



**Twenty First Meeting of the Africa-Indian Ocean Planning and Implementation Regional Group (APIRG/21)
(Nairobi, Kenya, 9 – 11 October 2017)**

Agenda Item 5:

ASECNA contribution to Reduction of fuel consumption and emission of CO2

This paper is presented by the Agency for the Safety of the Air Navigation in Africa and in Madagascar (ASECNA)

| EXECUTIVE SUMMARY | |
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| <p>The present paper aim to inform the meeting about the actions taken by ASECNA, dealing with reduction of the fuel consumption and CO2 emissions.</p> <p>Action to take: The meeting is invited to note:</p> <ul style="list-style-type: none"> a) actions taken by ASECNA, dealing with reduction of the fuel consumption and CO2 emissions; b) b) the availability of ASECNA for any collaborative actions any regarding the protection of the environment. | |
| Strategic objective : | This paper related to the strategic objective of the ICAO to reduce to the minimum the harmful effects of the civil aviation activities on the environment |
| Financial implications : | N/A |
| Référence : | <ul style="list-style-type: none"> ✓ Annex 19 – Safety management ✓ Doc 9859, Safety Management Manual ✓ Doc OACI 9906-Quality Assurance Manual for flight procedure design ✓ Doc 9988- Guidance on the development of States’ Action plans on CO2 Emissions reduction Activities ✓ Doc OACI 10013 Operational opportunities to reduce fuel burn and Emissions (2014) |

1. INTRODUCTION

1.1. ASECNA, the Agency for Air Navigation Safety in Africa and Madagascar, a public multinational organization, is the Air Navigation Service Provider for its 18 member states.

1.2. The protection of the environment holds an important place in the policy of the Agency and in the vision of its Director, specifically the reduction of the fuel burn and CO₂ emissions

1.3. The present note enumerates successively the actions undertaken by ASECNA as well as their impact on the operational performances of the Agency.

2. ACTIONS PERFORMED FOR THE REDUCTION OF FUEL AND CO₂ EMISSIONS

2.1. For cooperation purposes between the ICAO and ASECNA, a study had been realized in 2012 to estimate the variation of the consumption of fuel by aircrafts during their overflying in the airspace managed by ASECNA over the period 2005 to 2011.

2.2. Based on what precedes, ASECNA introduced in 2015 a second study to estimate the variation of the fuel burn by aircrafts during their overflying phase in the airspace managed by ASECNA from 2011 to 2014.

2.3. In terms of protection of the environment, ASECNA kept on putting efforts in the organization of the airspace, in the design of flight procedure and in the air traffic management:

- a) The initiatives implemented at the level of the Agency concern the oceanic air space, the continental airspace en route as well as the terminal zone and the approach;
- b) Implementation of the airspaces called AORRA (Atlantic Ocean RNAV Random Routing Area) in oceanic regions, since 2009;
- c) Implementation of 20 ATS routes said to be "flexible" with required capacity for the navigation RNAV10 (trajectories which optimize the flights profile depending on the wind, and which allow the saving of fuel and reduce the emission of CO₂),
- d) Implementation of the reduced vertical separation (RVSM) in 2009 in the AFI region, thus in the airspaces managed by ASECNA (allowing the aircrafts to choose levels for optimal flights to reduce the consumption of fuel and consequently the emission of CO₂);
- e) Implementation of the STARs and the RNAV (GNSS) approaches procedures based on the PBN criteria in all the thirty-two (32) international airports of the countries member (more optimal trajectories, compared to those based on conventional procedures).

3. ACTIONS IN PROGRESS FOR THE REDUCTION OF FUEL AND CO₂ EMISSIONS

3.1. ASECNA participated in the seminar to launch the project "*Capacity building of States to reduce the CO₂ emissions of the international civil aviation*" lead by ICAO-EU which was held on February, 2015 in Yaoundé.

3.2. The agency took an active part in the seminary based on the "*Reinforcement of Capacity to reduce the CO₂ emissions of the international aviation*" in November 2016 in Libreville-Gabon.

3.3. ASECNA participated in the works of the committees in the elaboration of plans of actions for the implementation of the project at the level of the seven (07) concerned states member.

3.4. At the end of all these activities, a memorandum of agreement ICAO/ASECNA was signed for the deployment of the CCO/CDO procedures in Ouagadougou (Burkina Faso) and in Libreville (Gabon). Through this memorandum, ASECNA specifically committed to:

- a) Design and validate the CCO and CDO procedures to be implemented in each of the States selected in harmony the project of assistance ICAO-EU;
- b) Supply technical experts to implement in the selected States, the validated CCO and CDO procedures;
- c) Provide the necessary resources to complete the implementation of the CCO and CDO validated procedures in the States selected before the agreed deadlines;

- d) Insure the training of the competent personnel of the selected States to insure the transfer of knowledge and the operational and effective implementation of the new procedures in the selected States;
- e) Collaborate closely with the ICAO in the completion of the activities mentioned above.

3.5. The activities mentioned as part of this memorandum of agreement ICAO / ASECNA will start in the field in this month of October. It is about the planning and the achievement of the activities (confer docs ICAO in reference) such as:

- a) Exploratory missions on the sites of Libreville and Ouagadougou
- b) Kick-off missions and collection of data on the sites of Libreville and Ouagadougou
- c) Meeting with the stakeholders
- d) Presentation of the conceptual design
- e) Data collection on the field
- f) Raising awareness of the stakeholders on the concept CCO/CDO
- g) Consulting the stakeholders on the data

4. CONCLUSION

4.1 ASECNA pursue of the ongoing actions contributing to the reduction of the fuel consumption and to the reduction of CO₂. ASECNA express its availability of any collaborative actions any regarding the protection of the environment.

4.2 The meeting is invited to note the actions taken by ASECNA, dealing with reduction of the fuel consumption and CO₂ emissions

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