

Vincent M. Sugent
7768 Pleasant Lane
Ypsilanti, MI 48197
September 11, 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 a response to DI-11-1675 and DI-11-1677 supplemental information received July 2012 from the Agency.

Allegations 2 and 3 - July 23, 2012 Memorandum

The Agency has not made one change to our SIDS. In the July 23, 2012 memorandum, the Agency states, "...to pursue three preferred routes "branched off" the "Palace Five Departure" and "St. Clair Four Departure" (existing) SIDs" and "Preferred routes must be validated and may take up to eight months to publish". We did agree to incorporate the routes already utilized into the Palace 5 and St. Clair 4 departures. The routes do not need to be validated; the routes are already being flown and have been for years.

The Agency changed the missed approaches to accommodate amendments and training for their corrective action plan to address my OE and did so in short order. Due to a runway closure, the Agency had to amend the missed approaches to RY 22L. Within a few days, the Agency had the runway flight checked and changed the missed approach even quicker, but it is going to take until February or March of 2013 to amend our SID's. This delay is unacceptable.

As for the wind.

In attachment 1, the 7110.65, 2-9-3, note states, "*ASOS/AWOS is to be considered the primary source of wind direction, velocity, and altimeter data for weather observation purposes at those locations that are so equipped.*"

In attachment 2, the 7210.3, 2-10-1 states, "*Air traffic managers must designate in a facility directive which wind sources must be used for operational purposes.*"

DTW NOTICE 7110.218, (Attachment 3), the Agency changed the official wind for operational purposes to the WME. Given the fact that nowhere in NOTICE 7110.218

does it state that the ASOS wind will be removed from the IDS-4, we will still have two winds from two different sources being displayed and both are inaccurate.

Also in Order 7110.218, the Agency is directing us to utilize wind socks if both pieces of equipment are not working. Nowhere in the 7110.65 does it reference wind socks. Wind socks are navigational aids for pilots. What do we do at night? What do we do during reduced visibility? What type of windsock is it? When does it break free and point into the wind? At what speed does it begin to rise and what do the different levels of erectness mean related to speed? We have had no training and should not be doing this. This is ridiculous.

So now pilots will receive wind from the ATIS broadcast and issued a different wind from us. This is going to have a direct impact on how the heavy departures, (B747's, A330 and etcetera), select a runway. I believe they base this on the ATIS wind. So the WME will be used for operational purposes for us to make decisions and the ASOS wind will be used by pilots for their operational purposes. Also, when there is aircraft accident the authorities utilize the ASOS wind, not the WME, weather for reports.

In Order 6560.20B, (Attachment 4), it is pretty straight forward when it states, "*...but, after installation, the sensor(s) must demonstrate that accurate and reliable information is being provided. If the wind information is not accurate and reliable, resolution is required. Resolution may require that the sensors be relocated or turned off.*"

Order 6560.20B also states, "*It is desired that all obstructions (e.g., vegetation, buildings, etc.) be at least 15 feet lower than the height of the sensor within the 500 foot radius and be no greater than 10 feet above the sensor from 500 to 1000 feet. Where this desired location and clearance is difficult to achieve due to physical or economic reasons, the following definitions should be followed. An object will become a sheltering obstruction if the distance between the sensor and the object is less than ten times the height of the object and the lateral angle from the sensor to the ends of the object exceeds 10 degrees. Sheltering obstructions should be avoided by location choice or removed from the location if possible. Again, if difficult to achieve, a less desirable location may have to be selected;*"

Attachment 5 is from Chris Turner's December 6, 2010 report. It is very similar to the third page from attachment 4. As a matter of fact, Mr. Turner's report follows Order 6550.20B reasonably well. TechOps personnel maintain that although the ASOS meets the siting criteria, the ASOS is indeed affected by the sheltering and consequently, they recommend that the ASOS and the WME be moved to a mutual location near runway 4R. Why is the Agency not following what Mr. Turner has set forth and listening to the TechOps personnel based at DTW? Instead the Agency decides to hide and not address the problem.

In the July 23, 2012 Memorandum the Agency states, "*The FAA is continuing to collect wind information to support this decision to re-designate a primary wind sensor for Detroit Metropolitan Wayne County Airport (DTW).*" What information is the Agency

continuing to collect and do they have that supported the change? We have given the Agency an enormous amount of wind information and the information we gave them supported nothing but to move both pieces of equipment.

The July 23 Memorandum also states, *“Our need to compare wind sensor information was limited the past few weeks, but one four-hour period (Apr. 24, 2012) revealed a maximum difference of 40-degrees and 13-knots while the average variation in the two systems was 11-degrees and 2-knots.”* Both, the average and maximum, differences are unacceptable. Depending on the speed difference and what the degree direction differed by could have an effect on runway selection and aircraft performance.

On Sunday, September 9, 2012, the WME displayed wind "CALM". The ASOS displayed the wind as 31013G17. The supervisor requested winds aloft from aircraft on final which supported the ASOS wind. Then the two pieces of equipment swapped readings and the WME had gusts and the ASOS did not. The supervisor called someone and discussed this with them, maybe the National Weather Service, but I did not catch who it was or what the entire conversation entailed. This is what we have been talking about. Both pieces of equipment are not working properly.

We have had three incidents where the wind was a factor. It is only a matter of time before something serious happens. When the ASOS wind and WME differ and we issue WME wind and there is an incident, guess who gets blamed.

Allegations 1, 2 and 3 - July 26, 2012 Memorandum

In the Summary of Incident section of the Final Operational Error/Deviation Report (Attachment 6), 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.”*

On page 6 of the OIG’s Report of Investigation sent to Secretary LaHood, (Attachment 7), the following statement is made, *“According to the investigating FAA officials, because the weather and visibility on December 25, 2009, did not allow for visual separation, some other form of separation was required. Absent the use of any other separation rule, 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 even if the missed approach aircraft had promptly turned to the west.”* I am still very upset that the Agency is accusing me of lying. Not one person who has made or written this statement was in the tower at the time of the incident. This lacks integrity, character and professionalism.

