

the draft TS at the RCC/29, review them and within three months send them to TCB to start the bidding process for REDDIG III.

2.2 For now, it is mentioned that the Ad-Hoc group completed the analysis stage, focused on attending different presentations from suppliers on different alternatives. The new REDDIG III is defined as a network more oriented to the management of services and detached from the logistics problems that have manifested themselves during the two previous versions of the network (REDDIG I and REDDIG II).

Extending the life of REDDIG II

2.3 In order to preserve the useful life of satellite station equipment, States should also consider taking action to ensure that a single chain is left operating at the nodes. The Administrator and the focal points of each State should coordinate to define the timing of equipment shutdown, maintenance phases and alternation of operation (alternating operation every 3 or 4 months). This decision is to be made by each State.

Incorporation of firewalls into the network

2.4 It is planned to install a network of firewalls to comply with security policies, which the States have been working since 2012. This firewall network should be up and running in the course of this year.

Requests to delegates

2.5 As is done every year, delegates are requested to:

- a) Verify that stations are registered with frequency spectrum regulatory bodies and report on the status. Remember that carrier frequencies were modified;
- b) Update information on Project focal points, through an official written communication addressed to the Regional Office. **Appendix A** to this working paper contains the list of REDDIG focal points; and
- c) Once again, the areas responsible for electric installations are urged to check the condition thereof, of the UPS of each node, and of the grounding system.

2.6 States that are in a position to purchase spare parts/equipment for their REDDIG nodes are urged to do so under the necessary guidance of the ICAO Regional Office, in order to maintain the homogeneity of the systems in each node, and to proceed accordingly.

2.7 States are urged to make the necessary efforts to improve logistics so as to avoid the problems that have been arising. These problems threaten the availability of the network, are detrimental to other nodes, and may affect the safety of air operations.

2.8 States are urged to ensure that, in the event of system inoperability or changes to their infrastructure or other actions or tasks affecting international operational services, there is timely communication through operational and other available means to enable the most appropriate action to be taken, and to cooperate in such situations. Also, to review contingency plans, advise stakeholders on alternatives, and verify them.

Tenth Technical/Operational Meeting of REDDIG II

2.9 It is proposed, on the basis of that stated by the delegate of Paraguay during the RTO/9 meeting, that the Tenth technical/operational meeting of REDDIG II be held in Asunción, Paraguay.

2.10 With reference to RTO/10, there is still a need for training to be associated with it. During the week, there will be sessions assigned for the RTO meeting and sessions for training.

Activities planned for 2023

2.11 The following activities are planned to be carried out in 2023:

- Implementation of the preventive maintenance programme;
- Visits to REDDIG II nodes;
- Interconnection with other regional networks; and
- Transfer of operations from the Manaus NCC to the Ezeiza NCC.

Preventive maintenance schedule

2.12 In 2023, the REDDIG Administration wishes to resume the preventive maintenance programme for all equipment in all REDDIG nodes. See **Appendix B**.

Visit to REDDIG II nodes

2.13 As part of REDDIG maintenance and training activities, States agree that the REDDIG Administrator visit two nodes per year.

2.14 The purpose is to make a full assessment of the node and provide recurrent training to the staff in charge of node maintenance.

2.15 For 2023, visits to the nodes of Guayaquil (Ecuador) and Piarco (Trinidad & Tobago) are proposed.

2.16 In both cases, the visit would last for one week.

Interconnection with other regional networks

2.17 Discussions will continue with APAC, NAM/CAR and EUR for the interconnection of regional networks (CANSNET, CRV, New PENS and REDDIG). Under this initiative of the SAM Regional Office, meetings are being held with representatives of the three telecommunication companies: PCCW Global (APAC), British Telecom (PENS) and Cirion (REDDIG II), and with the organisations and States involved (Conclusion RCC/24-3 *Interconnection of regional IP networks*).

2.18 The RTO/9 meeting suggested that CENAMER and Quito coordinate the establishment of an AMHS/P1 connection between the parties in order to improve, among other things, the conditions for the exchange of AIDC data.

Alternating operation of NCCs and of the REDDIG management centre

2.19 In 2023, the NCCs and the Manaus REDDIG management centre should alternate operation, provided conditions allow, and taking into account that it would be desirable for the Administrator to move during the alternation to the Ezeiza NCC (foreseen, one week).

2.20 During short periods of solar conjunction and occurrences, only the reference carrier will be temporarily switched from Manaus to Ezeiza.

REDDIG telephone directory

2.21 States are required to annually update or ratify the REDDIG (ATS and administrative) telephone directory.

2.22 In this regard, it is recalled that this information is subject to operational documents/letters of agreement between States and that any modification, in addition to being informed and coordinated with the REDDIG administration, must be incorporated into the official documentation of States and communicated through the official channels.

REDDIG II TRAINING PROGRAMME

2.23 The following training activities are foreseen for 2023:

- a) Recurrent training on REDDIG II operation and maintenance
- b) Course on security policies and firewall configuration*
- c) Training for the Manaus NCC staff on IP packet analysis with sniffer (radar, AMHS, etc.)

