INTERNATIONAL CIVIL AVIATION ORGANIZATION

**Third Meeting of the APIRG Communications, Navigation
and Surveillance Sub-Group
(Nairobi, 26-30 April 2010**)

Agenda Item 7:   **ATS Safety management**

AIR TRAFFIC SERVICES (ATS) INCIDENT ANALYSIS GROUP

(Presented by the International Air Transport Association)

SUMMARY
This paper invites States and air navigation service providers to carry out thorough investigations on all reported ATS Incidents and take adequate measures to prevent repetition of similar occurrences. It also calls upon States to make their investigations, conclusions and recommendations readily available to all concerned parties.
Action by the meeting is **at paragraph 3**.
Reference: SP AFI RAN (2008) Report ATS/AIS/SAR/SG/10 Report

1.   INTRODUCTION

1.1   In accordance with ICAO provisions in Annex 11 – *Air Traffic Services*, Annex 13 – *Aircraft Accident and Incident Investigation*, the *Procedures for Air Navigation Services – Air Traffic Management* (PANS-ATM, Doc 4444) and the *Air Traffic Services Planning Manual* (Doc 9426), procedures for reporting and investigating ATS occurrences are required in order to ensure the highest standards of safety. Assuming that ATS incidents are investigated thoroughly and that adequate measures have been taken to prevent similar occurrences in the future, however, corrective actions and safety recommendations are not always made known to all concerned aircraft operators. Unfortunately, users receive little or no feedback on air safety reports (ASRs) from some States and air navigation service providers (ANSPs).

1.2   Due to poor feedback, the AIAG was established to provide a forum for various aviation organisations and stakeholders, including but not limited to ICAO, IATA, the African Civil Aviation Commission (AFCAC), the African Airlines Association (AFRAA), the *Agence pour la Sécurité de la Navigation Aérienne en Afrique et à Madagascar* (ASECNA), the Air Traffic and Navigation Services Company of South Africa (ATNS), the International Federation of Air Line Pilots Associations (IFALPA) and the International Federation of Air Traffic Controllers Associations (IFATCA), to review reported incidents and formulate recommendations to prevent similar occurrences in the AFI region.

2. DISCUSSION

ATS Incident Analysis Group (AIAG)

2.1   The Group meets on a yearly basis, generally in March, to analyse ATS incidents for the preceding year. The following tasks have been assigned:

a)   assess incidents by type, i.e., airprox, procedure, facility and establish degree of risk to the extent practicable;

b)   identify primary and contributory causes as far as possible and recommend appropriate corrective actions;

c)   develop submissions to be made to ICAO, the AFI Planning and Implementation Regional Group (APIRG), airlines and other airspace users, States and ATS providers concerned, with the intention to address the identified causes or major trends and prevent repetition of the incidents;

d)   determine the extent to which the IATA In-Flight Broadcast Procedure (IFBP) is instrumental in detecting and/or solving conflicts and make appropriate recommendations that may enhance the effectiveness of the procedure; and

e)   determine the extent to which the airborne collision avoidance system (ACAS) has been instrumental in detecting and/or solving conflicts and make appropriate recommendations that indicate required changes to the infrastructure .

Results from the Seventh Meeting of AIAG Meeting (AIAG/7, 8-9 March 2010)

2.2   The AIAG/7 meeting was held on 8 and 9 March 2010 in Johannesburg, South Africa. This meeting was attended by fifty one (51) participants representing ten (10) airlines, 11 States and seven (7) International Organizations: ICAO, ARMA, ASECNA, IATA, IFALPA, IFATCA and WFP (World Food Programme).

2.3   Out of the 142 incidents reported in 2009, the concerned air navigation service providers have provided 122 feedbacks on average, for 4 incidents feedback was not received as operator did not file incident with relevant ANSP.   Therefore for calculating average feedback rate, 138 incidents were taken into calculation deriving 88% of average feedback rate[1]. However, the response rate varied significantly from one State to another.

2.4   Of these 142 incidents:

- 24 reports were determined to not constitute incidents (Events, Non-events and System limitations),
- 16 reports were inconclusive, thereby resulting in a total of
- 36 ATS incidents and,
- 66 AIRPROX.

2.5   Following the AIAG analysis 66 incidents were classified as AIRPROX:

- 28 incidents are classified as AIRPROX with high risk,
- 3 incidents are classified as AIRPROX with medium to high risk,
- 29 incidents are classified as AIRPROX with medium risk and
- 6 incidents are classified as AIRPROX with low risk.

2.5 Where ATC separation was compromised it was found that the required separation was restored as follows:

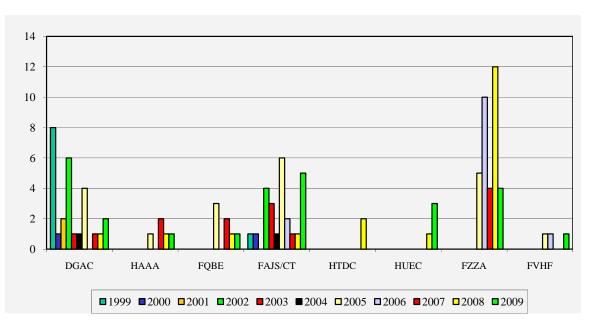Separation restored timely:

- TCAS TA in 24 instances, of which:

---

[1] The average was 86% in Z008); 63% in 2007, 38.5% in 2006 23% in 2005.

