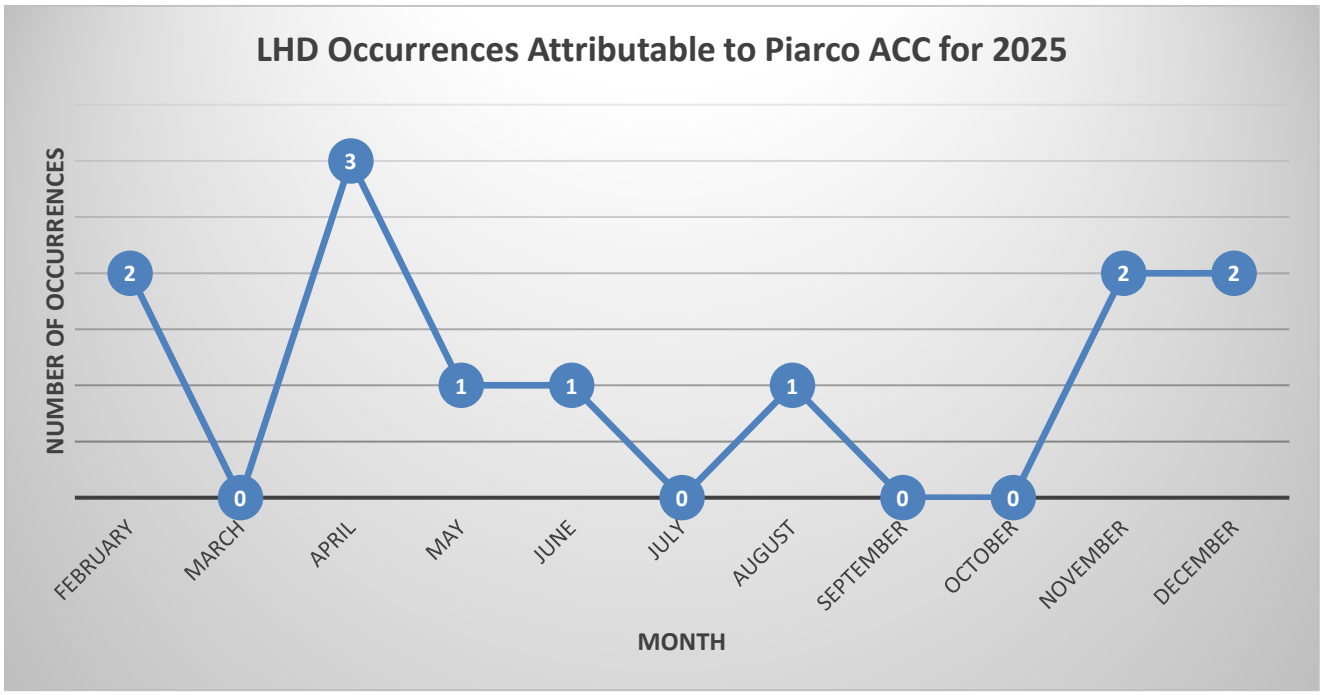


Source: TTCAA ATS & ANS Safety Department using Tableau Public 2026

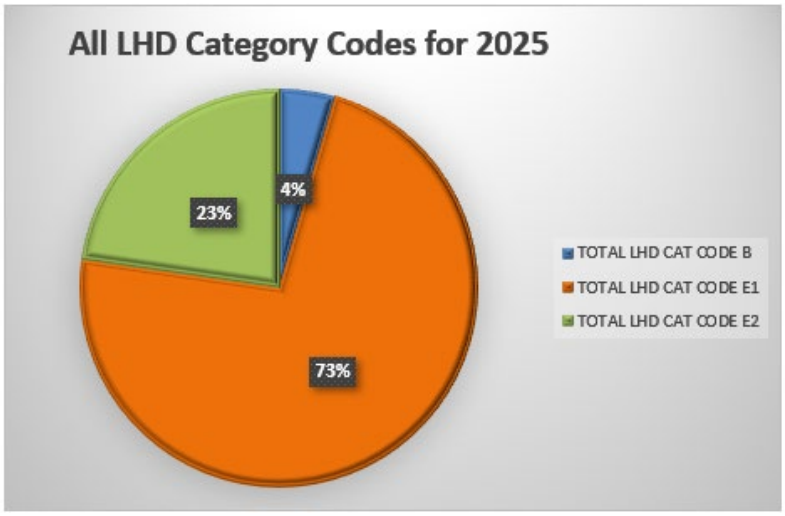
APPENDIX D

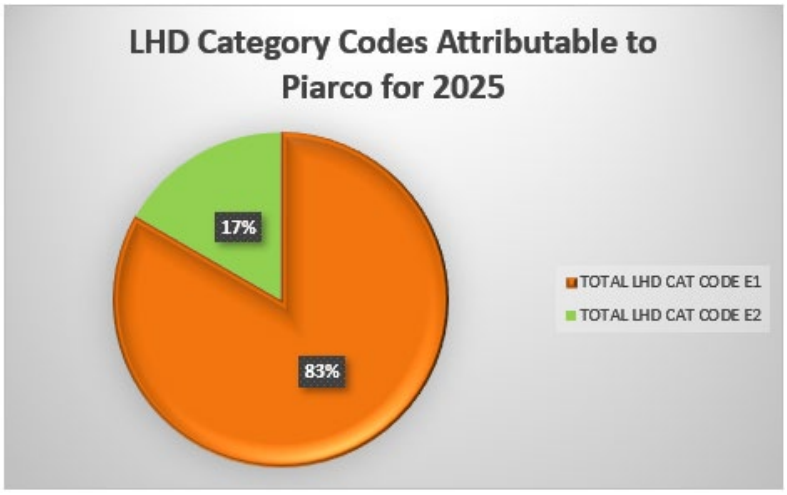
LHD Occurrences for 2025 reported by Piarco ACC

