

**Staff Study  
Reduction of Operating Hours  
Lexington (LEX) ATCT**

March 24, 2005

**1. Issue**

Based on the benchmark criteria contained in FAA Order 7232.5F, *Reduced or Increased Operating Hours for Airport Traffic Control Towers (ATCT)/ Approach Control Facilities*, Lexington (LEX) ATCT meets initial eligibility requirements to become a candidate for reducing operating hours during the overnight hours. This staff study has been prepared to allow the Agency to make an informed decision regarding the costs and benefits of sustaining twenty-four hour airport operations during periods of low traffic volume. The review is necessitated by the Agency's requirement to effectively manage limited staffing resources and to align these resources to support periods of higher density operations.

A recent review of air traffic control services provided by LEX ATCT indicates that the facility operations do not meet the benchmark criteria for providing service during the overnight hours.

**2. General Overview**

Lexington ATCT (LEX) is a Level 7 ATCT/TRACON that operates continuously (twenty-four hours per day, seven days per week). LEX is delegated responsibility for airspace within a 35 mile radius of Lexington, Kentucky, up to and including 10,000 feet MSL. The ATCT is located at Blue Grass Airport and provides air traffic services to 7 satellite airports. Adjacent facilities include Indianapolis Center (ZID), Cincinnati Approach Control (CVG), and Standiford Approach Control (SDF).

**3. Annual Traffic Operations**

Total annual operations for the 12-month period ending February, 2005, were 159,501, a decrease of 1.5% over the previous year. During the 12 month period ending February, 2005, local Blue Grass Airport (LEX) operations decreased 3.8%. Midshift operations represent less than 5% of total operations and have decreased significantly in recent years. The decrease in midshift traffic is attributable to the reduction in commercial pilot training at LEX on the midshift.

A breakdown of the operations for the 12 month period ending February 28, 2005, by category:

| Category         | Annual Operations |
|------------------|-------------------|
| General Aviation | 85,943            |
| Military         | 1,914             |
| Air Carriers     | 21,404            |
| Air Taxi         | 50,240            |
| Total            | 159,501           |

ETMSC data for June, July, and August, 2004, for the hours between 12A and 7A determined the air traffic operations rate to be 1.96 operations per hour. A local review of midshift traffic for a 90 day period from December, 2004, through February, 2005, similarly concludes that LEX is below the applicable traffic threshold from 1A to 5A with hourly averages of 3.6, 1.7, .6, and .9. The 5A-6A hour was considered a partial hour since opening and closing of the facility would occur during this hour.

LEX provides overflight service to traffic arriving SDF from the southeast via the DARBY3 STAR. Aircraft are handed off to LEX from Indianapolis Center (ZID) descending to 11,000' and are then descended by LEX to 10,000'. These aircraft traverse LEX airspace for approximately 15 miles before being handed off to Standiford Approach Control (SDF). Between the hours of 12:00AM and 1AM, an average of 7 aircraft are routed via the DARBY3. These overflights are already being provided services by ZID and SDF, and therefore do not represent an increase in workload for either the transferring or receiving facilities.

#### 4. Airport Facilities

LEX has two crossing runways, 4/22 and 8/26. Runway 8/26 is 3500 feet and restricted to daylight VFR operations only. Runway 4/22 is 7001 feet and the primary use runway. Both ends of Runway 4/22 are serviced by ILS, GPS, and NDB approaches. Additionally, a VOR approach is available.

Runway 4 is the low weather runway and the only runway with approach lights and RVR. The LEX weather is provided by ASOS.

Both NDB approaches are currently under consideration for decommissioning as a result of an Agency initiative to reduce the cost of maintaining ground based navigational infrastructure where a WAAS-capable RNAV procedure and a second ground based procedure (ILS) exist.

## 5. Operational Considerations

### a. Traffic Operations

LEX currently provides the full range of services normally provided by an ATCT/Tracon. The type of operations conducted would be minimally impacted by the proposed change.

Indianapolis Center (ZID) would provide air traffic control services during the period of ATCT closure. ZID previously provided ATC services at LEX before the facility became full-time, approximately 15 years ago. ZID radar coverage is adequate for providing service and LEX ATCT uses a ZID radar site during CENRAP operations.

All scheduled commercial passenger service is within the proposed hours of operation with two exceptions. Delta Airlines has a Comair operated departure scheduled at 5:35A. Comair also operates a flight from Atlanta scheduled to arrive at 12:20A. Both flights were added by Delta since LEX ATCT initially sent a letter (dated August 18, 2004) proposing to close the ATCT between the hours of 12A and 5:45A.

