# CONTROLLER STAFFING AT KEY CALIFORNIA AIR TRAFFIC CONTROL FACILITIES

*Federal Aviation Administration*

*Report Number: AV-2009-047*

*Date Issued: April 23, 2009*

**U.S. Department of
Transportation**
Office of the Secretary
of Transportation
Office of Inspector General

# Memorandum

Subject: <u>ACTION</u>:   Report on Controller Staffing at Key
California Air Traffic Control Facilities
Federal Aviation Administration
Report Number AV-2009-047

Date:   April 23, 2009

From: David A. Dobbs
Deputy Inspector General

Reply to
Attn. of:   J-2

To:   FAA Acting Administrator

This report provides the results of our review of controller staffing at three Federal
Aviation Administration (FAA) facilities in California: the Los Angeles
International Airport Traffic Control Tower (LAX), the Southern California
Terminal Radar Approach Control (TRACON) (SCT), and the Northern California
TRACON (NCT).

We conducted this review at the request of Senator Dianne Feinstein of California.
Senator Feinstein expressed concerns to our office about potential shortages of
trained and experienced controllers at these locations, which are some of the
Nation's busiest facilities.   Ensuring these air traffic control facilities remain
adequately staffed with qualified air traffic controllers is critical to the safety and
efficiency of the entire National Airspace System.

Our audit objective was to evaluate FAA's plans for ensuring adequate air traffic
controller staffing at the three California air traffic control facilities and to offer
recommendations as needed.   We conducted this review between June 2008 and
January 2009 in compliance with generally accepted government auditing
standards.   During this review, we visited officials at FAA Headquarters as well as
managers   and   National   Air   Traffic   Controllers   Association   (NATCA)
representatives at the three facilities.   Exhibit A further details our scope and
methodology.

## BACKGROUND

FAA is experiencing a long expected surge in controller attrition as the large pool of controllers hired after the 1981 strike begin retiring. The retirement wave hit record numbers in 2007 and 2008 and is projected to increase through at least 2012. To address this challenge, FAA plans to hire and train nearly 17,000 new controllers nationwide through 2017. This level of hiring has not been seen since FAA hired over 8,700 new controllers between 1982 and 1983. However, with the surge in attrition and hiring, FAA faces an increasing risk of not having enough fully certified controllers in its workforce—with 27 percent of the workforce now in training compared to 15 percent in 2004.

Controllers-in-training include new hires (developmental controllers) and certified professional controllers who are in training (CPC-ITs) because they transferred to another facility and must learn the airspace of their new facility. Certified professional controllers (CPC) are controllers who have achieved full certification on all positions within their assigned area.

FAA has used staffing standard models to determine controller staffing levels since the 1970s. Because these were historically calculated at the national level, in 2005, FAA hired an independent contractor to review air traffic staffing standards at each air traffic control facility based on current traffic volume, airspace complexity, number of positions, and other factors. The goal of this review was to evaluate the existing staffing standards and develop new staffing ranges at the facility level in light of those factors. In 2007, FAA completed its efforts to revise the standards for towers and en route centers, including LAX, but this work is still ongoing at large TRACONs.

LAX, SCT, and NCT are critical locations within the National Airspace System—combined they handled nearly 4.5 million operations in 2008. As FAA begins hiring and training the large influx of new controllers, it must focus on training new controllers to the CPC level at major locations such as these while maintaining a sufficient number of veteran CPCs.

- **LAX is the Nation's fourth busiest airport traffic control tower and handled 659,000 operations in 2008.** As of December 2008, LAX had 49 controllers. Controller staffing over the last decade has stayed at or above FAA's validated staffing range for the facility, which is 39 to 47 controllers. As of December 2008, 20 percent of LAX's controller workforce was in training.

- **SCT is the Nation's busiest TRACON and handled nearly 2.25 million operations in 2008.** As of December 2008, SCT had 237 controllers. With the exception of 2005, controller staffing over the last decade at SCT has

stayed at or above FAA's un-validated staffing range for the facility, which is 194 to 237 controllers.  As of December 2008, 32 percent of SCT's controller workforce was in training.

