International Civil Aviation Organization
CAR/SAM Regional Planning and Implementation Group (GREPECAS)

WORKING PAPER

GTE/26 — WP/04
17/09/26

Twenty-Sixth Scrutiny Working Group Meeting (GTE/26) of the CAR/SAM Regional Planning and Implementation Group (GREPECAS)
Asynchronous (virtual): 9 to 25 September 2026
In person: Mexico City, Mexico, 12 to 16 October 2026

Agenda Item 3: **Review of the Results of the Analysis of Large Height Deviations (LHDs) and of the Collision Risk Model (CRM)**
3.5 LHD Event Management and Progress for LHD Reduction by CAR/SAM States

MITIGATING LHD RISK ASSOCIATED WITH TRANSFER OF COMMUNICATION BEFORE TRANSFER OF CONTROL

(Presented by Jamaica)

EXECUTIVE SUMMARY

During 2025, two Large Height Deviation (LHD) occurrences with significant safety implications associated with Kingston Area Control Centre (ACC) involved substantially similar circumstances. In both occurrences, an aircraft arriving into the Kingston FIR had established communication with Kingston ACC while remaining within the Habana FIR, and a trainee Area Controller issued descent before responsibility for control had transferred. The resulting descent created conflict with overflying traffic in Habana-controlled airspace. The recurrence highlights an operational vulnerability during the period between transfer of air-ground communications and transfer of control. Corrective actions included reinforcement of transfer-of-control awareness and revision of the applicable Letter of Agreement (LOA) with Habana ACC. The revised LOA strengthened transfer arrangements and established predetermined routing and crossing-level requirements for applicable MKJP and MKBS arrivals, extending a coordination concept already in use for MKJS. This paper identifies the safety implications and proposes regional consideration of competency-based training and assessment, OJTI safeguards, review of applicable LOAs, and enhanced controller awareness of control status during FIR-boundary transitions.

Action:	Suggested Actions are proposed in Section 7.
Strategic Objectives:	• Every Flight is Safe and Secure • Aviation is Environmentally Sustainable • Aviation Delivers Seamless, Accessible, and Reliable Mobility for All • No Country Left Behind • The International Civil Aviation Convention and Other Treaties, Laws and Regulations Address All Challenges

	• The Economic Development of Air Transport Assures the Delivery of Economic Prosperity and Societal Well-Being for All
References:	• Procedures for Air Navigation Services (PANS) – Air Traffic Management (Doc 4444); • Manual on Air Traffic Controller Competency-based Training and Assessment (Doc 10056), 10056, Volumes I and II; • Relevant RASG-PA/GTE LHD material; • Kingston ACC/Habana ACC Letter of Agreement, effective 1 July 2026.

1. Introduction

1.1 Safe transfer of aircraft between adjacent ATC units requires a clear distinction between transfer of air-ground communications and transfer of control.

1.2 ICAO Doc 4444 provides that responsibility for control transfers at the common control-area boundary, or at another point or time agreed between the units concerned. Where the transfer-of-control point or time has not been reached, the accepting unit should not alter the aircraft's clearance without approval from the transferring unit.

1.3 Transfer of communication may occur before transfer of control. An aircraft may therefore be communicating with the receiving unit while remaining under the control responsibility of the transferring unit.

1.4 The Kingston ACC/Habana ACC LOA reflects this distinction. Transfer of air-ground communications is to occur no later than the applicable Transfer of Control Point, while responsibility for control remains governed by the agreed transfer arrangements.

2. Kingston FIR Experience and Safety Significance

2.1 During 2025, two LHD occurrences with significant safety implications involved the same basic operational sequence. In each occurrence, an arriving aircraft had been transferred to the Kingston ACC frequency while still within the Habana FIR. A trainee Area Controller subsequently issued descent before responsibility for control had transferred.

2.2 In both cases, the descent created conflict with overflying traffic operating within Habana-controlled airspace.

2.3 Communication transferred to Kingston → aircraft remains under Habana control → descent issued by Kingston → conflict with overflying traffic → LHD exposure.

2.4 The recurrence demonstrates an identifiable operational vulnerability. The resulting descent introduced the aircraft into a level environment being managed by the adjacent unit, creating exposure to loss of separation and increased collision risk.

2.5 Although both occurrences involved trainee controllers, the similarity of the events indicates that the issue should not be treated solely as individual performance error. Training, supervision, inter-unit procedures and system defences should all be considered.

2.6 The recurrence of the same event mechanism also demonstrates the value of LHD scrutiny not only for classification of occurrences, but for identifying systemic precursors, recurring operational conditions and opportunities for preventive action.

3. Analysis

3.1 Transfer of Communication and Transfer of Control

3.1.1 The principal safety lesson is that transfer of communication and transfer of control are separate processes.

3.1.2 An aircraft may be on the receiving controller's frequency, displayed on surveillance and incorporated into the traffic plan while remaining under the control responsibility of the transferring unit.