** This training activity depends on the process agreed by States at the RCC/29 meeting.*

Recurrent training on REDDIG II operation and maintenance

2.24 This is an activity that had been carried out every year during the scheduled visits of the Administrator to the nodes. Under the present circumstances, we can now resume this practice during the visits scheduled for this year and whenever a State may deem it necessary.

Course on security policies and firewall configuration

2.25 A request was made at the RTO/9 meeting for the RCC to study the possibility of conducting a new training course on FortiGate equipment, using the same methodology as the one delivered at the Regional Office in 2022.

2.26 One possibility raised at the RTO/9 meeting was to deliver this training on the days reserved to this end during the RTO/10 meeting.

2.27 It is requested that one participant per node be considered and that the costs involved in delivering the course be covered by the Project.

Training for Manaus NCC staff on IP packet analysis using sniffer (radar, AMHS, etc.)

2.28 This training is intended for Manaus NCC staff responsible for supporting the network and ensuring data transport and integrity.

2.29 The intention is that it can be finally delivered in 2023, as had been planned for the previous year.

2.30 This training activity does not entail a cost and will be provided by the network Administrator.

ACTIVITIES PROPOSED AT THE RTO/9 MEETING

2.31 Keep the *Ad hoc* group for the new REDDIG III active, and develop the draft technical specifications as soon as possible.

2.32 Continue coordinating with other regions and transport network providers for the integration of all networks, where the objective is a network of networks, a truly global ATN (aeronautical telecommunication network), in particular with CRV/PCCGlobal, New PENS/British Telecom and the future CANSNET.

2.33 Based on the development of new applications or the use of existing applications on a more regular basis, the meeting deemed it important to continue providing training at the regional level in order to not only have qualified personnel, but also to have a common vision. Accordingly, States are urged not only to contract training courses through the Project, but also to take advantage of the experts in each State and share their knowledge and experience in the implementation and development of different systems of regional interest.

2.34 The RTO/9 meeting noted that, in the short term, 100% of interconnections would be IP, and the evolution to VoIP was an inevitable trend. States have already made significant investments to support operational VoIP telephony using SIP (Session Initiation Protocol), and highlighting the criticality of recording as a requirement.

2.35 Suriname raised the need to relocate the antenna, and to improve the rack conditions, or relocate it.

2.36 Suriname also announced that the facilities in Paramaribo had been improved, systems were being upgraded for ADS-B implementation, and ADS-C implementation was under study.

2.37 Chile expressed its interest in pursuing the possibility of having an MPLS node in Auckland.

2.38 It also noted that it was in the process of negotiating the contracting of satellite ADS-B, and considered REDDIG as a means for reducing costs, taking advantage of the fact that Aireon had a network MPLS node.

2.39 Bolivia reported that, with regard to the Cochabamba node, there was no information on the commissioning of the new centre. However, they intended to use this node as backup for the La Paz node and vice versa, to which end certain actions had to be taken by the Bolivian administration staff with the support of the Project.

2.40 Although the Cochabamba node had been de-energised for a long period of time, it was now back in operation and available for use.

2.41 Regarding the MTA, Bolivia stated that there had been problems, and were considering the acquisition of a new system. However, they continued to work with the Thales system, uneventfully for the time being. In this regard, Bolivia highlighted the cooperation of States, in particular Argentina, Brazil and Peru, which had helped to resolve a contingency.

2.42 Bolivia requested that two internal ATS be enabled through available FXS circuits, which would be connected directly to voice switching, without going through a Northel Telecom PBX. Currently, the La Paz node has the possibility to configure and enable 4 FXS circuits and connect these circuits directly to the VSC.

2.43 Colombia requested to study the possibility of installing a REDDIG node in Leticia.

2.44 During the RTO/9 meeting, Ecuador inquired about the possibility of increasing the number of FXS interfaces in REDDIG routers, and about the procedures to acquire these interfaces through the Project and to add them to the ones already installed.

2.45 It also inquired about the possibility that the new interfaces, as well as those already installed in the Guayaquil node (FXS), become part of that node, and that the costs incurred be charged to the annual fee of Ecuador.

2.46 Colombia offered to share an application with Ecuador so as to implement the same solution offered to Venezuela for the case of Cúcuta and Táchira, currently in use.

2.47 At the RTO/9 meeting, the representatives of Panama noted that, with the implementation of the MPLS node in Panama, there was the possibility of implementing voice and data services with the SAM Region in the short term.

2.48 In 2023, COCESNA will implement REDDIG as one of the links used for the provision of satellite ADS-B services, receiving surveillance information through the REDDIG II (MPLS) node of Aireon.

2.49 Regarding voice services, the RTO/9 meeting noted that there were cases where States had all users configured as operational, with no administrative users, while other States did consider the administrative users. Since the operational network and the administrative network were different, the users of the different networks could not communicate, thus hindering coordination. States were urged to work on a solution to these situations.

3 Suggested action

3.1 The Coordination Committee is invited to:

- a) take note of the information provided herein;
- b) review the activities foreseen for 2023; and
- c) discuss any other issue related to the activities of the Project.

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