Vincent M. Sugent
7768 Pleasant Lane
Ypsilanti, MI 48197
November 26, 2012

Karen Gorman
Deputy Chief, Disclosure Unit
U.S. Office of Special Counsel
1730 M Street, N.W., Suite 300
Washington, D. C. 20036-4505

Dear Karen,

Thank you again for your time, patience and effort in addressing safety issues and improprieties with Detroit Tower and the Agency. The following is offered as comments for DI-11-0165 and DI-11-1675.

DI-11-0165

The Agency has not made one change to our SIDS. We have been told the changes would be in February or March of 2013. Changes are made to our missed approaches with immediacy in order to comply with the idiocies of the corrective action addressing my operation error, but the Agency cannot even form a proper sentence let alone amend a Standard Instrument Departure procedure when it comes to this issue.

The changes made to our missed approaches actually required a flight check aircraft to arrive at the facility and fly certain aspects of the missed approach to authorize the changes. Departing aircraft were actually delayed until this could be accomplished. All we have ever needed was a simple signature for the SID changes to be made.

We continue to have directional discrepancies of 30 degrees or more and speed differences up to 15 knots. Attachment 1 is two reports and photographic evidence. The photo actually shows a difference of 160 degrees and a 17 knot difference between the ASOS and WME which occurred the morning of November 7, 2102. This continued for 20 minutes. These irregularities or anomalies or whatever the Agency wants to call them, were supposed to be corrected by the software update. They continue.

Attachment 2 is correspondence from the Agency to Senator Levin's office responding to our wind instrument concerns.

The Agency states that the *"FAA's aviation safety record is built on redundancy of systems. At DTW, the controllers use the Wind Measuring Equipment (WME) and the Automated Surface Observing System (ASOS) as their primary and secondary tools."*

Primary and secondary tools are different than redundancy systems. A redundancy system should operate the same if the primary system fails.

The Agency continues with, *"The ASOS and WME are two separate systems which are not designed to be used at the same time or in comparison with one another because of their design differences. Moreover, the WME and the ASOS are separated by nearly 7,000 feet, and the FAA does not expect wind readings to be exactly the same speed and direction at both wind instrument locations."* The Agency once again ignores the sheltering issue with the ASOS as a reason for discrepancies. We are not complaining about exact speed and direction. We are complaining about discrepancies of 30 degrees or more and 10 to 15 knot differences in wind displays and gust differences. Even after the WME software update, we are still encountering these issues.

In the July 2011 document, (Attachment 3), the Agency states, *"The ultrasonic anemometers use sound waves transferred between three transducers to calculate wind speed and direction. When one or all of these paths are broken, say from a bird landing on the anemometer (Figure 4), the internal sensor firmware occasionally reports inaccurate wind speeds."* It is also our opinion that if they cannot control the birds and the incorrect readings they cause, the ASOS wind should be taken out of service.

If the Agency wants to have redundancy, then collocate the equipment in the location at the approach end of Runway 4 Right. The Agency even admits that the systems are nearly 7,000 feet apart, or over 7,000 feet apart depending on what page you read, and does not expect the readings to be exact. Why are wind redundancy systems 7,000 feet apart, being sheltered by buildings and effected by birds?

The Agency states, *"The recent change making the WME the primary wind information source appears to have caused uncertainty with some personnel at DTW."* The designation of the WME as the primary wind is not causing uncertainty, it is inconsequential.

"The WME updates readings six times per minute, providing controllers with 360 readings per hour. It is less susceptible to rapid wind direction changes during instances of severe weather." I am not sure what the Agency is trying to convey here. The WME is less susceptible than what, the ASOS? And why would we not want to display rapid wind direction changes, or speeds for that matter, during severe weather?

In the same paragraph the Agency continues with, *"We are developing a training package to....what wind conditions require pilot notification, what wind conditions warrant a change in runway selection...."* Controllers are more than aware what wind conditions to notify pilots of; a tailwind and wind shear and what conditions require a runway change. We display two entirely different wind readings derived from two different sources that routinely clash. Detroit's dissimilar winds are often such polar opposites that different runway configurations could be utilized. To date, we have not received any such training. The Agency has ceased all communication concerning the wind instruments.

