International Civil Aviation Organization

FIFTH MEETING/WORKSHOP OF THE SCRUTINY WORKING GROUP
(GTE/5)

Lima, Peru, 11 to 13 March 2008

Agenda Item 2:   **GTE Overview**

ACTIONS ADOPTED BY GREPECAS/14 MEETING WITH REGARD TO SAFETY OVERSIGHT RVSM POST-IMPLEMENTATION

(Presented by the Secretariat)

Summary
This working paper presents a report of matters dealt with on GREPECAS/14 Meeting regarding RVSM post implementation safety oversight in the CAR/SAM Regions and the work programme and terms of reference of the Scrutiny Group.
References
- AP/ATM/12 Meeting Report - ATM/CNS/SG/5 Meeting Report - GREPECAS/14 Meeting Report

1.   Background

1.1.   GREPECAS/14 Meeting, carried out in San Jose, Costa Rica, April 2007, took note of the activities carried out by the ATM Committee with regard to the operational use of RVSM in the CAR/SAM Regions, and that CARSAMMA made a RVSM post implementation safety oversight after one year of operation.

1.2.   Also, after reviewing the works carried out by their contributory bodies, GREPECAS/14 reviewed the terms of reference of the same (see **Appendix A** to this working paper).

2.   **Safety oversight RVSM post-implementation**

2.1   Regarding this matter, GREPECAS took note that the assessment carried out taking into account the technical risk plus the risk from all other causes, shows that the total risk for the CAR/SAM Regions is higher than the agreed Target Level of Safety (TLS) and that its is influenced by large height deviations (LHD).

2.2   Taking into consideration that the Scrutiny Group (GTE) in analyzing LHDs noted that errors were not caused by RVSM operation, but rather by common aircraft handover procedures between ATC units.   Therefore, new short and medium-term corrective actions were proposed.   GREPECAS considered that these measures supplement those contained in Conclusion 13/61.

2.3   In addition to the proposed short-term actions to resolve the identified LHDs, GREPECAS encourages the States and International Organizations to implement a safety management system and infofar as possible, as a technological protection, to gradually implement ATS Inter-facility Data Communication (AIDC).

2.4   Finally, GREPECAS/14 considered that in order to significantly reduce the occurrence of these type of errors, CAR/SAM States/Territories/International Organizations should commit themselves to the adoption, as a matter of urgency, of the measures contained in GREPECAS Conclusion 13/61 "Measures to reduce operational errors in the ATC coordination loop between adjacent ACCs" and, in particular, the programme for the prevention of errors in the ATC coordination loop between adjacent ATS units associated to the cited conclusion, as well as the aforementioned additional measures (See **Appendix B** of this working paper).

Training of GTE members

2.5   In this connection, GREPECAS/14 deemed pertinent to hold training sessions for air traffic management and flight operation experts, so they can participate in the GTE on a permanent basis. In this respect, the Meeting adopted Conclusion 14/45 – Training on the analysis of Large Height Deviations (LHD) encouraging training on large-height deviations, as art of the regional activities and to send technical experts to training sessions with a view to their regular participation in the GTE.

3.   **Suggested action**

3.1   The meeting is invited to take note of the actions of GREPECAS/14 and expressed on this working paper, and together with the information presented in **Appendix B** to this working paper, adopt the actions deemed pertinent.

APPENDIX A

TERMS OF REFERENCE OF THE CAR/SAM RVSM SCRUTINY GROUP (RVSM/GTE)

a) To assemble subject matter experts, as needed, in air traffic control, aircraft operations and maintenance, regulation and certification, data analysis and risk modeling;

b) To analyze and evaluate large height deviations of 300 ft or greater as defined by ICAO Doc 9574;

c) To coordinate the assembly and review of large height deviation data with the Regional Monitoring Agency;

d) To produce an estimate of flight time away from the cleared flying level to be used a primary input in the preparation of an estimate of risk by the Regional Monitoring Agency;

e) To identify large height deviation trends and to recommend remedial actions in order to improve safety;

f) To report results to GREPECAS through the ATM/CNS subgroup;

g) To accomplish other tasks as directed by GREPECAS.

Composition: 1 State/Organization from the CAR Region, 1 State/from the SAM Region, United States, CARSAMMA, COCESNA, IATA, IFALPA, IFATCA.

APPENDIX B

ERROR PREVENTION PROGRAMME IN THE COMMUNICATIONS BETWEEN ADJACENT ACCs

CONCLUSION 13/61   **MEASURES TO REDUCE OPERATIONAL ERRORS IN THE ATC COORDINATION LOOP BETWEEN ADJACENT ACCs**

That, taking into account the impact that operational errors in the ATC coordination loop between adjacent ACCs have on safety, the CAR/SAM States/Territories/International Organizations agree:

a)   to adopt, as a matter of urgency, the appropriate measures described in **Appendix AI** to this part of the Report, in order to reduce LHDs caused by errors in ATC-unit-to-ATC-unit traffic coordination messages by at least 50% by **December 2005**, with a view to reaching the optimum operational efficiency;

b)   to continue with the efforts and programmes in order to reach 100% operational efficiency of their ATC coordination; and

c)   that ICAO coordinate, assist in, a follow-up the implementation of such remedial action and report the results of the effort to reduce this error to the 6th Meeting of the ATM Committee.

