



TIA Safety Report

2024



Tribhuvan International Airport
Civil Aviation Office
Kathmandu



TIA Safety Report

2024



Publication

© 2025, Tribhuvan International Airport Civil Aviation Office

Gaucher, Kathmandu, Nepal

January 2025.

Tel.: +977-1-4113033, 4113258

Website: www.tiairport.com.np

Note:

Any comments and/or suggestions should be directed to:

Aerodrome Safety Office/ATS Safety Office

Tribhuvan International Airport Civil Aviation Office

Phone: +977 014113007, 01-4113234, Ext. 2314, 2319,2316.

Email (ASO): aerodromesafety@tiairport.com.np

Email (ATSSO): atssafety@caanepal.gov.np

FOREWORD

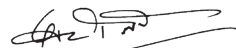
Since its establishment Civil Aviation Authority of Nepal (CAAN) is focusing on to make the air transportation services safe, efficient and to the standard. And TIACAO has been the major international airport for many years, this airport has borne national responsibility to keep pace with the international arena despite many challenges. Likewise, it has remained the main gateway to enter the country.

Safety has been a prime concern since the very beginning of the establishment of this airport. Significant change comes into effect after the certification of this airport in 2003 under rule 4 of Airport Certificate Regulation (ACR)-2004 (First Amendment 2016) and Para 1.4 of Civil Aviation Requirements (CAR-14) Aerodrome Design and Operations.

It is my pleasure to announce that Tribhuvan International Airport Civil Aviation Office (TIACAO) is publishing TIA Safety Report (TIASR), under safety promotion mission of its SMS Manual to achieve safety objectives. This TIA Safety Report (TIASR) is an endeavor to promote safety through sharing of aerodrome operator's safety information within and outside the organization. It is also an attempt to reflect priority on safety promotion and our commitment.

Now, the publication of TIA Safety Report is becoming regular and must do endeavor within the TIACAO's mandate. This report provides a summary of TIACAO's safety activities, achievements & initiatives, and updates on safety indicators, reactive and proactive safety information, and safety promotional activities. Information contained in this report is based on safety data (mandatory and voluntary) collected by TIA Aerodrome Safety Office and ATS Safety Office through safety reporting process from within safety reporting system, as well as from aircraft operators and other stake holders in TIACAO. At this moment, I would like to thank the Aerodrome Safety Office team, ATS Safety Office team and our valued aircraft operators for their support in publishing this report through providing occurrence/incident reports.

I hope this report will play an important role in inculcating safety culture through sharing among our safety companions.



.....
Jagannath Niraula
General Manager

TABLE OF CONTENTS

Contents	Page
FOREWORD	3
TABLE OF CONTENTS	4
EXECUTIVE SUMMARY	5
Chapter - 1 Airlines in Operations	6
Chapter - 2 Air Traffic Movement	7
Chapter - 3 Taxonomy of Occurrence Category	8
Chapter - 4 Occurrences categories, Current Risk and Future Risk	10
Chapter - 5 Occurrence Reporting	14
Chapter- 6 Safety Performance Indicators (SPIs) and Safety Performance Target (SPTs) for 2024	24

EXECUTIVE SUMMARY

Tribhuvan International Airport Civil Aviation Office (TIACAO) is located at mountainous region at an altitude of 1333M above the Mean Sea Level in Kathmandu Valley which is also the capital city of Nepal. It is the busiest airport of Nepal. In the year 2024 it has 102729 number of domestic flight movement, and 33247 number of international flight movement. Currently, there are 20 airline companies operating (including helicopter operators) domestic flights and 31 airline companies operating international flights to and from Tribhuvan International Airport.

Every result and trend presented in this report is derived from facts and data collected from different sources. Regarding hazard and occurrence reporting, it is one of the prime sources of safety information. Based on this reporting, TIACAO has identified certain categories of occurrences in the year 2024. The safety performance indicators and targets for the year 2024 have been set particularly based on those occurrences. 269 hazards and occurrences were reported in 2024. Analysis of hazards and occurrences reveals that five areas seem to be threatening to TIA safety significantly for the year 2024; and they are BIRD, ADRM, ATM, NAV and MAC.

To compare it with last year's safety report, TIACAO can state that continuous effort has resulted in gradual progress on safety reporting culture as there is significant improvement on voluntary reporting of hazard, occurrence, and incident. This is the result of various activities aggressively conducted by TIACAO. Safety offices are vigorously engaged in activities like safety awareness, hazard identification, risk management, foreign object debris cleaning/removing campaign etc. In addition to that, an inspection and number of planned and follow-up safety meetings are being conducted with concerned units and stakeholders. This has capacitated us to portray patterns of each safety performance indicators. There are 13 lagging safety performance indicators that have been identified, and 3 leading safety performances indicators are targeted for the year 2025.

Chapter -1 Airlines in Operations

There are 31 airlines operating international flights from TIACAO including 3 Nepalese flag carriers, and 20 airline companies are operating as domestic operators in TIACAO. Given below is the list of both categories of airline companies currently operating in TIACAO.

International (31)	Domestic (20)	
Nepal Airlines Himalaya Airlines Buddha Air Yeti Airlines Shree Airlines Air Arabia Thai Air Asia Air India Qatar Airways Turkish Airlines Vistara Air Thai Lion Sri Lankan Airlines Biman Bangladesh Airlines Bhutan Airlines Air China Cathay Pacific Airways Sichuan Airlines China Southern Druk Air Fly Dubai China Eastern Indigo Air Jazeera Airways Kuwait Air Korean Air Malaysian Airlines Malindo Air Thai Airways Singapore Airlines Spice Jet Others (Non-Schedule and Charter)	Fixed Wing	Rotary Wing
	Nepal Airlines	Altitude Air
	Buddha Air	Air Dynasty Heli Services
	Yeti Airlines	Annapurna Helicopter
	Saurya Airlines	Fishtail Air
	Shree Airlines	Heli Everest
	Sita Air	Kailash Helicopter Service
	Summit Air	Manang Air
	Tara Air	Mountain Helicopter
		Prabhu Helicopter
		Shree Helicopter
		Simrik Air
		Nepal Army

Chapter 2

Air Traffic Movement

International

In this category, the total air traffic movement in TIACAO is 33247 in the year 2024. The data is depicted in the given chart below.



Figure -2.1 International Aircraft Movement

Domestic

To the Domestic side (to count both - fixed and rotary wing), total air traffic movement accumulated in 12 months in the year 2024 is 102729. The data is depicted in the given chart below.

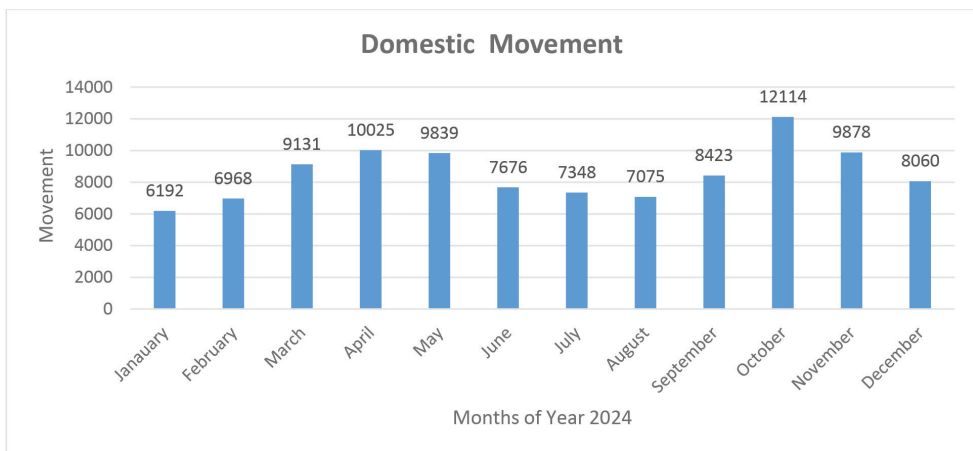


Figure-2.2 Domestic Aircraft Movement

Chapter 3

Taxonomy of Occurrence Category

The classified occurrences (i.e. accidents, serious incidents, incidents and other occurrences) are then categorized in accordance with CAST/ICAO common Taxonomy and analyzed safety trends within these categories especially related to ATS operation at TIACAO.