In the Agency’s Corrective Action Plan, (Attachment 8), the following direction is given, *“These changes all call for a climb to 1100’ and then a climbing turn to 3000’ on a heading that will allow for at least 30 degrees of divergence from the published missed approach procedure and a departure assigned a heading within the confines of the “jet departure airspace” as defined in the DTW/D21 LOA. These changes to the published*

missed approach procedures and this subsequent training have been reviewed and approved by several entities of the FAA including DTW management, DTW NATCA, CSA Terminal Operations, ATO Terminal Safety and Operations Support, and ATO Safety and Technical Training."

When the provisions of FAAO 7110.65 par 7-2-1 (visual separation) are not being applied, you should initially assign all departures a heading within the confines of the "jet departure airspace", including departures to satellite airspace until you can provide another form of separation i.e. standard radar separation."

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.

The Agency is requiring DTW to log all missed approaches during ICM (Instrument Meteorological Conditions) that occur within 5 miles of the airport. This is so the Agency can be alerted to the situation and review for compliance. In the July 26 memorandum the Agency states, "*Only one MA event occurred during instrument meteorological conditions (IMC), while simultaneous instrument landing system (ILS) approaches were in use with a simultaneous departure aircraft involved.*" This is all that was stated about the missed approach. It would be interesting to review the playback and see what transpired.

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? What criteria, at what point on final do we begin and cease ensuring, is the Agency using to determine noncompliance?

The April 10, 2011 missed approach playback involved a RY 4R departure issued a heading of 060 towards RY 3R arrival runway. The RY 3R arrival executed a missed approach and was unable to turn. The local west controller instructed the RY 4R

departure to fly runway heading and then a left turn to heading 360. The aircraft were side by side, the departure initially was issued a turn towards the arrival runway and the weather did not allow for visual separation, (we could not see the either aircraft or runway for that matter). The situation was almost identical to my scenario, yet the Agency said the issues were comparing apples to oranges. I have never received nor heard of the explanation as to why the situations were different. Could it be that the Agency's corrective action of "*...assigned a heading within the confines of the "jet departure airspace"*", as the April 2011 departure was, put aircraft in a harms way and to put it in the Agency's own words, "*...would have constituted an error even if the missed approach aircraft had promptly turned....*".

The Agency has to have a way to blame controllers for their lack of direction and leadership. Not telling controllers where ensuring divergence begins and ends and calling us liars are two perfect ways to "ensure" that can be accomplished. How do you approach an Agency that is willing to accuse their employees of lying instead of properly addressing an incident or what lead up to the incident? There are so many moral and ethical issues that I do not where to begin.

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"*". On page 6 of the OIG's Report of Investigation sent to Secretary LaHood, (Attachment 7) the Agency states, "*...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 9), from the STPRM Letter of Agreement, "...after the traffic conflict 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 conflict 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.

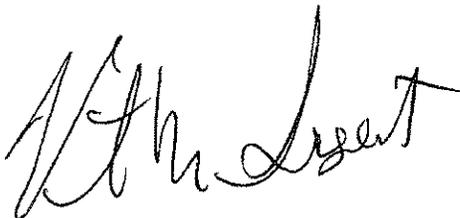
Attachment 10 is a memorandum amending our corrective action plan due to RY 22R/4L closing. It now appears that we are able to use various separation rules all the while telling me that it was unacceptable. The memorandum is also void of rule 5-5-7, Passing or Diverging.

What do we do if the aircraft that is to be westbound off of RY 21R is initially assigned a heading of 185, is south of RY 21L and/or after 2 increasing to 3 is applied between the RY 21L arrival, the RY 21L arrival goes around. We could possibly have a westbound aircraft east of the missed approach aircraft. Given the Agency's conduct with my OE, they once again have a way to blame controllers. By turning away from RY 22L, we are creating another with RY 21R.

Since December 2009, the Agency's refusal to give our facility direction and have the facility write and interpret rules is just an embarrassment. This is why we are where we are. This gives the Agency not only a controller to blame, but their own local management team.

Thank you again for your time and patience.

Respectfully and Sincerely,

A handwritten signature in black ink, appearing to read "Vincent M. Sugent". The signature is written in a cursive, flowing style.

Vincent M. Sugent

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2-9-3. CONTENT

Include the following in ATIS broadcast as appropriate:

a. Airport/facility name, phonetic letter code, time of weather sequence (UTC). Weather information consisting of wind direction and velocity, visibility, obstructions to vision, present weather, sky condition, temperature, dew point, altimeter, a density altitude advisory when appropriate and other pertinent remarks included in the official weather observation. Wind direction, velocity, and altimeter shall be reported from certified direct reading instruments. Temperature and dew point should be reported from certified direct reading sensors when available. Always include weather observation remarks of lightning, cumulonimbus, and towering cumulus clouds.

NOTE-

ASOS/AWOS is to be considered the primary source of wind direction, velocity, and altimeter data for weather observation purposes at those locations that are so equipped. The ASOS Operator Interface Device (OID) displays the magnetic wind as "MAG WND" in the auxiliary data location in the lower left-hand portion of the screen. Other OID displayed winds are true and are not to be used for operational purposes.

b. Man-Portable Air Defense Systems (MANPADS) alert and advisory. Specify the nature and location of threat or incident, whether reported or observed and by whom, time (if known), and notification to pilots to advise ATC if they need to divert.

EXAMPLE-

1. "MANPADS alert. Exercise extreme caution. MANPADS threat reported by TSA, Chicago area." "Advise on initial contact if you want to divert."

