

Testimony of
Patrick Forrey, President,
National Air Traffic Controllers Association

Before the Senate Appropriations Committee
Subcommittee on Transportation and Housing and Urban
Development and Related Agencies
Friday, April 25th, 2008

Air Traffic Issues of Concern to the Philadelphia
Metropolitan Area



Air travel is an integral part the economy and of life in Philadelphia. Ranked the 9th busiest airport in the world and among the fastest growing in the United States,¹ Philadelphia International Airport has had more than 83 million passengers arriving and departing over the last three years.² But flying into Philadelphia has become less efficient; Philadelphia is ranked 30th out of 32 major airports in percent of on-time departures, a rate which as fallen from 79 percent in 2001 to only 70 percent in 2008. Arrivals are even worse, with only 67 percent of flights arriving within 15 minutes of their scheduled landing time.

Rather than working with stakeholders to identify and address the roots of this problem, the FAA has endeavored to follow its own flight plan, unilaterally enacting changes to Philadelphia's airspace design and air traffic control facilities. Neither the dispersal headings nor the de-combination of PHL's air traffic operations will have any positive impact on air travel into and out of Philadelphia Airport. Rather, both changes will introduce additional safety risk into the system and increase the potential for confusion and inefficiency. The status quo is unacceptable, but changes must directly address the two key components of PHL's air traffic woes – airline over-scheduling and the understaffing of air traffic control facilities.

NATCA therefore makes the following recommendations to this committee:

1. The FAA should initiate realignment activity only after receiving input and approval from a review board as per the FAA reauthorization bill passed by the House of Representatives and under consideration by the Senate. This board would include representatives from all stakeholder groups including air traffic controllers, pilots, members of congress and the community. In the case of the PHL, the FAA should work with NATCA and consider our alternate plan to reduce the number of positions required for full certification while maintaining the integrity of the combined facility.
2. The FAA must discontinue the use of dispersal headings until such time as full testing – including hot weather testing – is complete and proper procedures – including revised Standard Instrument Departure (SID) charts – have been established. This too must be developed with active participation of all stakeholder groups including air traffic controllers, pilots, members of congress and the community.
3. The FAA should take steps to control airline scheduling and prevent scheduling over the maximum arrival/departure rates.
4. Congress must quickly pass the FAA reauthorization bill, which would require the FAA to return to the bargaining table for fair negotiations with NATCA in order to curtail the rapid attrition from the workforce.

¹ Federal Aviation Administration Philadelphia International ATCT/TRACON De-combining Staff Study.

² Bureau of Transportation Statistics Airport snapshot for PHL

De-Combination of Philadelphia Tower and TRACON

On March 31, 2008 the National Air Traffic Controllers Association was officially informed of the FAA's plan to de-combine the Philadelphia International Airport's air traffic control facility by separating tower and radar approach functions in separate facilities. This decision was made entirely without the participation of those with most intimate understanding of air traffic control operations at Philadelphia Airport – the air traffic controllers who work there each day. The FAA did not seek input from these controllers who are best able to identify benefits and pitfalls and make informed suggestions for plan improvement. This shows not only contempt for the air traffic control workforce, but also a lack of sincere desire to develop a plan with the greatest benefit to users. It is the opinion of NATCA that the plan to de-combine PHL ATCT/TRACON is deeply flawed and will bring no benefit to users but will instead introduce into the system additional safety risks and opportunities for delays.

It must be understood that NATCA is not categorically opposed to all realignment initiatives. In the past, we have worked alongside the FAA to plan some of the most successful realignments of ATC facilities. This includes the formation of TRACON facilities in New York, Southern California, Chicago, Denver, Dallas-Fort Worth, Northern California, Atlanta, and the Baltimore/Washington/Virginia Tri-State (Potomac) area. However, it is our firm belief that all realignment decisions must be made with a specific operational need in mind. These changes must serve the public by improving safety, efficiency and service. To date, the FAA has been unable to satisfactorily justify their PHL plan on any of the above grounds. Instead, the administration has chosen to focus on reducing its own operating costs while ignoring the cost of delays for those who depend on our airspace for travel and commerce.