3.1.3 The current LOA further provides that the transferring ACC shall not change the aircraft's altitude or flight level once it is within five minutes' flying time of the common boundary unless previously approved by the receiving ACC.

3.1.4 An aircraft being on the frequency of an ATC unit does not, by itself, mean that responsibility for control of the aircraft has transferred to that unit.

3.2 Human Factors and Training

3.2.1 Early transfer of communication may create a strong operational perception that the aircraft is already under the receiving controller's control, particularly where the controller is communicating with the aircraft, monitoring it on surveillance and planning an imminent descent.

3.2.2 The response should therefore extend beyond procedural reminder. ICAO Doc 10056 supports a competency-based approach in which controllers demonstrate required competencies and observable behaviours under realistic operational conditions.

3.2.3 Relevant competencies include situational awareness, coordination, problem-solving and decision-making, separation and conflict resolution, traffic management, communication and application of procedures.

3.2.4 FIR-boundary scenarios should form part of training and assessment where early transfer of communication occurs. Controllers should demonstrate the ability to identify control status, determine whether tactical action is authorized, complete required coordination, and refrain from issuing control instructions until the applicable transfer or approval condition has been satisfied.

3.3 OJTI and Layered Defences

3.3.1 OJTI supervision remains an important safety barrier, but instructor intervention should not be relied upon as the sole defence.

3.3.2 A layered approach should include competency-based training and assessment, OJTI supervision, clear inter-unit procedures, predetermined coordination arrangements and, where technically feasible, system-based control-status cues.

3.3.3 Figure 1 illustrates the relationship between the hazard, preventive barriers, recovery barriers and potential consequences.

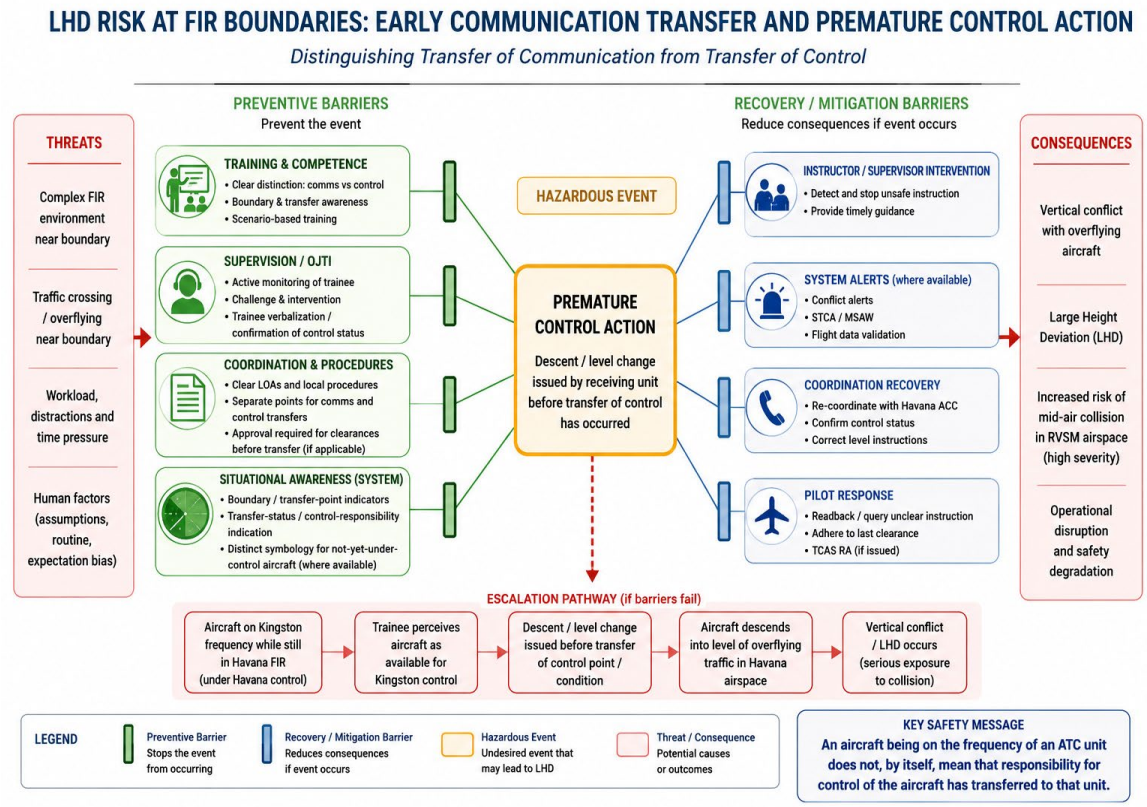


Figure 1 – LHD Risk at FIR Boundaries: Early Communication Transfer and Premature Control Action

4. Corrective Actions Implemented

4.1 Following the occurrences, Kingston ACC reinforced the distinction between transfer of communication and transfer of control within operational and training activities and reviewed the applicable LOA with Habana ACC.

