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**Analysis of Disclosures, Agency Investigation and Reports,  
and Whistleblower Comments**

**OSC File No. DI-10-0680**  
**(Dean Iacopelli, Teterboro, New Jersey)**

**Background**

The disclosures in this matter were made by a whistleblower at the Department of Transportation (DOT), Federal Aviation Administration (FAA), New York Terminal Radar Approach Control (NY TRACON), Westbury, New York.<sup>1</sup> Mr. Dean Iacopelli, an Air Traffic Control Specialist (controller), disclosed that FAA employees at the NY TRACON and Teterboro Regional Airport, Teterboro, New Jersey, were engaging in conduct that constitutes a substantial and specific danger to public safety.

Specifically, Mr. Iacopelli alleged that an air traffic departure procedure, known as the Dalton Departure Procedure, posed a safety hazard by allowing aircraft departing from Teterboro to fly directly below, and in close proximity to, heavy jet aircraft on final approach to Newark Liberty International Airport (Newark) without providing the necessary wake turbulence separation between aircraft.<sup>2</sup> He contended that FAA had placed the interests of increasing capacity over ensuring safety by allowing the operation of the Dalton Departure Procedure. OSC determined that there was a substantial likelihood that the allegations constituted a substantial and specific danger to public safety.

On February 18, 2010, the Office of Special Counsel (OSC) referred Mr. Iacopelli's allegations to the Honorable Ray LaHood, Secretary of Transportation, to conduct an investigation pursuant to 5 U.S.C. § 1213(c) and (d). Secretary LaHood delegated responsibility for investigating the matter to DOT's Office of Inspector General (OIG). OSC received the agency's report on February 23, 2011, and a supplemental report on May 27, 2011. Mr. Iacopelli provided comments on the reports pursuant to 5 U.S.C. § 1213(e)(1).

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<sup>1</sup>The NY TRACON is responsible for directing air traffic in departure and approach phases of flights within a 60-mile radius of airports within the New York metropolitan airspace.

<sup>2</sup>Wake turbulence is caused by a pair of counter-rotating vortices trailing from the wing tips of an aircraft in flight. Vortices from large aircraft pose problems to smaller encountering aircraft. The wake of these aircraft can impose rolling moments exceeding the control authority of the encountering aircraft. Further, turbulence generated within the vortices encountered at close range can damage aircraft components and equipment and cause personal injuries. See FAA Advisory Circular 90-23F, Aircraft Wake Turbulence.

Summary

The OIG's investigation substantiated the allegation that the Dalton Departure Procedure posed a potential safety hazard and revealed that the number of safety reports relating to the procedure had increased by 450% within the last 11 years. It also confirmed Mr. Iacopelli's allegation that FAA took no action to resolve the safety issues relating to the procedure following an internal investigation in 2009. Despite OIG's alarming findings, the agency report and supplemental report reflect that FAA remained steadfast in its position that the Dalton Departure Procedure is a "safety enhancement." It continued to operate the procedure without adequately addressing the confirmed safety risks until October 2011.

As discussed below, we have determined that some of the agency's findings, and its response to certain findings, do not appear reasonable. We note, however, that subsequent to DOT's submission of its reports to OSC, Mr. Iacopelli advised OSC that FAA modified the Dalton Departure Procedure in a manner that now provides the necessary separation between aircraft. He confirmed that FAA has implemented an operational evaluation of the amended procedure to determine whether the modifications are sufficient to continue operation of the procedure. Thus, it appears that FAA has finally taken appropriate corrective action. The allegations, findings, and whistleblower's comments are discussed below.