- **NCT is the Nation's fourth busiest TRACON and handled nearly 1.59 million operations in 2008.**  As of December 2008, NCT had 170 controllers.  Since NCT became fully operational in 2004, controller staffing has remained at or above FAA's un-validated staffing range for the facility, which is 142 to 174 controllers.  As of December 2008, 24 percent of NCT's controller workforce was in training.

## RESULTS IN BRIEF

FAA has taken steps at LAX, SCT, and NCT to offset controller attrition.  These include offering financial incentives to experienced controllers to transfer to or remain at the three locations.  Despite these actions, FAA must do more to ensure these three critical locations have a sufficient number of fully certified controllers.  We identified four specific focus areas for FAA:

- Making SCT and NCT a top priority in FAA's ongoing efforts to validate staffing ranges at its large TRACON facilities.

- Expanding the use of relocation and retention incentives to maintain a cadre of experienced controllers at LAX and SCT.

- Providing enough instructors and other training resources at all three facilities to handle the influx of new controllers, especially at SCT.

- Ensuring appropriate use of overtime hours at LAX, SCT, and NCT, which increased significantly over the last 2 years—by 868, 400, and 120 percent, respectively.

These actions are particularly critical at SCT, which is facing the most significant staffing issues.  SCT is FAA's busiest TRACON, has the highest percentage of existing and planned new controllers of the three facilities, and has experienced a sharp decline in CPCs over the last 5 years.  A significant issue is that SCT expects to have over 100 controllers in training later this year—which is more than 40 percent of its workforce and could overwhelm SCT's training capacity.  That percentage will also far exceed FAA's overall national average of 27 percent of a facility's controller workforce in training.

### FAA Should Make SCT and NCT a Top Priority in Its Ongoing Efforts To Validate Staffing at Large TRACON Facilities

SCT and NCT have controller staffing ranges of 194 to 237 and 142 to 174, respectively.  While both have kept staffing levels within those ranges, FAA has not yet validated those ranges and therefore cannot ensure they truly represent the

facilities' needs.  In 2007, FAA revised ranges for tower and en route centers based on its independent contractor review of staffing standards.  FAA expects the contractor to complete its review of TRACON staffing ranges later this year.  However, we are concerned because, although SCT is the Nation's busiest TRACON and NCT is the fourth busiest, these two facilities are among the last scheduled for review.  Further, at SCT, the number of operations *per controller* has increased by 19 percent since 1997.  In our opinion, FAA should make these two critical facilities a top priority for review.

**FAA Should Expand the Use of Relocation and Retention Incentives To Maintain a Cadre of Experienced Controllers, Particularly at LAX and SCT**

**LAX:**  A growing concern for LAX is retaining newly hired controllers and attracting experienced controllers.  In 2007 and 2008, LAX gained 16 new hires and 3 experienced transfers but then lost 7 of them because they either failed training, relocated, or chose another career.  As of December 2008, LAX had 20 percent of its 49 total controllers in training—still below the national average of 27 percent.  However, because LAX will receive more new controllers in 2009 and 2010, FAA must continually work to gain experienced transfers so the facility can maintain a proper balance of CPCs and trainees.

**SCT:**  Retaining experienced controllers is an even more critical issue at SCT, where the number of CPCs has sharply declined since 2004—from 236 to 161 (a decline of 32 percent)—while the number of developmental controllers has increased.  As of December 2008, SCT had 32 percent of its 237 total controllers in training, which is well above the national average of 27 percent.  However, FAA plans to hire 34 new controllers this year (to offset a loss of 26), which means that percentage could climb to more than 40 percent.

**NCT:** At NCT, the balance of CPCs to controllers in training is not an immediate concern.  As of December 2008, the facility had 24 percent of its 170 total controllers in training.  However, as these controllers finish their training, NCT expects to receive 46 controllers by 2010 to offset a loss of 39.  Maintaining the right balance of CPCs to trainees will be a watch area at NCT in the 2010 to 2011 time frame.