Each category of CAST/ICAO common Taxonomy has a unique name and identifier to permit common coding in accident/incident systems, a text definition, and usage notes to clarify the category and aid in coding occurrences.

An important element of the occurrence category design is that it permits the association of multiple categories with an occurrence. For example, if an engine failure occurred, and loss of control followed, the occurrence would be coded in both categories. Multiple coding supports the primary focus to prevent or minimize accidents/incidents in which every pertinent element is investigated, recorded, and analyzed.

Table-3.1: CAST/ICAO common Taxonomy

S.N.	Taxonomy	Occurrence Category	Description
1	ADRM	Aerodrome	Occurrences involving aerodrome design, service, or functionality issues.
2	AMAN	Abrupt maneuver	The intentional abrupt maneuvering of the aircraft by the flight crew.
3	ARC	Abnormal runway contact	Any landing or take-off involving an abnormal runway or landing surface contact
4	ATM	ATM/CNS	Occurrences involving Air traffic management (ATM) or communications, navigation, or surveillance (CNS) service issues.
5	BIRD	Bird strike	Occurrences involving collisions/near collisions with birds.
6	CABIN	Cabin safety events	Miscellaneous occurrences in the passenger cabin of transport category air-craft.
7	CFIT	Controlled flight into or toward terrain	In-flight collision or near collision with terrain, water, or obstacle without indication of loss of control.
8	CTOL	Collision with obstacle(s) during take-off and landing	Collision with obstacle(s), during take-off or landing while airborne.
9	EVAC	Evacuation	Occurrence where either; (a) person(s) are injured during an evacuation; (b) an unnecessary evacuation was performed; (c) evacuation equipment failed to perform as required; or (d) the evacuation contributed to the severity of the occurrence.
10	EXTL	External load related occurrences	Occurrences during or as a result of external load or external cargo operations.
11	F-NI	Fire/smoke (non-impact)	Fire or smoke in or on the aircraft, in flight or on the ground, which is not the result of impact.
12	F-POST	Fire/smoke (post-impact)	Fire/Smoke resulting from impact.

TIA SAFETY REPORT 2024

13	FUEL	Fuel related	One or more power plants experienced reduced or no power output due to fuel exhaustion, fuel starvation/mismanagement, fuel contamination/wrong fuel, or carburetor and/or induction icing.
14	GCOL	Ground Collision	Collision while taxiing to or from a runway in use.
15	GTOW	Glider towing related events	Premature release, inadvertent release or non-release during towing, entangling with towing, cable, loss of control, or impact into towing aircraft / winch.
16	ICE	Icing	Accumulation of snow, ice, freezing rain, or frost on aircraft surfaces that adversely affect aircraft control or performance.
17	LALT	Low altitude operations	Collision or near collision with obstacles/objects/terrain while intentionally operating near the surface (excludes take-off or landing phases).
18	LOC-G	Loss of control – ground	Loss of aircraft control while the aircraft is on the ground.
19	LOC-I	Loss of control – inflight	Loss of aircraft control while or deviation from intended flight path inflight.
20	LOLI	Loss of lifting conditions en-route	Landing en-route due to loss of lifting conditions.
21	MAC	AIRPROX/ TCAS alert/ Loss of separation/ Near mid-air collisions/ Mid-air collisions	Air proximity issues, Traffic Collision Avoidance System (TCAS)/ Airborne Collision Avoidance System (ACAS) alerts, loss of separation as well as near collisions or collisions between aircraft in flight.
22	MED	Medical	Occurrences involving illnesses of people on board an aircraft.
23	NAV	Navigation error	Occurrences involving the incorrect navigation of aircraft on the ground or in the air.
24	RAMP	Ground Handling	Occurrences during (or because of) ground handling operations.
25	RE	Runway excursion	A veer off or overrun off the runway surface.
26	RI	Runway incursion	Any occurrence at an aerodrome involving the incorrect presence of an aircraft, vehicle, or person on the protected area of a surface designated for the landing and takeoff of aircraft.
27	SCF-NP	System/component failure or malfunction [non-powerplant]	Failure or malfunction of an aircraft system or component other than the power plant.
28	SCF-PP	System/component failure or malfunction [Powerplant]	Failure or malfunction of an aircraft system or component - related to the power plant.
29	SEC	Security related	Criminal/Security acts which result in accidents or incidents (per International Civil Aviation Organization [ICAO] Annex 13).
30	TURB	TURB Turbulence encounter	In-flight turbulence encounter.
31	UIMC	Unintended flight in IMC	Unintended flight in Instrument Meteorological Conditions (IMC).
32	USOS	Undershoot/overshoot	A touchdown off the runway/helipad/helideck surface.
33	WILD	Collision Wildlife	Collision with risk of collision, or evasive action taken by an aircraft to avoid wildlife on the movement area of an aerodrome or on a helipad/helideck in use.
34	WSTRW	Wind shear or thunder-storm.	Flight into wind shear or thunderstorm.
35	OTHR	Other	Any occurrence not covered under another category.
36	UNK	Unknown or undetermined	Insufficient information exists to categorize the occurrence.

Source: CAST/ICAO common Taxonomy

Chapter- 4

Occurrences categories, Current Risk and Future Risk

TIACAO has identified/listed safety performance indicators which are categorized as lagging and leading indicators. Considering the nature of occurrences, they are further categorized as hazards and occurrences. TIACAO has collected 269 hazards and occurrences in total in the year 2024, as indicated in the incident report. The Aerodrome Safety Office is receiving hazards and occurrence information through internal reporting system as well as from aircraft operators and other stakeholders of TIACAO. Internal reporting includes reports coming mainly from Airside Management Division. Besides that, the Electro-mechanical Division, Civil Engineering Division, Rescue and Fire-fighting Division and ATS/SAR Division are other units providing safety reports to Aerodrome Safety Office and ATS Safety Office. These divisions/units report occurrences within their area of responsibility.