The Whistleblower's Allegations

Teterboro is a busy, regional airport primarily used by corporate charter and general aviation aircraft. It is located approximately 11 miles northeast of Newark, one of the busiest airports in the country with significant commercial, heavy jet traffic. Mr. Iacopelli explained that when Teterboro operates runway 19 as a departure runway, and Newark uses its runway 22 for arrivals, aircraft departing from Teterboro runway 19 must cross directly below the flight path of heavy jet aircraft on final approach to Newark's runway 22. Departure and approach procedures at Teterboro and Newark are typically conducted under Instrument Flight Rules (IFR), where pilots rely on the aircraft's instrument panel for navigation. Under these conditions, the applicable IFR wake turbulence minimum separation criteria require a separation of 5 miles laterally or 1,000 feet between aircraft. See FAA Order 7110.65T, Paragraph 5-5-4. Mr. Iacopelli explained that due to these separation requirements and the heavy volume of traffic landing at Newark, it is necessary for NY TRACON controllers to create 10-mile gaps or "holes" in the Newark arrivals to allow aircraft to depart Teterboro and maintain the required wake turbulence separation. The creation of these gaps in air traffic causes delays for Newark arrivals, while having to wait for such gaps results in even greater delays for Teterboro departures.

To reduce these delays, the Dalton Departure Procedure was developed by FAA and the Teterboro Users Group (TUG) for use at Teterboro.<sup>3</sup> The Dalton Departure Procedure is listed in the Teterboro Facility Directory as a "Special Notice" and is described as a Visual Flight Rules

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<sup>3</sup>According to the Teterboro Users Group website, TUG is a non-profit organization of corporations that utilize Teterboro Airport extensively. TUG was formed in 1991 to interact with airport management and the various air traffic control entities to improve existing services and promote operational effectiveness and safety.

(VFR) departure procedure with transition to an IFR clearance when Newark is landing runway 22 and Teterboro is departing runway 19. The procedure is designed to allow aircraft to depart Teterboro under VFR, where pilots rely on visual, see-and-avoid navigation. It provides a means for avoiding the IFR wake turbulence separation requirements, which do not apply under VFR. This allows aircraft to depart Teterboro's runway 19 without having to wait for the 10-mile gap in Newark air traffic necessary to comply with those requirements.

Thus, by requesting the Dalton Departure Procedure, pilots are cleared to take off using VFR and avoid having to maintain the IFR separation requirements. Mr. Iacopelli explained that while the procedure instructs aircraft to fly 200 feet lower than the 1,500-foot altitude designated for IFR departures, it still provides significantly less separation than the IFR wake turbulence separation requirements. As a result, corporate jets and other small aircraft departing Teterboro are allowed to fly within several hundred feet of commercial heavy jets, exposing the aircraft to the hazards of wake turbulence and potential mid-air collision. He also stated that pilots are routinely confused regarding the procedure and often exceed the 1,300-foot restriction and climb to 1,500 feet, further increasing the risk of collision.

In February 2009, Mr. Iacopelli reported the safety concerns that he and other NY TRACON controllers identified regarding the Dalton Departure Procedure to FAA's Office of Air Traffic Safety Oversight (AOV). AOV conducted an investigation in April 2009, which confirmed there were problems with the procedure. AOV found that there was confusion among pilots regarding the restrictions of the procedure, and among pilots and controllers regarding procedures to be taken during a loss of communications. AOV further found that controllers were asking pilots if they were familiar with the Dalton Departure Procedure when pilots inquired about an alternative to avoid departure delays. AOV concluded that this constituted "solicitation" of the procedure.

In response to its findings, AOV recommended that controllers cease such solicitation by not referencing the Dalton Departure Procedure unless a pilot mentioned it by name, and that FAA establish a training program on the procedure for pilots and operators. AOV further recommended that the depiction of the procedure be modified to alert pilots that no wake turbulence separation from Newark air traffic is provided, and to include procedures for a loss of communications. Mr. Iacopelli stated, however, that modifications were not made to the procedure and, in any event, AOV's recommendations did not adequately resolve the safety hazards of the procedure, because they failed to address the dangers of wake turbulence or the potential for a mid-air collision resulting from a loss of separation between aircraft. As an example, he described one incident in December 2009, involving a near mid-air collision of an aircraft departing Teterboro using the Dalton Departure Procedure with an aircraft on final approach to Newark.