To maintain a workforce of experienced controllers, FAA has begun offering financial incentives at selected facilities.  These include relocation allowances of up to $27,000 for controllers who transfer to LAX.  FAA has also offered retention bonuses of up to $25,000 at SCT for retirees who extend their employment for 1 year.  In FY 2008, 6 controllers at LAX and 17 controllers at SCT accepted incentives.  FAA is not offering incentives at NCT.  While FAA's incentives are clearly responsive to the rising attrition and hiring, it should expand them at LAX and SCT to entice more experienced controllers to accept positions or defer retirements at those two locations.

**FAA Must Provide Enough Instructors and Training Resources To Handle the Large Influx of New Controllers, Especially at SCT**

While FAA must ensure that the LAX and NCT have adequate training resources for their new controllers planned for 2010, this issue is already critical at SCT. SCT now has 32 percent of its controller workforce in training. However, this percentage could soon grow to more than 40 percent in FY 2009 given FAA's plans to add 34 new controllers to the 76 already in training. If this occurs, the facility will have more than 100 controllers in training. We are concerned that this will overwhelm the facility's training resources, especially since SCT only has 9 contract instructors and 16 radar screens for use during facility training.

Training over 100 controllers will require significant resources and time. Therefore, as the number of new controllers increases, FAA must ensure SCT has enough instructors, classroom space (including off-site locations if needed), and simulator tools so that managers can effectively train the high number of new controllers. FAA should also ensure new trainees are evenly distributed throughout the year at the facility to prevent a "bottle-neck" in controller training.

**FAA Should Ensure Appropriate Use of Scheduled Overtime Hours at LAX, SCT, and NCT**

We found that overtime hours for controllers (which are paid at "time-and-a-half") had increased significantly at all three facilities over the last 2 years (see table 1). Yet, according to FAA, controllers at all three facilities worked an average of less than 40 hours per week.

| Table 1. Increased Overtime at LAX, SCT, and NCT Over 2 Years | | |
|---|---|---|
| **Facility** | **Overtime Hours in FY 2006** | **Overtime Hours in FY 2008** |
| LAX | 606 | 5,866 (+868%) |
| SCT | 7,300 | 36,700 (+400%) |
| NCT | 5,685 | 12,511 (+120%) |

For example, at SCT, 141 of 223 controllers worked overtime during 1 pay period. However, of those 141 controllers, 116 (82 percent) took leave during the same pay period. Like most Federal employees, controllers may take leave during a scheduled 6-day week but still receive overtime pay if they actually work the scheduled overtime shift.

FAA managers at SCT stated that they must schedule overtime in advance to ensure adequate coverage although they would prefer to call controllers in for overtime as needed, based on traffic and weather patterns. However, they said controllers usually do not respond to the "call-in."

As a result, they were forced to schedule overtime in advance regardless of traffic or weather conditions. While there are various reasons for the dramatic increases in overtime at all three locations, the drastic increase in overtime hours may indicate systemic problems in scheduling practices.

Our recommendations to FAA focus on actions needed to maintain a sufficient number of certified controllers at LAX, SCT, and NCT and include a recommendation to analyze overtime scheduling practices at all three locations to determine if the amount of overtime is appropriate, needed, and effectively utilized. FAA agreed with our recommendations listed on page 15.

## FINDINGS

We evaluated LAX, SCT, and NCT across five areas: staffing levels, workforce composition, overtime worked, incentives, and hiring plans over the next 2 years. Table 2 below summarizes our assessment of controller staffing issues at all three facilities. Based on our analysis, we assigned an assessment of risk and corresponding timeframe for actions needed. A green rating indicates that FAA action will likely not be required this year or next. A yellow rating indicates that FAA action will be needed in the 2010 timeframe. A red rating indicates that immediate FAA action is needed.

