



INTERNATIONAL CIVIL AVIATION ORGANIZATION
South American Regional Office

REGIONAL PROJECT RLA/03/901
REDDIG Management System and Satellite Segment Administration
THIRD REDDIG TECHNICAL-OPERATIONAL MEETING (RTO/3)

(Paramaribo, Suriname, 15 to 16 October 2009)

Agenda Item 2: REDDIG Node Station Maintenance Programme

(Presented by the REDDIG Administration)

SUMMARY

This working paper contains guidelines and directions for updating the REDDIG node station maintenance programme.

1. Introduction

1.1 Being REDDIG a telecommunications network for aeronautical applications and services in the South American Region, its integrated maintenance programme is revised dynamically and must be updated based on the time of operation of the network and the technology of the equipment in the REDDIG nodes.

1.2 The maintenance programme must be consistent with the programmes each State has in its respective nodes.

2. Analysis

2.1 At the RTO/2 meeting held in Manaus on 21 to 22 September 2006, recommendations were made for the operational maintenance programme of the various components of a REDDIG station.

2.2 The equipment and parts of REDDIG stations have been in operation since 2003. Consequently, their obsolescence is an additional factor to be taken into account in the integrated maintenance programme.

2.3 According to Conclusion RCC 12/1, the current equipment of the REDDIG is to be kept in place for a minimum of three years.

2.4 Based on available statistics of REDDIG failures, it is possible to determine the probability of occurrence of failures in the equipment and parts of a station, and also to focus on specific aspects to reduce the number of failures.

2.5 Knowledge of the procedures for operating the equipment of a REDDIG station is of vital importance for conducting general operational diagnostic and maintenance tasks at the station.

2.6 Continuous training of local technical personnel on the general procedures for the operation of the equipment must be considered essential for the operational maintenance of the station.

3. **Recommendations**

3.1 In addition to the recommendations regarding the operational maintenance of the REDDIG station, and based on the aforementioned analysis, the following actions are emphasised:

AC Power System and Grounding

3.2 Check on a monthly basis that all REDDIG AC feeder circuits have a value no greater than 1.0 VAC between the neutral line and the ground, the target value being 0.5VAC. In case of a different value, the REDDIG Administration must be notified.

3.3 Acquire and install insulating AC transformers to eliminate transient peaks in each of the input AC circuits of the REDDIG. It is recommended that this installation be completed by late 2009.

3.4 Check on a monthly basis that the equivalent resistance of the grounding system does not exceed 5 ohms.

SSPA Equipment

3.5 In addition to the SSPA air circulation cleaning programme, check every 15 days that the two fans of the two SSPAs in the station are operating properly.

3.6 Purchase a set of four new fans per station to replace the ones currently installed in the SSPAs. It is recommended that they be purchased before the end of 2009.

3.7 Purchase a 110 cm-long flexible transmission waveguide per station to replace the existing one, as necessary.

FRAD Equipment

3.8 In addition to the equipment cleaning programme, check every 15 days that all the fans in the FRAD equipment are operating properly.

3.9 Purchase a set of eight new fans per station to replace the existing ones in the FRAD equipment. It is recommended that this purchase be completed by late 2009.

Training

3.10 Train all the local technical personnel involved in the services provided in the node on the general operating procedures of the equipment in the station.

4. **Suggested action**

4.1 The Meeting is invited to:

- a) take note of the information contained in this working paper;
- b) examine any other aspect related to this matter that the Meeting may deem necessary.

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