ERROR PREVENTION PROGRAMME IN THE COMMUNICATIONS BETWEEN ADJACENT ACCs

There are many initiatives that can be pursued to prevent operational errors from occurring. However, there are five primary areas, which can directly contribute to its prevention: **communications, phraseology, supervision, teamwork, and ATC proficiency**. In an effort to accomplish the goal of reducing communication errors between adjacent Area Control Centres and thus reduce or minimize the occurrence of large-height deviations, the following objectives should be included in the prevention programme:

The ATS authority shall:

a)   identify individual, procedural, and/or equipment deficiencies used in air traffic services;

b)   promptly correct individual, procedural, and/or equipment deficiencies which affect coordinations with adjacent and ATS units. This can be achieved through:

-       guidance on procedures to be followed;
-       implementation of read-back/hear-back programmes;
-       training in the filling of LHD forms;
-       increase and/or closer monitoring of ATCOs performance;
-       immediate coordination programme after a re-authorization or change in flight level;
-       changes in procedures and/or corrections/amendments of equipment.

c)   communicate performance expectations to ATS supervisors and controllers;

d) ensure the ATS unit maintains a summary of and have information letters on operational errors, causal factors and trends, and incorporate them into training;

e) monitor and evaluate voice recordings (all ATS operational personnel);

f) take initiatives to improve communications among all ATS personnel to create an atmosphere conducive to sharing information;

g) exercise strict monitoring in ATC units;

h) ATS supervisors should:

- communicate performance expectations to controllers, stressing the importance of operational control position discipline, awareness, teamwork, the use of proper phraseology, proper coordination procedures, control position relief briefings and utilization of a position relief checklist;
- take prompt follow-up actions when controller performance does not meet with expectations;
- inform on individual and team accountability, and the consequences for not meeting expectations;
- provide efficient and consistent oversight of the ATS unit operation, and use effective resource management to ensure proper and timely assignment of personnel to promote the safe, orderly, and expeditious handling of air traffic;
- ensure that distractions and noise levels in the ATS unit are kept at a minimum;
- require all personnel to maintain a high degree of professionalism, teamwork, control position discipline, and awareness at all times in the ATS unit environment; and require that each controller knows, applies, and adheres to the appropriate requirements in the performance of his/her operational duties and responsibilities;
- promote an open flow of communications with all ATS personnel, allowing them to provide input to programme;
- place emphasis on hear-back/read-back errors during team meetings.

i) ATC personnel should:

- apply read-back/hear-back procedures when carrying out ATC coordinations;
- keep ATS supervisors advised of traffic problems and equipment limitations;
- make suggestions for ATS unit improvements and/or prevention of operational errors;
- maintain situational awareness;
- extend the extra effort to assist busier control position(s);
- continuously review their own operating techniques and ATS unit procedures to effect the highest quality of performance;
- promptly report all ATS incidents to the operational supervisor or other appropriate ATS authority for proper follow-up investigation;
- utilize memory aids.

VOICE RECORDING EVALUATIONS

Voice recording reviews should be conducted to ensure proper phraseology, good operating practices, and adherence to the standards set forth in ICAO provisions, and national/local directives and practices. Voice recording reviews should be conducted as follows:

a) the ATS unit should ensure that voice recording reviews are conducted at least semi-annually on all ATS operational personnel;

b)   the ATS supervisor should review the voice recording, document comments and develop an action plan for documenting performance deficiencies; and

c)   the ATS supervisor and the controller should review and discuss the voice recording.

ADDITIONAL SHORT AND MEDIUM TERM MEASURES APPROVED BY GREPECAS/14

Actions suggested as short term solution:

a)   That States, authorities and International Organizations continue their excellent compliance with the LHD requirements to report CARSAMMA on a monthly basis, and

b)   That States, authorities and International Organizations distribute a copy of category "M", Error messages in ATC unit to ATC unit in transference messages and category "N", messages ("No ATC unit transference message was received"), received from transitioning ATC-unit LHD reports only to the adjacent ACC involved in addition to CARSAMMA.

c)   When a trend is identified from shared reports, the States, Territories, and International Organizations shall share information and shall meet on a bilateral basis to develop a solution to the cause of the identified LHD.

d)   Because some ACCs adjoin international oceanic airspace, ICAO NACC and SAM Regional Offices are requested to advise the corresponding adjacent ICAO regional Offices (EUR/NAT, WACAF) that said LHD report will be forthcoming from the adjacent ACC and urge positive interaction with reporting CAR/SAM unit.

Actions suggested as a medium term solution:

a)   In an effort to eliminate the largest contributing LHD error category "M", the solution is to implement a quality management programme based upon safety management concepts outlined in Annex 11 amendment 44.

b)   The "*Progressive implementation of ATS interfacility data communications (AIDC)*" will enhance the safety of the airspace and would reduce category "M" error. However, it is a medium term project incurring a large expense and hereby encourages that the CAR/SAM Regions States begin arrangements to submit to the World Bank an application for sufficient monies to enhance such implementation systems. The Meeting recalled that the AIDC is seen within the Automation Task Force Program and therefore is not required another action at this point