2. "MANPADS alert. Exercise extreme caution. MANPADS attack observed by tower one-half mile northwest of airfield at one-two-five-zero Zulu." "Advise on initial contact if you want to divert."

REFERENCE-

FAAO JO 7110.65, Para 10-2-13, MANPADS Alert.
FAAO JO 7210.3, Para 2-1-9, Handling MANPADS Incidents.

c. Terminal facilities shall include reported unauthorized laser illumination events on the ATIS broadcast for one hour following the last report.

Include the time, location, altitude, color, and direction of the laser as reported by the pilot.

PHRASEOLOGY-

UNAUTHORIZED LASER ILLUMINATION EVENT, (UTC time), (location), (altitude), (color), (direction).

EXAMPLE-

UNAUTHORIZED LASER ILLUMINATION EVENT, AT 0100z, 8 MILE FINAL RUNWAY 18R AT 3,000 FEET, GREEN LASER FROM THE SOUTHWEST.

REFERENCE-

FAAO JO 7110.65, Para 10-2-14, Unauthorized Laser Illumination of Aircraft.

FAAO JO 7210.3, Para 2-1-27, Reporting Unauthorized Laser Illumination of Aircraft.

d. The ceiling/sky condition, visibility, and obstructions to vision may be omitted if the ceiling is above 5,000 feet and the visibility is more than 5 miles.

EXAMPLE-

A remark may be made, "The weather is better than five thousand and five."

e. Instrument/visual approach/s in use. Specify landing runway/s unless the runway is that to which the instrument approach is made.

f. Departure runway/s (to be given only if different from landing runway/s or in the instance of a "departure only" ATIS).

g. Taxiway closures which affect the entrance or exit of active runways, other closures which impact airport operations, other NOTAMs and PIREPs pertinent to operations in the terminal area. Inform pilots of where hazardous weather is occurring and how the information may be obtained. Include available information of known bird activity.

REFERENCE-

FAAO JO 7110.65, Para 2-1-22, Bird Activity Information.

h. Runway braking action or friction reports when provided. Include the time of the report and a word describing the cause of the runway friction problem.

PHRASEOLOGY-

RUNWAY (number) MU (first value, second value, third value) AT (time), (cause).

EXAMPLE-

"Runway Two Seven, MU forty-two, forty-one, twenty-eight at one zero one eight Zulu, ice."

REFERENCE-

FAAO JO 7110.65, Para 3-3-5, Braking Action Advisories.

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Section 10. Wind/Altimeter Information

2-10-1. WIND INSTRUMENT SENSORS

Air traffic managers must designate in a facility directive which wind sources must be used for operational purposes.

a. Towers equipped with LLWAS may use direct dial or LLWAS wind information for weather observations, except where automated wind information is available.

b. Approach control facilities may use direct dial, LLWAS, or automated display wind information for operational purposes.

c. FSSs must use direct dial or automated display wind information for operational purposes.

d. Other exceptions must be referred to the Manager of System Safety and Procedures for approval.

2-10-2. WIND INDICATOR CROSS CHECK

All FAA facilities having an associated NWS office or military weather station using the same sensing equipment must compare wind direction and speed indicator readings at the beginning of each work day with those of the NWS or military weather station, keeping in mind that the NWS wind direction equipment are oriented to true north. Apply the magnetic variation to ensure a correct reading. Coordinate the time of the cross-check and the associated procedures with the meteorologist-in-charge or other appropriate officer. Wind instrument errors must be handled as follows:

a. If an FAA wind direction indicator is out of tolerance with other indicators on the same sensor by 5 degrees, or if the wind speed indicator reveals a disparity of plus or minus 5 knots, notify the appropriate maintenance personnel immediately for corrective action.

b. If the indicators show an error of over 10 degrees or 10 knots, the equipment must be considered inoperative. In this case, obtain further wind information from other properly functioning wind instruments in the tower, local FSS, the NWS, or military weather office. Notify the appropriate maintenance personnel of all outages.

2-10-3. ALTIMETER REQUIREMENTS

a. At least two aneroid altimeter setting indicators (ASI) or one ASI and a traceable pressure standard are required in a TRACON, radar approach control (RAPCON), terminal radar approach control in tower cab (TRACAB), combined center/RAPCON (CERAP), radar ATC facility (USN) (RATCF), tower cab, and a FSS that takes weather observations and/or provides LAA. When two or more facilities (or a NWS commissioned/certified automated weather observing system) are located on the same airport, the requirement may be reduced to one aneroid ASI per facility. Aircraft altimeters must not be used in reporting altimeter settings.

NOTE-

1. Stand alone RADAR approach control facilities (TRACON, RAPCON, RATCF, CERAP) not associated with a control tower are only required to maintain altimeter settings for those airports under their jurisdiction.

2. A digital ASI (DASI) system is considered as one aneroid ASI instrument for the purpose of this paragraph.

b. At locations with commissioned ASOS or commissioned dual transducer AWOS units, the ASOS/AWOS becomes the pressure standard. If the ASOS/AWOS is inoperative, a Stand Alone Weather System (SAWS) or DASI may be considered as the pressure standard.

2-10-4. COMPARISON CHECKS

a. Facilities equipped only with aneroid instruments:

1. Compare the reading of each aneroid instrument (ASI) daily and each nonpressure standard digital instrument (DASI) monthly with the altimeter setting issued by an associated facility having a traceable pressure standard located either on the airport or within the distances set forth in subparagraphs d and e.

2. When the differences between the two altimeter settings exceeds 0.05 in. Hg. at nonprecision approach locations or 0.02 in. Hg. at precision approach locations, remove the instrument from service and notify Technical Operations personnel. When all ASI instruments in the facility are found to exceed the tolerances, report the altimeter setting as *missing*.

