Agenda Item 2: **SAT SOG ToRs implementation**

f) States/ANSP Safety Management Updates

ASECNA SAFETY EVENTS COLLECTION AND PROCESSING SYSTEM

(Prepared by ASECNA)

SUMMARY

This working paper presents ASECNA safety events collection and processing system. It provides information regarding the safety events reporting and notification, the safety events analysis, the mitigation and correctives actions implementation and effectiveness, and the related documentation as well as the safety information sharing

References:

- ICAO Annex 19
- SAT Procedural Handbook
- S-ACM 23-24 July 2022

1. Background

1.1 The Special meeting on the improvement of Air Traffic Services over the South Atlantic (S-SAT) which had been organized as a virtual meeting on 14 July 2021 adopted the new SAT structure, the SAT Handbook and ToRs of the new SAT parent and contributory groups (SAT Steering Group (SG), SAT Implementation Management Group (IMG) and SAT Safety Oversight Group (SOG).

1.2 The inaugural SAT SOG session, discussed SAT SOG work program development, implementation priorities /timelines and meeting schedules at the Special Atlantic Coordination Meeting (S-ACM) that took place from 23 to 24 June 2022 in Madrid, Spain. The meeting discussed the methodology to collect and compile data to process Key Safety Performance Indicator (KPIs) for approval by SAT SG. As conclusion, that SAT SOG was encouraged to continue with implementation of its Terms of Reference, emphasizing activities to monitor safety management of ATS delivery, ensuring the availability and categorization of reported occurrences and providing statistical data related to safety assessment. Threw Action ID ACM-S-05 the meeting also call SAT SOG to proceed in close coordination with RMAs, States, ANSPs, airspace users and stakeholders.

1.3 To facilitate SAT SOG monitoring of safety management in ATS provision in the SAT region, it is important that States SAT SOG members be aware of the safety events collection and processing system, including root cause analysis and trends, from all SAT Stakeholders including ANSPs.

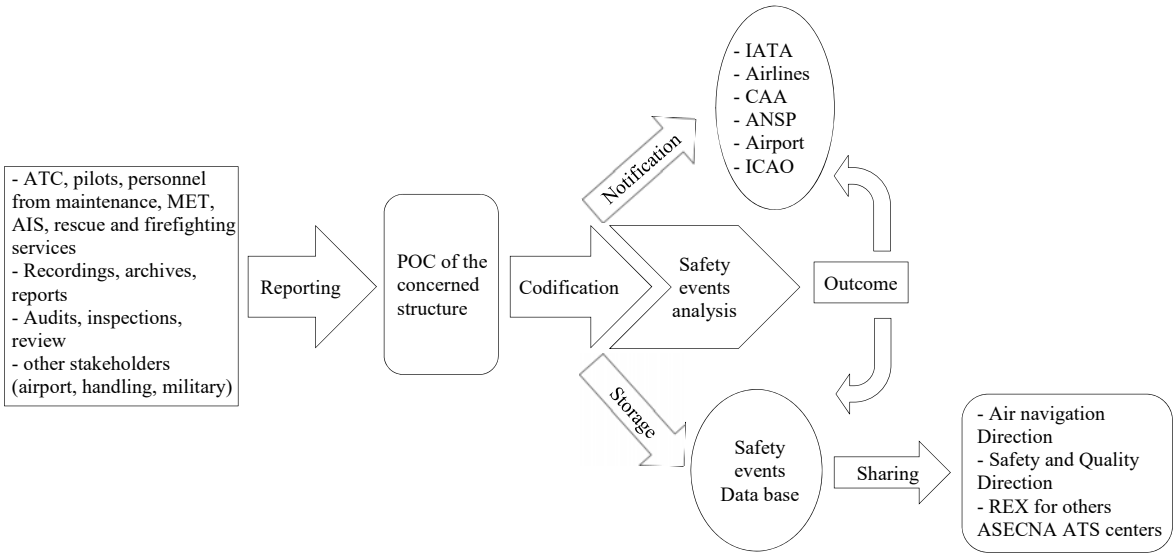
2. Analysis

In order to achieve an harmonized implementation of safety events collection and processing procedures among ASECNA member states, ASECNA Safety and Quality Direction has developed a Safety events analysis manual describing:

- the steps and processing times,
- the prerogatives and structure of committees responsible for the analysis,
- the components and the codification of the safety events analysis case.

