



FORUM REPORT

SOUTH METRO AIRPORT ACTION COUNCIL

WINTER 2010-11

December 9, 2010 Public Meeting

Rates and Safety at MSP

The SMAAC Fall Forum, held December 9, 2010 was planned as a panel discussion of air traffic control and safety issues resulting from high rates (operations per hour) at MSP.

Congressman Keith Ellison wrote Administrator Randy Babbitt inviting the Federal Aviation Agency (FAA) to participate.

SMAAC and Congressman Ellison were seeking the withdrawal of exceptions applied at MSP to FAA rules and air traffic control procedures. Originally, temporary reductions in the distance maintained between aircraft approaching and departing MSP -- separations -- and the minimum time between take-offs or landings on MSP runways -- intervals -- were said to be needed during airfield expansion.

The Administrator assigned Northern Lights Division FAA Manager Dawn Ingraham, to represent FAA and join Ellison and SMAAC President Jim Spensley as panelists.

In 1995, the safe **daily flight capacity** for MSP as a NWA hub was said to be 1,100 to 1,200 operations, insufficient by a third for projected passenger demand in 2020. Anticipating more flights before and during construction of the new runway, runway use rates for hub operations were increased by reducing standard separations.

Once the new runway was opened in 2004, the planned 25% increase in capacity -- to 1,500 daily operations -- was reached, but hourly rates remained higher than needed.

The new runway, larger NWA banks, more gates, and continued exceptions produced hourly use regularly reaching 155+ operations per hour at daily peaks.

FAA procedures supporting these rates resulted in **increased use of the new runway and parallel runways** and substantially less use of the cross-wind runway (R4-22). In May 2005, a very dangerous collision of two NWA airliners on the ground at MSP occurred, raising questions about congestion at peak hours.

[Continued on Page 2]

Forum Hit Three Ways

An unexpected vote was called in the US House of Representatives, delaying Representative Ellison. He afterward rushed to the Reagan National Airport, but missed his flight. The next available flight was weather delayed at MSP, so he missed the Forum. Brian Elliott, Director of Ellison's Minneapolis Office filled in.

The same snow storm made local travel difficult, and attendance was sparse.

The FAA insisted on a power-point presentation entitled *Safety and Efficiency*. This presentation ran for over 75 minutes, including a few questions.

Carl Rydeen, Assistant Manager of FAA's Northern Lights District airports and former Manager of the MSP Air Traffic Control (ATC) Tower, made the formal presentation.

PANELISTS

The Honorable Keith Ellison, U.S. Representative (D, MN), since 2007, is a Member of the Financial Services and Foreign Affairs Committees. He holds an Economics degree from Wayne State University and a Juris Doctor from the University of Minnesota Law School. Congressman Ellison was recently elected Co-Chairman of the Progressive Caucus for the upcoming Congress. His philosophy is "generosity and inclusiveness."

Rep. Ellison is well aware of the benefits and detriments of a major hub airport for his district and for the Twin Cities metropolitan area from his roots as a community activist. His concern flows from his dedication to promoting democratic participation, peace, prosperity for working families, environmental sustainability, and civil and human rights.

Dawn Ingraham is an air traffic controller currently serving as District Manager for the Northern Lights District of the Federal Aviation Administration's air traffic system. She oversees air traffic operations in Minneapolis, St. Paul, Rochester, Duluth, Grand Forks, Fargo and Bismark, as well as contract towers in Anoka, Lacrosse, Minot and St. Cloud. She recently completed a temporary assignment as Director of Terminal Operations for the FAA's Central Service Area, overseeing operations at FAA air traffic facilities in the central states.

James R. (Jim) Spensley is a systems engineer, a graduate of the University of Minnesota, Institute of Technology, and trained in information theory (National Security Agency) and real-time computers, data communications, and digital signal processing (Industry).

Among many R&D projects Jim worked on, several were focused on human engineering and perception of images, such as flight simulators, video image processors, remotely-piloted aircraft, "vision" systems, and "artificial radar displays," -- specifically those used by air traffic controllers.

Since becoming a Director of SMAAC, he has been consulted by the House Transportation Committee and the Union of **Carl Rydeen** has been involved in aviation and air traffic control for almost 30 years. He is the Federal Aviation Administration's Assistant Air Traffic Manager at Minneapolis Air Traffic Control Tower and Approach Control, where he oversees the 150+ managers, supervisors, controllers and support staff at the facility. Prior to working for the FAA, he was a controller for the Army National Guard. He is also a commercial pilot, with over 3400 hours in single and multi-engine aircraft.