3

NOTICE

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
DETROIT METRO ATCT

D21 N7110.199
DTW N7110.218

Effective Date:

July 10, 2012

Cancellation Date:

July 10, 2013

SUBJ: Primary Wind Source

- 1. Purpose of This Notice.** The purpose of this notice is to amend Order DTW 7110.9B and D21 7110.9D by establishing the Wind Measuring Equipment (WME) as the primary wind source.
- 2. Audience.** This notice applies to DTW Tower employees and all associated support personnel.
- 3. Where Can I Find This Notice?** This notice is available in all applicable DTW publications and the FAA Federal Directives Repository, <https://loa.faa.gov/> .
- 4. Explanation of Changes.** The Wind Measuring Equipment (WME) is designated as the primary wind source for operational purposes at DTW ATCT. WME is a source of wind input to the Terminal Doppler Weather Radar (TDWR). TDWR shall be the official primary, wind shear and microburst source for operational purposes.

In the event the WME is not available, the ASOS shall become the official wind source for operational purposes.

Equipment Readout Locations:

- Tower WME - Displayed on the top line of the TDWR Ribbon Displays.
- TRACON WME – Displays are located at FLM/CIC Desk, Feeder, Final, and Satellite positions.
- ASOS – Displayed on various pages of the IDS4 system as a direct feed from the ASOS.

5. PROCEDURE. DTW7110.9B: Change paragraph 2-17 Primary Wind Source to read:

The WME is the primary wind source for operational purposes at DTW ATCT. The Terminal Doppler Weather Radar (TDWR) shall be the official primary, wind shear and microburst source for operational purposes. In the event the WME is not available, the ASOS magnetic winds shall become the official wind source for operational purposes unless deemed unreliable and logged out of service.

Note: If WME or ASOS winds are deemed unreliable and are logged OTS, the FLM/CIC shall immediately notify the TRACON, the MOCC, and the National Weather Service Contract Weather Observer (ASOS only). If both wind systems are logged OTS, winds shall be estimated from the centerfield windsock (located north of Taxiway V and east of Taxiway K), and the estimate shall be forwarded to the TRACON by the FLM/CIC. Any significant changes in the estimate shall also be forwarded to the TRACON.

D21 7110.9D: Change paragraph 2-1 RESPONSIBILITY b. & c. to read:

- b. The Wind Measuring Equipment (WME) is designated as the primary source for wind information at D21. In the event the WME is not available, the ASOS magnetic winds shall become the official wind source for operational purposes.
- c. The Terminal Doppler Weather Radar (TDWR) is designated as the source for wind shear and microburst information.

Note: If WME or ASOS winds are deemed unreliable and are logged OTS, the Tower FLM/CIC shall immediately notify the TRACON. If both wind systems are logged OTS, winds shall be estimated from the centerfield windsock and the estimate shall be forwarded to the TRACON by the FLM/CIC. Any significant changes in the estimate shall also be forwarded to the TRACON.



Gary Ancinec
Acting Air Traffic Manager
Detroit Metro TRACON



John Whitehurst
Air Traffic Manager
Detroit Metro ATCT

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2.5 WIND SENSOR

This sensor (wind speed and wind direction) will be oriented with respect to true north. The surveyor point used to establish the AWOS wind direction orientation will be permanently installed and marked as a reference benchmark for future use. The system software will be used to make required adjustments to magnetic north. The site should be relatively level, but small gradual slopes are acceptable. The sensor should be mounted at 30 to 33 feet (9 to 10 meters) above the average ground height within a radius of 500 feet (150 meters). It is desired that all obstructions (e.g., vegetation, buildings., etc.) be at least 15 feet lower than the height of the sensor within the 500 foot radius and be no greater than 10 feet above the sensor from 500 to 1000 feet. Where this desired location and clearance is difficult to achieve due to physical or economic reasons, the following definitions should be followed. An object will become a sheltering obstruction if the distance between the sensor and the object is less than ten times the height of the object and the lateral angle from the sensor to the ends of the object exceeds 10 degrees. Sheltering obstructions should be avoided by location choice or removed from the location if possible. Again, if difficult to achieve, a less desirable location may have to be selected; but, after installation, the sensor(s) must demonstrate that accurate and reliable information is being provided. If the wind information is not accurate and reliable, resolution is required. Resolution may require that the sensors be relocated or turned off. Additional wind sensor siting location information is covered in paragraphs 3.2.2 and 3.2.3.1 of this order.

Exception: The height of a wind sensor installed on the Instrument Landing System (ILS) glide slope antenna tower or on a separate tower in area "A," figure 1, section 3, will be reduced, as necessary, such that the height of the complete wind sensor installation (i.e., to include any required air terminal(s) and obstruction lights) does not exceed the height of the glide slope antenna installation. The minimum acceptable height for the wind sensor in this situation is 20 feet (6 meters). If side mounting (i.e., perpendicular to a tower) is necessary, a boom will be used to permit installation of the sensor at a minimum of 3 feet (1 meter) laterally from the tower. Side mounting is to be utilized only if top mounting is not practicable and the tower is of open design to allow for free air flow.

free zone, or instrument flight procedures surface as described in AC 150/5300-13, Airport Design, or FAA Handbook 8260.3, TERPS.

3.2.4 Airports with Precision Instrument Runways and with RVR Instrumentation. The cloud height, visibility, and wind sensors and associated DCP shall be sited at a location on the airport that will assure the resultant observations are representative of the meteorological conditions affecting aviation operations, and that meets the sensor exposure criteria outlined in section 2. However, no sensor siting shall violate runway or taxiway object free areas, runway or taxiway safety areas, obstacle free zones, or instrument flight procedures surfaces as described in AC 150/5300-13, Airport Design, or FAA Handbook 8260.3, TERPS.