| Table 2. OIG Assessment of FAA's Plans for Ensuring Adequate Controller Staffing at LAX, SCT, and NCT | | | |
|---|---|---|---|
| **Concern** | **LAX** | **SCT** | **NCT** |
| **Staff Levels** | 🟢 <br> • At or above authorized staffing levels. <br> • Operations have declined. | 🔴 <br> • FAA needs to validate staffing ranges for large TRACONs. <br> • Operations have increased. | 🔴 <br> • FAA needs to validate staffing ranges for large TRACONs. <br> • Operations have remained constant. |
| **Workforce Composition** | 🟡 <br> • Currently has 10 (20%) controllers-in-training, but will change in 2010 based on hiring plans. <br> • Under the national average. | 🔴 <br> • Currently has 76 (32%) controllers-in-training. <br> • Over the national average. | 🟡 <br> • Currently has 41 (24%) controllers-in-training, but will change in 2010 based on hiring plans. <br> • Under the national average. |
| **Overtime Worked per 6-Day Weeks** | 🔴 <br> • Increased by 868% since FY 2006. <br> • Controllers working 33.05 to 37.37 total hours. | 🔴 <br> • Increased by 400% since FY 2006. <br> • Controllers working 31.43 to 36.97 total hours. | 🔴 <br> • Increased by 120% since FY 2006. <br> • Controllers working 30.88 to 36.11 total hours. |
| **Incentives** | 🟡 <br> • FAA approved 6 relocation incentives in FY 2008. | 🟡 <br> • FAA approved 17 retention bonuses in FY 2008. | 🟢 <br> • FAA is not offering incentives. |
| **Hiring Plans Next 2 yrs.** | 🟢 <br> • Will receive 8 new controllers. <br> • Will lose 10 controllers. <br> • Hiring plans will impact workforce composition in 2010. | 🟢 <br> • Will receive 66 new controllers. <br> • Will lose 48 controllers. <br> • Hiring plans will impact workforce composition in 2010. | 🟢 <br> • Will receive 46 new controllers. <br> • Will lose 39 controllers. <br> • Hiring plans will impact workforce composition in 2010. |
| 🟢 *No FAA action needed now* 🟡 *Future FAA action needed* 🔴 *Immediate FAA action needed* | | | |

The following discusses our analysis of these areas at each of the three facilities, with the exception of overtime usage, which is discussed separately.

## Los Angeles International Airport Traffic Control Tower (LAX)

### LAX Staffing Levels Have Remained at or Above the Authorized Staffing Range

LAX has been able to maintain its staffing levels well within FAA's authorized staffing range (validated in 2007) of 39 to 47 controllers over the last decade (see figure 1 below). This is because LAX has basically maintained the controller workforce level (which ranged from 40 to 46) it had during the peak years leading up to 2001.

As of December 2008, LAX had a workforce of 49 controllers. While FAA projects that nine controllers will retire in FY 2009 and FY 2010, FAA also expects LAX to receive eight new hires during the same period.
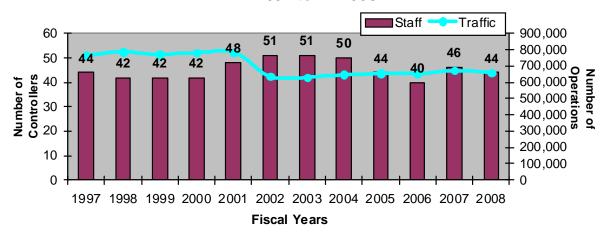
### Figure 1. LAX Controller Staffing and Air Traffic Operations FY 1997 to FY 2008



### FAA Must Retain New Controllers and Attract Experienced Controllers at LAX To Maintain a Proper Balance of CPCs and Developmentals

During 2007 and 2008, LAX received a total of 16 new hires and 3 transferring controllers. However, we found that over the past 2 years, LAX has lost 7 of its 19 new controllers during training, or nearly 37 percent.

New controllers left the facility because they either failed training, chose to pursue other careers, or chose to relocate. In addition, the facility is now having difficulty attracting and retaining experienced controllers from lower-level facilities. From FY 2004 to FY 2006, LAX relied on controllers who transferred from another facility to replenish its ranks—it did not train new hires.

However, from 2004 to 2008, the number of CPCs at LAX has decreased by 13 percent (six controllers). Given LAX's controller workforce of 49, if the trend continues, there would be fewer CPCs to handle traffic and accomplish on the job training. Currently, 20 percent of LAX's total controller workforce is comprised of controllers in training, still below the national average of 27 percent (see figure 2 below). FAA is offering financial incentives to entice controllers to relocate to LAX. To date, six controllers have accepted $27,000 in incentives to relocate to LAX but are awaiting release from their current facility. FAA has not yet offered incentives for retirees to remain on active duty at LAX.



