
SOUTH AMERICAN AIG REGIONAL COOPERATION MECHANISM (ARCM)

FIFTH AIG AUTHORITIES MEETING
(Medellín, Colombia, 03 to 05 October 2018)

Agenda item 8: Study and analysis of the ARCM SDCPS, the current state of ECCAIRS upload, data validation procedure

TASK AIG-SAM/5-01: Study and analysis of the current situation of the ARCM SDCPS, data validation procedure, and cooperation in the upload of accidents/incidents of the SAM Region

(WP presented by the SDCPS work group)

Summary

This task provides information for the development of a working paper (WP) that studies and analyzes the implementation context and use of the ECCAIRS system, ADREP Taxonomy, in the ARCM AIG organizations. It also studies the updating of the upload of occurrences in the SDCPS and whether the information is valid.

The work group will present the work, or the progress made, in the AIGSAM/5 meeting, which shall allow the South American States to address the deficiencies of the system detected in the above-mentioned analysis. The result of the task shall be forwarded to the SAM States by means of the fast communication mechanism, so that they are applied by the affected States, if appropriate.

References

- Annex 13 – Aircraft accident and incident investigation.
- AIG Regulation of the State, developed by the ARCM.
- AIG Regulations of the SAM States.

Experts in charge of the task

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1. Introduction

The AIG-SAM/04-07 conclusion agreed upon by the Fourth South American AIG Authorities Meeting (AIG-SAM/4), celebrated in Brasilia, Brazil, on 23 to 25 of May, for the development of a Working Paper (WP) that studies and analyzes the context of implementation and use of the ECCAIRS System, ADREP Taxonomy, in the ARCM AIG organization. It also studies the updating of the upload of occurrences in the SDCPS and whether the information is valid.

2. Task

Analysis of the current situation regarding the uploading of occurrences information to the ARCM SDCPS, by the ARCM AIG organizations (identification of the main obstacles and problems found).

Design of a work plan to prepare a proposal for the 5th AIG meeting with the aim of standardizing the upload of all the occurrences to the ARCM ADCPS by the end of 2018. It is suggested that the work group be divided into 3 or 4 teams to give support to the rest of the AIG organizations, according to the number of occurrences.

2.1 The evaluation of the procedures manual for the validation of occurrences information to be uploaded to the ARCM SDCPS by the AIG organization; and the proposal of modifications, where appropriate. The manual was put together by the AIG expert (Alexandre Prado), for the Regional Office.

Assessing the creation of a validation team for the SDCPS (permanent) at the regional level and the manual for tasks, functions, and procedures for such team.

2.2 Preparation and presentation of a WP in the 5th AIG meeting, regarding the progress made by the work group, the results obtained and the future objectives of the group.

3. Results obtained

In agreement with the ARCM Manual of Organization and Functions, to encourage all Member States to use a common set of regulations consistent with the provisions in Annex 13 – Aircraft accident and incident investigation – including regulations for the protection of the information obtained by means of the Safety Data Collection and Processing Systems (SDCPS), as established in Attachment E to Annex 13.

This WP (WP-AIG-SAM/5-1) was created with the topics that include all the proposals of the plan, in accordance with the following:

3.1 Identification of the main problems of the SDCPS and ECCAIRS.

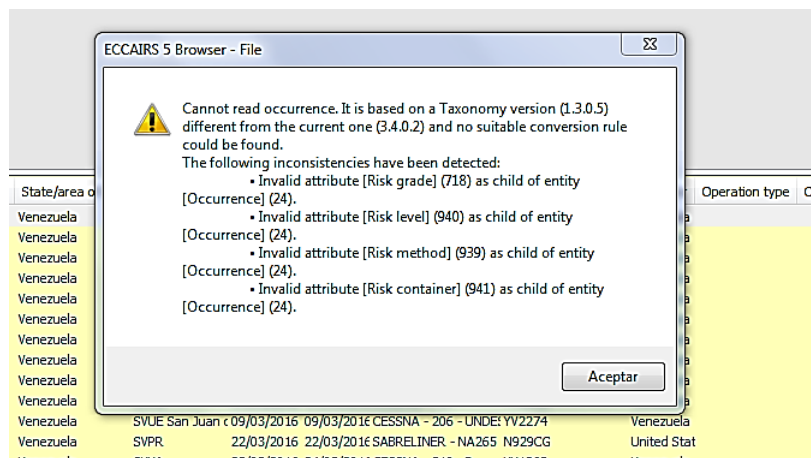
- **Basic template for information input:** The SAM region lacks a template with basic compulsory fields, which complies with the minimum requirements so that the data can be considered of high quality. As a result, a record would remain open until the information is properly filled in; therefore, if a State wishes to keep its database updated, it should provide a compulsory minimum of information of each occurrence.
- **Compatibility between the AIG authority and the ARCM:** A compatible version must be used, which cannot be superior to the one used by the RCM. This is a limitation to keep the system updated in relation to the versions developed by the JRC, with the resulting limitation on the use of additional tools. For example, the current version does not allow the use of the

tool to show the occurrences records in the map through the use of the extension kml, while previous versions do allow it.