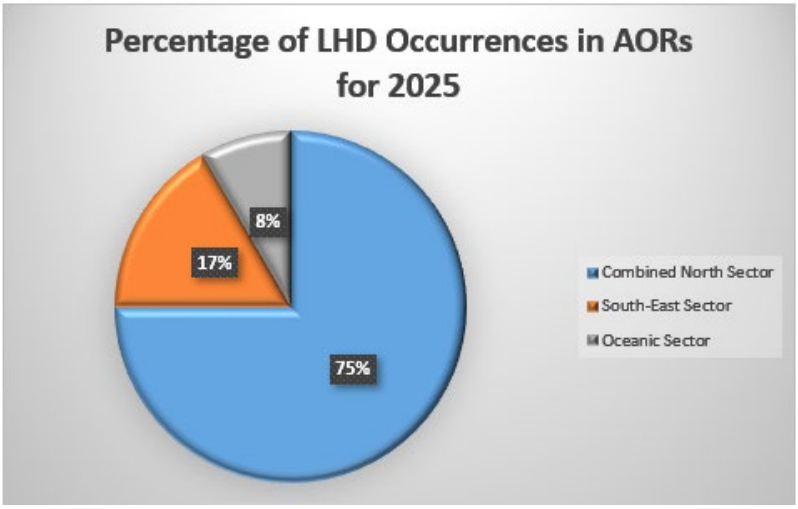




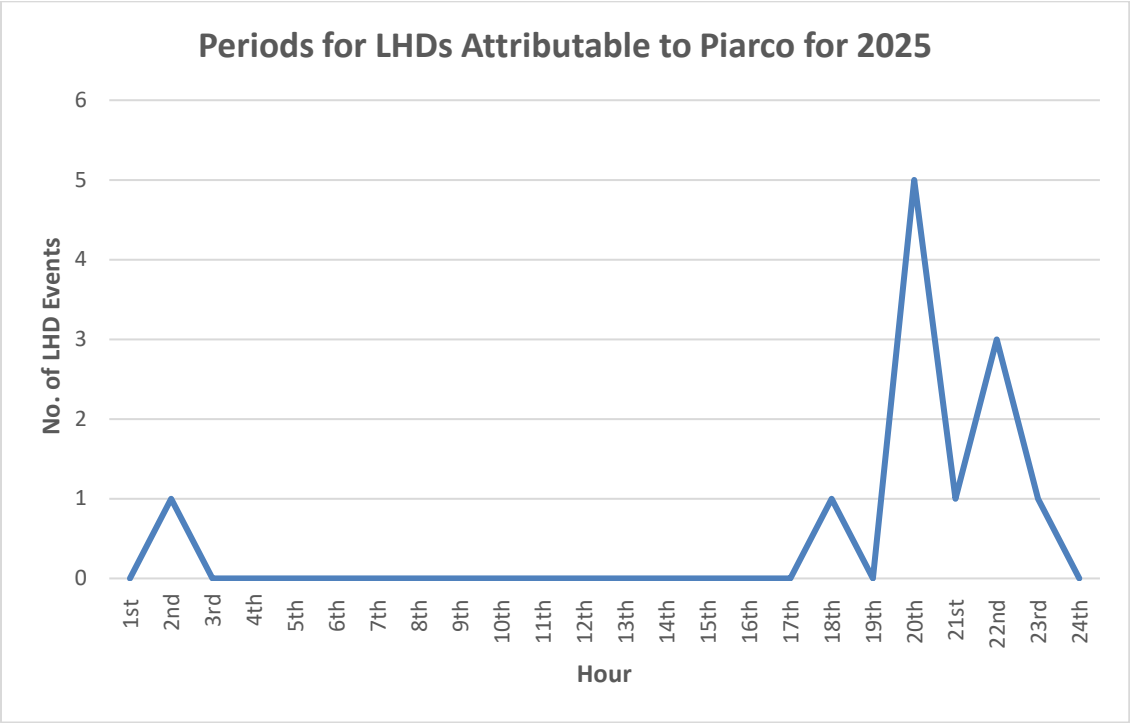
APPENDIX E


All LHD Category Codes for 2025
4%
23%
73%
TOTAL LHD CAT CODE B
TOTAL LHD CAT CODE E1
TOTAL LHD CAT CODE E2


LHD Category Codes Attributable to Piarco for 2025
17%
83%
TOTAL LHD CAT CODE E1
TOTAL LHD CAT CODE E2


Percentage of LHD Occurrences in AORs for 2025
8%
17%
75%
Combined North Sector
South-East Sector
Oceanic Sector

APPENDIX F



HOUR	PERIOD (UTC)	HOUR	PERIOD (UTC)	HOUR	PERIOD (UTC)	HOUR	PERIOD (UTC)
1st	00:00 - 00:59	7th	06:00 - 06:59	13th	12:00 - 12:59	19th	18:00 - 18:59
2nd	01:00 - 01:59	8th	07:00 - 07:59	14th	13:00 - 13:59	20th	19:00 - 19:59
3rd	02:00 - 02:59	9th	08:00 - 08:59	15th	14:00 - 14:59	21st	20:00 - 20:59
4th	03:00 - 03:59	10th	09:00 - 09:59	16th	15:00 - 15:59	22nd	21:00 - 21:59
5th	04:00 - 04:59	11th	10:00 - 10:59	17th	16:00 - 16:59	23rd	22:00 - 22:59
6th	05:00 - 05:59	12th	11:00 - 11:59	18th	17:00 - 17:59	24th	23:00 - 23:59

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