As the facility is currently structured, controllers must learn all aspects of operations required for safe and efficient arrivals and departures from PHL. This well-rounded training enables controllers to understand how their actions at one position effect the operation of the adjacent positions. With this knowledge, controllers are able to optimize their performance for both safety and efficiency. By splitting this facility, the FAA will narrow the field of knowledge for controllers. New trainees will not only be denied the opportunity to train on all dimensions of the operation, they will not even have the opportunity to observe operations at other sectors.

Creating two separate facilities will also introduce barriers to coordination between the Tower and TRACON. The collocation of tower and TRACON functions allows for simpler communications and more face-to-face interactions, resulting in greater efficiency. Philadelphia has a unique and very intense crossing runway operation which requires continuous interaction between tower and TRACON. Barriers to communication caused by physical separation necessarily reduce efficiency, potentially causing additional unnecessary delays.

Perhaps the deepest flaw in the de-combination plan is that by creating two facilities, the FAA increases the number of controllers necessary to conduct operations. The combined tower/TRACON facility allows for flexibility in staffing. If, for example, the tower finds itself short-staffed on any given day, they can call upon the TRACON to supply the additional staffing, and vice versa. If these facilities were separated, this flexibility would be lost, and each facility would be required to maintain a higher level of staffing in order to ensure uninterrupted

service. The FAA acknowledges this fact in their staff study stating that de-combination “will require an increase in the overall staffing of controllers, administrative, and support staff,” but they did not discuss how that need would be filled.

Already PHL is in the midst of a staffing shortage, one that is likely to grow only more severe. PHL currently employs only 67 certified professional controllers (CPCs), only 61 percent of the staffing level jointly authorized by the FAA and NATCA in 1998. Of those 67, three are scheduled for transfers and 15 are already eligible to retire. De-combination would encourage retirement of those that are eligible, as the split would result in the downgrading of each of the daughter facilities causing an estimated 4% pay cut to employees. The 2006 imposed work rules have already removed incentives for experienced controllers to transfer to new facilities, as doing so would reduce their pay by placing them in the new pay bands.

The FAA’s key justification for the separation of these facilities is that it would “reduce the lengthy training time required for developmental and prior experienced controllers in attaining full performance level certification. By reducing the total number of positions a controller is assigned to work maintaining currency would be easier and controllers would become more proficient in the areas they are assigned to work.”³ NATCA agrees that there are advantages in reducing training time. However, we believe that this same objective can be met without losing the benefits of an integrated air traffic environment. Larger Centers and TRACONs throughout the country have their operations divided into sectors, a structure that has used successfully in Miami, a facility similar Philadelphia. There is no reason why similar structural changes should not be an equal success in Philadelphia.

The FAA’s refusal to consider this reasonable alternative calls into question the agency’s true motive for change. The Agency has shown itself to be motivated primarily by its own bottom line, without regard for safety or delays. We also have reason to believe that this realignment is but the first in a series of changes that the FAA is planning for the Pennsylvania area. If we use past FAA behavior as a predictor, PA can expect to see consolidation, closing or outsourcing of air traffic control towers at smaller local airports in the region. Allentown, Wilkes-Barre Scanton, Reading, Atlantic City, and perhaps Harrisburg airports are all at risk. We base this prediction on the FAA’s behavior in southern Florida – where a similarly-justified de-combination of Miami tower and TRACON ultimately resulted in the consolidation of Palm Beach International Airport (PBI) TRACON and potential outsourcing of the remaining tower functions at PBI – and Texas – where in recent weeks we have seen the consolidation of Beaumont Airport’s (BPT) TRACON functions with operations out of Houston.

