



International Civil Aviation Organization

**SPECIAL IMPLEMENTATION PROJECT (SIP) ON ATS
INTER-FACILITY DATA COMMUNICATION
IMPLEMENTATION SEMINAR**

Bangkok, Thailand, 12-13 October 2010

Agenda Item 8: Other issues related to AIDC implementation

AIDC TESTING AND SOFTWARE UPGRADES IN NEW ZEALAND

(Prepared by New Zealand)

SUMMARY

This paper reviews the software upgrade process employed by Airways New Zealand on the oceanic ATM platform, and a number of various types of AIDC testing that we have been involved with.

1. INTRODUCTION

1.1 Airways New Zealand uses a software upgrade process for its oceanic ATM platform (OCS) that does not affect the flow of AIDC messaging with adjacent units.

1.2 Airways New Zealand has its own software development and maintenance capability for the ATM systems in use in the New Zealand FIR. This capability requires software testing platforms separate from the operational systems. These other platforms are used for AIDC testing with adjacent units before the implementation of new ATM systems at those units. AIDC testing is also carried out with adjacent units on as required basis on the operational platforms.

2. DISCUSSION

2.1 **Software upgrades:** The OCS system is upgraded with new software and adaptation data as required. We will usually implement 4-5 new software configurations a year. Adaptation changes may be driven by software modifications but are usually the result of updates to the navigational databases. These upgrades will usually take place on a promulgated AIRAC date.

2.2 The OCS system has a standalone Reserve Platform. Operations can be transferred seamlessly between the Main Operational and the Reserve platform when required. For software and adaptation updates the new software and data is installed on the Reserve platform then at the agreed time operations are transferred to this platform. This operation is completed within a few minutes and results in only a short break in AIDC communication while the AFTN connection is transferred between platforms and the transfer occurs with no loss of data. After operations are installed on the reserve platform the main operational platform is released and then restarted with the new software. When the controllers are ready the operation is then transferred back to the main platform. The whole upgrade process is usually completed in less than one hour. Upgrades are normally scheduled in a low traffic period around 0700UTC. Each upgrade is promulgated by NOTAM.

2.3 **AIDC testing:** Airways has a number of platforms separate from the Operational Main and Reserve platforms, that we use for training, software development, and contingency operations. We also have the ability to setup one of these platforms with its own AFTN connection and distinct AFTN address to enable it to be used for full AIDC testing with other units. This AIDC test platform was successfully used for the pre-implementation testing of the new TIARE ATM system in Tahiti in 2008 and 2009, and for the pre-implementation testing of the new Aurora ATM system in Fiji in early 2010.

2.4 As part of our software development process we regression test all AIDC functionality before any new software release using development platforms associated with our domestic Skyline ATM system and oceanic OCS ATM system.

2.5 We also carry out live AIDC testing on the operational platform with adjacent units on an as required basis. These tests take place in light traffic periods and are always subject to a number of checks and balances to preserve safety. These safety nets will usually include:

- An agreed test plan
- The use of specific test call signs agreed between the parties e.g. NZTEST1
- The use of specific text in Item 18 Other Information RMK to indicate that this is a test message
- A telephone line between test operators that is separate from the operational line
- Agreement that the test can be terminated at any time
- Liaison with other units that maybe affected by the test e.g. AIDC messages may be sent automatically to other units that are not involved in the test

3. ACTION BY THE MEETING

3.1 The meeting is invited to note the above information.