3.3 PRESSURE, LIGHTNING DETECTION SENSORS

3.3.1 Pressure. The pressure sensors are not functionally constrained to be at any specific location and may be located anywhere that meets the exposure requirements in paragraphs 2.2 and 2.2.1.

3.3.2 Lightning Detection (Thunderstorm). The single station detection sensor shall be installed at any location on the airport that meets the requirements of paragraph 2.7.

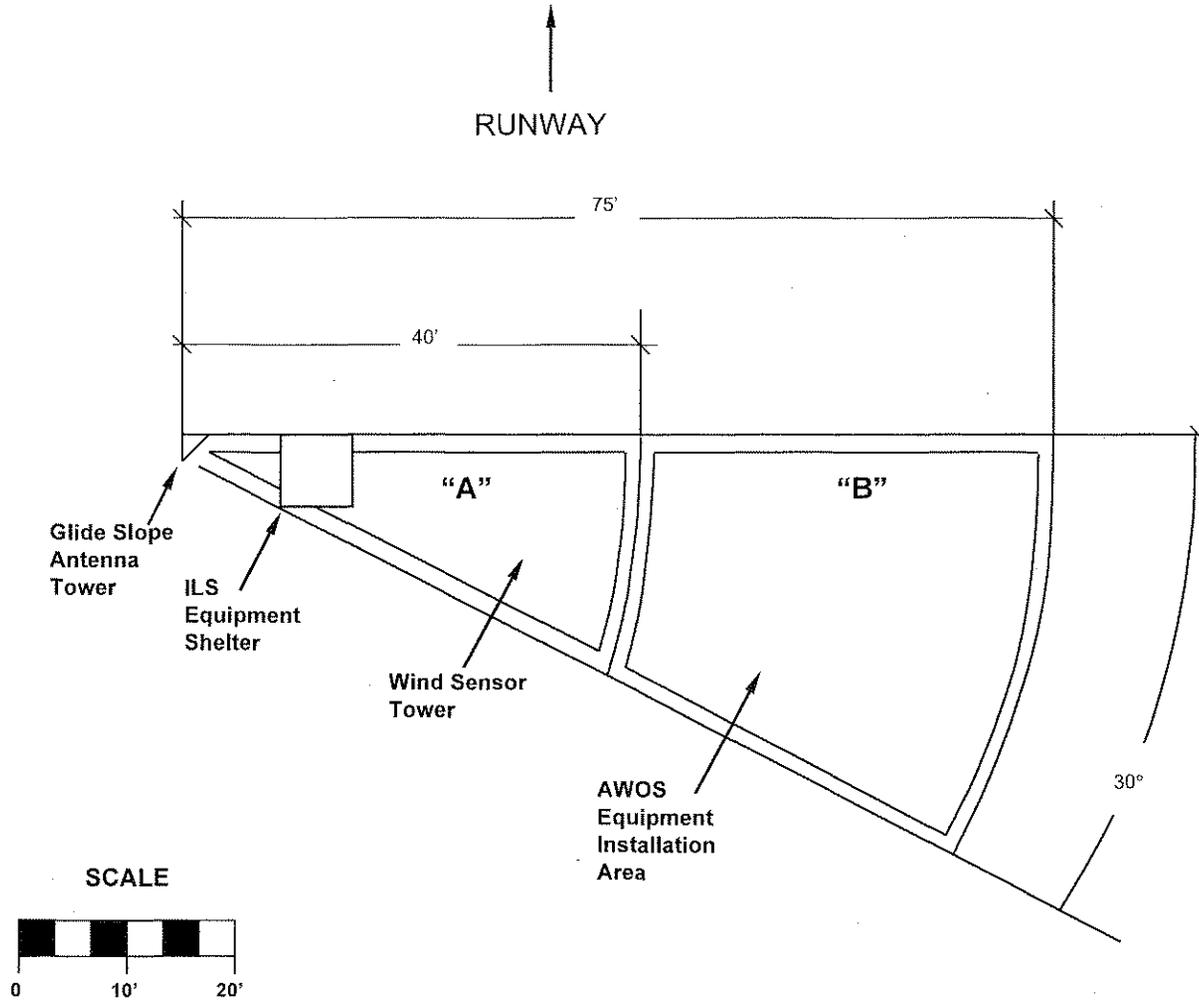
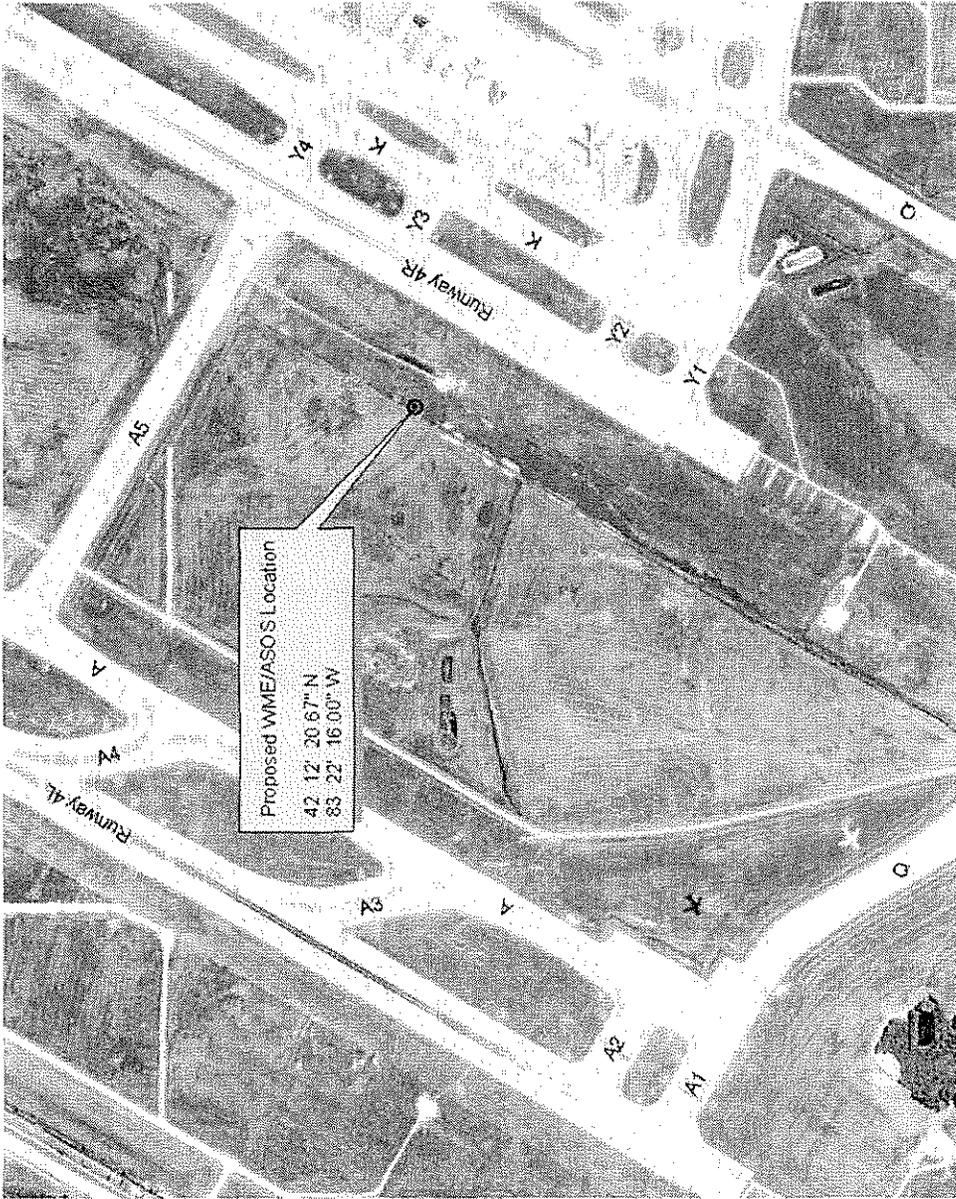