Dispersal Headings

On December 19, 2007, misguided FAA management unilaterally implemented dispersal headings to be used for aircraft departing out of Philadelphia airport. These new headings were supposed to reduce delays by cramming more aircraft into the already-constrained airspace surrounding PHL. The theory was that if we were to fan out aircraft along multiple vectors from PHL, we could speed the rate of departures as the new departures would not be following in trail and would therefore not need the same buffer of time between takeoffs. As with de-

³ Federal Aviation Administration Philadelphia International ATCT/TRACON De-combining Staff Study

combination, the FAA failed to seek collaboration from Air Traffic Controllers, pilots and other stakeholders and therefore overlooked major pitfalls and consequences of their plan.

Such constrained airspace poses a risk to the safety of aircraft by eliminating room for error. Small misjudgments, pilot error, or imperfect aircraft handling could have disastrous consequences in an operation run too tightly. For example, if a pilot landing on runway 27R or 9R has to abort a landing while the dispersal headings are in use, they may be faced with departure traffic coming towards them on the 268 heading. Further complicating matters in this situation is the fact that the departing and arriving aircraft are communicating on different frequencies.

The implementation of these dispersal headings has also created an environment ripe for miscommunication. The US Airways ALPA safety chairman, an active airline pilot wrote: “It is now a practice where a different heading is being assigned as part of the takeoff clearance. This practice can easily result in confusion as it is a change to the briefed departure heading. It also occurs during a very busy time in the cockpit and possibly while only one pilot is on the radio.” In response to public pressure on this issue, the FAA conducted a random review of 23 hours of tape and found 9 communication errors in that short span of time. Further contributing to the potential for miscommunication is the increased frequency congestion caused by a combination of overutilization of airspace and understaffing of Air Traffic Control. With more aircraft in the same space and no change to controller staffing, each single controller must communicate with and monitor read-backs from an increased number of pilots. This congestion of the communication frequencies increases the likelihood that a controller will overlook – and therefore fail to correct – a miscommunication between himself and a pilot. Needless to say, controller-pilot miscommunication poses an additional risk to safety.

Another leading cause of miscommunication over dispersal headings is the complete lack of published procedures. As of the writing of this testimony, the FAA has published no official guidelines governing the usage of the dispersal headings, nor has the FAA updated Standard Instrument Departure (SID) charts to include these new headings. Under ordinary circumstances controllers refer to these charts when issuing departure clearances to aircraft, giving pilots and controllers a great level of clarity regarding the departure plan. Without new SID charts, controllers have had to verbally override SID instructions, requiring pilots to depart using unfamiliar procedures without the benefit of written instructions. Without SID charts, miscommunications have increased. One of the instances of miscommunication discovered in the above referenced investigation – of which NATCA maintained audio records – resulted in an aircraft traveling ten degrees off course.

Relatedly, neither Air Traffic Controllers at PHL nor pilots have received meaningful training on this change in procedure. Controllers had been briefed that a particular procedure would be used, and then on the day of implementation the agency changed the procedures and required controllers to “read an initial” the changes on the day of implementation.

There still exists the possibility of additional dangers caused by the headings, as the FAA failed to comprehensively test them prior to implementation. Notably missing from the FAA testing was testing in hot weather conditions. Aircraft are known to perform sluggishly in hot weather

