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AIR NAVIGATION SERVICES

GENERAL

**IMPLEMENTATION OF ADVANCED - SURFACE MOVEMENTS GUIDANCE AND CONTROL SYSTEM
(A-SMGCS) AT O.R TAMBO AND CAPE TOWN INTERNATIONAL AIRPORTS.**

Introduction

The purpose of this Aeronautical Information Circular is to inform users on the installation and implementation by ATNS of an Advanced Surface Movement Guidance and Control System (A-SMGCS) at O.R Tambo and Cape Town International Airports. These Advanced Surface Movement Guidance and Control Systems at O.R Tambo and Cape Town International Airports will operate to **Level 1** (present status at Cape Town International Airport) and **Level 2** (future status for both O.R Tambo and Cape Town International Airports) as described in the A-SMGCS manual (ICAO DOC 9830). As the roles played by automation and avionics progressively increase, the levels as described in the A-SMGCS manual will be adjusted to the appropriate level for the airport.

The A-SMGCS system will be tested at O.R Tambo International Airport from January 2010. The expected operational date is 22 April 2010.

The benefits of A-SMGCS are:

The day-to-day ATC operations on the movement area requires the operation of the A-SMGCS system to provide guidance and control to all aircraft, vehicles and personnel to prevent collisions and to support the safe, expeditious and efficient flow of traffic on the aerodrome.

The requirement for the use of the A-SMGCS is as follows:

- To monitor and assist departing and arriving traffic;
- To ensure that departing aircraft are lined up on the correct Runway;
- To ensure that arriving aircraft have safely vacated the Runway;
- To ascertain that aircraft have commenced their take-off run;
- To monitor and assist emergency service vehicles when required.

The A-SMGCS will not be used in any way to relieve pilots and vehicle operators of their responsibilities in respect of avoiding collisions on the ground.

The use of Mode S in the context of O.R Tambo and Cape Town International Airports implementation of A-SMGCS is dependent on flight crews ensuring proper functioning of aircraft Mode S transponders. In this context, the proper setting(s) of Mode S transponders by flight crew, when operating on the Movement Area, is central to ensuring the integrity of the A-SMGCS aerodrome surveillance function for the benefit of ATS, the airport operation and the airlines. Improper settings of Mode S transponders can negatively impact the performance of both A-SMGCS and ACAS. In addition, such improper settings can also have very significant negative impacts on the (Mode A) environment.

The following text is intended to support flight crew in their understandings of appropriate Mode S transponder settings while operating on the Movement Area.

Aircraft transponders are required to be operated in accordance with the following procedures from April 22nd 2010.

Use of Mode S:

Pilots of aircraft equipped with Mode S having an aircraft identification feature shall set the aircraft identification through the FMS or the transponder. This setting shall correspond to the aircraft identification specified in item 7 of the ICAO flight plan, or, if no flight plan has been filed, the aircraft registration. Flight crew are reminded that the ICAO Aircraft Operating Agency, 3 letter designator (ICAO Doc 8585) is to be used and NOT the IATA abbreviation.

Note. - All Mode S equipped aircraft engaged in international civil aviation are required to have an aircraft identification feature.

Operation of Mode S transponders on the Movement Area:

From April 22nd 2010, Mode S transponders shall be operated on the Movement Area in accordance with the following provisions:

Departing aircraft:

- *Set aircraft identification and, when received, set assigned Mode A code.*
- *Immediately prior to request for push back or taxi, select "Automatic mode" (e.g.: AUTO) or, if automatic mode is not available, select "On" (e.g. ON or XPDR).*

Arriving aircraft:

- *Continue to squawk last assigned Mode A code until fully parked,*
- *When fully parked, select "standby" (e.g.: SDBY).*

Designated vehicles operating on the Movement Area will carry functioning "squitters" (spontaneous asynchronous transmissions) whose unique code will be entered in the ATC-administered database. These transponders will operate in accordance with locally published procedures.

Aircraft under tow will operate their transponders in accordance with procedures currently under development.

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