



Agenda Item 3 Air Navigation Matters
3.3 Specific Developments in Air Navigation
• ATM

**FLIGHT PLANNING QUALITY IMPROVEMENT INITIATIVE IN THE CARIBBEAN,
NORTH, CENTRAL, AND SOUTH AMERICAN REGIONS**

(Presented by the United States)

SUMMARY	
This paper presents information regarding the need to improve the quality of flight plan data being submitted into the ATC flight planning systems and through the ATS Inter-facility Data Communications systems.	
References:	
• Third North American, Central American and Caribbean Working Group Meeting NACC/WG/3, Guatemala City, Guatemala, 9 to 13 May 2011.	
<i>Strategic Objectives</i>	<i>This working paper is related to Strategic Objectives A and C.</i>

1. Introduction

1.1 The Flight Planning - Quality Improvement Initiative (FP- QII) Meeting first began in March 2012 in response to a proliferation of flight plan errors which have compromised safety of flight and integrity of flight data being introduced into Air Traffic Control (ATC) systems. The FP-QII began their first ad hoc meeting by asking the question “What is the issue we are trying to solve with Flight Planning Quality Improvement? “ The general answer was summarized as preserving the integrity of the flight plan data by working to identify and correct the problems being caused by the reoccurrence of flight plan errors and duplication of flight plans. The risk of allowing incorrect and incomplete data to pass through the interfaced ATC systems of the United States, Mexico, and Cuba is too great to take a passive approach in its resolution. The magnitude of the issue is currently recognized as an international issue that is adversely impacting quality of the data being input and processed by ATC automation systems. The goal of FP-QII is to identify flight planning errors, attempt to correct those errors at the source and mitigate the impact of problems associated with multiple flight plan submission. The **suggested intent** was not to affix blame but to develop a collaborative international environment where specific problems can be identified, the information passed to the source of the problem, and appropriate corrections implemented. It was agreed that errors and duplicates have caused safety risks, increased work load, and

resulted in negative impacts to efficiency. The impacts of the errors and reoccurring nature discovered in the data demands an active approach be taken to pursue solutions. Specific instances of errors which yield safety issues have occurred including misstatement of aircraft type, wake turbulence category, route and equipment capabilities. Omission of data filed in an original flight plan by a subsequent filing is also an error which can have an impact as great as flaws in the data. Specific examples associated with flight plan errors and duplication have been recorded with a large majority transiting U.S., Mexican and Cuban airspace and within their automation systems and most notably from South and Central America . The challenges associated with flight planning were discussed within the FP-QII meetings and it was agreed any progress toward reducing flight planning errors, as well as duplicate flight plans would be of significant benefit. It was noted in FP-QII discussions that ICAO NACC is aware of the reported problems as noted in the following descriptions, but activity to date only includes high level guidelines based on internal quality control.

1.2 The Third North American, Central American and Caribbean Working Group Meeting (NACC/WG/3) was held in Guatemala City, Guatemala 9-13 May 2011. As a result of a working group held at that meeting actions were developed which are intended to improve the flight plan quality which has been identified in the Caribbean, Central and South America and airspace. Although the intent was well meaning, the issues associated with errors/duplication of flight plans have continued without noticeable improvement. It was thought that the measures may have not been specific or aggressive enough in identifying deficiencies and addressing the actions necessary to resolve the problems.

1.3 In the NACC/WG/3 an ad hoc working group met to discuss the topic of “**Actions to Avoid Errors, Missing and Duplication of Flight Plans**”. From this discussion came Conclusion 3/3 that NAM/CAR States/Territories and COCESNA implement actions to avoid errors, missing and duplication of flight plans. Nine actions were listed to aid this effort but realistically these will in themselves not solve the identified problems and continue to encounter.

CONCLUSION 3/3

ACTIONS TO AVOID ERRORS, MISSING AND DUPLICATION OF FLIGHT PLANS

Errors, Missing and Duplication of Flight Plans

3.2.17 The Meeting recognized that there are cases where there is no specialized personnel to perform the functions of dispatcher and flight control. In some cases, the dispatcher Aeronautical Information Service (AIS) functions are performed by personnel assigned who has not been sufficiently trained for this function. Other issues identified are loss, errors and duplication of flight plans between the adjacent units which impacts safety.

3.2.18 The negative impact that this issue could cause in safety management and ATS efficiency, the Meeting considered that States, Territories and International Organizations should analyze this problem and urgently solve it to ensure the safety and optimize efficiency of air navigation services. Therefore, the Meeting adopted the following:

That NAM/CAR States/Territories and COCESNA implement the following actions to avoid errors, missing and duplication of flight plans:	
Action	Due
a) Publish in the AIP the corresponding procedures in accordance with ICAO SARPs for the coordination, validity and update of changes in flight plans	by 31 December 2011;
b) update domestic provisions on flight plan message transmission in accordance with ICAO Doc 4444 and the CAR/SAM Interface Control Document (ICD) for data communications between ATS units, approved by GREPECAS	by 31 December 2011;
c) publish the appropriate address in the AIP for the flight plan transmission	by 31 December 2011;
d) Update letters of agreement (LOAs) between adjacent ATS units for flights that operate from one FIR to an adjacent FIR	by 31 May 2012;
d) provide the appropriate training so ATC personnel can provide the ATC clearances according to ICAO Doc 4444, PANS-ATM	by 31 May 2012;
e) coordinate with operators to ensure the timely coordination for data changes and validity of a specific flight plan	by 31 December 2011;
f) encourage that dispatch offices have a sufficient number of qualified experts for proper flight plan coordination and follow-up	by 30 September 2012;
g) consider the implementation of electronic applications for the pre-departure clearance (PDC)	by 30 September 2012, as necessary; and
h) provide the ICAO NACC Regional Office the implementation progress report of the previous actions	by 31 May 2012.