DI-11-1675

In the Summary of Incident section of the Final Operational Error/Deviation Report it states, *"The controller failed to ensure the FLG3845 Runway 4R departure course diverged from NWA7332 4L missed approach course immediately by at least 30 degrees."*

The Agency from the facility to Washington is on record at least twice stating that I did not "ensure" divergence from the missed approach course. In the Agency's own corrective action they want us to assign a heading that turns towards the arrival runway. Again, the Agency has also stated that *"....would have constituted an error even if the missed approach aircraft had promptly turned to the west"*. My departure did not even commence a turn and the missed approach and departure aircraft courses paralleled.

The Agency is acknowledging the lack of a (prompt) turn of the missed approach aircraft. My departure did not turn, nor did the missed approach aircraft, yet they want us to turn towards the arrival runway which would create the same scenario that I had or even worse if the departure turns and the missed approach does not. What difference does it make what the missed approach course heading is if the aircraft cannot turn, promptly or not? This makes no sense at all.

Given the logging of missed approaches during ICM conditions direction and the statements of not ensuring divergence, I wonder what the Agency is looking for. Not ensuring divergence and not ensuring divergence when a missed approach occurs are two entirely different things. Is it okay to not ensure divergence as long as there is not a missed approach or does the Agency want us to ensure divergence at all times? If the Agency wants us to ensure divergence at all times then they should be monitoring all operations during ICM, not just when there is a missed approach. Again, is the issue "ensuring" or that there was a missed approach involved? At what point on final do we begin and cease ensuring divergence and how is the Agency determining noncompliance?

Both controllers have to turn towards their respective arrival runways to be compliant with paragraph 5-8-3 of the 7110.65. That is why the Agency in their corrective action plan instructs the controllers to *"....assigned a heading within the confines of the "jet departure airspace"*. The Agency has stated, *"....the failure to ensure any divergence between the departure and the missed approach aircraft, much less the required 30 degrees, would have constituted an error...."*. How are we ensuring any divergence by turning toward the arrival runway? Out of one side of their mouths the Agency is damning me for what I did and out of the other side telling us to do it again.

If the missed approach aircraft does not or cannot turn, whether promptly or not, the *"....assigned a heading within the confines of the "jet departure airspace"* again would create the same scenario that I had or even worse if the departure turns and the missed approach does not. The Agency wants us to follow their direction and be efficient up until something goes awry and then they want us to be held responsible.

Also in the July 26 memorandum the Agency states, *"During the monitoring and auditing period, it appeared that duplication of the same circumstances that precipitated the event in the OIG complaint would be rare."*

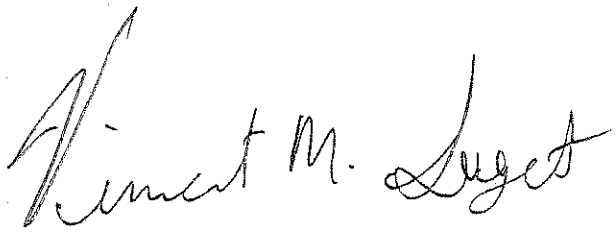
The Agency utilizes a Safety Risk Management (SRM) process. This process has been used in selecting our new tower location and Simultaneous Triple PRM ILS Approaches (STPRM). These approaches can be conducted during reduced ceiling and visibility. The Agency pulls together a panel to discuss severity and likelihood of risk, and mitigations. If the risk can be mitigated low enough, the Agency will accept the risk and allow the action.

The following is an excerpt, (Attachment 4), from the STPRM Letter of Agreement, *"...after the traffic confliction necessitating the breakout is resolved, an altitude of 4,000 feet."* This is when an aircraft unexpectedly turns towards one or both of the other aircraft on final. Two of the runways, RY 4R and RY 4L, the two runways that were involved in my incident, are only 3000 feet apart. These aircraft will be side by side and if either turns unexpectedly towards the other, the radar room controllers are expected to resolve the confliction and then establish some form of separation. The Agency has accepted this procedure and the risk involved due to the low likelihood of this occurring.