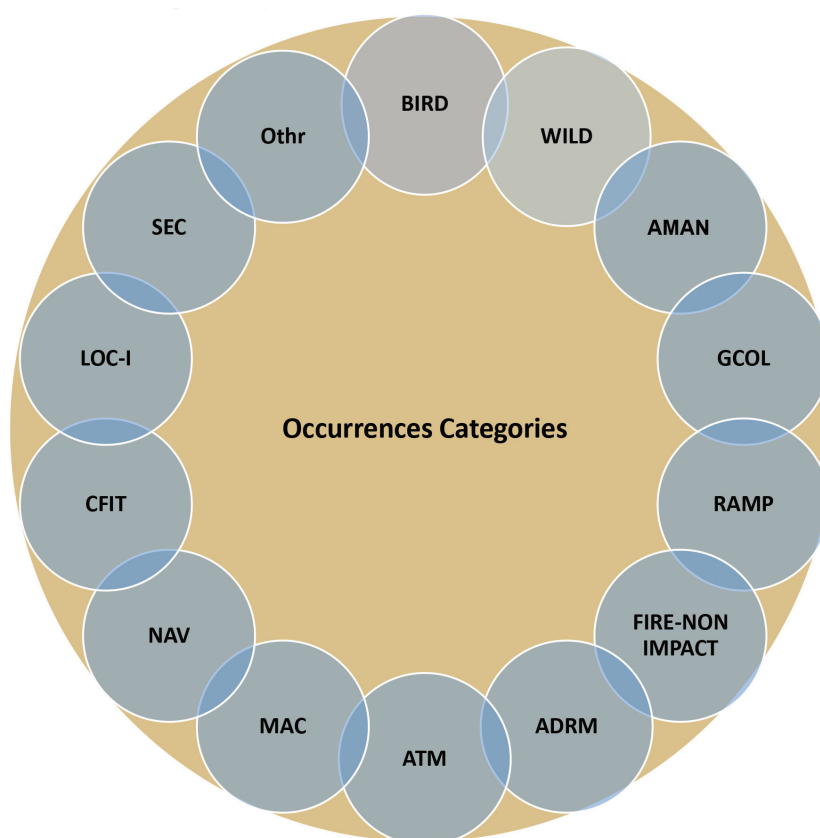


Figure-4.1 Occurrences Categories

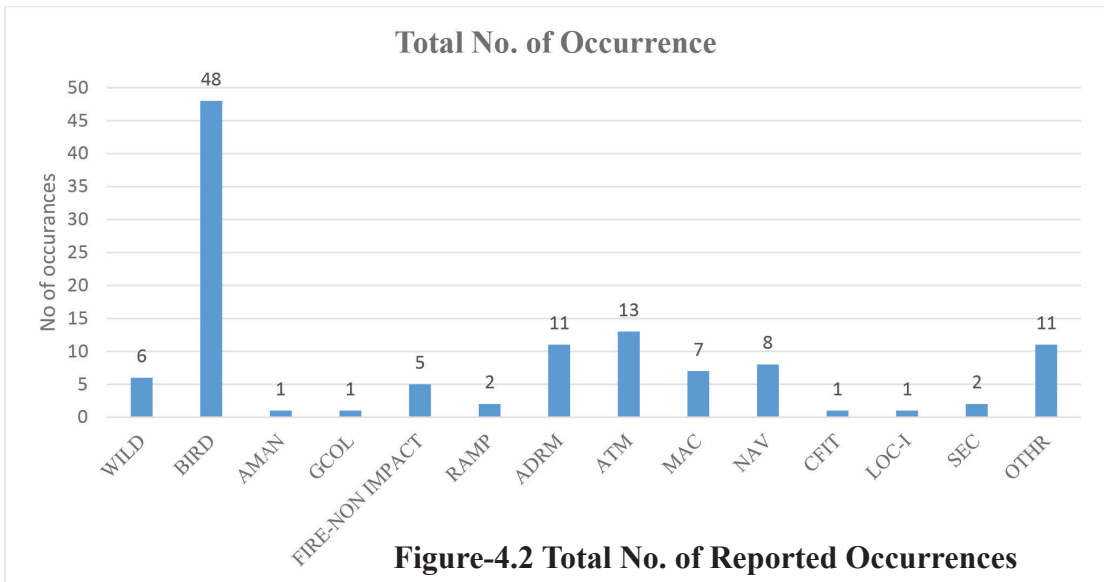


Figure-4.2 Total No. of Reported Occurrences

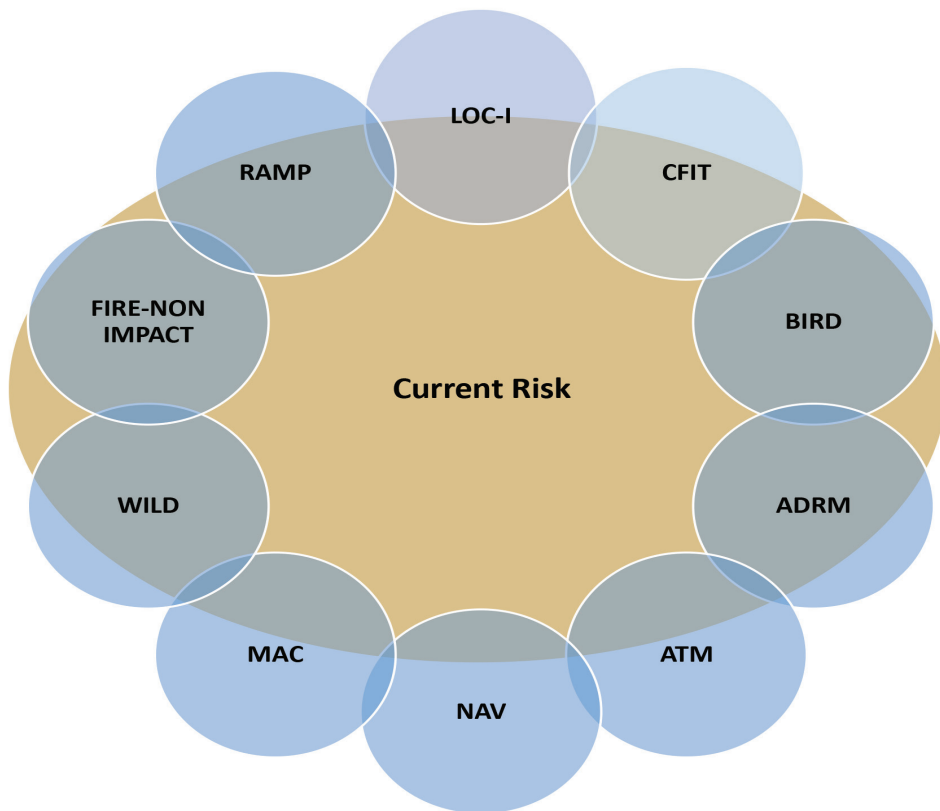


Figure-4.3 Current Risk

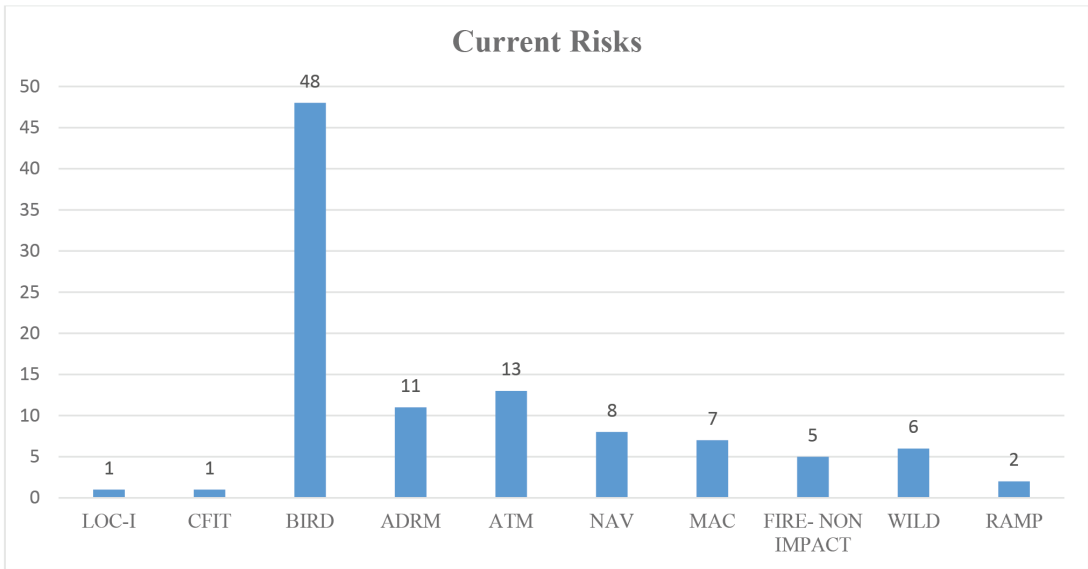


Figure-4.4 Current Risk



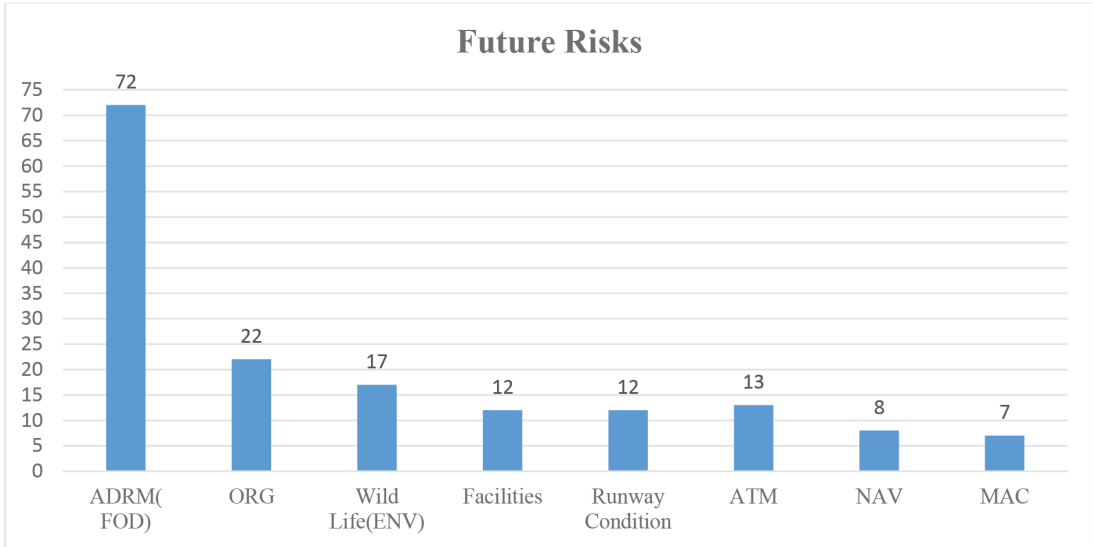


Figure-4.5 Future Risk

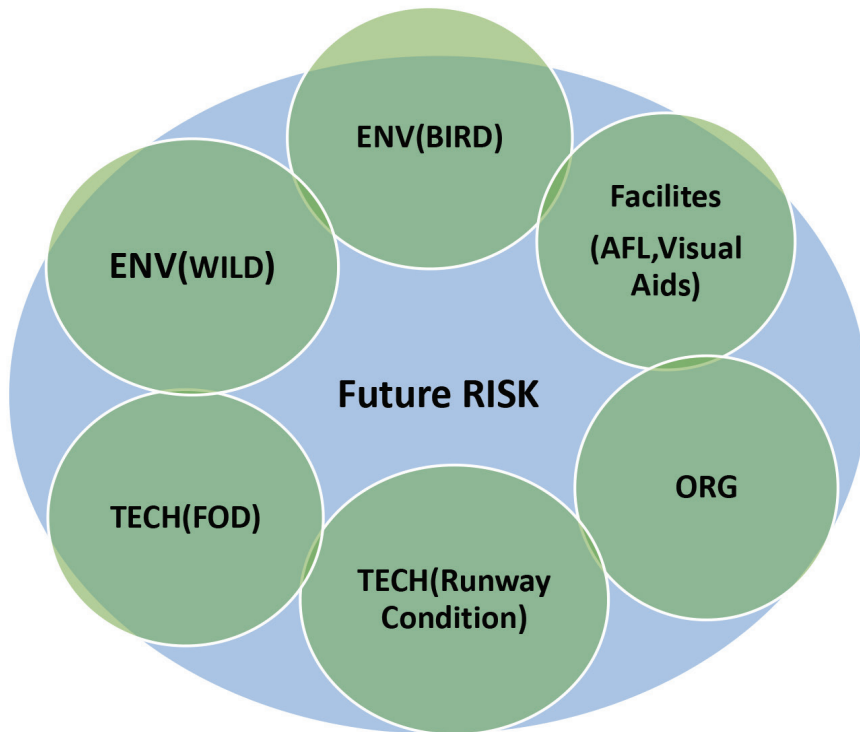


Figure-4.6 Future Risk

Chapter - 5 Occurrence Reporting

As stated earlier, the total number of occurrences reported in 2024 is 269. They are categorized into 13 groups as prescribed by ICAO. Besides these, TIACAO is experiencing a few