4.2 The LOA revision addressed the identified hazard through predetermined transfer conditions for recurring arrival flows. The revised provisions established the following routing and crossing-level requirements:

a) MKJP: aircraft operating through Habana ACC "B" Sector are to be authorized via A/UA301, L/UL347 or L/UL599 and cross EMABU, VIKRO or DAVOL at FL310, unless otherwise coordinated; and

b) MKBS: aircraft operating through Habana ACC "B" Sector are to be authorized via A/UA301 or L/UL347 and cross EMABU or DAVOL at FL250, unless otherwise coordinated.

4.3 These arrangements require Habana ACC, while retaining control responsibility, to deliver the applicable aircraft at the agreed levels. They therefore accommodate the operational requirement for descent before entry into the Kingston FIR without requiring Kingston ACC to exercise control prematurely.

4.4 Comparable pre-coordinated descent arrangements were already in use for MKJS. The revised agreement therefore extended an established coordination concept to applicable MKJP and MKBS arrival flows.

4.5 The LOA also requires the transferring ACC not to change an aircraft's altitude or flight level within five minutes' flying time of the common boundary without prior approval from the receiving ACC.

4.6 The effectiveness of these measures should continue to be monitored through LHD information, operational feedback, competency findings and OJTI observations

4.7 Risk-Control Summary

Risk / Vulnerability	**Implemented or Existing Defence**	**Regional Consideration**
Communication interpreted as control	Reinforced transfer procedures and awareness	Competency-based training and assessment
Descent required before transfer	Predetermined MKJP/MKBS crossing levels; existing MKJS arrangements	Review similar FIR interfaces
Trainee action at boundary	OJTI supervision	Scenario-based assessment and targeted safeguards
Level changes near boundary	Five-minute LOA restriction	Consider comparable safeguards
Limited control-status cues	Procedural awareness	HMI/system support where feasible

5. Recommended Regional Safety Enhancements

5.1 States and ANSPs should consider incorporating the distinction between transfer of communication and transfer of control into competency-based training and assessment frameworks consistent with ICAO Doc 10056.

5.2 Where early communication transfer forms part of normal operations, FIR-boundary scenarios should be incorporated into controller training and assessment using defined observable behaviours and performance criteria.

5.3 ANSPs should consider appropriate OJTI safeguards for trainee operations near transfer-of-control points, including positive confirmation of aircraft control status before significant tactical intervention.

5.4 Adjacent ATS units should review applicable Letters of Agreement to ensure that transfer-of-control and transfer-of-communication provisions, predetermined routing or level arrangements, restrictions on tactical changes and coordination requirements are clearly defined.

5.5 States and ANSPs should identify similar FIR interfaces where communication routinely transfers before control and determine whether comparable vulnerabilities exist.

5.6 Where technically feasible, ANSPs should consider system or HMI functionality that provides additional awareness of aircraft control status.

5.7 LHD information should continue to be used proactively to identify recurrent event mechanisms and assess the effectiveness of corrective actions.

5.8 These measures are intended for interfaces where communication routinely transfers before control or where recurring tactical requirements arise before transfer of control and should be adapted to the operational context concerned.

6. Conclusion

6.1 The two Kingston occurrences demonstrated a recurrent and identifiable hazard associated with premature control action during the period between transfer of communication and transfer of control.

6.2 The corrective response combined training reinforcement with revision of the Habana/Kingston LOA, including predetermined transfer levels for MKJP and MKBS arrivals based on an established concept already used for MKJS traffic.

6.3 This approach preserves the transfer-of-control principle by ensuring that Habana ACC, while retaining control responsibility, carries out the required descent before transfer.

6.4 The broader regional lesson is clear: An aircraft being on the frequency of an ATC unit does not, by itself, mean that responsibility for control of that aircraft has transferred to that unit.

7. Action by the Meeting

7.1 The Meeting is invited to:

a) note the two LHD occurrences with significant safety implications associated with Kingston ACC during 2025 and the corrective actions implemented;
b) recognize the operational vulnerability associated with transfer of communication before transfer of control;
c) reaffirm that transfer of communication does not, by itself, constitute transfer of control, and endorse appropriate competency-based, procedural, supervisory and, where feasible, system-based safeguards where communication is transferred before control;
d) encourage States and ANSPs to review similar FIR interfaces and applicable Letters of Agreement, including the adequacy of training and transfer arrangements; and

e) encourage States and ANSPs to share comparable occurrences, lessons learned and safeguards, and to continue using LHD information as a proactive safety-management tool

— END —