International Civil Aviation Organization
Eastern and Southern African Office
Air Traffic Management Coordination Meeting for Southern AFI Flight Information Regions (ATM/CM-SAF)
(Johannesburg, South Africa, 3-5 February 2015)

Agenda Item 7: **The Impact of Missing Flight Plans on SO-A: Safety and SO-B: Air Navigation Capacity and Efficiency.**

(Presented by South Africa)

SUMMARY

This working paper discusses the South African experience with regards to missing flight plans.

1. INTRODUCTION

INTRODUCTION

1.1 Historically Air traffic controllers have relied on information originating from Air Traffic Service (ATS) messages such as flight plans (FPL), Change messages (CHG) and delay messages (DLA) to be in a position to plan their traffic and create the procedural "picture" along with the information provided by pilot in the air.

1.2 In more recent times automated systems and software enhances the controller's ability, to not only control, but in fact to manage air traffic through the implementation of systemic efficiencies and safety. These systems rely on the ATS messages, radar feeds and aeronautical data to create the "picture" that the ATC sees and works from.

1.3 An accurate, timely flight plan, or subsequent ATS message, to the appropriate Air Traffic Service Unit (ATSU) is a critical success factor to ensure safe and efficient Air Traffic Management (ATM) can take place.

1.4 The implementation of RVSM, PBN as well as Amendment 1 to ICAO Doc 4444 ATM and Aeronautical Information Management (AIM) Systems has been upgraded. These upgraded systems are highly sensitive to inaccurate or inadequate data.

1.5 It is now, more than ever, essential that flight plans that are filed are accurate in terms of syntax as well as data and that they are received by all applicable Air Traffic Service Units and systems timeously.

1.6 Flight plan information as well as flight data from ATM systems is also used for compliance monitoring as well as capacity/demand predication and planning.

1.7 Missing flight plans and ATS messages significantly increase the risk of safety as well as security breaches occurring.

2. DISCUSSION

2.1 The below table shows the South African statistics for the past 3 years of the total number of reported missing flight plans vs the total number of flight plans filed for these years.

Year	Total number of flight plans filed/received for the year	Total number of missing flight plans (over all)	Over all % missing FPL
2012	427 022	1 128	0.264%
2013	395 706	1 499	0.379%
2014	389 316	631	0.162%

2.2 The prevalence of missing flight plans for South Africa may be interpreted as being a small percentage when comparing the number of missing flight plans against the total number of flight 2.plans received/processed and indeed even smaller when compared against the total number of movements for the year which are well over 1 million. It would however be a mistake to believe that even this small number does not have a significant impact on the overall ATM system safety and efficiency.

2.3 Over the past 3 years a general improvement has been evident. The below table indicates the number of missing flight plans per year for flights into South Africa from the Southern AFI flight information regions.

	FB	FL	FN	FM	FQ	FV	FW	FY	FZ	HT	FI	FS	FC
2012	67	118	55	3	132	108	52	13	339	21	2	2	10
2013	120	95	38	0	239	164	55	17	284	17	0	0	0
2014	33	36	36	2	48	175	96	0	113	2	0	0	0

2.4 The AFTN is the risk factor that is most often blamed for missing flight plans is the region, this however seems to be a misnomer. The for the most part the AFTN availability is well within the required performance minima. The below table indicates the overall average AFTN availability per Southern AFI FIR for the past 3 years. Apart from 2 states the availability is above the required minimum of 97% and the

correlation between these states and those where the missing flight plan prevalence has increased is not evident.

ATSU	2012	2013	2014
FBSK	98.83	99.00	99.08
FCCC	98.42	98.17	99.25
FDMS	98.75	97.67	98.42
FIMP	98.75	97.67	98.83
FLKK	98.08	99.08	97.67
FMMI	99.33	98.33	99.08
FMMM	94.17	97.00	97.00
FNLU	97.50	99.08	97.58
FQMA	98.42	99.08	96.75
FQBE	99.42	98.50	99.25
FSIA	99.25	99.08	99.00
FVHA	98.58	99.00	99.08
FWLL	98.42	99.08	97.67
FXMM	98.75	97.25	98.75
FYWH	98.83	97.67	98.83
FZAA	98.75	98.75	99.08
HTDA	99.33	98.75	99.00
SITA	99.42	99.08	99.25

2.5 Investigation of missing flight plans has identified the following major causes where the missing flight plans could be traced:

2.5.1 Incorrect or non-addressing of flight plans by the originating ATSU or flight plan originator.

2.5.2 Incorrect or failure to switch messages through the Addis switch to/from the Middle East region

2.5.3 Errors on flight plans (syntax and/or data) resulting in the flight plans being routed to system queues.

2.6 South Africa has implemented the following mitigations to address these risks:

2.6.1 Direct communication with the operator of the missing flight plan and provided critical feedback of the formatting, data and addressing as may have been identified as the problem.

2.6.2 Published flight plan addressing requirements in the South African AIP.

2.6.3 Configured critical addresses into the AIM systems data which is automatically inserted into messages at time of processing.

2.6.4 Reviewed IAIP of neighbouring states for current AFTN addresses and inserted these into the AIM system data.

3. ACTION BY THE MEETING

3.1.1 In order to improve further the reduction in the prevalence of missing flight plans regional communication and cooperation is required, with regular exchange of statistics and missing flight plan lists for investigation.

3.1.2 The recommendations of the workshop on the mitigation of loss of operational messages be implemented, in particular:

3.1.3 Recommendation 1/01 – reinforcement of the compliance to the requirements of the ICAO flight plan new format. In order to increase the availability of flight plans in the AFI region, administrations/organisations ensure that airlines and ANSP's re-enforce the capabilities of their operators in charge of flight plans to follow the requirements of the ICAO flight plan new format.

3.1.4 Recommendation 1/04 – Monitoring the control signals between AFTN messages switching systems. States/Organisations make bilateral and multilateral arrangements to investigate the availability of the control signal between AFTN message switching systems and take related remedial measures

3.1.5 Recommendation 1/06 – Implementation of procedures to mitigate loss of operational messages (FPL, NOTAM, OPMET)….b) ANSP's SHOULD ISSUE AICs and letters to inform their neighbours, IATA, Eurocontrol and ICAO on their collective addressing procedures.

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