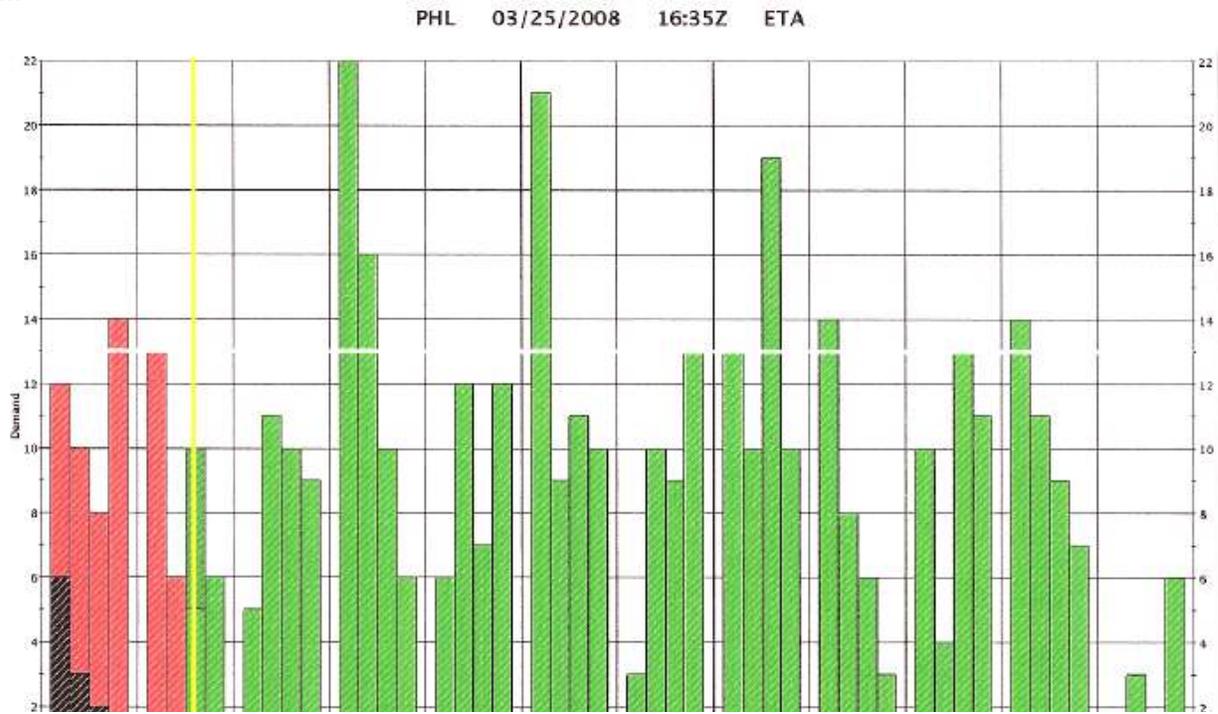
and climb and turn rates often suffer as a result. Controllers have already reported issues with constrained airspace design, an issue which will be exacerbated in hot weather and could pose serious safety problems. This must be tested prior to using these headings during such weather.

The FAA hastily implemented these dispersal headings in order to appear to be addressing the issue of delays in the Philadelphia area. While delays are a serious and growing problem at PHL, the dispersal headings do not address the root of the problem and will have little if any impact on the situation. The key culprits in the problem of delays in the Philadelphia area are airline over-scheduling, and understaffed air traffic control facilities. Unfortunately, the FAA would prefer not to address either of these issues in a meaningful way, as they have proven resistant both to regulating airline behavior and to negotiating with air traffic controllers.

Airline Over-scheduling

Due to the laws of physics and FAA separation requirements, there is a finite number of aircraft that can safely arrive or depart an airport in a given span of time. The FAA has developed an estimate of the maximum number of operations each airport can handle in optimal weather conditions called the Airport Arrival Rate (AAR) and the Airport Departure Rate (ADR). The ADR at PHL is 52, meaning that 52 aircraft per hour – 13 per quarter hour – can safely depart Philadelphia airport. However, the FAA does not require airlines to take these rates into account when planning their schedules. Therefore the airlines are free to use marketing as the only driving force in their schedule development, a practice which may maximize profits for airlines but which results in losses for airline customers in the form of delays, as airlines frequently schedule departures in excess of optimal airport capacity. Although PHL can depart only 13 aircraft per quarter hour in the best of conditions, there are some 15-minute intervals in which more than 20 aircraft are scheduled to depart.