occurrences beyond this categorization which herein stated as 'others'. Now, we have a total of 14 categories of Safety Performance Indicators.



Figure-5.1 Month wise Safety Report

The following are the total flight movements of TIACAO in the year 2024.

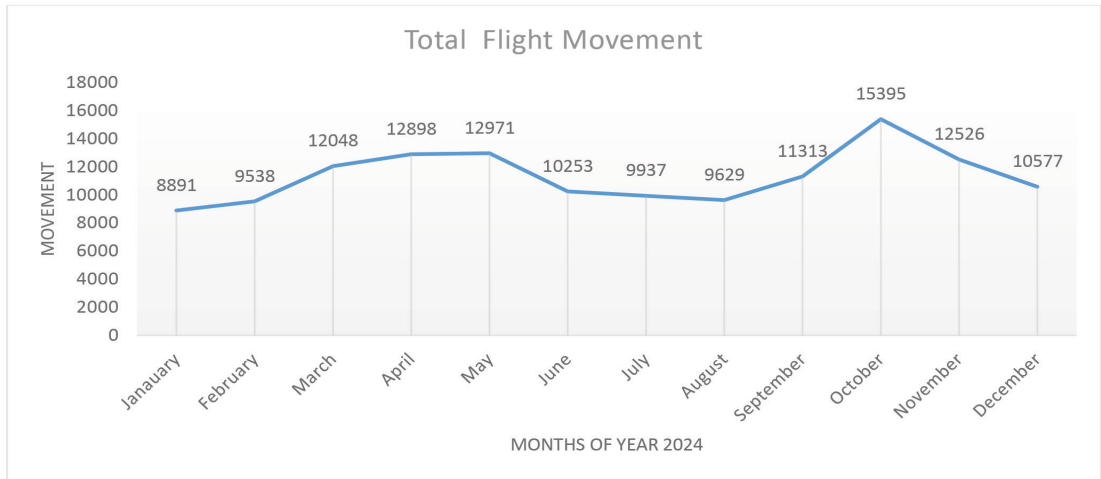


Figure-5.2 Total flight movements

The above chart depicts rates of hazards and occurrences of 1000 flight movements per month.

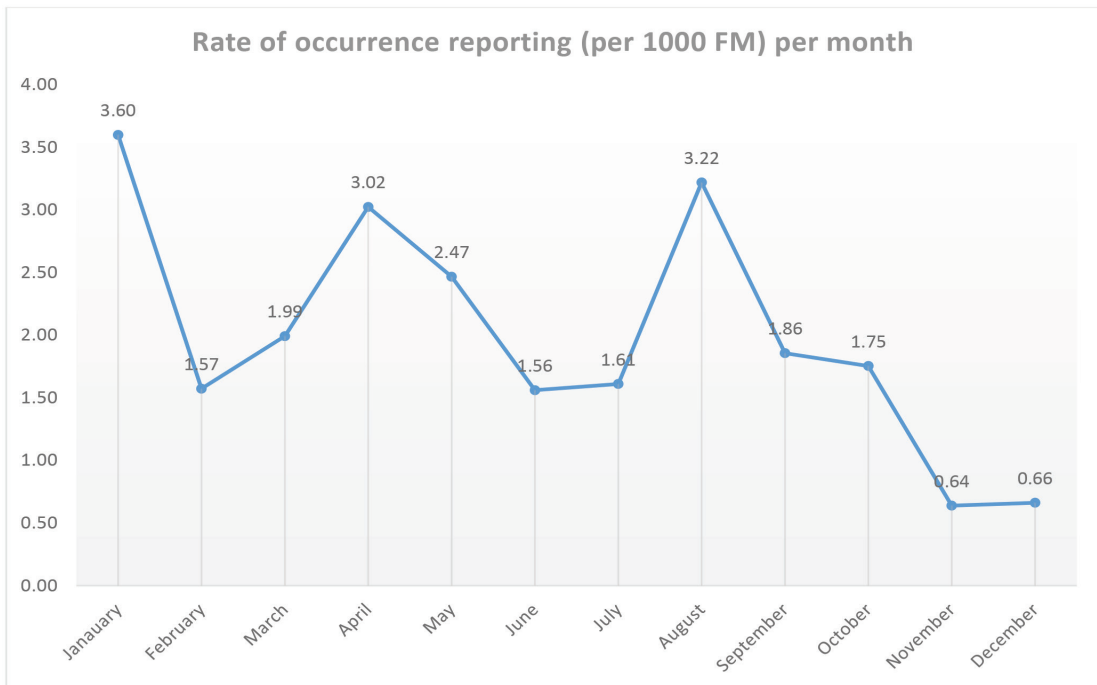


Figure-5.3 Rate of Occurrence reporting (per 1000 FM) per month

WILD

TIACAO has recorded several occurrences related to WILD. The data related to WILD are presented in the chart below.

