

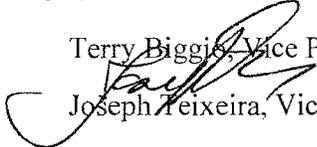


Federal Aviation Administration

Memorandum

Date: JUL 15 2015

To: Terry Biggis, Vice President, Air Traffic Services, AJT-0

From:  Joseph Teixeira, Vice President for Safety and Technical Training, AJI-0

Prepared by: Lisbeth Mack, Director, Policy and Performance, AJI-3

Subject: Assessment Report: Multiple Flight Plans

Safety and Technical Training's Air Traffic Control/Safety Management System Audits and Assessments Team conducted an assessment of Multiple Flight Plans from April 20 to May 1, 2015. The objective of the assessment was to determine: 1) the frequency and impact of multiple flight plans at En Route and Terminal facilities, and 2) the methods and procedures used by each facility to document, report, and/or address issues related to multiple flight plans. The assessment team focused on local methods and procedures for processing and addressing multiple flight plan issues.

The assessment was conducted at the following facilities on the dates noted below: Los Angeles and Denver Air Route Traffic Control Centers (ARTCC) on April 20; Los Angeles and Denver Airport Traffic Control Towers (ATCT) on April 21; Van Nuys and Centennial ATCTs on April 22; Burbank and Colorado Springs ATCTs on April 23; Miami ARTCC on April 27; Fort Lauderdale and Wichita ATCTs on April 28; Opa Locka Federal Contract Tower on April 29; El Paso ATCT on April 30; and San Juan ATCT on May 1.

The assessment team interviewed facility personnel, reviewed supporting documentation, and observed operations at the clearance delivery position at each of the assessed facilities. The assessment team noted three issues and made four observations. A full description of the assessment results is included in the attached report.

If you have any questions regarding the results of this assessment, please contact Kenneth Hartenstine, Team Lead, at 202-267-9175 or via email at Kenneth.Hartenstine@faa.gov.

Attachment

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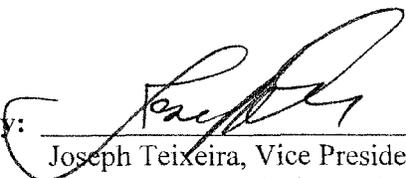


Federal Aviation Administration
Safety and Technical Training

Assessment of Multiple Flight Plans

Final Report

Approved By: _____


Joseph Teixeira, Vice President for
Safety and Technical Training, AJI-0

Date: _____



EXECUTIVE SUMMARY

Safety and Technical Training's (AJI) Air Traffic Control (ATC)/Safety Management System (SMS) Audits and Assessments Team conducted an assessment of multiple flight plans from April 20 to May 1, 2015. The objective of the assessment was to determine: 1) the frequency and impact of multiple flight plans at En Route and Terminal facilities, and 2) the methods and procedures used by each facility to document, report, and/or address issues related to multiple flight plans. The assessment team focused on local methods and procedures for processing and addressing multiple flight plan issues. The assessment was conducted at the following Air Route Traffic Control Centers (ARTCC), Airport Traffic Control Towers (ATCT), and Federal Contract Tower (FCT) on the dates noted below:

<u>Los Angeles ARTCC (ZLA), April 20</u>	<u>Colorado Springs ATCT (COS), April 23</u>
<u>Denver ARTCC (ZDV), April 20</u>	<u>Miami ARTCC (ZMA), April 27</u>
<u>Los Angeles ATCT (LAX), April 21</u>	<u>Fort Lauderdale ATCT (FLL), April 28</u>
<u>Denver ATCT (DEN), April 21</u>	<u>Wichita ATCT (ICT), April 28</u>
<u>Van Nuys ATCT (VNY), April 22</u>	<u>Opa Locka FCT (OPF), April 29</u>
<u>Centennial ATCT (APA), April 22</u>	<u>El Paso ATCT (ELP), April 30</u>
<u>Burbank ATCT (BUR), April 23</u>	<u>San Juan ATCT (SJU), May 1</u>

Results:

The assessment team interviewed facility personnel, reviewed supporting documentation, and observed operations at the clearance delivery position. The assessment team noted the following:

- (1) There is no standard definition for multiple flight plans for facilities to use to identify or report issues.
- (2) There is no standard method to determine the number of multiple flight plans entering into the National Airspace System (NAS).
- (3) There is no requirement for facilities to implement procedures to address multiple flight plans, which has led to inconsistencies amongst facilities.