- **Users training:** This training is currently limited to sending users to do a course, generally in another State, with the respective organization expenses.
- **Institutional support:** The implementation of ECCAIRS must comply with the authorizations and safety restrictions for the organization's information. Likewise, the implementation of additional technological tools demands an institutional IT support, plus specific training for IT specialists. In this way, the full potential of ECCAIRS can be used and explored, both at the ARCM as well as at the State level.
- **User-unfriendly software:** The fact that it is available only in English may prevent some people from becoming completely familiar with some of the very technical aspects, which may hinder the use experience. Anyway, the software has a short learning curve for its basic use.

Updating error: The information registered on an older taxonomy version is not accessible or compatible with newer or current versions, in the case of editing records with inconsistencies and need to be corrected.

Example: Records uploaded in the Taxonomy Version 1.3.0.5 and have to be corrected in Version 3.4.0.2. with ECCAIRS Version 5.4.1.7, below, a graphic example:



- **Information from other States:** Currently, it is not possible to see (in read-only mode) the database of other States.

3.2 How can quality data be included in the official repository?

- **Programming and generating a basic template:** For the uploading of the data it is crucial to have a standardized and basic template, in which a group of ECCAIRS experts can define what will be the critical (or essential) fields to be completed in the records. Based on this, rules can be defined to validate that the records comply with these parameters, through the Data Quality tool of the Data Manager suite.

This template must be of compulsory use for the entire SAM Region, and it should allow for automatic access to standardized information on some variables in the form, such as aerodrome data (place, frequencies, runway length, etc.) or characteristics of a specific aircraft model (maximum take-off weight, wing type, type of landing gear, number of engines, etc.), among other data that does not change between one occurrence and another when selecting a variable.

- **Panel of trained experts:** In the requirement of creation of simple and complex quality rules it should be understood that these activities are not included in the basic courses on ECCAIRS, but correspond to advanced level competencies, therefore, it may be necessary to validate the competencies of the users of this level, before setting up the panel.

The experts must have ECCAIRS users and be trained in research, in order to determine the technical requirements, and also with ECCAIRS users with IT training, to facilitate the creation and management of the rules.

- **Implementation of quality rules:** This must be translated into a positive impact on the processes of data collection and management in the AIG organizations.
- **“Data Manager” tool:** To validate the quality of the information through this tool, using the appropriate and corresponding filters before uploading them to the SDCPS.
- **Training:** AIG investigators and experts must receive training with special emphasis on the creation and development of automatic templates or forms that will streamline the processes and minimize the response time. This will also contribute to the simultaneous exchange of experiences and improvements in the use and applicability of ECCAIRS.
- **Macro information of aviation events:** The insertion of information should not be limited to accidents and incidents, it could expand to other fields such as events without safety consequences or flight intentions, among others that may be considered important for the analysis and generation of barriers that mitigate risk.

3.3 Proposals for insertion of data in ECCAIRS

- To use the standards included in the manuals developed by the AIG expert of the SAM Regional Office.
- To use all possible options for data entry (OPERATIONAL FULL, ATM, ATM PRELIMINARY, BIRDSTRIKE NOTIFICATION and OPERATIONAL PRELIMINARY) because each one has useful information for cases of queries since we can obtain information based on the data entered.

For example, when entering an event of BIRDSTRIKE, fill in not only the window or view of this occurrence, but add data in the other windows, this facilitates the queries, data analysis, and decision making.

- As a work plan that demonstrates impact in the short term, it is proposed that the SAM region focus, initially, on types of aviation that present a greater number of events (air taxis, agricultural aviation or training centers).

By conducting a standardized and meticulous compilation of the characteristics of these occurrences, an analysis work can be started in the short term in which the main problems of

each country are identified and the risk mitigation measures that have been applied successfully can be compared, and also which of these have not had the expected effect.

This shall have the objective of generating a real impact that makes it possible to demonstrate the importance and usefulness of the collection of information, encouraging all states to carry out this task with the highest level of responsibility.

3.4 How can the insertion of data in ECCAIRS be better standardized?

Through the analysis carried out by a panel of experts, which defines which fields are critical for the purposes of analyzing and using the information.

ECCAIRS is a database developed by experts, there is already a standardization, and the objective is that each country that has the right to use it provides all the requested information. However, not all countries have up-to-date information, so it is considered important that an agreement can be reached whereby the countries of the region commit themselves to fill certain basic components of each event that help make progress in the analysis (events, types of aerial activity, taxonomies, flight phases, etc.).

3.5 Proposal of insertion of data in ECCAIRS by operators (SMS)

- **Availability of forms for service providers with SMS:** In general terms and taking as a reference the reality of the European Union, it would be feasible to evaluate the possibility of making available a form generated with ECCAIRS so that the operators could enter the data that is required. Again, this will require a definition of the critical fields for these reports.
- **Report of events without consequences that affect safety:** The possibility that operators can make reports of operational events that occur and generate a risk in the operation, without generating consequences, is presented as the first step to perform preventive management of safety. Integration of stakeholders in the air activity of a country.