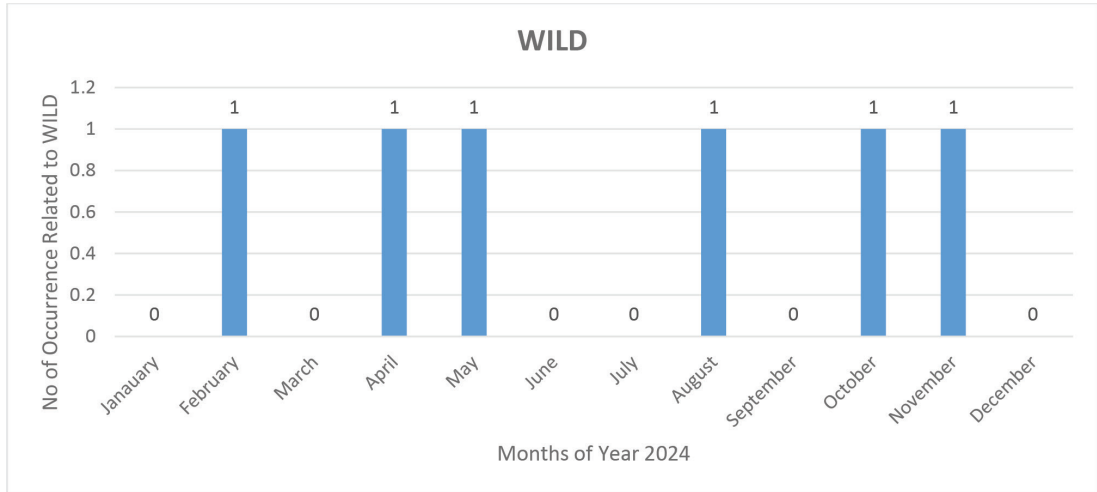


Figure-5.4 No of Occurrence Related to WILD

BIRD

TIACAO has recorded several occurrences related to BIRD. The data related to BIRD are presented in the chart below.

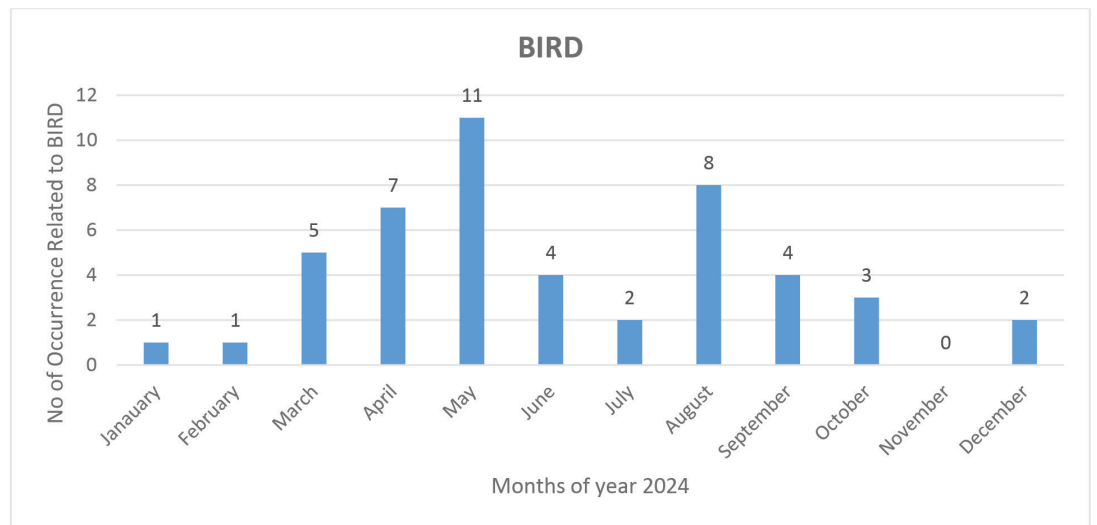


Figure-5.5 No of Occurrence Related to BIRD

AMAN

TIACAO has recorded just an occurrence related to AMAN. The data related to AMAN is presented in the chart below.

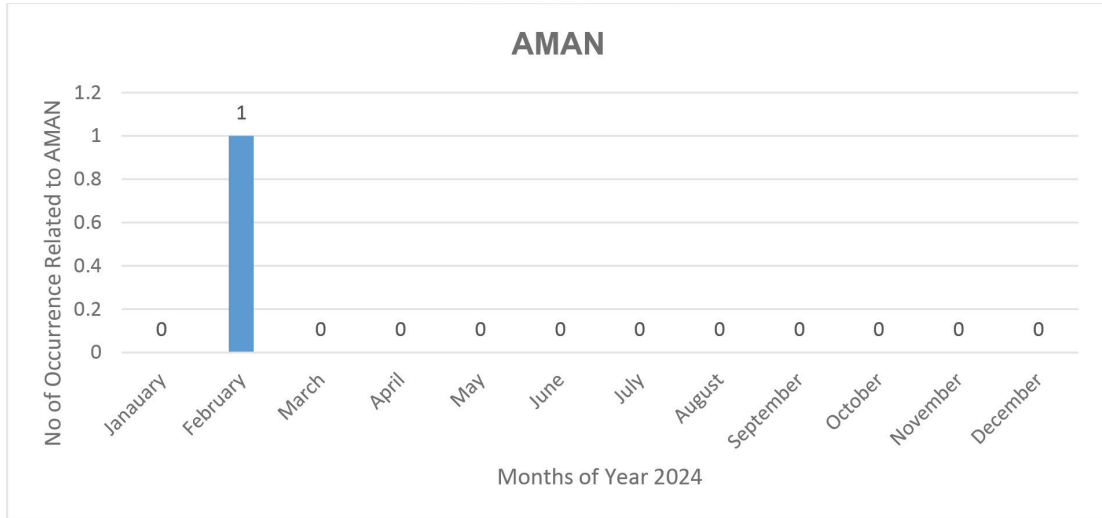


Figure-5.6 No of Occurrence Related to AMAN

GCOL

TIACAO has recorded just an occurrences related to GCOL. The data related to GCOL is presented in the chart below.

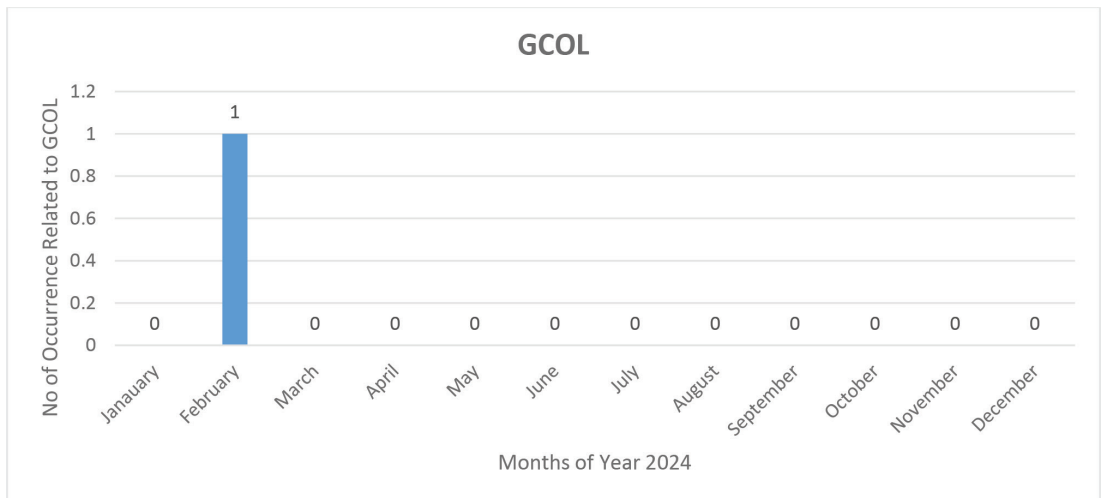


Figure-5.7 No of Occurrence Related to GCOL

FIRE-NON-IMPACT

TIACAO has recorded several occurrences related to FIRE-NON-IMPACT. The data related to FIRE-NON-IMPACT are presented in the chart below.