Carl has worked as a specialist in programs and procedures which, at times, involved traveling throughout the United States evaluating equipment and procedures. He was a member of a Quality Assurance task force that focused on safety and efficiency of operations at the New York Metro airports.

[Continued from Page 1]

SMAAC reviewed the evidence collected by the National Transportation Safety Board (NTSB) and suggested that weaknesses in communications and accident avoidance measures at MSP were partly at fault.

In 2007 and 2009, major runway reconstruction projects closed a main runway but operations continued at nearly the same peak rates. Operational changes had new runway operations toward the North, where runway headings cross. SMAAC held that this could have and should have increased intervals by 100% (decreased runway use rates) to allow for the crossing headings.

More discussion followed.

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September 2010 Near-Mid-Air Collision

### Airport Capacity and Rates: Discussions.

In September, a U. S. Airways A320 with about 140 passengers aboard just missed colliding (less than 150 feet) with a cargo aircraft leaving MSP at the same time.

FAA was asked: *Was it a wake-up call?*

A Knoxville-bound flight was delayed more than an hour Friday evening, Dec 3, after its wing was clipped by a deicing truck at Minneapolis-St. Paul International Airport.

It happened just after 9:00 p.m. when Delta Air Lines Flight 3080 operated by Mesaba Air Lines was attempting to deice before taking off for McGhee Tyson Airport. Metropolitan Airports Commission spokesperson Melissa Scovronski says the Canadair Regional Jet CRJ-900 made its way back to the gate and all 22 passengers on board deplaned. No one was injured.

The flight later departed and was scheduled to land at McGhee Tyson Airport just after 1:30 a.m. Saturday.

The same evening: a Delta Air Lines jet slipped off the runway at Minneapolis-St. Paul International Airport as a snowstorm moves across the Twin Cities.

[Continued on Page 3]

*The South Metro Airport Action Council sincerely thanks the Panelists for their participation. Public comments were also welcome. The Blog on the topic was continued to May 2011.*

## Airport Capacity and Rates: Discussions

[From Page 2]

A Metropolitan Airports Commission spokeswoman said the plane had landed and was taxiing to the gate when its right main wheel slid into a grassy area about 7:20 p.m. No one was hurt. The (Boeing 757) plane from Atlanta was carrying 189 passengers.

Higher rates are usually maintained, although minor visibility limitations caused many delays. Taxiing aircraft were routed around or near construction sites, increasing runway incursions, fly-arounds, and other problems.

These issues persist along with higher peak rates at MSP even through average daily flight operations are 1,206 for 2010, less than the 1,275 per day back in 1995.

"The FAA rules for runway use are based on separations and intervals that allow efficient use without reducing safety," Rydeen said.

>SMAAC Comment: The minimum time allowed for adjustments or a response to a dangerous situation is the basis, but the times are situational and the responsibility for avoiding an accident is divided. Because of this reducing intervals (increasing rates) amounts to less safety unless there are accompanying improvements in detecting dangerous situations, in communications, and in response time.<

"In 1995 to 2002" Rydeen said, " the arrival acceptance rate was less than now for several reasons: a wider variety of aircraft and operators, only two runways available, and fewer flights scheduled in "banks" by the hub airline.

>SMAAC Comment: According to then MSP Tower Manager Cyndy Greene, more separation of approaching flights was standard for safety reasons then, and peak departure rates were also limited by the number of aircraft ready to depart and the taxi time to and from the runways and terminals. <

Rydeen presented an example of peak-hour runway use at MSP, Westerly flow.

He said that aircraft approaching MSP travel at 120 mph, or 2 miles per minute. In Westerly flow, Runways 30L and 30R together "accept" arrivals at a one-per-minute with R35 also "accepting" arrivals. Rydeen said this acceptance rate, 30+30+40 is announced to the airports and airlines" to plan arrival times at MSP in each hour."

"As aircraft approach, they are directed to a runway and begin their descent; they are cleared for landing as the runways are available." Rydeen said. "If there are aircraft Ready for departure, they are interleaved with arrivals, so the operational rate could be 100 arrivals plus 60 departures, or 160 operations/hour.