Example: In Colombia, these reports are currently managed by the Safety Management Group of the Secretariat of Safety and Civil Aviation, which are managed by a completed form and sent via E-mail.

- **Easy insertion of information:** To collect basic information about the events, so that this report, which is voluntary, does not become an exhausting process for the operators, and that this process ends with the identification of operational risks and the development of recommendations for their mitigation.
- **Feedback and development of impact recommendations:** Once the industry can appreciate the benefits of these processes, the reporting culture is positively encouraged and the participation of service providers in this process is gradually increased.
- **Creating a common repository:** The CAA authority and the AIB will create a common repository that will concentrate the information of the operators, in order to implement a continuous audit mechanism framed within the Safety Management System (SMS).

Regarding the above points, the CAA Authority must create the corresponding administrative ruling of strict compliance, containing the appropriate guidelines, and it must inform the operators about the purpose of the aforementioned ruling for the development of the State Safety.

Once the System has been implemented, the CAA Authority and AIB will set up work tables with the SMS operators, in order to know the progress made and the recommendations that could arise to improve the ECCAIRS System in the Region.

3.6 Proposal for insertion in ECCAIRS of hazards, risks, AIR SAFETY REPORT / ASR (AN19)?

In the first place, ECCAIRS is designed to be able to insert all records of occurrences involving aircraft, or activities directly related to the operation of aircraft. It would be interesting to set the parameters for the reports within the ADREP taxonomy, so that a drop-down list shows the dangers and risks revealed, and then these are linked to a taxonomy, which would result in a macro group of risks through each taxonomy, and within each of these taxonomies, the different risks that promote them can be found.

Example: that you can make a report of animal sightings in the perimeter of a runway, presence of FOD or deterioration of the runway and that each one is framed in the taxonomy of Runway Safety (RS).

It is necessary to consider that the types of report that are mentioned involve the aeronautical authorities of the region, which goes beyond the scope of the ARCM agreements.

For the effective scope of this proposal, it suggests adding in the ECCAIRS System the option or template corresponding to the SMS, and also the fields corresponding to the risk matrix, which in turn includes the descriptive values of the Hazard Identification and Risk Management and, lastly, it will allow feeding and generating the Aviation Safety Reporting System, capture of confidential reports, analysis of the resulting data and dissemination of vital information to the aeronautical community.

4. Other proposed mitigation actions and final considerations

- According to the conclusion in AIG-SAM / 4-03, to complete the implementation of the ADREP / ECCAIRS systems in all the States of the ARCM and support the States in the survey and uploading of the safety data in their ADREP / ECCAIRS and SDCPS platforms.
- That the ARCM request Bolivia, Guyana, Suriname, and Uruguay to complete the implementation of their ADREP / ECCAIRS systems and their connection to the ARCM SDCP. To prepare and send a letter to Bolivia, Guyana, Suriname and Uruguay requesting the completion of the implementation of their ADREP / ECCAIRS systems and their connection to the ARCM SDCPS. The letter will request that they inform if they have any requirement for it to be satisfied by the ARCM.
- To support the States referred to in the survey and upload the safety data on their ADREP / ECCAIRS and SDCPS platforms. This support can be provided in the framework of a technical assistance project. To prepare a work schedule to support Bolivia, Guyana, Surinam, and Uruguay in the survey and upload of the safety data on their ADREP / ECCAIRS and SDCPS platforms. This support can be provided in the framework of a technical assistance project or virtually.
- That all States implement the "Data Quality" tool in the validation of safety data in accordance with the procedures established in Appendix A of WP / 06. To provide virtual training to the ARCM States on the use of this tool, for which a work schedule will be presented. To prepare and send a letter to the ARCM States requesting the implementation of the tool in the validation of the safety data in accordance with the procedures established in Appendix A of WP / 06.
- According to the conclusion in AIG-SAM/4-08, the processing of the data, the implementation of quality procedures and the development of reliable safety reports. Prepare and

send a letter addressed to the AIG Authorities of the SAM States, requesting that they complete the notifications to the ARCM for the period 2010-2017 and that they implement the quality procedures prior to the notification of the safety data to the ARCM SDCPS.

- That the AIG organisms implement quality procedures before the notification of the safety data to the ARCM SDCPS.
- That the ARCM Technical Committee proceed to update the safety report when the notifications to the SDCPS are completed and the quality procedures are implemented.
- To share the reports with data validated with the team in charge of the annual RASGPA safety report and that these are published on the ARCM website.
- Better training of system operators. The ideal situation is that they are investigators because not all issues addressed in the system are easy to interpret and investigators (IIC) will be better prepared in the handling of information.
- Quality of the data: level of supervision and authentication (above the level of the operators of each state) of the data of each occurrence, in order to avoid quality errors.
- To disseminate and develop the standardization of the insertion of the data in the SAM region, among all the operators of the system in the States, according to manuals developed in ICAO Lima, in 2017.
- To develop the standardization of air traffic data in the manuals developed by the AIG expert of the SAM Regional Office. To use the standards included in the manuals developed by the AIG expert of the SAM Regional Office.

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