2.2 Safety events safety events collection and processing system

ASECNA safety events collection and processing system including reporting, notification, storage, and analysis is illustrated below:



2.3 Safety events analysis

The responsibilities for the safety events analysis are defined as follow:

Center concerned by the occurrence	Responsibility for analysis	Commission responsible for the analysis
One ASECNA center	Center of occurrence	The local multidisciplinary commission
More than one ASECNA center	- Center responsible for the airspace of occurrence - The other center will analyze, and the outcome is sent to the center responsible - If necessary, the General Direction will designate the center responsible for the analysis	- The local multidisciplinary - If necessary, the central multidisciplinary commission
One ASECNA center and One non-ASECNA center	ASECNA center will analyze and send the report to the other center and to the General Direction	The local multidisciplinary commission
One non-ASECNA center	- The center of occurrence - The ASECNA Representative will retransfer the notification to the non-ASECNA center and to the General Direction	The central multidisciplinary commission

- The local multidisciplinary commission is composed of the local safety manager, the local managers for air navigation, meteorology, and maintenance.

- The central multidisciplinary commission is composed of the Lead Safety Manager, the central managers for air navigation, meteorology, and maintenance

Both local and central multidisciplinary commission have 15 days from reporting or notification to complete the analysis and elaborate the report.

During the process of analysis, a risk assessment is performed based on three criteria:
- ATM severity
- Air navigation dysfunction
- Frequency of occurrence

The ATM severity, Air navigation dysfunction and frequency of occurrence evaluation tables are in the annex.

2.4 Mitigation and correctives actions implementation and effectiveness to address safety occurrences.

The outcome of the safety event analysis are:
- root causes and contributive factors
- Immediate actions to taken without delay
- corrective and preventive actions with a follow up ensured in accordance with the ASECNA *corrective actions treatment and findings treatment procedure*

The corrective actions proposed are reassessed by the central multidisciplinary commission and accepted by the General Direction. In addition, and in any case, the effectiveness of the corrective actions is assessed before closing the safety events analysis process. Such assessment includes the definition of the effectiveness criteria along with the corrective actions.

2.5 Safety events analysis information documentation and sharing

The deliverables issued by the multidisciplinary commissions constitute the safety event analysis case. It is composed of:
- The safety event analysis report
- the pilot, ATC report if available
- The radio, telephonic, and CPDLC integral communication transcriptions
- The flight plans and copy of the strips
- The screenshot of the situation
- The technical report on operation of the relevant equipment
- The relevant meteorological report
- The human factor evaluation form

The reports of the safety analysis are shared within the center of occurrence and discussed during technical meetings. The outcome is also shared among all the ASECNA centers as feedback.

3. Suggested actions.

The meeting is invited to:

3.1 To take note of the information provided
3.2 Discuss any relevant matters as appropriate
3.3 Share best practices related to safety events analysis and safety information sharing

