



**Agenda Item 2: Air Navigation Matters**  
**2.3 Other Specific Air Navigation Developments**  
**2.3.3 Air Traffic Management (ATM)**

**ATC FACILITY COORDINATION ERRORS**

(Presented by the United States of America)

**SUMMARY**

This paper presents information on safety concerns related to incorrect air traffic control (ATC) coordination when flights cross an adjacent Area Control Center (ACC) boundary and the importance of filing altitude deviation reports with the Caribbean and South American Monitoring Agency (CARSAMMA). This paper will also present initial steps to help reduce safety risk attributed to Large Height Deviations (LHD).

**1. Introduction**

1.1 Errors in ATC-unit-to-ATC-unit traffic coordination messages, with either the initial transfer of aircraft information or revisions after the initial transfer has been made, usually result in Large Height Deviations (LHD) and may result in air traffic service (ATS) incidents which adversely impact the Target Level of Safety (TLS) for Reduced Vertical Separation Minimum (RVSM) within the region. Therefore, whether or not there is a loss of separation, the reporting of errors is essential for evaluating the overall safety of the airspace. Besides being hazards to flight safety, they create barriers to future reductions in separation. Timely reporting of errors allows prompt corrective action.

1.2 As separation reductions are introduced implemented, error reporting becomes much more critical as part of the established safety monitoring processes.

**2. Discussion**

2.1 In its report, the GREPECAS Scrutiny Working Group/*Grupo de Trabajo de Escrutinio* (GTE) noted that for the eighth meeting in a row the primary cause of reported LHDs in the CARSAM Regions is categories “M”, error in ATC unit to ATC unit transition message, and “N”, Negative transfer received from transitioning ATC-unit. These two categories, M and N, account for approximately 97% of the reported LHDs.

2.2 A key element of analysis of how various categories of LHDs contribute to the calculated vertical operational risk is the reporting of pilot deviations and operational errors. The goal of the analysis is to assess each incident, to identify casual factors and suggest mitigations. The analysis also provides the opportunity to establish a safety culture and relationship in which ATS safety-related data is shared to help identify potential issues so that preventative measures can be taken before ATS incidents occur.

2.3 Investigations and corrective actions of incidents are typically done on a unilateral basis; hence, the underlying issues are usually not fully addressed. These efforts, unfortunately, have not proven to be effective as the number/rate of occurrences remains for the most part unchanged. The ability to conduct these types of investigations on a bilateral/multilateral basis would assist in conducting a complete investigation and implementation of safety mitigations that have the potential to correct the issues from end to end.

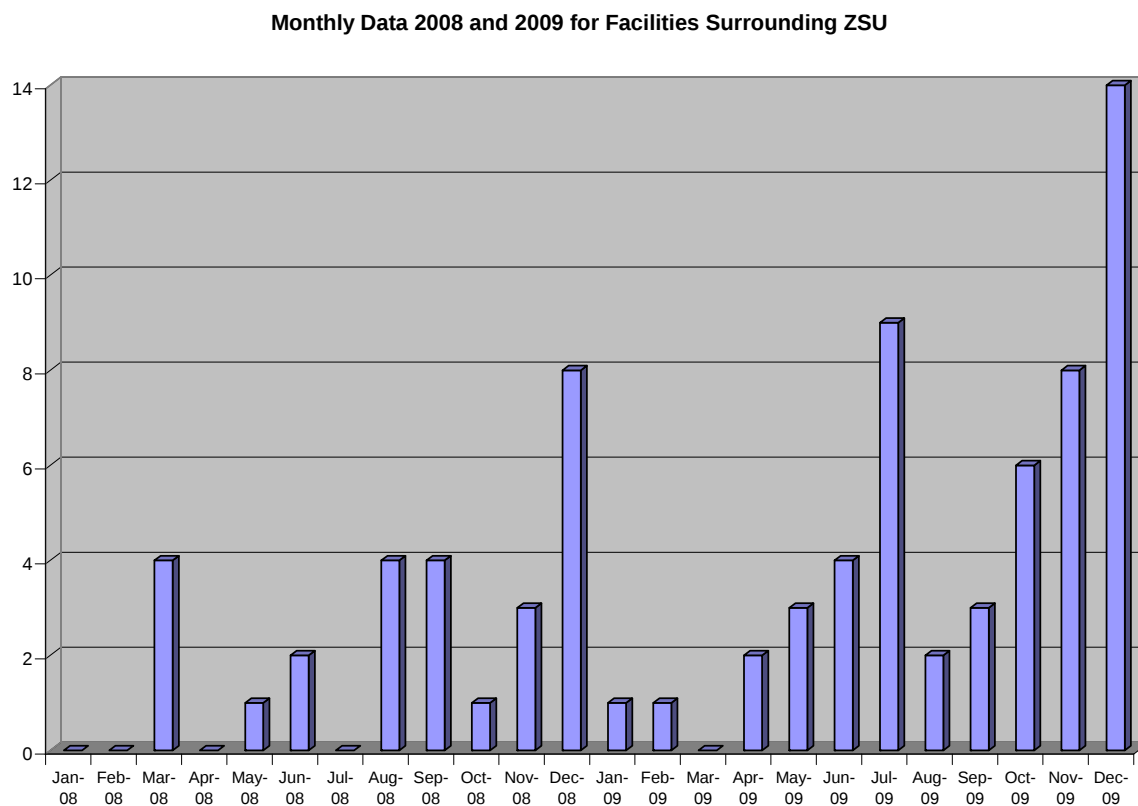
2.4 Bi-Lateral/multilateral meetings are recommended with adjacent facilities to review Letters of Agreement, procedures, and methods of communication. It is important to talk face to face and understand how each facility operates. The goal of such meetings is to discuss trends determined from the reported error data identify inadequate procedures, spot training deficiencies, and ensure as safe an operation as possible.