The graph below is a snapshot taken from the Flight Schedule Monitor (FSM), built from data in the Enhanced Traffic Management System (ETMS), tools used by traffic management specialists to manage traffic flow. This was taken at 12:35pm local time on March 25, 2008 and depicts scheduled departures until 11pm. The horizontal white line indicates the departure rate for that day. In this case, PHL was operating at full capacity, with 13 aircraft able to depart per quarter hour



The green bars indicate the number of aircraft scheduled to depart from PHL in each 15 minute interval. Each instance in which the green bar goes over the white line, the airlines have scheduled beyond optimal capacity for the airport. In each of those cases, aircraft must be delayed.

This type of scheduling automatically builds delays into the system before weather, understaffing or other mitigating factors are taken into account. In the example above – a typical day not during the peak travel season -- this is what happens:

- At 2:00pm (1800Z) there are 22 flights scheduled to depart, 9 more than the maximum. So 9 flights must be delayed and carried into the next interval. This begins the backlog.
- At 2:15 there are 16 flights scheduled to depart, plus the 9 that were carried over for a total of 25. This is 12 beyond the maximum, so 12 must be carried over.
- At 2:30 there are 10 flights scheduled to depart, plus the 12 that have been carried over for a total of 22. Because the scheduled number was below the maximum, we were able to absorb some of the backlog; however the backlog was so great that, 9 must still be carried over.
- At 2:45 there are 6 flights scheduled for departure, plus the 9 that have been carried over for a total of 15. Again, we are able to absorb some of the backlog, but 2 flights must still be carried over.
- At 3:00 we are finally able to absorb the entire backlog. There are 6 flights scheduled plus the two carried over, for a total of 8, which is below the maximum.
- However, the process begins again at 4:00pm, when 21 flights are scheduled to depart.

Therefore, between 2 and 3pm airline scheduling alone caused an estimated 480 minutes (8 hours) of delays at PHL.⁴

It is the FAA's responsibility to ensure that NAS customers – the flying public – are protected. This means taking all possible steps to ensure not only a safe passage through the skies, but to help them avoid unnecessary delays. Rather than look out for the flying public, however, the FAA chose to protect a corporate bottom line, letting marketing, rather than logic or physics dictate airline scheduling practices.

Air Traffic Controller Staffing and the Effect of the Imposed Work Rules

⁴ This figure was calculated by estimating 15 minutes of delay for each aircraft carried over from one interval to the next.

On September 3, 2006, the FAA unilaterally imposed a set of work rules on its air traffic controller workforce. These rules instituted unpopular changes to the annual leave policy, removed career advancement opportunities, established new pay bands that decreased controller wages significantly, and eliminated rest periods, among other provisions which left many controllers dissatisfied with their work environment. Recent NATCA research has shown that as a result of these imposed work rules the total number of CPCs has fallen to a 15 year low, attrition from the ATC workforce has reached record levels and exceeded all expectations – the attrition rate in FY 2008 has been 6.8 per day – and facilities throughout the country are severely understaffed.

The FAA has repeatedly claimed that the increase in controller attrition is due entirely to the increase in retirement eligibility as those hired following the PATCO strike reach eligibility age. NATCA research shatters those claims. Ninety-eight percent of Air Traffic Controllers who left the workforce in FY2007 did so with time still left on the table. Resignations – of which there were only 64⁵ in the last year of the signed contract – more than more than tripled to 202 in FY2007. Similarly the percent of those eligible to retire who chose to do so has increased from 21 to 30 percent since the imposition of the work rules.

Practically, this means that there are fewer eyes watching the skies and runways throughout the country, and those that remain are suffering from fatigue. At Philadelphia Tower/TRACON, there are currently only 67 CPCs, two of whom are scheduled for transfer within the next several months. This is less than 65 percent of the 109 jointly authorized by the FAA and NATCA in 1998. Smaller facilities in Pennsylvania are similarly strained. Wilkes-Barre airport has 14 CPCs rather than the authorized 25, while Harrisburg is down to a staggering 13 full performance level controllers 43 percent of what had been authorized.