### *The Agency's Findings*

According to the report, OIG found that the Dalton Departure Procedure "may pose a safety hazard, even though it is in compliance with air traffic safety regulations." The investigation revealed that pilots "often" do not fly the procedure as designed, and "when this occurs, Teterboro aircraft may conflict with aircraft that are descending on final approach to land

at Newark, posing a risk of collision." Although OIG found that a potential safety hazard existed, it found no evidence that the procedure had contributed to an accident. Significantly, however, the report states that over the last 11 years, the number of Aviation Safety Reporting System (ASRS) incident reports on this procedure had increased by 450%, from 2 reports in 1999 to 11 reports in 2010. OIG concluded that the significant increase in incidents, primarily reported by pilots, "is an indicator that the safety risk associated with the procedure has increased."

OIG's review of available FAA records further revealed that four pilot deviations -- pilot actions that result in a violation of the Federal Aviation Regulations (FAR) -- occurred between September 2007 and December 2010.<sup>4</sup> In one of these instances, the departing aircraft crossed the flight path of an aircraft on descent to Newark, coming within 200 feet below and less than three quarters of a mile in front of that aircraft. In another, the departing aircraft crossed less than two-and-a-half miles directly behind a heavy (B757) aircraft descending to Newark. The report confirms that most of the incidents involved pilots exceeding the 1,300-foot altitude restriction, and in some cases, delaying the westbound right turn. OIG also found that, in some instances, controllers solicited the procedure to pilots who were not familiar with or prepared to execute the procedure, which contributed to errors.

The report acknowledges that these figures do not capture all of the safety incidents related to the Dalton Departure Procedure. OIG reviewed information provided by Mr. Iacopelli concerning five additional incidents in April and May 2010. In all five cases, OIG found that pilots exceeded the altitude restriction. Four of the incidents occurred when there were aircraft descending on arrival to Newark, and in three of the incidents pilots entered Class B airspace without authorization, which is a FAR violation.<sup>5</sup> However, none of these incidents were formally reported. Interviews with other controllers revealed that there have been additional incidents that were not reported.

While OIG found that pilots often do not fly the Dalton Departure Procedure properly, posing a risk of collision with aircraft descending to Newark, OIG found "no substantial evidence" that pilots flying the procedure experienced safety issues as a result of wake turbulence. The report confirms that because aircraft using the Dalton Departure Procedure operate under VFR in Class D or E airspace, the IFR wake separation requirements do not apply. OIG found no specific pilot reports of wake encounters from Newark arrivals in its review of the 41 pilot-reported ASRS reports concerning the procedure or in a separate query of the ASRS database. OIG also reviewed nine incidents identified by Mr. Iacopelli. However, details for six of these incidents could not be verified because radar data and other records were not available. Details for two of the incidents were confirmed; wake separation was not maintained and a wake turbulence advisory was not given in either instance, but the report notes that the wake separation requirements did not apply. OIG found that wake separation was met in one of the incidents.

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<sup>4</sup>FAA is only required to maintain these records for two-and-a-half years; thus, data on additional incidents prior to September 2007 were no longer available.

<sup>5</sup>Generally, Class B airspace is the airspace from surface to 10,000 feet surrounding the nation's busiest airports, such as Newark. Clearance from Air Traffic Control is required for all aircraft to operate in Class B airspace, and all aircraft that are cleared receive separation services within the airspace. See FAA Aeronautical Information Manual, Chapter 3, Paragraph 3-2-3.

The report states that providing the wake turbulence advisory is crucial for ensuring that pilots are aware of the potential for such turbulence and can take appropriate actions to avoid it. OIG was advised that Teterboro controllers issue wake turbulence advisories when they are aware of heavy aircraft on arrival; however, OIG found that there was no written requirement for such advisories. Further, OIG was advised by a technical expert that the advisories issued for the Dalton Departure Procedure are issued just prior to or with take-off clearance, providing less time for pilots to contemplate the impact of wake turbulence than that provided for pilots in Class B airspace. Representatives of FAA's Air Traffic Organization (ATO), Office of Safety, also suggested that the NY TRACON controllers are in a better position to provide these advisories as they are better able to identify the position of heavy aircraft on arrival to Newark. Regarding procedures during a loss of communications, the report states that the FAR sets forth specific procedures for IFR and VFR operations and controllers should expect pilots to remain under VFR procedures.