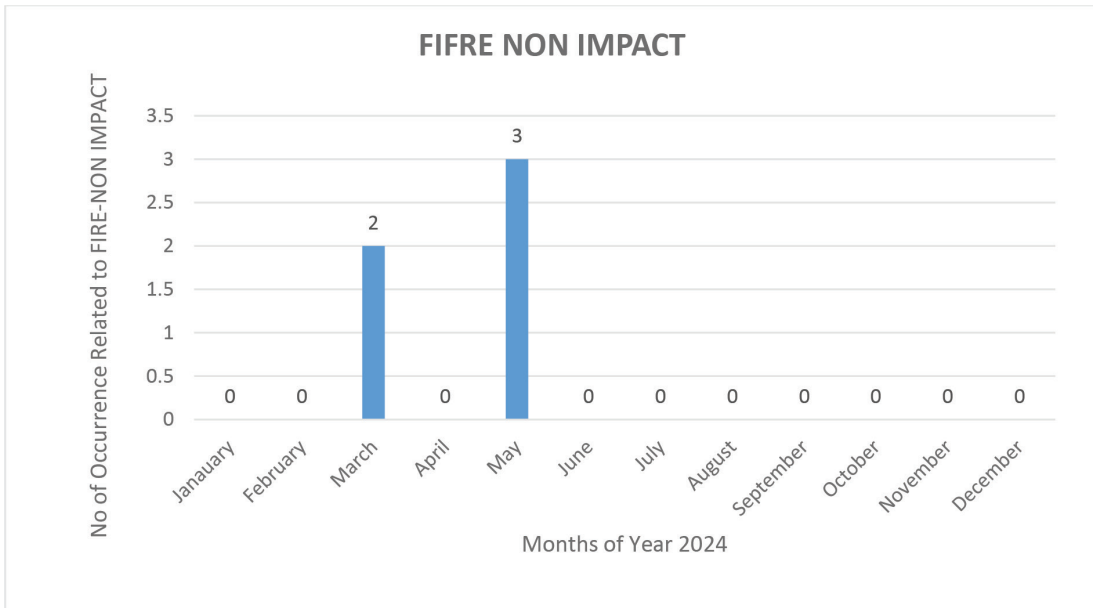


Figure-5.8 No of Occurrence Related to FIRE NON IMPACT

RAMP

TIACAO has recorded several occurrences related to RAMP. The data related to RAMP are presented in the chart below.

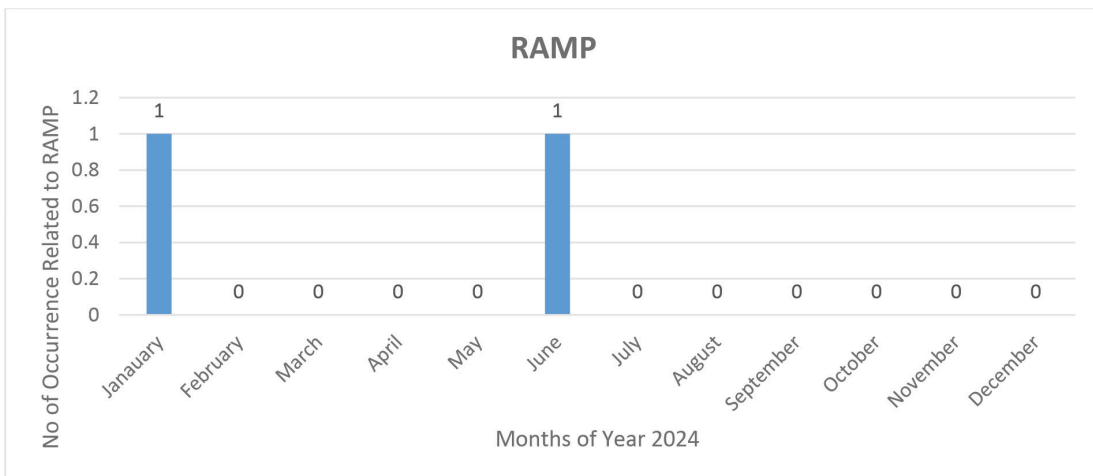


Figure-5.9 No of Occurrence Related to RAMP

ADRM

TIACAO has recorded several occurrences related to ADRM. The data related to ADRM are presented in the chart below.

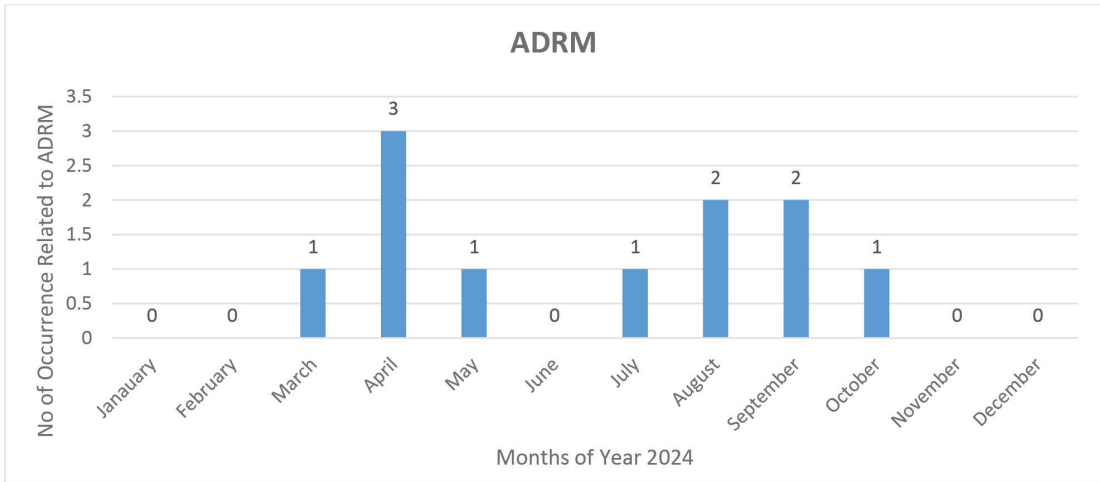


Figure-5.10 No of Occurrence Related to ADRM

ATM

TIACAO has recorded several occurrences related to ATM. The data related to ATM are presented in the chart below.

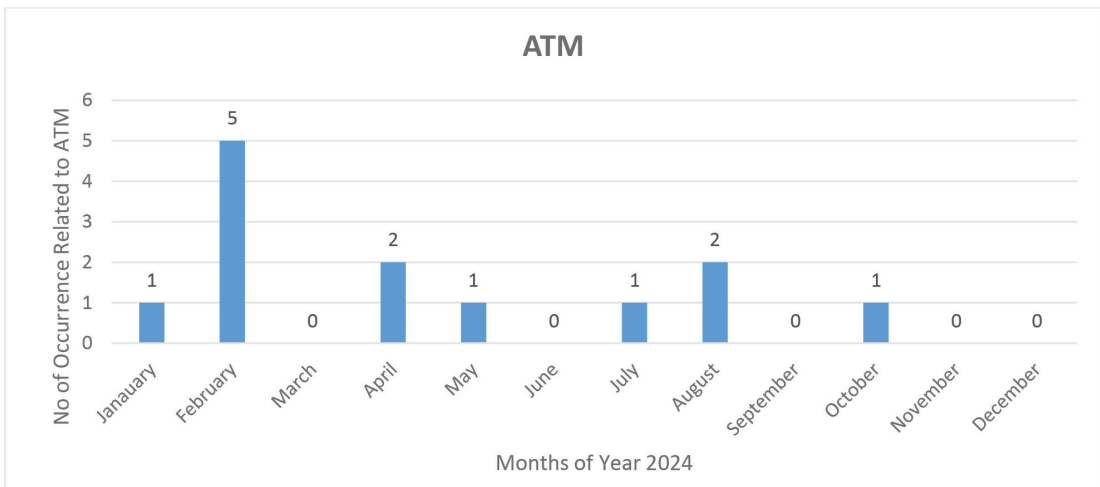


Figure-5.11 No of Occurrence Related to ATM

MAC

TIACAO has recorded several occurrences related to MAC. The data related to MAC are presented in the chart below.