Again, the July 26 memorandum states, *"....the event in the OIG complaint would be rare."* If the Agency can establish that the event was rare without conducting a SRM process, then incorporate the rare occurrence into our corrective action plan, allowing us to turn towards the arrival runways as an accepted risk by the Agency or conduct a proper SRM process.

Thank you again for your time and patience.

Respectfully and Sincerely,



Vincent M. Sugent

1

10/29/12

NEW D21/DTW PROBLEM REPORT

10-31-12 2345 VM

DATE: TIME (Z): INITIALS: POSITION: DTW

* STARS EFSTS ETVS ASDE-X FREQ SSCS ROUTING (OTHER)
(circle appropriate problem/s) (similar call signs)

DUPLICATE FLIGHT PLANS – Provide flight progress strips if able.

STARS CONFIG: FIXED PAIRS (multi func, D, slew & enter)

ACID: COMBINED: Y / N WITH:

EFSTS CONFIG:

	* TRAN		* RECV		TYPE AC
FREQ:	MAIN	STBY	MAIN	STBY	LOCATION

PROBLEM: FROM AROUND 1600L AND ON THE ASOS DISPLAYED GUSTS AND THE WME DID NOT. I THOUGHT THE SOFTWARE UPDATE WAS SUPPOSED TO CORRECT THIS PROBLEM.

ATTACH FLIGHT STRIP HERE WHEN APPLICABLE
(STARS – EFSTS – SSCS – ROUTING issue's must be accompanied with a flight strip)

Duplicate Flight Plans – FLMs fax to airline ASAP and then forward form to front office.
DELTA: 404-773-3957, **Attn: Ed Olsen**, COMAIR: 859 767-2081, PINNACLE: 901-348-4352,
Skywest 435-634-3706, Shuttle America 317-484-2336, Compass 612-713-6829,
Go Jet 314-222-4775 (Please circle airline to whom you faxed)

CONTROLLERS - FORWARD TO FLM/CIC.
Mandatory Information – Date, Time, Initials

10/29/12

NEW D21/DTW PROBLEM REPORT

DATE: 11-1-12 TIME (Z): 0030 INITIALS: VM POSITION: DTW

* STARS EFSTS ETVS ASDE-X FREQ SSCS ROUTING (OTHER)
(circle appropriate problem/s) (similar call signs)

DUPLICATE FLIGHT PLANS – Provide flight progress strips if able.

STARS CONFIG: FIXED PAIRS (multi func, D, slew & enter)

ACID: COMBINED: Y / N WITH:

EFSTS CONFIG:

	* TRAN		* RECV		TYPE AC
FREQ:	MAIN	STBY	MAIN	STBY	LOCATION

PROBLEM: ALMOST DURING THE ENTIRE SHIFT, THE WMIE DID NOT GUST WHILE THE ASOS DID.

THE DIRECTION ALSO DIFFERED BY 20 TO 50 DEGREES.

ATTACH FLIGHT STRIP HERE WHEN APPLICABLE
(STARS – EFSTS – SSCS – ROUTING issue's must be accompanied with a flight strip)

Duplicate Flight Plans – FLMs fax to airline ASAP and then forward form to front office.
DELTA: 404-773-3957, **Attn: Ed Olsen**, COMAIR: 859 767-2081, PINNACLE: 901-348-4352,
Skywest 435-634-3706, Shuttle America 317-484-2336, Compass 612-713-6829,
Go Jet 314-222-4775 (Please circle airline to whom you faxed)

CONTROLLERS - FORWARD TO FLM/CIC.
Mandatory information – Date, Time, initials


Search
DTW BIA
Wind 220/25
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AO2 SLP168
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2

U.S. Department
of Transportation
**Federal Aviation
Administration**

Office of Audit and Evaluation (AAE)

12 SEP 13 PM 1:51

800 Independence Ave SW
Room 911 F
Washington, DC 20591
202-267-9000

September 5, 2012

The Honorable Carl Levin
United States Senate
Washington, DC 20510-2202

Dear Senator Levin:

Thank you for your August 10 letter inquiring about matters pertaining to your constituent Vincent Sugent, an air traffic controller at the Detroit Metropolitan Airport Air Traffic Control Tower (DTW). Mr. Sugent raised concerns to your office that discrepant readings of wind instruments continue to be reported by controllers at Detroit Metropolitan Airport's tower, and that the Federal Aviation Administration (FAA) has failed to respond to these concerns by not providing controllers with reliable equipment, or adequate instructions to perform their duties during instances of wind instrument reading variances or equipment failure.