Figure 1. Precision Instrument Runway Siting (Plan View)

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DTW Proposed WME and ASOS Site

6

Final Operational Error/Deviation Report	Report Number	D	T	W	T	0	9	E	0	0	4
65. SUMMARY OF INCIDENT											
<p>ITEM 4. WEATHER WAS MARGINAL, WITH GUSTY WIND AND LOW LEVEL WINDSHEAR ADVISORIES.</p> <p>ITEM 30. THE LOCAL NORTHWEST CONTROLLER WAS AWARE THAT A CONFLICT WAS DEVELOPING WHEN HE REALIZED THAT NWA7332 WAS GOING AROUND.</p> <p>ITEM 32. THE LNW CONTROLLER TRIED TO STOP THE DEPARTURE AIRCRAFT'S TURN THEN TURNED THE DEPARTURE FURTHER RIGHT, BUT SEPARATION WAS LOST.</p> <p>NWA7332 WAS CONDUCTING AN ILS RUNWAY 4L APPROACH. WHEN NWA7332 WAS JUST UNDER 2 MILES FROM THE RUNWAY THRESHOLD, THE LOCAL NORTHWEST CONTROLLER CLEARED FLG3845 FOR TAKEOFF ON RUNWAY 4R WITH A HEADING OF 330 DEGREES. THE LOCAL NORTHWEST CONTROLLER OBSERVED NWA7332 GOING AROUND ON RUNWAY 4L AND INSTRUCTED FLG3845 (NOW AIRBORNE) TO CONTINUE RUNWAY HEADING AND NOT TURN. NWA7332 DECLARED THEY WERE GOING AROUND AND LNW ASSIGNED NWA7332 A 330 DEGREE HEADING. THE LNW CONTROLLER THEN INSTRUCTED FLG3845 TO MAKE A RIGHT TURN. LNW THEN TOLD FLG3845 TO MAKE A RIGHT TURN TO AT LEAST A 050 HEADING.</p> <p>THE CONTROLLER FAILED TO ENSURE THE FLG3845 RUNWAY 4R DEPARTURE COURSE DIVERGED FROM NWA7332 4L MISSED APPROACH COURSE IMMEDIATELY BY AT LEAST 30 DEGREES.</p>											

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and issued it a heading of 330 degrees while an arrival to Runway 4L was on final approach. When the arrival to 4L executed a missed approach, there was a loss of separation between the two aircraft, as they came within 0.3 nautical miles and 200 feet. The FAA officials said the whistleblower did not provide immediate divergence between the departure's course and the possible missed approach and issued the departure a 330-degree heading across the extended centerline of Runway 4L.

The whistleblowers contend, however, that the December 25, 2009, event should not have been an operational error because the pilot conducting the missed approach failed to promptly follow the whistleblower's instruction (to turn to the west and away from the 4R departure). More important, they contend the whistleblower could not have simultaneously provided the 15-degree divergence between the Runway 4R and 3L departures and the 30-degree divergence between the missed approach to Runway 4L and the departure from Runway 4R.

According to the investigating FAA officials, because the weather and visibility on December 25, 2009, did not allow for visual separation, some other form of separation was required. Absent the use of any other separation rule, 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 even if the missed approach aircraft had promptly turned to the west.

According to the investigating FAA officials, if the whistleblower elected to issue the departure a 330-degree heading, the whistleblower could have, for example, waited until there was assurance the aircraft arriving to Runway 4L would land before departing the aircraft from Runway 4R. By issuing the 330-degree heading to the Runway 4R departure while the Runway 4L arrival was still on final approach, the officials determined that the whistleblower did not provide the 30-degree divergence required under Paragraph 5-8-5.

