INTERNATIONAL CIVIL AVIATION ORGANIZATION
WESTERN AND CENTRAL AFRICAN OFFICE

Sixteenth Meeting on the Improvement of Air Traffic Services over the South Atlantic (SAT 16)
(Recife, Brazil, 04 - 06 May 2011)

Agenda item 5: Any other business

Interference on Frequency 126.7 assigned to SAL ACC and ATC Casablanca

(Presented by Cape Verde)

SUMMARY

Strong interference on VHF 126.7 frequency, serving ACC Sal, has been observed and originating, as it appears, from the same frequency operated at Casablanca ATC. Although not very frequently, i.e. rather on rare occasions, when it does happen the interference is very strong and renders the frequency at Sal Oceanic Control almost unserviceable. As such, it might constitute a significant consideration in terms of operational safety. This working paper addresses the problem and proposes a solution by changing the frequency of either one of the ATC Facilities, upon completion of the corresponding international coordination.

Strategic Objectives:	A: – Safety & C: Environmental Protection and Sustainable Development of Air Transport

1. Introduction

Under some atmospheric conditions, harmful interferences have been observed on the frequency 126.7 MHz, installed at Sal Oceanic Air Traffic Control Center. Fortunately, the events of interference are not very frequent, nevertheless, are deemed to constitute a safety concern in view of the fact that, although rare, they are of strong nature and render the use of the frequency almost unserviceable.

2. Description

The subject of interferences on the VHF 126.7 frequency has been, occasionally, observed by ASA technical personnel and brought to the attention of AAC during a routine visit to Sal premises, in mid-march of the current year. No formal registration had been accomplished, beforehand.

Also, the observations have shown that the interference originates from same frequency, 126.7, in use by the ATC Facility in Casablanca.

The phenomena that can cause such VHF frequency interferences includes "**wave duct**", a well-known aspect in radio-electric waves propagation theory. A wave duct is a waveguide, with tubular boundaries, capable of concentrating the propagation of waves within its boundaries.

Under some atmospheric conditions a natural duct is formed in the air or at the interface between air and sea through which waves of certain frequencies (in the present case, VHF) travel with more than average efficiency and thus increasing the theoretical coverage.

Therefore, wave duct is by far the most probable reason for which the interference with the Casablanca VHF 126.7 MHz frequency occurs.

To overcome the risk of further harmful interference incidents, coordination is proposed to be accomplished between the two centers in order to change that frequency, either having it assigned to Casablanca or to Sal ACC only.

In this case, the ICAO Regional Office – WACAF, may be instrumental to monitor the assignment process by means of the specific software for frequency assignment.

3. Action by the SAT/16 Meeting

The SAT/16 Meeting is invited to:

a) take note of the information presented in this working paper and it's relevancy to the safety of air navigation; and
b) request to the WACAF ICAO Regional Office to monitor the corresponding frequency assignment process.