"But this is rarely attained especially with daily schedules as low as they are."

>SMAAC comment: Rydeen's runway use example alternated take-offs and landings on both parallel runways. Mixed operation with this alternation increases the runway use rate because the accelerating departure and the slowing arrival maintain or increase the distance between the aircraft. This separation cannot be maintained by consecutive take-offs or consecutive arrivals or if faster aircraft might overtake slower ones.

>To maintain an operational rate of about 85, in 1996-2000, departing aircraft first had to be queued near the end of the runways. The transition from more arrivals than departures to more departures than arrivals was made, then as now, with one runway being used for arrivals or departures for awhile, depending on the need. When Taxiway W was completed in 2000, use of the parallel runways was increased from 85 to 120 operations per hour. In simple terms, if this were as safe as 85 operations per hour, MSP expansion to 125% of 1995 capacity could have been accomplished for \$20 million rather than \$2.6 billion as estimated in 1996.

<Indeed, our question was about runway use rates when a number of arrivals are approaching the runway. <

Rydeen said that the 2-mile separation and 2-minute intervals apply for the parallel runways.

>SMAAC Comment: But the distance between airplanes reverts to the distance from the runway end, and either the landing speed is less than 120 mph or the approach speed higher than 120 mph or both, and the separations are reduced during the second landing.<

>Rydeen also said the rate for R17 arrivals was 40 per hour, or at 120 mph, a separation of 3 miles, an interval of 1.5 minutes and a runway use time presumably less than one minute, made possible by the high-speed exits.

>SMAAC Comment: In a separate conversation, Rydeen told Spensley that he (Rydeen) "...was OK with a landing plane being as near as 2,500 feet to the runway when the preceding plane exits the runway," about half the separation /interval in use in 1995. This change was made as traffic increased, about ten years ago.

>Before November 2002, for noise abatement near the runway ends, departure climb rates and headings were specified that limited the departure rate.

>MSP departures procedures were changed. To use FAA terminology, a new procedure made more efficient use of the capacity of the parallel runways.

The three changes -- the new taxiway, the absence of slower aircraft, and the new departure procedure -- allow 120 operations per hour now, or an increase of about 40%. The \$3 billion new runway and related expansion was justified on the grounds that a 25% capacity increase was needed and could not be safely implemented without a new runway,

The new departure procedure routes flights far more often over "unmitigated" neighborhoods, because turns are allowed upon attaining a certain height. These flight paths were not modeled for the noise exposure contour maps for target years 1998, 2004 or 2007, the maps used in the 64-60 DNL settlement.

[Continued on page 4]

## Airport Capacity and Rates: Discussions

[From Page 2]

Contra Indications: As airlines consolidated operations at fewer hubs, they abandoned runway capacity at many airports (St. Louis, Kansas City, Milwaukee come to mind in the mid-west), this increased hub banks and higher hub rates followed. Did safety improvements lead or lag these higher rates? The signs say lagged: near-misses, runway incursions, and other incidents increased to the point that reporting requirements were changed. In Dallas, a whistleblower exposed that controllers failed to report near-misses and joked about it.

Although industry insiders came to call it "ramp rash," the many vehicle-airliner, airliner-building, and airliner-airliner collisions were not picked up by the media and the public was mostly uninformed. The damage, the cost of repairs and inspections, and the safety risks were little mentioned.

He omitted comparing current ATC rules and procedures with those in effect in 1996 or with separations and rules in the FAA ATC Manual. He conveyed current information about MSP ATC and allowed for some discussion.

Congressman Ellison's interest in how changes are made in ATC procedures for MSP, when the changes were made, and the effects on his constituents (airport neighbors and employees and travelers), were not addressed, except for an explanation of the ATC error that almost caused a mid-air collision on September 16, 2010.

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### Rest Rules and Training for Air Traffic Controllers

Following several reports of sleeping or inattentive air traffic controllers, the FAA made shift changes and set rest time minimums for FAA-operated control towers and radar facilities, including MSP and other MAC airports.

[The control towers at Anoka County Airport in Blaine and the St. Cloud Airport are contracted towers not specifically covered under the new guidelines.]

SMAAC investigated how the shift changes as implemented at MSP may affect staffing levels during peak hours (daytime rushes each morning and early evening), when MSP operates with three active runways. For example, the near-mid-air-collision (September 2010) reportedly was due

to one of three controllers being distracted by a ground-traffic problem.