FAA's aviation safety record is built on redundancy of systems. At DTW, the controllers use the Wind Measuring Equipment (WME) and the Automated Surface Observing System (ASOS) as their primary and secondary tools. The ASOS and WME are two separate systems which are not designed to be used at the same time or in comparison with one another because of their design differences. Moreover, the WME and the ASOS are separated by nearly 7,000 feet, and the FAA does not expect wind readings to be exactly the same speed and direction at both wind instrument locations.

On July 10, 2012, the FAA designated the WME as the primary source of air traffic controller wind information, instead of the ASOS. WME is the source of wind input to the Terminal Doppler Weather Radar (TDWR), which is the official primary wind shear and microburst source for air traffic control operational purposes. The WME updates readings six times per minute, providing controllers with 360 readings per hour. It is less susceptible to rapid wind direction changes during instances of severe weather. In the event that the WME is not available, the ASOS is the backup wind source until the WME is again available. Prior to the July designation, DTW was one of two major air traffic towers in the country with more than one wind measurement system that used ASOS as the primary system.

The recent change making the WME the primary wind information source appears to have caused uncertainty with some personnel at DTW. We are developing a training package to help everyone better understand what changes are associated with the change in the primary

system, what wind conditions require pilot notification, what wind conditions warrant a change in runway selection, and what anomalies and conditions warrant a trouble report and subsequent repair actions.

In response to Mr. Sugent's previous whistleblower disclosures regarding wind instruments, the FAA deployed a WME software update at DTW in March 2012, to adjust the algorithms for the WME system to closely match the ASOS outputs, and to facilitate collection of wind information to support further wind sensor comparison and understanding of reported discrepancies between the ASOS and the WME wind sensor data. The FAA will continue to collect and analyze wind information from both sensor systems into the foreseeable future; however, the FAA has thus far concluded that the wind sensor performance is consistent with performance at other major airports across the country.

The FAA considers the wind-sensor performance at DTW as routinely normal, and we do not consider the reported or observed instantaneous differences between the ASOS and the (center-field) WME to be caused by the specific location of either sensor. What has been reported by your constituent is consistent with two systems physically separated by over 7000 feet and does not endanger public safety.

The FAA is committed to ensuring the safety of our air traffic control system and to promoting an organizational culture which encourages the reporting of safety concerns. We recognize Mr. Sugent's contributions and appreciate his efforts in supporting FAA's mission.

If we can be of further assistance, please contact Roderick D. Hall, Assistant Administrator for Government and Industry Affairs, at (202) 267-3277.