It should be noted that within the FP-QII , given the number of problems being detected, a more active approach is necessary. The additional item listed below is offered for that purpose:

Recommended	addition:
i) Convene Flight Plan Quality Improvement Initiatives to identify current flight planning errors through internal and external methods and work to analyzing the deficiencies and their causes with the goal of mitigating/correcting those	

deficiencies with improved procedures and quality controls. <i>This initiative would require the endorsement and support of ICAO to provide the level of direction and accountability needed to affect meaningful quality improvement.</i>	
--	--

2. Discussion

2.1 During the course of the FP-QII meetings, discussions identified two distinct problem areas; flight plans which are submitted/retransmitted with errors and multiple flight plans being submitted for the same flight. These two issues are not mutually exclusive as multiple flight plans for the same flight can contain errors and may have conflicting information. It was offered that safeguarding the integrity of the data was of primary importance and that the systems must protect the integrity of the data being introduced into individual ATC systems and relayed to the international ATC systems.

2.1.1 Havana noted that they have to manually compare the original FPL from the airline operator against the second one received. They are considering the information coming directly from the airline operator, as more valid versus the information from another source due to the number of errors. Everyone was asked if it was possible to consider this as a standard method to be used to validate the information. In most cases the most recently filed flight plan is considered the most valid since it should contain the most recent information. This procedure would be a departure from the standard course of action but may be necessary to mitigate the impact of flight data with errors.

2.2 The impact of data with errors is offered with the example of UPS flight 357, B763/H, flew from Central America to Miami FL on 18 March 2012. The flight plan was filed by the airline's central dispatch office in the United States. A local flight plan was filed from the departure airport after and in addition to the original flight plan, as is the requirement in many South American, Central American and Caribbean countries. The locally produced flight plan was problematic in that the aircraft type was filed as a B752/M and the equipment was truncated including the 'W' (Reduced Vertical Separation Minima RVSM) indicator and several other indicators which describe the aircraft's navigation capabilities.

2.2.1 The route of flight requires filing with the Flight Information Region (FIR) between point of origin and destination. This is accomplished as was such a filing from UPS Airline Operations Center (AOC). Havana Area Control Centre (ACC) and Miami Air Route Traffic Control Center (ARTCC) have both flight plans, the flight plan from the point of departure being the most recently filed.

2.2.2 After departing COCESNA FIR the flight enters the Havana FIR. Both filed flight plans were accepted into the IACC ATC system, they are not duplicates since there is different information associated with each. Using the information in latest flight plan would be the expected course of action since it would be the most recent and should have the most current information. The conflict in the aircraft types;,B752 versus B763, goes unnoticed, the separation standards for both in the en route radar environment is 5 miles.

2.2.3 If it is not recognized the aircraft is at FL350 and that the associated flight data indicates it is non- RVSM qualified (no 'W' in field 10 of the flight plan) then the controller who works the aircraft must query the pilot and then determine if it is RVSM qualified. This is a **safety critical issue** as non-RVSM aircraft in RVSM airspace must be afforded 2,000' separation as opposed to the 1,000' for the RVSM aircraft. The data for the aircraft must be amended within the ATC system to reflect the true capability of the flight if it is RVSM capable, which was the case with UPS357. Additionally, this type of activities takes attention away controller from the primary task of directing and separating aircraft. Once the RVSM issue is resolved the Havana ATC system prepares and sends the Current Flight Plan (CPL) via the Automated Data Exchange (ADE) interface with Miami ARTCC. The data is successfully passed and a handoff is affected between the adjacent sector controllers. The aircraft is worked through Miami ARTCC airspace and descends in preparation for landing at Miami International Airport. via the CURSO1 STAR. UPS357 is handed off between the Miami Center and Miami Approach Control and the ARTCC Host Automation sends the Miami ATC automation system data which tells them the aircraft is a B757 not a B767. The **Safety Issue** now is more critical as separation is decreased in the terminal environment and wake turbulence is being provided for a non-heavy aircraft not the heavy B767 which is UPS357.

2.3 The cited example is not an isolated case. But the majority of problems are being identified with countries that file flight plans in addition to those filed by the airline and the flight plan filing services. Examples of the types of errors are detailed in the attached Powerpoint presentation.

2.3.1 Flight plan errors and duplication of flight plans are interconnected as multiple flight plans with conflicting information about the same flight can degrade processing efficiency and safety of flight. As can be seen, the issues described in this information paper span international boundaries and will require a collaborative approach to identify the causes which are behind the proliferation of errors. We can identify the specific deficiencies associated with the flight plans but need the help of ICAO and the local filing authorities to improve the quality of flight plans being inserted into the international flying environment. The hope is the FP-QII will serve as a beginning of a collaborative environment to identify the issues and work toward resolution. Miami ARTCC representatives noted that the problem is not with the recently implemented automated data exchange (ADE) system between Miami and Havana, but rather with multiple and flight plan errors the data input into the systems by many different countries.

2.4 Current Actions

Action 1 –FP-QII will begin the effort to gather points of contact from service providers within Central America, South America, Cuba, Mexico, the Caribbean and the United States. The list will be used to provide any deficiencies to the ICAO NACC Office.

Action 2 – The FP-QII will populate a data collection spread sheet with known errors from flights to and from the member FIRs. This must normally be done within 15 days of occurrence for FAA to get complete data analysis of incident.

Action 3 – Members were asked to come back to the subsequent meetings with ideas on how to identify issues, analyze not only the cause but how we can isolate the issue early enough before it becomes a problem, and how to prevent reoccurrences of the issues. The problems will be worked with emphasis on those deficiencies which the members deem to have the most operational risk.

3. Conclusion

3.1 Please note the information presented in this paper

— END —