During the period of ATCT closure Class C airspace would revert to Class E airspace. Class E airspace allows ZID to provide separation services on an instrument approach to LEX.

The Runway 4 and Runway 22 ILS are Category I equipment. Closure of the ATCT would not impact approach minimums for Category I approaches and LEX does not have Category II or III approaches. Category I equipment does not require remote monitoring by personnel. The LEX ILS has monitoring capability at the site for automatic shutdown.

### b. Weather Observations

ASOS is available at LEX although it does not have Ground-to-Air (GTA) capability. LEX ATCT has acquired an ASOS-ATIS interface which would allow pilots to receive ATIS closing information and current ASOS over the ATIS frequency. ASOS weather is also available to pilots via direct telephone dial-up.

ZID has automated access to LEX ASOS.

LEX is a Service Level C ASOS facility because personnel augment weather phenomena such as thunderstorms, tornadoes, hail, and virga. Service Level C also includes back-up of ASOS elements in the event of an ASOS malfunction or unrepresentative ASOS report. During the hours that a Level C facility is closed, the airport reverts to stand-alone ASOS or Service Level D. Service Level D facilities are unattended and therefore incapable of augmenting weather.

ASOS at LEX is owned by the NWS and connected to the NAS through the National Weather Service Telecommunications Gateway (NWSTG). The gateway creates a link

for other FAA facilities, such as Indianapolis Center, to be able to view LEX ASOS weather reports.

**c. Airport Emergencies**

During the hours of closure, airport emergency units would continually monitor traffic on the tower frequency.

**d. Military Operations**

Military operations are not routinely conducted on the midshift at LEX. However, LEX would retain the midshift as an assignable work shift in the event that the Agency was asked to support special user needs, contingencies, military exercises, or special military operations.

**e. Continued IFR Air Traffic Control Services**

Continuity of air traffic control services would be provided by Indianapolis Center (ZID) during the hours of closure. ZID presently provides air traffic control services during implementation of the facility Contingency Plan. Approximately 15 years ago, when LEX was a part time ATCT, ZID provided air traffic control services. ZID has adequate radar and voice communications in order to provide IFR services at LEX during periods of closure. IFR arrivals/departures would be "one in/one out". IFR clearances are currently relayed through LOU AFSS. LOU AFSS is slated for closure and BNA AFSS would assume those responsibilities.

**f. Airspace Classification**

LEX provides radar services in a Class C environment. During the period of closure, ZID would assume the airspace presently delegated to Lexington ATCT and the Class C airspace overlying Lexington Blue Grass Airport would revert to Class E general controlled airspace.

**g. Airport Lighting**

Airport lighting is governed by FAAO 7210.3, Chapter 10, which specifies which lighting systems shall be turned on. All other lighting systems (i.e., taxiway, runway) will be covered in a Letter of Agreement between Lexington ATCT and the airport operator.

#### **h. Approach Minimums**

There are no known issues which would increase approach minimums during the proposed hours of closure.

RVR is only available for Runway 4 and must be relayed to pilots by LEX ATCT. The absence of RVR data would increase the needed visibility for landing from 1,800 feet to ½ mile.

#### **i. Security**

An air traffic facility security perimeter fence was constructed in 2004. The airport provides twenty-four hour police and fire protection for the air traffic facility, and arrangements will be covered by a letter of agreement with the airport operator for emergency access to the building and grounds during the period of closure.

The Federal Security Director and Transportation Security Administration have been briefed on the proposal and have offered no comment. LEX personnel participate with local TSA officials in responding to MANPADS threats and will assist ZID in developing similar protocols with TSA.

### **6. Personnel**

LEX is presently authorized staffing of 19 CPCs (under CBA, Article 94). Historically, LEX has had 21-25 CPCs but recent retirements and transfers have reduced staffing. The Article 94 staffing number (19) is not realistic if 24 hour service is maintained.

The proposed closure will allow for better management of staffing resources at the facility. The one CPC currently scheduled for the midshift would be instead assigned a day shift. Minimal staffing on the day shift frequently requires a supervisor or support specialist to perform CPC functions, creating a domino impact in their primary areas of responsibility.

The start and stop times of at least three shifts would be renegotiated with the Union.