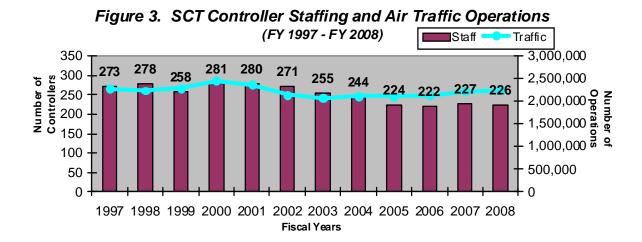Figure 2. LAX Controller Staffing Composition, FY 2004 - December 2008

## Southern California TRACON (SCT)

*Operations per Controller Have Increased at SCT, but FAA Has Not Yet Validated the Facility's Authorized Staffing Range*

SCT has kept controller staffing within or above its staffing range of 194 to 237. As of December 2008, SCT had 237 controllers. However, FAA has not yet validated SCT's staffing range and therefore cannot ensure it truly represents SCT's workforce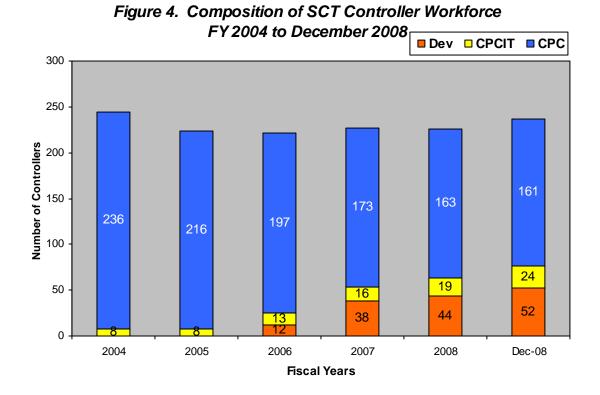 needs. FAA has hired an independent contractor to assess facility staffing ranges and expects to complete its review of TRACONs later this year. However, we are concerned because SCT is the Nation's busiest TRACON; yet, it is among the last scheduled for review. Completing this assessment is critical at SCT because according to FAA, the number of operations *per controller* has increased by 19 percent (from 8,323 in FY 1997 to 9,942 in FY 2008). This is because staffing levels dropped during that time (see figure 3 below).

**Figure 3. SCT Controller Staffing and Air Traffic Operations**
**(FY 1997 - FY 2008)**



*SCT Is Experiencing a Large Influx of New Controllers and a Decrease in CPCs*

As shown in figure 4 below, the number of CPCs at SCT has decreased from 236 to 161 (a 32-percent decline) since FY 2004. During the same period, the number of developmental controllers increased from 0 in FY 2004 to 52 as of December 2008. Currently, 32 percent of the facility's controllers are in training, which exceeds the national average of 27 percent. Further, given FAA's hiring plans for FY 2009, SCT's percentage of controllers in training could grow to more than 40 percent.

**Figure 4. Composition of SCT Controller Workforce**
**FY 2004 to December 2008**

As of December 8, 2008, FAA planned to assign 34 new controllers to the facility during FY 2009. FAA is also projecting that SCT will lose 26 controllers during FY 2009—ultimately resulting in a net gain of 8 controllers. However, the addition of 34 new controllers to the 76 controllers already in training at the facility could overload the facility's training resources. SCT now has only 9 contract instructors and 16 radar screens for use during facility training; training over 100 new controllers at the same time will require significant resources and time.

As the number of new controllers increases, FAA will need to make corresponding adjustments to SCT's training resources to ensure it has enough contract instructors, classroom space (including off-site locations if needed), and simulator tools. Otherwise, it will be difficult for facility managers to effectively train the high number of new controllers.

Our prior work has found that placing too many new controllers at a facility at one time can overwhelm training capacities.[1] For example, in December 2007, the Miami Center had 98 developmental controllers (or 34 percent of the facility's controller workforce). Facility management and the local NATCA representative both agreed that the facility lacked the physical capacity to effectively train such a large population of developmental controllers, even when they were evenly distributed throughout the various stages of facility training. Consequently, developmental controllers' facility training was delayed at that location by as much as 9 months. FAA must take steps to ensure this does not occur at SCT.