In addition, the report confirms Mr. Iacopelli's allegations concerning AOV's 2009 investigation. OIG found that FAA "took no action" to implement AOV's recommendations to mitigate the risks related to the Dalton Departure Procedure. According to the report, ATO did not take any action because it concurred only with the recommendation that controllers refrain from solicitation, and managers had advised ATO that controllers were not soliciting the procedure. OIG further found that ATO had not conducted a risk assessment for the Dalton Departure Procedure because it complied with air traffic procedures, similar VFR departures are allowed elsewhere, and it was considered "a significant safety enhancement" over VFR-only procedures. OIG also found that, as the procedure pre-dates the implementation of the Safety Management System, a safety risk analysis was not required.

According to the report, ATO contends that the Dalton Departure Procedure adds an additional layer of safety, because it is a charted procedure with air traffic control safety advisories that would be unavailable if pilots elected to depart Teterboro under VFR-only. The report confirms, however, that the Dalton Departure Procedure was established to reduce the lengthy delays experienced by pilots requesting to depart Teterboro under IFR and forced to wait for the gap in Newark arrivals in order to comply with the separation requirements. It states, "Without this procedure, pilots departing Teterboro [under] IFR may experience long delays before controllers can clear them for departure." The report does not include any evidence that pilots who request IFR departures would elect a VFR-only departure clearance, and forego air traffic control separation and navigation assistance, in order to avoid such delays, as ATO suggests.

While FAA did not take action in response to the AOV findings and recommendations in 2009, the report states that during the OIG investigation, between May and September 2010, ATO initiated actions consistent with AOV's recommendations to address the potential safety hazards of the procedure. These actions included steps to ensure that controllers no longer solicit the procedure and that pilots have a copy of the procedure before they fly it. FAA also initiated training and awareness initiatives for controllers and pilots to educate them on the procedure.

According to the report, ATO also acknowledged that the safety data gathered by OIG suggested that the procedure required additional scrutiny and that implementation of additional

safety enhancements might be necessary. Prior to implementing any changes to the procedure, however, ATO indicated that it would conduct an audit in late March 2011, which would include site visits to Teterboro and the NY TRACON to conduct interviews and review report logs, radar and audio replays, training records, and policies and procedures. ATO intended to use the data identified from the available pilot and controller reports to more fully understand the extent and nature of the risk. Following these site visits, ATO would consider additional risk mitigation measures and provide an updated report to OIG.

Thus, when DOT submitted its report to OSC in February 2011, after receiving extensions for a year to investigate this matter, the safety risks posed by the Dalton Departure Procedure still had not been fully evaluated or resolved. Further, despite OIG's conclusion that the Dalton Departure Procedure posed a safety hazard, and FAA's acknowledgement that additional safety enhancements might be necessary, the report states that FAA would not take further corrective action until ATO had completed its additional audit. In addition, the report does not include any recommendations made by OIG as a result of its findings. OSC therefore requested that DOT provide a supplemental report, including ATO's March 2011 audit report, as well as any additional findings, recommendations and corrective actions taken or proposed as a result of the audit and any other additional assessments or analyses conducted. OSC also requested specific information pertaining to any FAA training opportunities offered to pilots on the Dalton Departure Procedure, as indicated in the report.

According to the supplemental report, ATO's March 2011 audit confirmed that incidents related to the Dalton Departure Procedure "continued to occur" and ATO proposed additional risk mitigation measures. The ATO audit report, included with the supplemental report, states that over 45 days of Runway 19 departures from Teterboro were reviewed. Any aircraft that turned westbound and climbed above 1,300 feet received an accompanying audio review, and 40 radar replays were reviewed for aircraft flying the Dalton Departure Procedure. The ATO audit report does not provide any of the data or details collected on these departures. It does indicate, however, that three ASRS incident reports and one pilot deviation report related to the procedure were filed between September 27, 2010, and March 24, 2011. The supplemental report also reflects that FAA subsequently advised OIG of two additional pilot deviations that occurred in May 2011.

The additional risk mitigation measures taken or proposed by FAA following the ATO audit are outlined in the supplemental report. These measures include revisions to the diagram and text of the procedure, as previously recommended by AOV in April 2009, to provide a warning about wake turbulence and procedures during a loss of communications; publication of an updated procedure adding a two-nautical-mile restriction on the westbound right turn; and proposed changes to controller phraseology to reinforce the altitude restrictions. The revisions to the diagram and text were published on May 5, 2011. The updated procedure with the two-nautical-mile restriction was published on June 30, 2011.