Left with understaffed facilities, management is faced with two choices for handling the ever-increasing volume of air traffic: call in overtime or work short-staffed. Both of these options – which are often used in tandem – create fatigue among air traffic controllers. Regular use of overtime limits a controller's ability to recover from work-related stress and fatigue, while short-staffing increases workload and limits opportunities for rest and recovery during the shift. On short-staffed shifts managers are forced to reduce the number of Radar Assistants (RAs), giving one controller the responsibility of not only for communication with aircraft but also coordination with other controller positions and facilities and updating flight progress information. Additionally, managers may be forced to combine positions, creating greater complexity by requiring each controller to monitor greater numbers of conflict points and an increased volume of aircraft. According to the FAA's own research, "evidence was found that increased sector complexity may be associated with reduced situational awareness and may lead to a larger number of, and more severe, errors."⁶ Fatigued Air Traffic Controllers are more likely to make errors, less likely to identify pilot error, and are more likely to increase the safety buffer, which would result in delays.

⁵ All staffing data is based on FAA payroll information provided to the union by the FAA.

⁶ Rogers, Mark D, Richard H Mogford, Leslye S Mogford, US Department of Transportation, Federal Aviation Administration Office of Aviation Medicine *The Relationship of Sector Characteristics to Operational Errors*. May 1998

PHL currently has 15 CPCs who are eligible to retire. If they left, this would further exacerbate the staffing shortage and the threat of fatigue-related errors and delays. Rather than encourage the continued outflow of experienced controllers by continuing to enforce the imposed work rules, the FAA must return to the bargaining table to bargain fairly with NATCA. Congress can do its part by quickly passing the FAA reauthorization bill, which contains provisions that would force the FAA to resume bargaining with NATCA and would send any unresolved disputes into binding arbitration. While this would not reverse the damage that has already been done, it would significantly slow the rate of attrition and give the system more time to recover.

Conclusion

The FAA has repeatedly shown that it is either unable or unwilling to govern the usage of our nation's airspace and runways in a way that maximizes the benefit and minimizes risks to the flying public. Time and time again they have ignored offers from subject-matter experts like air traffic controllers to assist them in their endeavors, just as they have ignored the pleas from elected officials. In this way, Philadelphia is not unique. The issues facing this city, and indeed the entire state of Pennsylvania are being experienced in various incarnations throughout the country. Mismanagement has become endemic in this agency, which is determined to focus only on its own bottom line. Today we are given the opportunity to identify the problems facing air travelers in the Philadelphia area – many of which have been either caused by the FAA or ignored by them -- and begin taking steps to correct them. It is the sincere hope of this union that this hearing will lead to meaningful action and that positive changes will be made throughout the country.

We therefore recommend the following:

1. The FAA should initiate realignment activity only after receiving approval from a review board as per the clause in the FAA reauthorization bill passed by the House of Representatives and currently under consideration by the Senate. This board would include representatives from all stakeholder groups including air traffic controllers, pilots, members of congress and the community. In the case of the PHL, the FAA should work with NATCA and consider our alternate plan to reduce the number of positions required for full certification while maintaining the integrity of the combined facility.
2. The FAA must discontinue the use of dispersal headings until such time as full testing (including hot weather testing) is complete and proper procedures, including appropriate revisions to the PHL7 SID chart have been established. This too must be done with the active participation of all stakeholder groups including air traffic controllers, pilots, members of congress and the community.
3. The FAA should take steps to control airline scheduling and prevent scheduling over the Maximum Arrival/Departure Rates.
4. Congress must quickly pass the FAA reauthorization bill that would require the FAA to return to the bargaining table for fair negotiations with NATCA, in order to curtail the rapid attrition from the workforce.