MSP should have learned from numerous ground-traffic incidents that the Tower needs a controller dedicated to aircraft and vehicular movements on the ground. In other words, staff at the Tower should be four controllers and a supervisor at peak hours.

FAA is also reviewing the current air traffic control training program and qualification guidelines for controllers. The report may suggest training changes so that new and current controllers are better prepared for the stress.

SMAAC doubts that the most pressing issues for air traffic controller training is dealing with work habits to avoid controller fatigue, although that is important, apparently.

FAA reported serious recruitment and training issues for ten years, related to so many controllers reaching retirement age. Both fatigue and stress are linked to changes in airline schedules and airport use.

Mergers and various inter-airline marketing and service

agreements concentrated operations at fewer but larger hubs, increasing controller and other staffing needs. The formerly busier airports [Example, St. Louis Lambert Field, where American discontinued its connection hub] remain open and require around the clock controllers.

Although there was a net reduction in FAA staff authorizations, the number of controllers needed increased overall and on the basis of open runway hours. In addition, controllers were dismissed or retired and the remaining controllers' working hours increased. Now we have the worst of both worlds: longer hours and fewer controllers on duty when rates are high.

Continued on Page 5

### Key Topic Blog Statistics

|             |        |
|-------------|--------|
| Categories: | 3      |
| Posts:      | 22     |
| Days Open:  | 186    |
| Views:      | 1, 141 |

## Rest Rules and Training for Air Traffic Controllers

From Page 4

A comment by John Merline:

*"Five years ago, a Comair flight taxied onto the wrong runway at the airport in Lexington, Ky., and crashed on takeoff, killing 49 of the 50 people aboard. It turned out that the lone air controller on duty who should have caught the mistake was operating on two hours of sleep. Two years before that, a tired controller nearly let two commercial jets collide on an LAX runway.*

*"Now, in the wake of a raft of air traffic controllers caught sleeping on the job, the Federal Aviation Administration issued new rules to combat fatigue. But this problem has dogged the FAA for years.*

*"Fatigue is just one piece of a long history of FAA management problems with the air traffic control (ATC) system, according to an IBD review of government reports and audits and various news accounts. Just last week, the Transportation Department's inspector general announced two audits focusing on air traffic controller mistakes.*

*"To some, this record calls into question whether the FAA can be trusted to fix the problems plaguing the ATC.*

*"Reason Foundation transportation expert Robert Poole, for example, argues that the FAA's problems stem from its dual role as operator and regulator of air traffic control, which he says "creates a potential conflict of interest."*

*"FAA head Randy Babbitt said recently that "employees at the FAA work diligently every day to run the safest air transportation system in the world." And an FAA spokesman told IBD that while the Air Traffic Organization is part of the FAA, "it's regulated by another group that is independent of the ATO's chain of command."*

*"Still, federal reports and audits point to several ongoing problems with the ATC:*

*Fatigue: A 1989 Government Accountability Office warned the ATC system was plagued with shortages, heavy workloads and excessive overtime. A 2009 Department of Transportation inspector general report found a "number of factors" leading to fatigue among controllers. A National Transportation Safety Board member complained that "for 30 years, the board has identified fatigue as an issue with controllers' schedules."*

*"Inexperienced controllers: The FAA tries to limit the number of trainees at control towers for safety reasons, saying in 2005 that it would "ensure an appropriate ratio." But a 2008 IG report found too many trainees at more than one in five air traffic control facilities. A 2010 report warned that new controllers, many of whom had no prior experience, were being assigned to some of the busiest airports."*

[Mr. Merlin's comments are used by permission of the Investor's Business Daily.]

## Urgency Slips 18 Months after the Buffalo Crash

Post by Jim Spensley, September 2010.

*"There can be no equivocation on this one (the Flight 3407 crash)," Federal Aviation Administration Administrator J. Randolph Babbitt told a summit meeting of regional airline industry leaders in Washington, D.C. June 15, 2010, "We're here to do everything we can to advance safety."*

If there were MSP representatives there, they obviously didn't get it.

Neither did the Congress press for more regulation and inspection in the oft-delayed FAA re-authorization.