In addition, FAA determined that it would continue its training initiatives. The supplemental report states that FAA gave presentations on the Dalton Departure Procedure at the monthly Teterboro Airport Manager's meeting with TUG in October and November 2010 and

January through March 2011.<sup>6</sup> The ATO audit report indicates that FAA would continue its "training and communications blitz" with pilots. It states that training materials for pilots and operators were developed for briefings by FAA at meetings with TUG and Teterboro's fixed-base operators and aviation associations. FAA also planned to issue an informational bulletin and messages to pilots after the updated procedure was published. The ATO audit report also stresses that additional training for controllers is "warranted and prudent given the evolving age and experience of the workforce." The supplemental report states that training for all operational personnel would coincide with the publication of the updated procedure and refresher training would be incorporated into the annual special training plans.

The supplemental report also includes a memorandum dated May 4, 2011, from Clay Foushee, Director, Office of Audit and Evaluation, responding to OSC's request for supplemental information. The memorandum summarizes the corrective actions discussed above and reiterates FAA's position that the Dalton Departure Procedure is a "safety enhancement considering the alternatives." It states that "FAA strongly maintains that despite certain safety issues identified in conjunction with the usage of the Dalton Departure Procedure, discontinuing the use of the procedure would result in far more serious and frequent safety problems," because pilots would continue to have the option of requesting a VFR-only takeoff clearance without any direction from air traffic control. The memorandum stresses, "It is important for the OSC to recognize that the almost certain unintended negative consequences of discontinuing the Dalton Departure Procedure make such a consideration irresponsible."

#### *The Whistleblower's Comments*

Pursuant to 5 U.S.C. § 1213(e)(1), Mr. Iacopelli provided comments on the initial and supplemental reports. He asserted that the findings support his safety allegations, but the report fails to reach the logical conclusion that the Dalton Departure Procedure is inherently unsafe. In particular, he commented on OIG's acknowledgement that the procedure may pose a safety hazard, even though it complies with air traffic regulations, and the alarming finding of a 450% increase in safety reports on the procedure within the past 11 years. He contended that these findings are strong indications that the procedure is "seriously flawed." He noted that he has consistently maintained that, while the procedure is in technical compliance with FAA regulations, by design it places aircraft in unsafe proximity to other aircraft at the most critical phases of flight.

Mr. Iacopelli further noted that the report inaccurately states that he identified five additional incidents that occurred between April and May 2010. He clarified that he notified the OIG investigator of 11 incidents and included an e-mail he sent to the investigator on August 10, 2010, concerning those incidents. He pointed out that many of the incidents involved aircraft complying with the Dalton Departure Procedure and still coming within unsafe proximity to

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<sup>6</sup>The sample meeting minutes attached to the supplemental report include a bullet point stating that an FAA representative urged attendees to remind pilots about the procedure and stressed that pilots must request it and have a copy of the procedure. In one instance, the representative urged continued education for operators on the importance of the procedure.

large aircraft that produce wake turbulence. He argued that these incidents provide substantial evidence of safety issues resulting from wake turbulence.

Further, Mr. Iacopelli pointed out that the report confirms the Dalton Departure Procedure was established to reduce departure delays at Teterboro due to the volume of aircraft arriving at Newark. He stressed that the procedure was not designed to improve safety, but rather to improve efficiency and convenience at the expense of safety. Aircraft in the critical departure phase are instructed to climb directly under aircraft in the critical arrival phase, without regard to wake turbulence. He explained that when flying an IFR flight plan, these same aircraft are required to be separated by 5-6 miles or 1,000 feet; however, in the interest of efficiency and convenience, this requirement has been waived. He further pointed out that the standard separation in Class B airspace is 5 miles or 1,000 feet, regardless of whether aircraft are flying IFR or VFR; however, simply because the Dalton Departure Procedure requires aircraft to remain 100 feet below Class B airspace, no separation is provided. He contended that “it is disingenuous and dangerous to ignore the hazards posed by wake turbulence by hiding behind a technicality and 100 feet from controlled airspace.”