2.5 Automated solutions, such as radar surveillance and AIDC (ATC Interfacility Data Communications), always help to reduce coordination errors. In the absence of these solutions, robust procedures are the next viable option. If controllers are trained in their duties of coordination and errors are continuing to occur, then we may need to change procedures. For instance, if a facility has a problem re-coordinating after initial coordination has been completed and a flight level or route change has occurred, then perhaps the procedure needs to be changed so that no changes to route and/or flight level is made unless coordination is completed beforehand.

2.6 It is important to keep awareness of these issues elevated until the situation is under control. Be creative in your solutions. Get employees involved to develop mitigations and to implement solutions. Their insight and suggestions may offer different and effective methods to eliminate these types of errors.

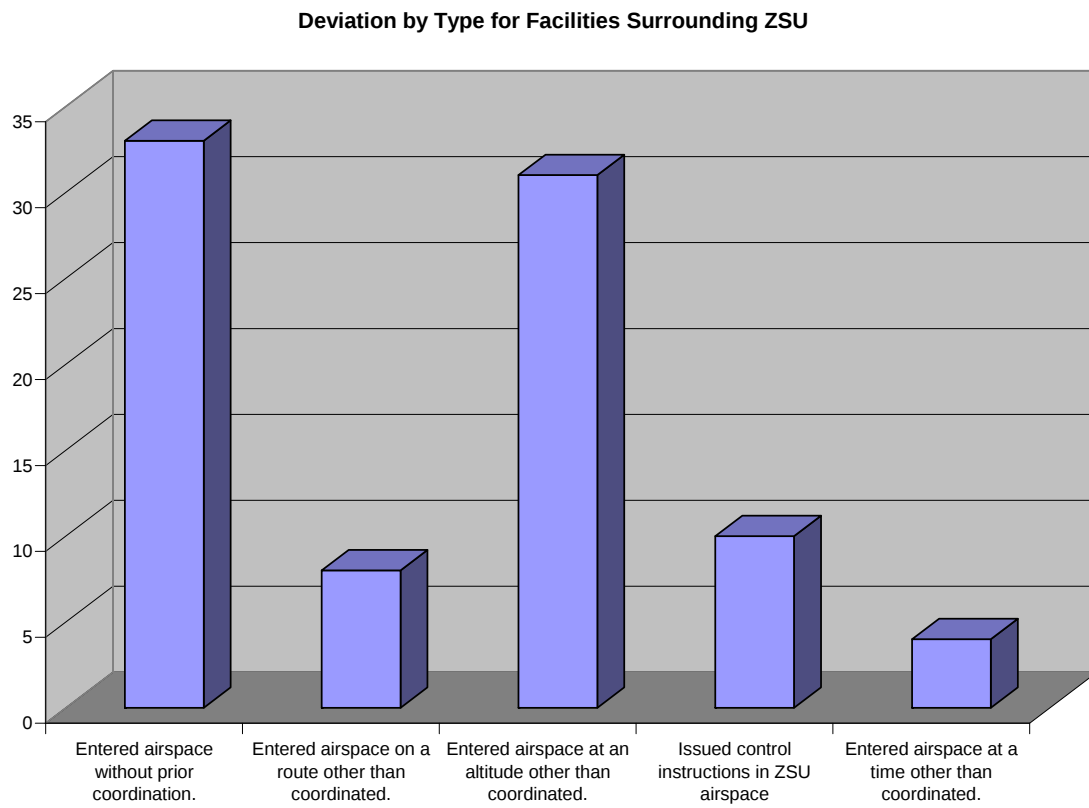
2.7 One possible solution is to start a database for your facility and its adjacent facilities so you can analyze what is happening. Collect data in order to determine what the issues are and where mitigations would be most effective. Maybe the errors occur at a certain waypoint or during a certain shift in which traffic flows are more complicated. Does the time of year or the type of aircraft seem to be a causal factor of reported errors?