## *FAA Should Continue and Expand Incentives To Retain Experienced Controllers at SCT*

Given that SCT could have as much as 40 percent of its controllers in training this year, FAA must continually work to ensure the facility has enough experienced controllers. FAA initiated an incentive in 2008 where controllers eligible to retire could request a 1-year employment extension and, if approved, receive as much as $25,000 in cash retention bonuses. FAA has begun increasing the use of this incentive at SCT and, as of the end of FY 2008, has approved 17 retention bonuses. An additional two requests are pending. In our opinion, FAA needs to continue this incentive and use other incentives, such as relocation bonuses, to ensure the number of experienced controllers at the facility keeps pace with the influx of new hires.

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[1] OIG Report Number AV-2008-055, "Review of the Air Traffic Controller Facility Training Program," June 5, 2008. OIG reports are available on our website: www.oig.dot.gov.

## Northern California TRACON (NCT)

### *NCT's Controller Staffing Levels Have Remained Within the Authorized Staffing Range, but FAA Has Yet To Validate That Range*

NCT's annual air traffic levels have remained around 1.6 million since the facility began operations in FY 2004. NCT handled about 1,606,500 operations in FY 2004 compared to about 1,587,100 in FY 2008 (see figure 5 below).

Since 2004, NCT has also experienced a 10-percent decline in the number of controllers; yet, controller staffing has remained at or above the authorized (un-validated) staffing range of 142 to 174. Like SCT, NCT is one of the last TRACONs scheduled for review in FAA's staffing range assessment even though it is the Nation's fourth busiest TRACON. As of December 2008, NCT had a workforce of 170 controllers. FAA projects that, over the next 2 years, NCT will lose 39 controllers but will gain 46 for a net increase of 7.
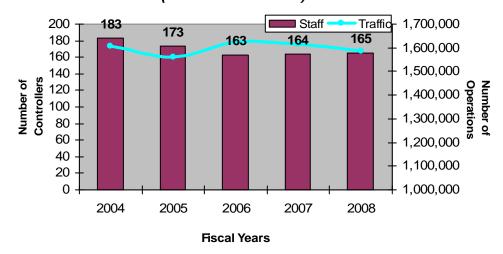
**Figure 5. NCT Controller Staffing and Air Traffic Operations (FY 2004 - FY 2008)**



### *CPC-ITs Have Decreased and Developmentals Have Increased at NCT*

When several northern California facilities were consolidated in 2004 to create NCT, the airspace was redesigned and controllers then had to certify, or cross-train, on new positions. This resulted in a large number of CPC-ITs in FY 2004 and FY 2005. As shown in figure 6 below, NCT has seen an increase in developmental controllers and a decrease in CPC-ITs since FY 2006. This is a result of those controllers completing their cross-training and the increased hiring

of new controllers. NCT now has 24 percent of its total 170 controllers in training—near but still under the national average of 27 percent. However, with the planned addition of 46 new controllers by 2010, ensuring that NCT adequately prepares its training resources will be a watch area for FAA.
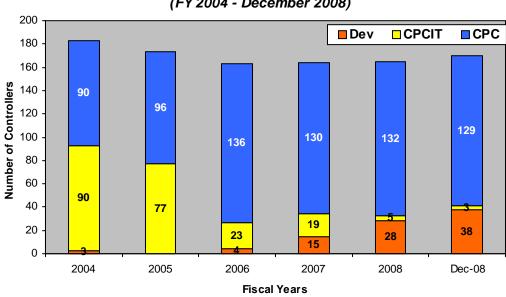
**Figure 6. NCT Controller Staffing Composition (FY 2004 - December 2008)**



## Overtime Hours at All Three Facilities Have Drastically Increased During the Last 2 Years

We found that overtime hours for controllers (which are paid at "time-and-a-half") had increased significantly at all three facilities over the last 2 years. This would typically indicate that controllers are overworked. Yet, according to FAA, controllers at all three facilities worked an average of less than 40 hours each week. In our view, this could indicate systemic problems with controller scheduling practices. Specifically, we found that:

- Overtime hours at LAX increased from 606 hours in FY 2006 to 5,866 hours in FY 2008 (an 868-percent increase). However, according to FAA, controllers at LAX only worked an average of between 33 and 37 hours per week.