1. INTRODUCTION

1.1 Background

In March 2014, the Federal Aviation Administration (FAA) Office of Audit and Evaluation (AAE) was directed by the Secretary of Transportation to investigate an Office of Special Counsel (OSC) whistleblower disclosure. In part, the whistleblower alleged that FAA management has failed to properly address frequent and systemic problems with computer-based systems designed to automate delivery of departure clearances. AAE conducted an investigation from March 24 to March 27, 2014, and substantiated the allegation. The investigation report stated that AAE “found that the FAA’s lack of standardization has compounded a problem created by air carrier dispatchers and filers when they enter duplicate flight plans.”

In response to this investigation, the Chief Operating Officer (COO) implemented the May 6, 2014, memorandum, *ATO Response to Office of Audit and Evaluation investigation for the U.S. Office of Special Counsel (OSC), File# DI-13-4206, DI-14-0359, DI-14-0461, DI-14-0492, and DI-14-1590*, which included a national Corrective Action Plan (CAP) to address the findings. The CAP included long term corrective actions that required the Air Traffic Organization (ATO) to “evaluate the best way to address the problem of multiple/duplicate flight plans.” The ATO committed to evaluate how both manual and automated processes can prohibit multiple active flight plans for the same aircraft. The CAP also included the following interim corrective actions:

- 1) The immediate establishment of a Duplicate Flight Plan Task Force to identify action to address the risks associated with duplicate flight plans.
- 2) The Duplicate Flight Plan Task Force was tasked to develop documented and accountable processes for industry and the FAA to follow and deliver final recommendations to a Safety Risk Management (SRM) panel no later than May 19, 2014.
- 3) The ATO would convene an SRM panel of subject matter experts no later than June 20, 2014, to evaluate the risk associated with duplicate flight plans.
- 4) The results of the SRM panel were to be published by July 1, 2014.
- 5) Facilities were to begin a formal reporting process to identify flight plans that appeared to violate the revised FAA policies. The reporting process and necessary tools to accumulate reports were to be completed by July 1, 2014.
- 6) System Operations was tasked to collect the facility reports and report the results once a month at the National Customer Forum beginning in September 2014.
- 7) Mission Support was tasked to reevaluate the recommended mitigations from the SRM panel and determine if any automation requirements pertain to the CAP by October 1, 2014.
- 8) Safety and Technical Training was tasked to conduct an assessment of duplicate flight plan reports by December 31, 2014, and to report their findings to AAE.

The July 23, 2014, memorandum, *Update to Corrective Action Plan on Office of Special Counsel Case No. DI-13-4206, 14-0359, 14-0461, 14-0492 and 14-1590 regarding Detroit Metropolitan Wayne County Airport Flight Plans and Staffing Referral Dated March 11, 2014*, from AAE to the Assistant General Counsel for General Law stated that “FAA automation experts requested that we label the issue from complainants as ‘multiple’ flight plans (e.g., same aircraft identification taking off from the same airport

within a certain timeframe) that contain different flight data (e.g., different route/aircraft type/equipment) that can generate unplanned risk; a 'duplicate' flight plan does not add safety risk to the NAS."

The Duplicate Flight Plan Task Force convened on May 7, 2014, and delivered recommendations to the SRM panel on June 17, 2014, when the panel convened. The SRM panel met in Washington, DC, from June 17 to June 19, 2014. While there were other allegations raised in the whistleblower's disclosure, the SRM panel focused on the issue of the filing of multiple flight plans for the same flight. The Multiple Flight Plans Safety Risk Management Document (SRMD) was approved on January 30, 2015. The SRMD stated that the lack of available, quantifiable data made it difficult to determine the exact magnitude of the problem, and that "On any given day it is possible to have anywhere from 800 to 1000 multiple flight plans in the system." Based on the panel members' experience, multiple flight plans were not recognized as a safety threat in the NAS. The panel determined a risk of multiple flight plans in the NAS as Low.