Sincerely,

H. Clayton Foushee
Director

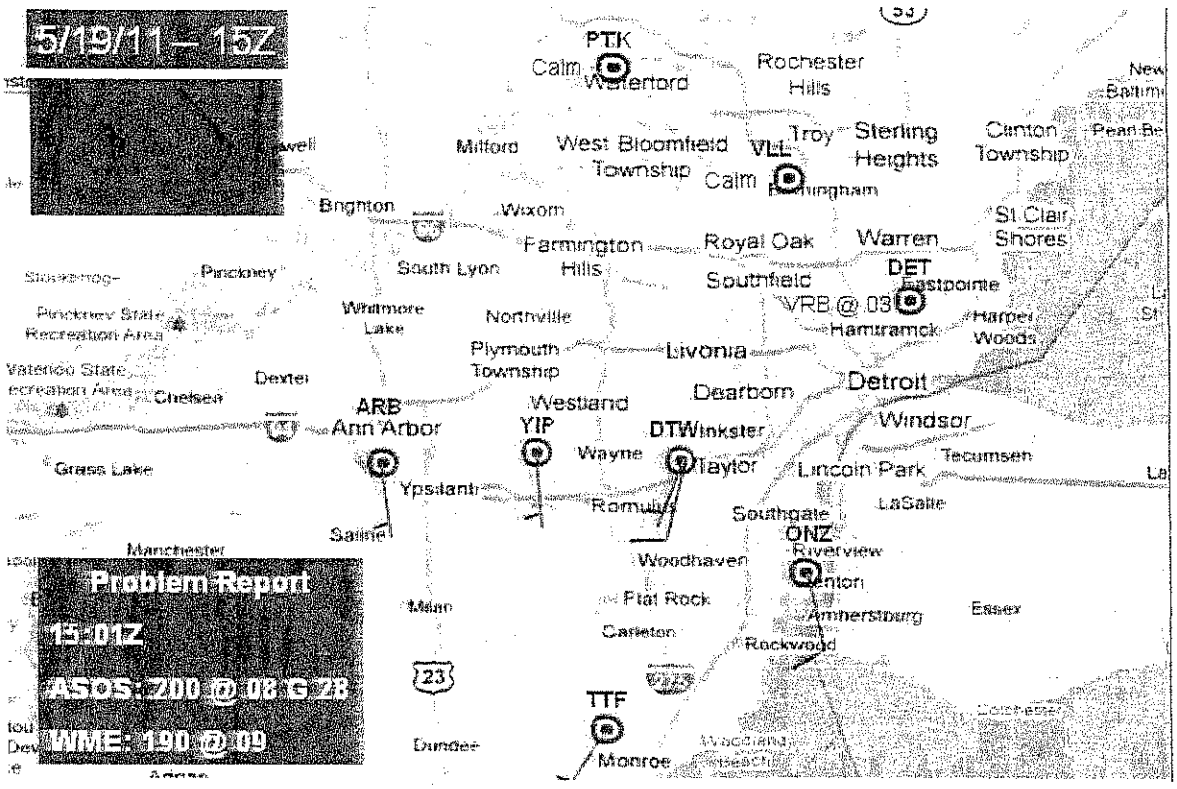

Figure 3 – Hourly METAR Summary for May 19, 2011 (15:00 UTC)

A closer look at the DTW METARs show no gusts reported in any hourly observation for the entire day. The DTW ASOS is augmented by a contract weather observer. The contract weather supervisor, Ed Burney, was contacted and confirmed that the contract weather observers have the ability to remove invalid wind gusts if they are perceived to be inaccurate utilizing other available wind sources (e.g., airport wind socks). If the peak winds on the ASOS, seen in the ATCT during the problem report, were not contained in the hourly METAR then the contract weather observer determined it was invalid and was removed.

To determine what caused the false wind gusts, the NWS in Detroit was contacted and they confirmed having seen bird interference with the ultrasonic anemometer used on the ASOS. These anomalies involve birds landing on the anemometers. The ultrasonic anemometers use sound waves transferred between three transducers to calculate wind speed and direction. When one or all of these paths are broken, say from a bird landing on the anemometer (Figure 4), the internal sensor firmware occasionally reports inaccurate wind speeds. The FAA uses the same style ultrasonic anemometers on a number of automated weather systems and has documented similar problems with birds. No gusts were falsely reported on the WME because the anemometer used is mechanical in nature and not affected by birds.