- Overtime hours at SCT increased from more than 7,300 overtime hours in FY 2006 to nearly 36,700 hours in FY 2008 (a 400-percent increase). However, according to FAA, controllers at SCT still worked an average of between 31 and 37 hours per week.

- Overtime hours at NCT increased from 5,685 hours in FY 2006 to 12,511 hours in FY 2008 (a 120-percent increase). However, according to

FAA controllers at NCT only worked an average of between 31 and 36 hours per week.

We found that the controllers were still able to average under 40 hours per week because most at each location took leave during the pay period when they worked the overtime hours. That is, as long as controllers actually work their assigned overtime shift, they can take leave during other days of that 2-week pay period. This means they will actually work less than 6 days a week but will still receive overtime pay for that shift.

To determine if the majority of controllers at these facilities typically follow this practice, we analyzed a sample of randomly selected pay periods during 2008 at LAX and SCT. For example, we found that for pay period 09 in 2008:

- 73 percent (33 of 45 controllers) of LAX's controllers worked overtime during that pay period. However, 27 (82 percent) of the controllers who worked overtime also took leave during the same pay period.

- 63 percent (141 of 223) of SCT's controllers worked overtime. However, 116 (82 percent) of the controllers who worked overtime took leave during the same pay period.

Like most Federal employees, controllers may take leave during a scheduled 6-day week and receive overtime pay if they actually work the scheduled overtime shift.

FAA managers at SCT stated that they must schedule overtime in advance to ensure adequate coverage although they would prefer to call controllers in for overtime as needed, based on traffic and weather patterns. However, they said controllers usually do not respond to the "call-in." As a result, they were forced to schedule overtime in advance regardless of traffic or weather conditions. While there are various reasons for the dramatic increases in overtime at all three locations, the drastic increase in overtime hours may indicate systemic problems in scheduling practices.

## CONCLUSION

LAX, SCT, and NCT are critical locations within the National Airspace System. Ensuring these facilities remain adequately staffed with qualified air traffic controllers is vital to the safety and efficiency of the entire system. While FAA has taken steps to boost staffing efforts at these locations, all three facilities are facing increased numbers of new controllers over the next 2 years. Our analysis found that FAA must take a number of actions to maximize its staffing efforts and maintain a sufficient number of veteran controllers at these three key facilities.

## RECOMMENDATIONS

We recommend that FAA:

1. Complete validation of the staffing ranges for SCT and NCT to ensure their staffing levels are sufficient to handle the volume and complexity of air traffic at those locations.

2. Expand the use of relocation, retention, and other incentives to entice more experienced controllers to accept positions or defer retirements at LAX and SCT.

3. Provide LAX, SCT, and NCT with enough contract instructors, classroom space (including off-site locations as needed), and simulators for the expected surge in new controllers—this is particularly critical at SCT.

4. Evenly distribute the placement of new trainees to SCT throughout the year to avoid training "bottlenecks."

5. Conduct an independent analysis of overtime scheduling practices at LAX, SCT, and NCT to determine if the amount of overtime is appropriate, needed, and effectively utilized.

## AGENCY COMMENTS AND OFFICE OF INSPECTOR GENERAL RESPONSE

We provided FAA with our draft report on March 25, 2009, and received its response on April 10, 2009.  In its response, FAA agreed with our recommendations and has either taken or planned acceptable corrective actions.  FAA's entire response is included at the appendix to this report.

## ACTIONS REQUIRED

In accordance with Department of Transportation Order 8000.1C, we are closing recommendations 1, 2, 3, and 4 based on the actions taken by FAA.  We consider recommendation 5 addressed but open pending completion of FAA's planned action by December 31, 2009.

We appreciate the courtesies and cooperation of FAA representatives during this audit.  If you have any questions concerning this report, please contact me at (202) 366-6767 or Dan Raville, Program Director, at (202) 366-1405.