Since the above-referenced SRMD was not approved until January 2015 and the revised FAA policies were not implemented, facilities were unable to begin the reporting process as required by the CAP. In addition, AJI could not fulfill the commitment to conduct an assessment of the reports, determine if there were improvements in the multiple flight plan issue, or report those findings to AAE. However, AJI conducted this initial assessment to provide a quantitative perspective of the impact of multiple flight plans in the NAS.

1.2 Objective and Scope

AJI's ATC/SMS Audits and Assessments Team conducted an assessment of Multiple Flight Plans from April 20 to May 1, 2015. The objective of the assessment was to determine: 1) the frequency and impact of multiple flight plans at En Route and Terminal facilities, and 2) the methods and procedures used by each facility to document, report, and/or address issues related to multiple flight plans. The assessment team focused on local methods and procedures for processing and addressing multiple flight plan issues. The assessment was conducted at the following facilities on the dates noted below:

<u>Los Angeles ARTCC (ZLA), April 20</u>	<u>Colorado Springs ATCT (COS), April 23</u>
<u>Denver ARTCC (ZDV), April 20</u>	<u>Miami ARTCC (ZMA), April 27</u>
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1.3 Methodology

The assessment team consisted of two team leads and two team members from the ATC Team and one team member from the Mitigation and Intervention Monitoring Team. Local National Air Traffic Controllers Association (NATCA) representatives participated as team members at ZLA, VNY, ZMA, FLL, SJU, COS, and DEN. The assessment team interviewed facility personnel to determine the frequency and impact of multiple flight plans to the facility. The team also reviewed local procedures and observed the clearance delivery position to identify the processing of multiple flight plans within each facility.

2. ASSESSMENT RESULTS

2.1 Impact of Multiple Flight Plans

(1) There is no standard definition for multiple flight plans for facilities to use to identify or report issues.

The assessment team asked personnel at each of the assessed facilities to explain what they determined to be the definition of a multiple flight plan. Each of the assessed facilities had similar, but slightly different definitions. Some of the facilities interchanged the terms duplicate and multiple when talking about the subject. The lack of a standard definition has resulted in inaccurate numbers of identified multiple flight plan issues.

For example, there were 13 Mandatory Occurrence Reports (MOR) in Comprehensive Electronic Data Analysis and Reporting from September 30, 2014, to January 17, 2015, that identified multiple flight plans as a contributing or causal factor. However, the assessment team reviewed the MORs and found that only two met the criteria of a multiple flight plan as defined in the July 23, 2014, memorandum from AAE. The assessment team determined that duplicate flight plans or amended flight plans were the contributing or causal factor for the remaining 11 MORs.

2.2 Frequency of Multiple Flight Plans

(1) There is no standard method to determine the number of multiple flight plans entering into the NAS.

The assessment team's initial research revealed that the statement "multiple flight plans may occur in the NAS approximately 800 to 1,000 times a day" included in the Multiple Flight Plans SRMD was derived from data retrieved from NASQuest.¹ The assessment team, with the assistance of AJI's Data and Management Reporting Team,

¹ It should be noted that the NASQuest web page has a disclaimer that states "The NASQuest system receives CMS data in two different, non-guaranteed, methods. It continues by stating "There are small gaps in the recorded data (network outages, hardware failure in the field causing the logs to be lost, hardware upgrades without the logs being synced before the upgrade is performed, etc.) so your search results may not match an actual historical DART job output exactly."

reviewed NASQuest data to assess its capability to determine the number of multiple flight plans in the NAS, and potentially measure the effectiveness of mitigations that may be implemented to address the risk associated with multiple flight plans in the NAS.