Annex A: ATM severity table

Grille1 : Gravité ATM globale (plus d'un aéronef impliqué)	
1. Risque de collision	**Pondération**
1.1. Séparation minimale observée (a)	
Minimum de séparation respecté ou sans objet	**0**
Séparation >= 70% du minimum de séparation	**5**
Séparation >=50%, <70% du minimum de séparation	**10**
Séparation >=25%, <50% du minimum de séparation	**15**
Séparation <25% du minimum de séparation	**20**
Évaluation retenue (a) = l'une des valeurs ci-dessus	
1.2. Convergence des aéronefs (b)	
Sans objet (divergent)	**0**
Faible (même route, même niveau, même sens)	**2**
Moyenne (convergent, niveau différent)	**5**
Élevée (convergent, même niveau)	**7**
Très élevée (même route, même niveau, sens inverse)	**10**
Évaluation retenue (b) = l'une des valeurs ci-dessus	
2. Maîtrise	
2.1. Maîtrise par ATM sol (c)	
Conflit détecté et géré	**0**
Conflit détecté tardivement mais géré	**3**
Conflit géré de manière inadéquate avec risque diminué	**5**
Conflit géré de manière inadéquate avec risque augmenté	**7**
Conflit jamais détecté ou pas géré du tout	**10**
Évaluation retenue (c) = l'une des valeurs ci-dessus	
2.2. Maîtrise par le bord	
2.2.1. Les équipages avaient-ils conscience du conflit ?	
Oui	**0**
Non	**2**
2.2.2. Les actions du bord ont-elles causé ou aggravé la situation ?	
Oui	**5**
Non	**0**
2.2.3. Les actions du bord ont-elles diminué le risque ?	
Oui	**0**
Non	**8**
Évaluation de la gravité ATM retenue (d) = somme 2.2.1 + 2.2.2 + 2.2.3	
GRAVITE ATM GLOBALE (a) + (b) + (c) + (d) :	
Incident Non déterminé	**E = n.d.**
Aucune incidence sur la sécurité	**D = 0 à 7**
Incident significatif	**C = 8 à 19**
Incident majeur	**B = 20 à 29**
Incident grave	**A = 30 ou plus**

Annex B: Air navigation dysfunction table

Grille 2 : Evaluation du dysfonctionnement NA		
Plaque n°1 / Réglementation	**Incidence directe/indirecte/non**	**Observations**
1. La réglementation est-elle en cause ?	6 / 3 / 0	
Plaque n°2 / Encadrement de l'activité		
2.1 – **l'organisation de l'espace** est-elle en cause ?	6 / 3 / 0	
2.2 – les **consignes** sont-elles en cause ?	6 / 3 / 0	
2.3 – La **formation** est-elle en cause ?	6 / 3 / 0	
2.4 – Le **management de l'activité** est-il en cause ?	6 / 3 / 0	
Plaque n°3 / Contexte		
3.1 –Le fonctionnement des **moyens techniques** sol est-il en cause ?	6 / 3 / 0	
3.2 -La **charge de travail** est-elle en cause ?	6 / 3 / 0	
3.3 –La **gestion opérationnelle de la position** est-elle en cause ?	6 / 3 / 0	
Plaque n°4 / Gestion en temps réel		
4.1 Conscience de la situation		*une seule réponse possible*
L'événement a été :		
- Détecté à temps	0	
- Détecté tardivement	3	
- Détecté grâce à un tiers	4	*Alarmes sonore ou visuelle, message, autre position*
- Jamais détecté, ou détecté puis oublié	6	
4.2 Résolution de l'événement :		
La gestion initiale de l'événement était-elle :		*une seule réponse possible*
- Adéquate	0	
- Inadéquate	3	
- Pas d'action	6	
4.3 Manœuvre d'évitement		
La manœuvre d'évitement était-elle :		
- Adéquate	0	
- Adéquate mais géré par un tiers	3	
- Inadéquate	4	
- Pas d'action	6	

Résultats du dysfonctionnement NA 4.1 + 4.2 + 4.3 =		
DYSFONCTIONNEMENT NA		
20 ou plus	**a**	***Très important***
12 à 19	**b**	***Important***
6 à 11	**c**	***Peu important***
0 à 5	**d**	***Nul***
n.d.	**e**	***Indéterminé***

Annex C: - Frequency of occurrence table

Fréquence	Signification
1. Extrêmement rare	- Au moins une fois tous les 20 ans - Maximum une fois tous les 5 ans
2. Rare	- Au moins une fois tous les 5 ans - Maximum une fois tous les ans
3. Eloigné	- Au moins une fois par an - Maximum une fois par trimestre
4. Occasionnelle	- Au moins une fois par trimestre - Maximum une fois par mois
5. Frèquent	- Au moins une fois par mois