### **7. Preliminary Coordination**

A meeting with the airport operator was held on June 17, 2004, to discuss the impact of the proposal. The airport operator expressed no objection to the proposal and was supportive in discussing procedures, proposed letters of agreement, and customer service issues. The airport operator volunteered that many airports, similar in size to Lexington Blue Grass Airport, do not

have full time air traffic control service. The Airport Director of Operations indicated that they had anticipated such a proposal would be made given the minimal demand for air traffic service during the overnight hours.

The airport operator's primary concern was that the FAA encompass all scheduled commercial passenger air traffic within the hours of operation. The Airport Director expressed a concern regarding the current runway safety area construction project and how that work could be communicated to pilots during the hours of closure. That concern was not perceived by either party as insurmountable and most likely could be resolved through the NOTAM process and the closing ATIS.

In August, 2004, written input regarding the proposal was solicited from tenants based at LEX, the local FBO, military, satellite airports, lifeguard helicopters, the LEX airport operator, and TSA. Although some questions were raised, no written comments opposed the reduction in operating hours. The airport operator did not respond in writing. Two hospitals in Lexington operate lifeguard flights and use the airport for refueling during the midshift. The lifeguard operators also did not provide written responses on the proposed closing.

The most common concern expressed by general aviation users was the lack of current weather information when the ATCT was closed. LEX has now acquired an ASOS-ATIS interface which can be installed and will allow weather to be continually updated and broadcast over the ATIS.

Delta Airlines has designated LEX as an alternate for all B757 and smaller equipment. On occasion those flights have diverted from CVG to LEX. Delta has two flights presently scheduled outside of the proposed hours of operation. An arrival flight is scheduled for 12:20A and a departure is scheduled for 5:35A. These flight times were not scheduled in August, 2004, when the proposal was first presented to users. Reducing the hours of proposed closure to capture these flights becomes increasingly problematic given that 15 minutes must be built into shifts in order to open and close. The proposed opening and closing times of 12A - 5:45A would likely result in the creation of work shifts that end at 12:15A and begin at 5:30A. Each adjustment to these shifts reduces staffing resources in the middle of the workday when service demand is highest. It is recommended that reimbursable agreements be considered for operations outside of the original proposed closing hours (12A-5:45A).

## 8. Cost Analysis

There is no cost associated with converting the approach lighting to ground-to-air capability, since this feature is already installed and was used several years ago when Lexington ATCT was a part-time facility.

A cost analysis of midshift operations was conducted in order to determine the potential cost savings to the Agency. The current midshift practice of staffing one employee creates an overtime liability for the Agency if the employee is incapacitated due to illness. During FY04

Q1, the Agency incurred \$927 in expenses associated with operational overtime during the proposed hours of closure.

The Agency is obligated on the midshift to pay employees premium pay for Controller-in-Charge duties, as well as nighttime differential. These entitlements together equal 20% of a controller's base pay rate, or an average of \$7.64 per hour. Closing the ATCT 5.25 hours per day will result in a savings of \$40.10 per day, or an annual savings of \$14,636.

The slight annual decrease in traffic is an anomaly given that the peak summer seasonal traffic has increased. Current staffing of 19 CPCs is not sufficient to maintain 24 hour operations. An additional CPC position is needed to adequately staff the facility full-time. However, a reduction in operating hours would negate the need for an additional CPC, thereby saving the Agency PC&B for one CPC, or approximately \$121,720 (FY05 Budget Expenditure).

| COST   | BENEFIT   |
|--|---|
| ARTCC automation changes (40 mhrs); publication changes (8 mhrs); airspace rule-making changes (40 mhrs); LOA changes (80 mhrs); SOP changes (40 mhrs); ARTCC CPC training (\$67,200) = 208 mhrs (\$10,400) + 67,200 = <b>\$77,600 non-recurring</b> | <b>\$15,000 immediate annual savings; \$121,720 after staffing reduction of 1 CPC</b> |

### 9. Conclusion

The closure of Lexington ATCT from 12:00A – 5:45A would have a negligible impact upon users and would allow for a needed realignment of controller staffing resources to better coincide with service demand. The proposal does include a contingency (retention of the midshift as an assignable shift) which would allow the facility to operate fulltime in order to address military exigencies and special customer needs.

The proposal would result in an immediate cost savings to the Agency of over \$15,000. More significantly, a reduction in operating hours would offset the need to increase staffing by one employee to adequately staff the facility full time. The FY05 average labor cost per employee is \$121,720. Therefore, the cumulative savings of a reduction in operating hours is approximately \$137,000.