- • 19 were restored by TA only;
- • 3 were restored by TA and ATC intervention;
- • 1 was restored by TA, Pilot monitoring ATS frequency and pilot visual awareness;
- • 1 was restored by TA and Pilot visual awareness.
- • ATC intervention in 8 instances, of which;
- • 1 was restored by ATC intervention and IFBP.
- • ATC frequency monitored by pilot in 7 instances.
- • IFBP in 3 instances.
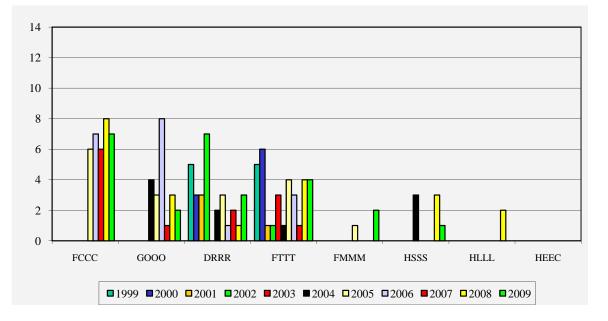- • Pilot visual awareness in 2 instances

Separation was note restored timely:

- • TACS RA in 18 instances;
- • Last minute visual separation in 2 instances;
- • No previous warning or no time for action in 2 instances.

FIR Contribution to AIRPROX in 2009

2.6   The FIR contribution to AIRPROX occurrences was as follows:

Lessons learnt

2.7   The number of incidents due to lack of ATC anticipation/ATC situational awareness/ATC proficiency, has doubled as compared to 2008[2]. This was either the main cause of incident or a contributing factor in fifty (50) instances.

2.8   On board discipline/procedures need to be promoted with operators as this has increasingly become a contributing factor each year[3]. It was either the main cause of incident or a contributing factor to in twenty three (23) instances.

2.9   The lack of coordination between ATC is becoming increased contributing factor from previous year[4]. It was either the main cause of incident or a contribution factor in twenty one (21) instances.

- Due to lack of communications;
- Due to ATC error during coordination

2.10   The lack of mobile communications has increasingly become a contributing factor from previous year[5]. It was either the main cause of incident or a contributing factor to incident in eighteen (18) instances.

2.11   The Airspace organisation was either the main cause of incident or a contributing factor in twelve (12) instances.

- No airway should be classified as "Class F or G airspace".

2.12   The crew not using IFBP was either main cause of incident or contributing factor in seven (7) instances.

---

[2] 27 instances in 2008
[3] 14 instances in 2008
[4] 15 instances in 2008
[5] 11 instances in 2008

2.13   ATS procedures were either main cause of incident or contributing factor in six (6) instances.

Recommendations

2.14   For almost half of analyzed incidents, the contributing factor is either ATC or crew – HUMAN FACTORS. In order to ensure prevention, we all need to understand Human Factors through a proper. Training programme including CRM or Team Resource Management intended for Authorities, ANSPs and ATCOs

2.15   The ATS providers are urged to monitor ATC fatigue and improve the proficiency and number of Air Traffic Controllers.

2.16   The SMS concept of "Just culture" should be promoted. Many investigation reports show authorities "seriously reprimanding ATCs".
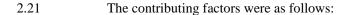

2.17   VHF/HF communications need to be enhanced in order to enable positive Air Traffic Control. Controller-pilot data link communications (CPDLC) for en-route operations in accordance with the Regional Air Navigation Plan (ICAO Doc 7474) should also be implemented.
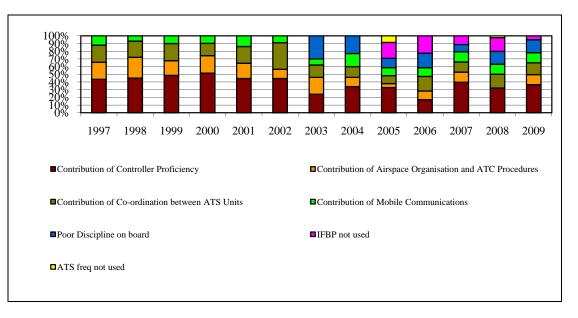
2.18   Airspace re-organisation where more sectors are required and clarifying ATC procedures. Appropriate classification of airways.

2.19   Encourage the use of IFBP in the corresponding applicability area.

2.20   The lack of positive Control by ATC remains a reason for IFBP to be maintained as a safety in the African region.

AIRPROX Contributing Factors in 2009

2.21   The contributing factors were as follows:

3. ACTION BY THE MEETING

3.1   The meeting is invited to:

a) Note the contents of this working paper; and

b) Discuss and agree on the recommendations to be submitted to APIRG/17; and

c) Request States to proceed with agreed remedial actions.

- END -