Mr. Iacopelli also commented on the statement in the report that the FAR requires controllers to issue wake turbulence cautionary advisories to VFR aircraft operating behind heavy or B757 aircraft regardless of the airspace. He stated that by memorandum dated March 14, 2008, the NY TRACON Air Traffic Manager directed controllers to refrain from issuing such advisories for the Dalton Departure Procedure. He also commented on the report’s focus on pilot non-compliance with the procedure, noting that there is no dispute that pilots are regularly confused about this complicated procedure that occurs in extremely congested airspace. He noted, however, that, as confirmed by the report, compliance with the procedure and air traffic safety regulations does not make this procedure safe.

In addition, Mr. Iacopelli asserted that FAA's representation that similar departure procedures are in use at three other airports is misleading and inaccurate. He provided copies of the three procedures referenced and explained that the critical distinction between them and the Dalton Departure Procedure is that all three are intended to allow aircraft to depart from the secondary airport while avoiding *airspace* used for arrivals and departures at the primary airport. The Dalton Departure Procedure is the only procedure used to avoid *airspace* and requires aircraft using the procedure to fly directly below arriving aircraft.

#### Subsequent Corrective Action

Significantly, Mr. Iacopelli advised OSC in September 2011 that FAA finally agreed to modify the Dalton Departure Procedure in a manner that provides the necessary gap in air traffic and separation between aircraft departing Teterboro and arriving at Newark. Mr. Iacopelli provided a copy of FAA’s Notice (N90 N7100.956), effective October 1, 2011, for the “Operational Evaluation of Amendments to Teterboro Dalton Departure Procedure,” which is attached to his supplemental comments. The Notice states that a Corrective Action Report issued by FAA's Air Traffic Safety Action Program (ATSAP) Event Review Committee (ERC) indicated that, based on ATSAP and ASRS reports, the Dalton Departure Procedure “poses a safety hazard.” Thus, according to the Notice, FAA agreed to amend the procedure in order to

provide a gap in air traffic to ensure separation between aircraft departing Teterboro and arriving at Newark. The Notice implemented a three-month test period, effective October 1 through December 31, 2011, to determine whether the modifications are sufficient to continue use of the procedure. Mr. Iacopelli has confirmed that the modified procedure has been implemented and appears to have resolved the safety issues associated with the procedure.

*The Special Counsel's Comments*

I have reviewed the original disclosure, the agency's reports, and Mr. Iacopelli's comments. The reports present disturbing findings on the safety hazards posed by the Dalton Departure Procedure and FAA's failure, for a period of more than two years, to resolve these safety issues. In light of OIG's findings of the safety hazards, specifically the risk of aircraft collision, as well as the 450% increase in safety reports on the procedure in the last 11 years, the agency's reluctance to take effective action to address the confirmed safety risks is not only unreasonable, but unacceptable. The supplemental report reflects that, even after FAA initiated its "training and communications blitz," safety incidents "continued to occur." However, FAA still failed to take appropriate action to resolve the safety issues. Additionally, FAA's insistence that the Dalton Departure Procedure is a "safety enhancement" is disconcerting. The report confirms that the procedure was created to reduce departure delays for Teterboro pilots requesting to depart under IFR. There is no evidence that pilots requesting IFR departures did or would request a VFR-only departure clearance, foregoing air traffic control separation and navigation assistance, in order to avoid such delays, as FAA suggests. Further, given the confirmed risk of mid-air collision posed by the procedure, FAA's position seems incomprehensible.

Despite these concerns, OSC understands that FAA has recently modified the Dalton Departure Procedure in a manner that now provides the necessary separation between aircraft departing Teterboro and arriving at Newark. While it is not clear why DOT did not advise OSC of the ATSAP ERC findings or the implementation of this modified procedure, Mr. Iacopelli confirmed that the operational evaluation of the amended procedure was implemented and currently remains in effect. I am encouraged that DOT has finally taken appropriate corrective action. I intend to request an update from the agency within the next two months concerning the status of the action taken.