2.8 The United States has started to compile data on the facilities surrounding San Juan (ZSU). Initial monthly data looks like this:



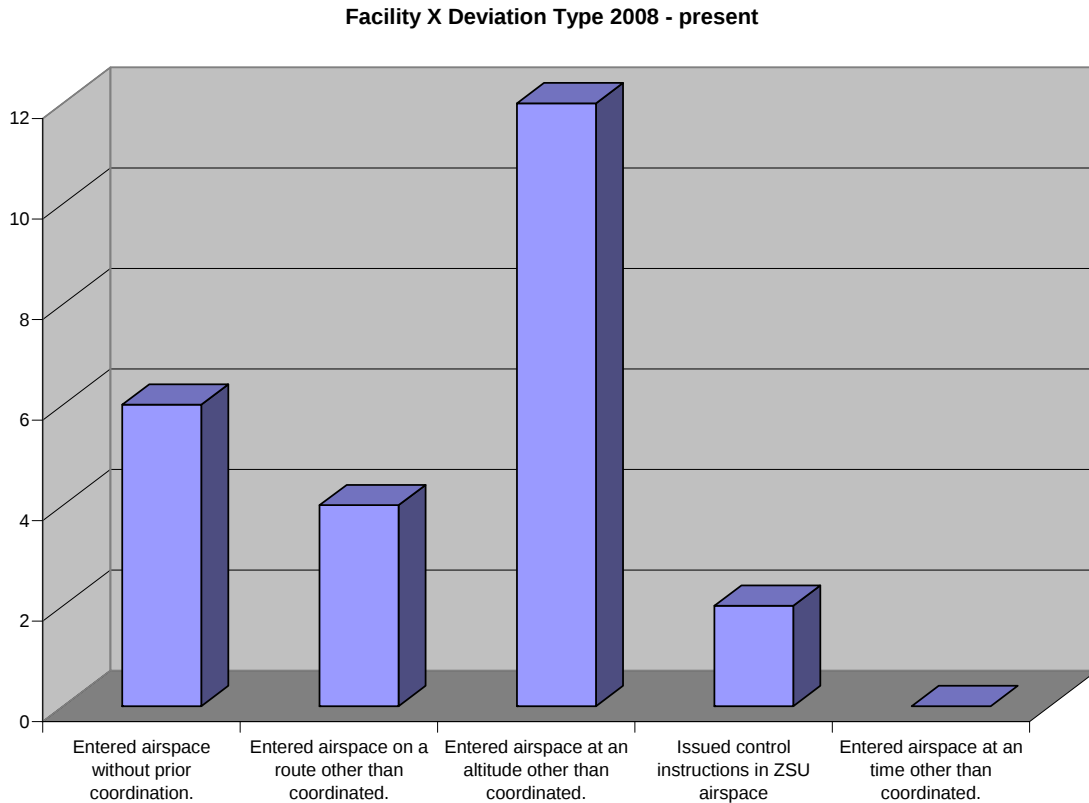
The number of coordination errors is on the rise. This may be due to better reporting but regardless, a problem, which has been identified that needs to be addressed.

2.9 If the data is sorted by type of deviation it looks like this:



The most frequently occurring incident is no coordination followed closely by an altitude other than coordinated. This result is corroborated by the results of the assessment by the GREPECAS GTE.

2.10 Here is an example of the need to review the data on an individual ATC facility basis. This result is different from that determined by the “group graph” shown in paragraph 2.9. This graph indicates a much higher incident of re-coordination errors than errors caused by lack of initial coordination.



2.11 Therefore, whether or not there is a loss of separation, the reporting of errors is essential for evaluating the overall safety of airspace. Besides being hazards to flight safety, they create barriers to future reductions in separation. Timely reporting of errors allows prompt corrective action.

### 3. Conclusion

3.1 This paper presents information on safety concerns related to incorrect air traffic control (ATC) coordination when flights cross an adjacent Area Control Center (ACC) boundary and the importance of filing reports with the Caribbean and South American Monitoring Agency (CARSAMMA). With 97% of Large Height Deviations being attributed to controller coordination errors in the CAR/SAM Region; it is time to take aggressive action to reduce the safety risk that these errors contribute to the system. Filing reports, analyzing data, and conducting face to face bilateral/multilateral meetings is suggested as a good place to initiate taking control of this issue.

**4. Recommendations**

4.1 The meeting is invited to:

- a) note the information provided in this paper;
- b) encourage CAR/SAM units in charge of sending reports to continue compliance requirements to report to CARSAMMA on a monthly basis;
- c) support regional and global activities that will promote accurate and timely reporting of errors within the CAR/SAM Regions; and
- d) conduct bilateral/multilateral meetings to assess and develop mitigations for reported errors.

— END —