Notwithstanding the FAA investigators' analysis of the December 25, 2009, operational error, the event demonstrates the difficulties controllers at DTW face while conducting simultaneous arrivals and departures during the North Flow. As explained in allegation 2 below, the difficulties are compounded by a lack of common knowledge and understanding – as evidenced by the statements of the DTW controllers and managers we interviewed – concerning the proper divergences required for simultaneous operations and when, precisely, the controllers must apply them.

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Federal Aviation Administration

Memorandum

Date: March 11, 2012
To: DTW ATCT Personnel

John Whitehurst

From: John Whitehurst, Air Traffic Manager, DTW ATCT
Prepared by: Daniel Ricks, FLM/SUPCOM Chair, DTW ATCT
Subject: Corrective Action Plan Training

Background: As a result of an investigation into an air traffic event from December 25, 2009, it was discovered that DTW ATCT did not have in place proper local procedures and training to adhere to portions of FAAO 7110.65. Specifically there was not adequate assurance of FAAO 7110.65 par 5-8-5 when not using another form of separation.

Action: In order to comply with FAAO 7110.65 par 5-8-5, and in consideration of the Runway configurations in use at DTW, there has been a change to the published missed approach procedures for the following approaches to DTW: RWY 22R, RWY 21L, RWY 4L, RWY 3R, RWY 27R, and RWY 27L (see attachments). These changes all call for a climb to 1100' and then a climbing turn to 3000' on a heading that will allow for at least 30 degrees of divergence from the published missed approach procedure and a departure assigned a heading within the confines of the "jet departure airspace" as defined in the DTW/D21 LOA. These changes to the published missed approach procedures and this subsequent training have been reviewed and approved by several entities of the FAA including DTW management, DTW NATCA, CSA Terminal Operations, ATO Terminal Safety and Operations Support, and ATO Safety and Technical Training.

Application: A controller must always have established one form of separation to all aircraft under their jurisdiction. In order to comply with FAAO 7110.65 and allow operations on multiple parallel runways at DTW, a combination of either one, two or all three of 7110.65 pars 5-8-3, 5-8-4 and 5-8-5 may be applied to arrivals and departures at DTW. When the provisions of FAAO 7110.65 par 7-2-1 (visual separation) are not being applied, you should initially assign all departures a heading within the confines of the "jet departure airspace", including departures to satellite airspace until you can provide another form of separation i.e. standard radar

separation. By following this guideline and the changes to the published missed approaches, you should always be able to comply with FAAO 7110.65 pars 5-8-3, 5-8-4 and 5-8-5 as required under the specific requirements of the current operation and configuration in use at DTW.

Note: It is recognized that DTW, like many other major airports across the NAS, is a complex airport. DTW has four parallel and two crosswind runways with varied distances between runways and differing amounts of stagger to runway thresholds, as such, depending upon configurations for arrival and departures, there are several paragraphs from FAAO 7110.65 that either apply together or separately for separation minima applied to arrivals and departures including pars 5-8-3, 5-8-4 and 5-8-5. Although the changes above in the action and application sections will ensure the ability to have established one form of separation at all times, it is incumbent that, as it says in FAAO 7110.65 par 1-1-1 in part, *"controllers are required to be familiar with the provisions of this order that pertain to their operational responsibilities and to exercise their best judgment if they encounter situations that are not covered by it."* For example, a missed approach to Rwy 4L that goes around beyond the missed approach point, part way down the runway due to wind shear, and an aircraft departing Rwy 4R on a 360 heading. Even though FAAO 7110.65 par 5-8-5b.1. would allow the simultaneous operation, it is imperative that controllers remain cognitive to the situation at hand and act in accordance with FAAO 7110.65 par 2-1-1 which states, in part, *"The primary purpose of the ATC system is to prevent a collision between aircraft operating in the system."* Additionally act in accordance with FAAO 7110.65 par 2-1-2, Duty Priority, which states, *"Because there are many variables involved, it is virtually impossible to develop a standard list of duty priorities that would apply uniformly to every conceivable situation. Each set of circumstances must be evaluated on its own merit, and when more than one action is required, controllers shall exercise their best judgment based on the facts and circumstances known to them. That action which is most critical from a safety standpoint is performed first."* When an aircraft executes a missed approach/go-around, as in the above example, controllers must exercise their best judgment to maintain the safety of the NAS and apply prescribed requirements from FAAO 7110.65 including par 2-1-21, Traffic Advisories, which states, in part, *"Issue traffic advisories to all aircraft (IFR or VFR) on your frequency when, in your judgment, their proximity may diminish to less than the applicable separation minima."* Issuing these advisories alerts the pilots to traffic which may warrant their attention and assist in avoiding other aircraft.

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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 focalizer and, after the traffic conflict 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 conflict necessitating the breakout is resolved, an altitude of 4,000 feet.

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

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

Deleted: <#>RWY 4L / 21L when outside the Dual Bar: Issue a 20 degree turn away from the adjacent final approach course and, after the traffic conflict necessitating the breakout is resolved, an altitude of 5,000 feet.¶

Deleted: <#>When possible, issue an advisory to the inboard aircraft to prepare it for a possible breakout.¶

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Federal Aviation Administration

Memorandum

Date: September 7, 2012

From: Daniel Ricks, Front Line Manager, DTW ATCT

To: DTW ATCT Personnel

Subject: New Published Missed Approach to RWY 22L and the Effect on Departures

There is a new published missed approach in affect for RWY 22L that reads as follows:

!FDC 2/0767 (KDTW A4688/12) DTW FI/T IAP DETROIT METROPOLITAN WAYNE COUNTY, DETROIT, MI. ILS OR LOC RWY 22L, AMDT 29A... MISSED APPROACH: CLIMB TO 3000 HEADING 215 AND CRL R-025 TO CRL VORTAC AND HOLD.