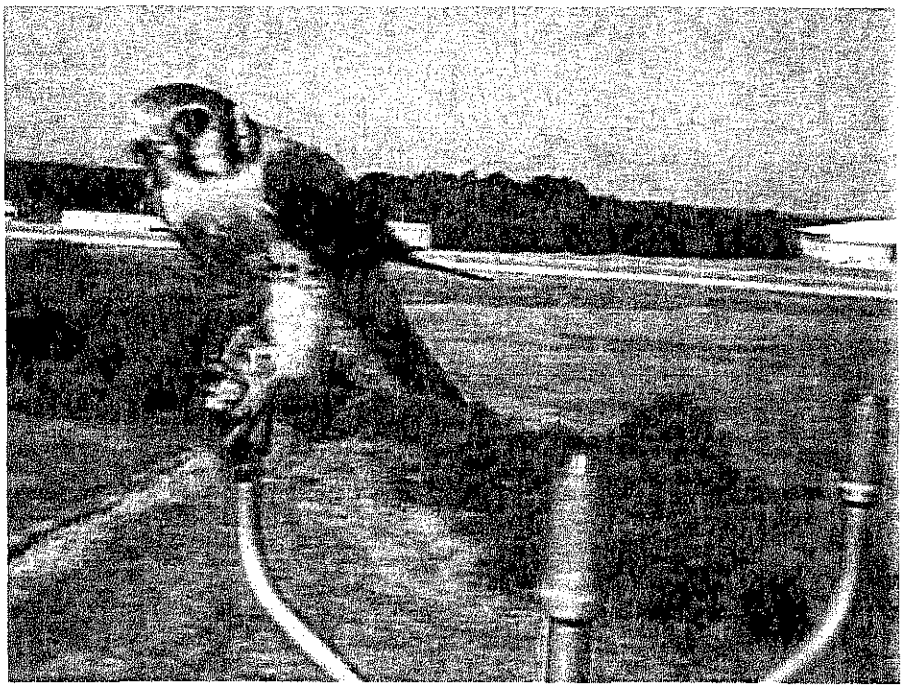

Figure 4 – Example of bird perching on ultrasonic anemometer transducer

It is the belief of the meteorologist investigating this problem report that the cause of the differences in wind readings between the WME and ASOS on May 19, 2011 at 15:01 UTC was bird activity on ASOS anemometer transducers.

Other problem reports that were determined to be a result of bird activity on ASOS anemometer transducers include: May 25, 2011 (11:19 UTC).

4.2 June 5, 2011 (22:00 UTC) – Light and Variable Winds

The problem report on June 5, 2001 at 22:00 approximate (Figure 5) documented a situation where the winds on the ASOS were 080° at 08 knots with no gusts and the winds on the WME were 160° at 05 knots with no gusts.

4

SUGGESTED PHRASEOLOGY –
Breakout complete

3) Once informed the breakout is complete, DTW must issue control instructions to contain the aircraft in Tower airspace and deliver as a prop departure on the departure side of the airport.

4) Handoff to appropriate satellite position: DTW must initiate the handoff on breakouts initiated within tower airspace; D21 must initiate the handoff on breakouts initiated outside of tower airspace.

5) After the handoff specified in subparagraph 4) above, DTW will initiate communications transfer as appropriate and, **during SILS only**, releases to D21 control for turns away from the extended runway centerline on the departure side of the airport.

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(c) STILS:

1) Non-Blunder Breakouts:

a) Outboard runways: As per 9.a.(2)(b), SDPRM.

b) Inboard runway: Issue the instruction to track the localizer and, after the traffic confliction necessitating the breakout is resolved, an altitude of 4,000 feet if the aircraft will enter Tower airspace. Then as per 9.a.(2)(b), SILS / SDPRM.

NOTE: Release of control from the monitor back to the local controller (completion of the breakout) can not be completed until monitoring of the No Transgression Zone is no longer required.

2) Blunder Induced Breakouts:

a) Outboard runways:

i. RWY 4L / 21L when inside the Dual Bar: Issue a turn away from the adjacent final approach course (heading 300 and 120 respectively) and, after the traffic confliction necessitating the breakout is resolved, an altitude of 4,000 feet.

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ii. RWY 3R / 22R: Issue a turn away from the adjacent final approach course (heading 120 and 300 respectively) and, after the traffic confliction necessitating the breakout is resolved, an altitude of 4,000 feet.

iii. Assign subsequent control instructions and transfer communications as coordinated.

b) Inboard runway:

i. Execute a precautionary breakout to aircraft on the opposite outboard when the aircraft on an outboard runway generates a cautionary FMA alert (yellow) and the track of the aircraft indicates it is not responding to instructions to return to the localizer in a manner that will keep it in the Normal Operating Zone (NOZ).

NOTE: The purpose of the precautionary breakout is to better allow for vectors off the inboard final approach course to aircraft in potential conflict with the blundering aircraft. If there is not a threatened aircraft on the inboard runway, the precautionary breakout is not required.

ii. Issue a turn away from the final approach course in consideration of the position of aircraft on both outboard runways and, after the traffic confliction necessitating the breakout is resolved, an altitude as coordinated.

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iii. Assign subsequent control instructions and transfer communications as coordinated.

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