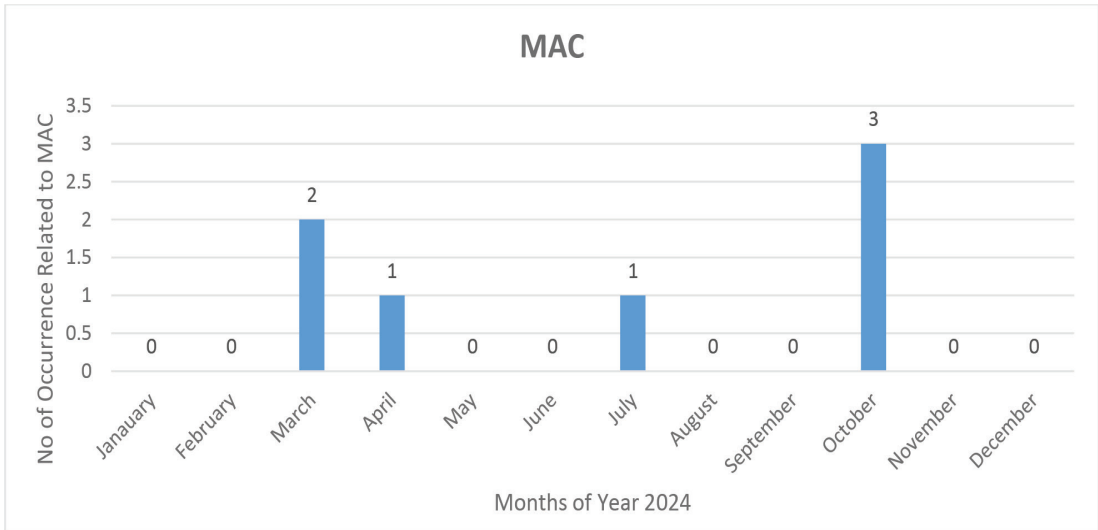


Figure-5.12 No of Occurrence Related to MAC

NAV

TIACAO has recorded several occurrences related to NAV. The data related to NAV are presented in the chart below.

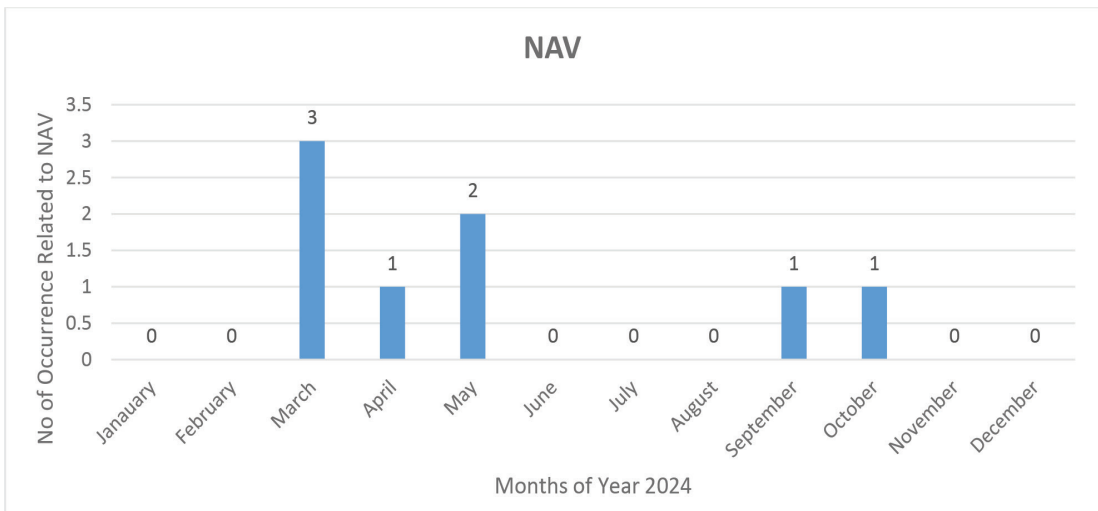


Figure-5.13 No of Occurrence Related to NAV

CFIT

TIACAO has recorded an accident related to CFIT. The data related to CFIT is presented in the chart below.

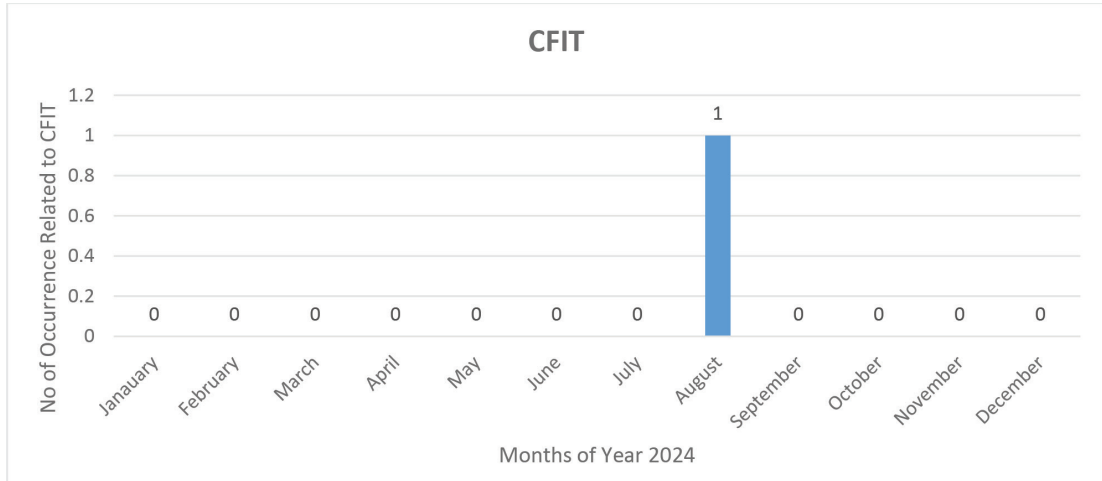


Figure-5.14 No of Occurrence Related to CFIT

LOC-I

TIACAO has recorded an accident related to LOC-I. The data related to LOC-I is presented in the chart below.

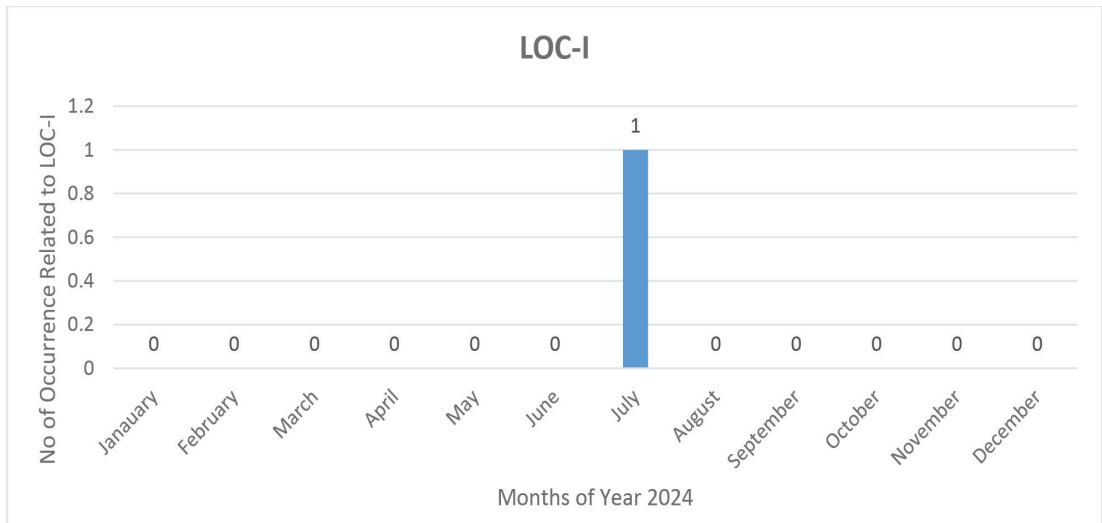


Figure-5.15 No of Occurrence Related to LOC-I

SEC

TIACAO has recorded several occurrences related to SEC. The data related to SEC are presented in the chart below.