The assessment team assessed data retrieved from NASQuest during the timeframe of April 1 to April 30, 2014, and noted the following:

- There were 8,648,425 flight plan entries in the system, or an average of 288,280 entries a day.
 - Based on the criteria of same day, En Route facility, initial point on route, and aircraft identification number, the entries were reduced to 98,797, or an average of 3,293 entries a day.
 - Based on the above, and adding the criteria of different proposed times (i.e., “within a certain timeframe” as referenced in the July 23, 2014, memorandum from AAE), the entries were reduced to 21,714, or an average of 724 entries a day. The proposed times varied from one minute to nine hours or more.
- The assessment team noted that a specific timeframe for identifying multiple flight plans had not been defined. The importance of defining a time criteria is demonstrated below using NASQuest² data. The assessment team used a specific timeframe and the unique aircraft identification number to sort the entries. The assessment team’s review revealed the following:
 - Using 5 minutes as the “certain timeframe” and the unique aircraft identification number, there were 1,240 aircraft with multiple flight plans in the system (or an average of 41 aircraft a day).
 - Using 30 minutes as the “certain timeframe” and the unique aircraft identification number, there were 3,249 aircraft with multiple flight plans in the system (or an average of 108 aircraft a day). The use of this timeframe more than doubled the instances of multiple flight plans that were seen in the NAS daily.

Without a defined timeframe, it will be difficult to obtain an accurate indication of the number of multiple flight plans in the NAS, or to determine the impact (effectiveness) of mitigations implemented to reduce the risk associated with multiple flight plans.

² Obvious instances, when more than one flight plan was generated on an aircraft that had the same proposed times and a call sign of “*fpdupe* [Flight duplicate],” were omitted from the final numbers.

2.3 Facility Procedures

(2) There is no requirement for facilities to implement procedures to address multiple flight plans, which has led to inconsistencies amongst facilities.

- a. The assessment team interviewed management personnel, support specialists, and NATCA representatives at the assessed facilities, and reviewed facility directives to determine how facilities address incidents related to multiple flight plans. The assessment team observed the following:
 - Ten (of 14) facilities had documented procedures in a facility directive on the handling of multiple flight plans. (BUR, FLL, LAX, OPF, SJU, VNY, ZLA, ICT, ELP, and DEN)
 - The assessment team also noted that these 10 facilities that had documented procedures also had trained personnel on the handling of multiple flight plans.
 - One facility included procedures to handle duplicate flight progress strips in their locally developed flight data/clearance delivery position training. (COS)
 - Three facilities did not have any documented procedures for handling multiple flight plans. (ZMA, ZDV, and APA)
- b. The assessment team observed the clearance delivery position at each of the assessed facilities. During the observations, three facilities (BUR, OPF, and SJU) experienced instances of duplicate or multiple flight plans. All three facilities followed their local procedures and handled the events without incident.

3. OBSERVATIONS

- (1) The assessment team discussed the CAP that was included in the COO's May 6, 2014, memorandum with personnel at the assessed facilities. Personnel at the assessed facilities stated that they were not aware of the CAP.
- (2) AJI issued Quality Assurance Safety Bulletin, Volume 1, Issue 5, *Multiple Flight Plans*, and the Safety Matters, Winter 2015 Issue, Vectors article titled *More is Not Always Better: Multiple Flight Plans Cause Extra Work and May Jeopardize Safety*. The assessment team shared both documents with personnel at the assessed facilities. Personnel interviewed at the assessed facilities stated they were not aware of either document.
- (3) At OPF, the Safety Manager for Robinson Aviation (RVA) Inc. stated that he receives all quality assurance bulletins from AJI, determines which ones are applicable to his facilities, and then distributes the bulletins as necessary. The Quality Assurance Safety Bulletin, Volume 1, Issue 5, *Multiple Flight Plans*, was determined to be nonessential to RVA facilities.

- (4) LAX personnel identified incidents of duplicate flight plan anomalies at their facility. The facility has received identical flight progress strips on the same aircraft but at different times. The strips could print 5 to 10 minutes apart. LAX personnel stated that these anomalies usually occur after an En Route Automation Modernization promotion (software update).

4. ASSESSMENT TEAM

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