Mr. Babbitt was referring to the February 12, 2009 Colgan Air crash near Buffalo-Niagara International Airport (BUF). Fifty died – one on the ground and all 49 souls, crew and passengers, on board the Bombardier Q400, Continental Connection Flight 3407

Around MSP, winters are just about as bad but the runways are smack in the middle of the Metro area. Dozens of flights formerly operated by Northwest Airlines are now flown by Compass, Mesaba, Pinnacle and other regional operators under contract to Delta/Northwest. The trend was not slowed by the Buffalo crash or the June industry meeting or any discussions of the FAA budget.

The Metropolitan Airports Commission (MAC) is again adding gates to accommodate contract operations, repeating the mistake they made in 2002.

Flight 3407's pilot, Captain Marvin Renslow, had a poor training record. Before joining Colgan -- he failed three proficiency tests. The airline knew about just one of those failures.

[Continued on Page 6]

## Buffalo Crash

[From Page 5]

Moreover, the evening before the crash first officer (Co-pilot) Rebecca Lynne Shaw commuted on a red-eye cross-country journey from her Seattle area home.

Media reports as well as investigations by the National Transportation Safety Board (NTSB) and Congress made it clear that lack of experience and fatigue impaired the Flight 3407 crew. But these risks are not unusual at all: the trend is away from unions and the more extensive training and FAA certification previously in place.

The major airlines' former focus on safety before profit margin hasn't applied for a decade, but this wasn't noticed by regulators, elected officials, or national media.

As Mr. Babbitt, former president of the Air Line Pilots Association, said, "We've seen some cracks in the system. Over the past few months," he said, "there are many indications that airlines, particularly small regional contract operators, lack critical pilot performance reviews or standards for their pilots and co-pilots."

FAA is belatedly "setting the expectation that airlines request all records that are available from the FAA and previous employers," Babbitt said. "good, effective training is critical. it must be more than just checking a box.

"There's a perception that pilots can repeatedly fail check rides and still keep their job," Babbitt insisted, "We want passengers to have no doubts about the qualifications of the person flying their plane."

Regulators haven't yet corrected this problem. Regional airlines operating extensively at MSP were "sold off" in 2010 by Delta and no longer share training facilities, no longer apprentice with Senior pilots, and no longer threaten Delta profits -- because the independent airlines accept crash liability in their operating contracts.

It is not yet clear whether Pinnacle systems operations personnel have also replaced Delta at the MSP operations center. Shortly after the Delta/Northwest merger, Delta brought in operations personnel from regional subsidiaries and re-located or fired the more experienced and more familiar with MSP people.

What is clear is this:

**Local air travelers are paying more for less.**

The FAA Tower continues to allow high runway use rates and reduced separations in spite of warnings about pilot training and fatigue, and the Metropolitan Airports Commission (MAC) is adding to the congestion and confusion by enlarging the terminals.

SMAAC has been warning the MAC and the FAA for ten years that MSP safety, in the airspace but more so on the ground, is declining as there are too many peak-hour flights, too little space around the terminals, frequent construction, and little timely ground-traffic information communications. These issues are worsened by more operators, tired and inexperienced air crews, and reduced ground staffing.

[Note: Quotes in this story were originally published in newspapers.]

## FAA Inspection Requirements Updated

In January 2010, FAA issued stronger Inspection Rules for Boeing 757 and 737 airliners; more than 1,300 jetliners are included. The rules require more complete and varied structural inspections to find fuselage cracks that could result in reduced structural integrity and rapid aircraft decompression.

Boeing previously issued *nonbinding* safety bulletins covering older aircraft in both widely used models. Boeing listed specific inspections points subject to metal fatigue after concluding that failures were likely sooner than the designed durability measured in compression/de-compression cycles.

The new rules closely followed the emergency landing of a **Southwest Airlines B-737** jet after a large piece of its aluminum skin tore off along a riveted seam over the cabin during a flight at cruising altitude.

The 757 rule was prompted by a sudden rupture and decompression suffered by an **American Airlines B-757** on a flight from Miami to Boston in October, caused by a one-foot tear in its aluminum skin.

FAA's mandate, an "interim action" pending further remedies or aircraft retirements as needed to resolve B-757 underlying safety issues, entails repetitive inspections ranging between 30 and 300 flights of the larger aircraft.

The B-737 rule is for structural checks ranging from every 3,000 to 4,500 flights, but a seam repair would reduce the detailed inspections.