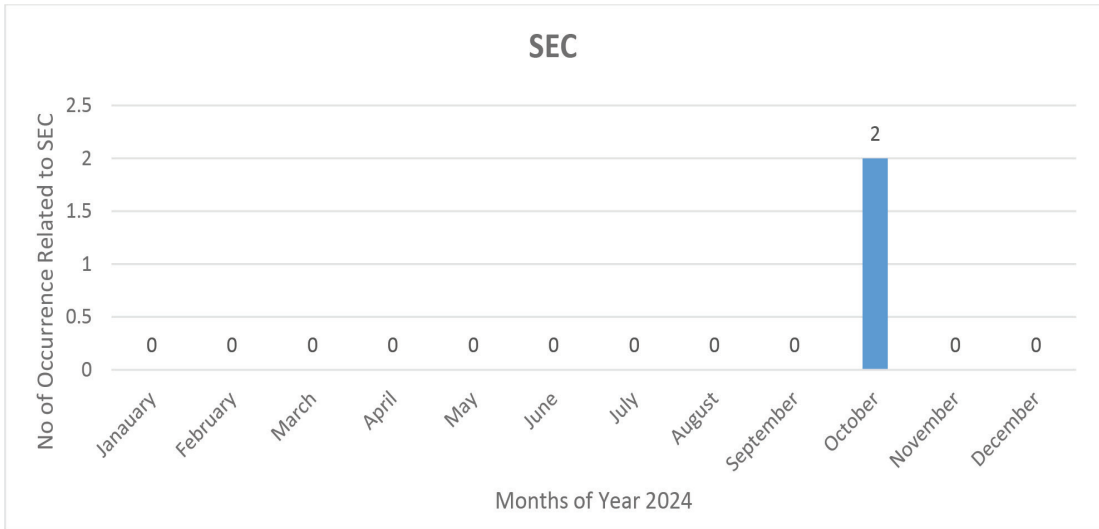


Figure-5.16 No of Occurrence Related to SEC

OTHR

TIACAO has recorded several occurrences related to OTHR. The data related to OTHR are presented in the chart below.

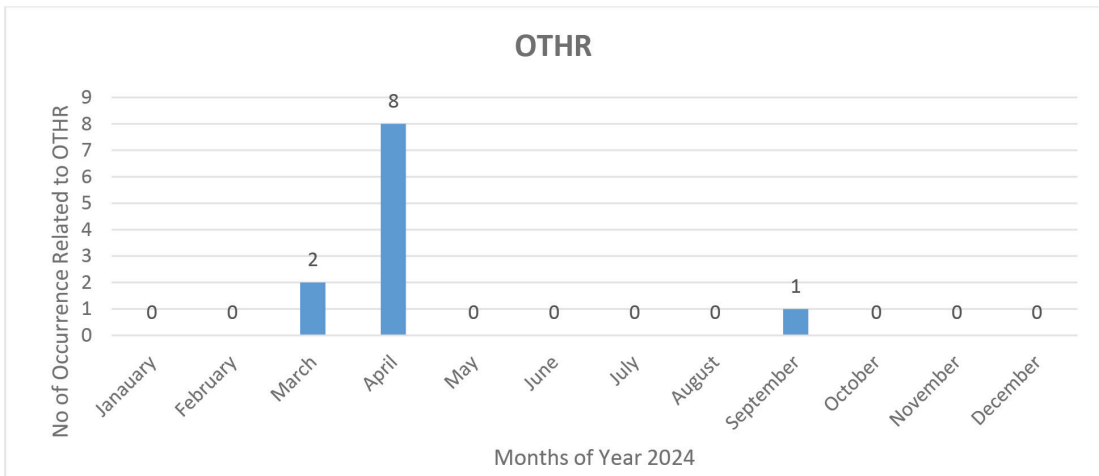


Figure-5.17 No of Occurrence Related to OTHR

Internal Inspection/Audit

Inspection/audit like activities has visible effect on incidents or accidents. So, considering it as one of the controlling tools, they are recognized as one of the safety performance indicators. Generally, Internal Inspection/ Audit is carried out by Safety Office. It also includes a scheduled and unscheduled audit from the regulatory authority. Data related to Internal Inspection/Audit has been presented in the following chart.

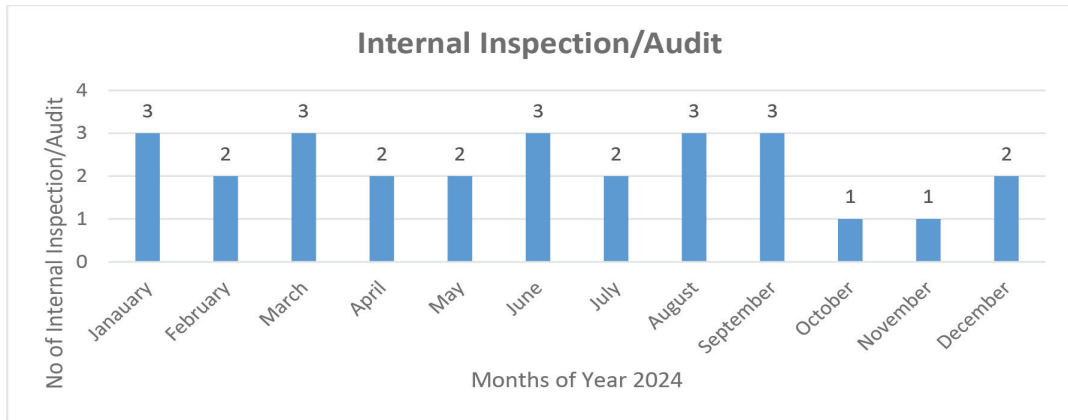


Figure -5.18 No of Internal Inspection/Audit

Safety Meetings

TIACAO Safety Management System Manual has prescribed different kinds and levels of safety committees and their meetings. Safety Action Group, Runway Safety Team, Safety Review Board etc. are some to illustrate. These meetings are also considered as safety performance indicators. TIACAO has maintained records of safety meetings being conducted for safety purposes. In the year 2024, TIACAO conducted 19 such meetings comprising of all kinds. Data related to safety meetings have been presented in the following chart. Among 19 meetings 3 were SRB, 9 were SAG, 1 RST 1 BCCIU and 5 others meeting were conducted in 2024.



Figure-5.19 No of Safety Meetings

Chapter- 6

Safety Performance Indicators (SPIs) and Safety Performance Target (SPTs) for 2025

A. Lagging Indicators

Table-6.1 Lagging Indicators

S.No.	Indicators (Lagging)	Target
1.	No. of BIRD related occurrence per 10000 Flight Movement.	Reduce by 10% over the value of 2024 Per 10000 movement.
2.	No. of ADRM related occurrence per 10000 Flight Movement.	Reduce by 10% over the value of 2024 Per 10000 movement.
3.	No. of FIRE NON- IMPACT occurrence per year.	Reduce by 10% over the value of 2024.
4.	No. of WILD related occurrence per year.	Reduce by 10% over the value of 2024
5.	No. of RAMP related occurrence per year.	Reduce by 15% over the value of 2024.
6.	No. of ATM deficiencies per 1000 flight movement.	Reduce the number of ATM related deficiencies by 5% over the value of 2024.
7.	Number of occurrences related to MAC per 1000 flight movements.	Reduce the number of occurrences related to MAC by 10% over the value of 2024.
8.	Number of occurrences related to NAV per 1000 flight movements.	Reduce the number of occurrences related to NAV by 10% over the value of 2024.

B. Leading Indicators

Table-6.2 Leading Indicators

S. No.	Indicators (Leading)	Target
1.	Safety Meeting per year.	Increase by 5% over the value of 2024.
2.	Safety Awareness/ Orientation Programme per year.	Increase by 5% over the value of 2024.
3.	Internal Audit/Inspection per year.	Increase by 10% over the value of 2024.



Photos



Audit Debriefing Meeting of ANSSSD



FOD Campaign





FOD Campaign



Interaction Program



Tribhuvan International Airport Civil Aviation Office

Phone : +977 014113007, 01-4113234, Ext. 2314, 2319, 2316

Email : aerodromesafety@tiairport.com.np,

Email : atssafety@caanepal.gov.np