With this new published missed approach having a heading of 215 in the instructions, you are now able to apply the provisions of 7110.65 5-8-5 with an arrival to RWY 22L and a departure off RWY 21R/21L as follows:

If you cannot apply the provisions of 7110.65 7-2-1 (**visual separation**) then you may apply 7110.65 5-8-5 (**simultaneous arrival and departure operations**) in lieu of 7110.65 5-8-4 (**2 increasing to 3 rule**) as long as you provide 30 degrees from the missed approach course (215) and a departure's heading (185 degrees).

Layman's application: What you can expect when on a South Flow;

While the demand of arrival and departure traffic is a dynamic situation that will be organized and coordinated between the DTW/D21 TMU and FLM positions, the normal procedures with equal demand during low visibility conditions (when you cannot see the arrivals 2 out) will be:

Arrive RWY 21L with 3-4 mile spacing.

Arrive RWY 22L with 5 mile spacing.

Depart RWY 21R with East Jets on a 185 heading.

Depart RWY 22L with West Jets on 220 and 235 heading.

Local Control Application:

RWY 21R/21L departures must apply:

2 increasing to 3 with a RWY 21L arrival

and

Assign a 185 heading if not applying 2 increasing to 3 with a RWY 22L arrival (because 185 is 30 degrees from the PMA 215 heading IAW 7110.65 5-8-5).

Note: If the RWY 21R/21L departure is a West bound, initially assign a 185 heading and then turn to a West heading after ensuring separation with the RWY 22L arrival (ie. the arrival has landed) and IAW the DTW SOP, ie. vectoring in the tower assigned airspace and delivering to D21 on the appropriate heading before leaving the tower airspace. This may require an initial turn to 185, then turn to 250 once the RWY 22L arrival is not a factor and then a final turn to 220 or 235 once the departure is west of the extended centerline of the airport. Keep in mind that you must contain the aircraft in the towers airspace at all times that you assign headings outside the confines of the jet departure headings without coordination with Y or K.

RWY 22L departures must apply:

2 increasing to 3 with a RWY 22L arrival

and

May depart simultaneously with a RWY 21L arrival within the confines of the Jet departure airspace.

See attached diagrams for visual representations. If you have any questions, please see myself or another FLM for further explanation.

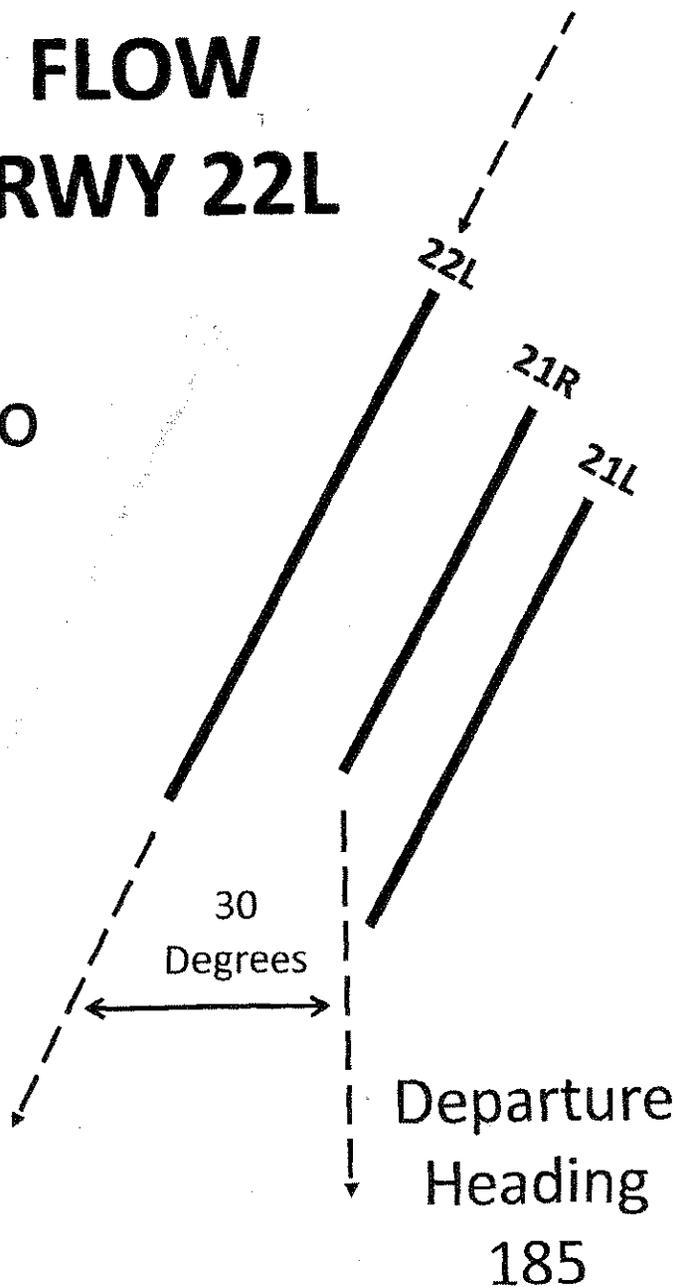
Daniel Ricks

DTW FLM

SOUTH FLOW Landing RWY 22L

2 Increasing to
3 when
departing
RWY 22L

PMA 215
to CRL



Simultaneous
Operations
Allowed when
Departing RWY
21R or 21L on a
185 Heading

SOUTH FLOW Landing RWY 21L

Simultaneous
Operations
Allowed when
Departing
RWY 22L

2 Increasing
to 3 when
departing
RWY 21R or
21L