#

cc: Martin Gertel, M-100

## EXHIBIT A.  SCOPE AND METHODOLOGY

We conducted this performance audit in accordance with generally accepted government auditing standards.  Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objective.  We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objective.

We conducted the audit between June 2008 and January 2009 and visited FAA Headquarters, the National Air Traffic Controllers Association Headquarters, and the three California air traffic control facilities:  Los Angeles Air Traffic Control Tower, Southern California TRACON, and Northern California TRACON.

To determine if FAA has developed plans for ensuring adequate air traffic controller staffing at LAX, SCT, and NCT, we interviewed officials from FAA Headquarters (ATO-Finance and ATO-Terminal) and obtained, reviewed, and analyzed controller staffing documentation.  The staffing documentation included historical staffing data, future projections for retirements and new hires, staffing composition, overtime hours, relocation/retirement incentives, and number of operations at each facility.  We reviewed and analyzed FAA's December 2004 Controller Workforce Plan and its associated updates.

We also conducted site visits and interviewed FAA Air Traffic Control Managers and the National Air Traffic Controllers Association (NATCA) representatives from each facility and obtained, reviewed, and analyzed controller staffing documentation.  The staffing documentation included the number of on-the-job training instructors (OJTI), controller staff composition, controllers eligible for retirement, training assets, and retention/relocation incentives.

We also met with NATCA representatives in Washington, DC, to identify specific concerns the union has with controller staffing at the three California facilities.

## EXHIBIT B.  MAJOR CONTRIBUTORS TO THIS REPORT

| Name | Title |
| --- | --- |
| Dan Raville | Program Director |
| Robert Romich | Program Manager |
| Katherine Yutzey | Senior Analyst |
| Mi Hwa Button | Analyst |
| Andrew Olsen | Auditor |
| Andrea Nossaman | Writer/Editor |

## APPENDIX. AGENCY COMMENTS

# Federal Aviation Administration

# Memorandum

Date:             April 10, 2009

To:               Lou Dixon, Assistant Inspector General for Aviation and Special Program
                  Audits

From:             Ramesh K. Punwani, Assistant Administrator for Financial Services/CFO

Prepared by:   Anthony Williams, x79000

Subject:          OIG Draft Report:  Controller Staffing at Key California Air Traffic Control
                  Facilities, Federal Aviation Administration

Thank you for the opportunity to review and comment on the findings and recommendations of
the subject report dated March 25. The FAA concurs with Recommendations 1,3,4, and 5, and
partially concurs with Recommendation 2.

The following is FAA's response to each of the recommendations.

**OIG Recommendation 1:** Complete validation of the staffing ranges for SCT and NCT to
ensure their staffing levels are sufficient to handle the volume and complexity of air traffic at
those locations.

**FAA Response:** Concur. FAA completed validation of staffing ranges for the Southern
California Terminal Radar Approach Control (TRACON) (SCT) and the Northern California
TRACON (NCT) on March 31. Both facility staffing ranges were increased slightly over fiscal
year (FY) 2008 ranges.

**OIG Recommendation 2:** Expand the use of relocation, retention, and other incentives to entice
more experienced controllers to accept positions or defer retirements at LAX and SCT.

**FAA Response:** Partially Concur. The FAA will continue to use incentives to retain and draw
experienced personnel into SCT. Last year, the FAA successfully used incentives to retain
21 employees and attract 13 experienced personnel into SCT.

Although the FAA may offer some retention bonuses at Los Angeles International Airport Traffic
Control Tower (LAX), the agency is not planning to offer incentive bonuses to bring more staff

into the facility. The existing and projected controller levels at LAX are well within their prescribed staffing range, and more than adequate in meeting air traffic demand.

**OIG Recommendation 3:** Provide LAX, SCT, and NCT with enough contract instructors and classroom space (including off-site locations as needed), and simulators for the expected surge in new controllers—this is particularly critical at SCT.

**FAA Response:** Concur. Controller training is a priority for the FAA. The agency is committed to providing resources that ensure the most efficient and practical training methods are used. In December 2008, the FAA instituted the facility monthly work plan. This on-going monthly plan streamlines the process for identifying and documenting facility training needs, and allows resources to be dispatched more efficiently across the country.

**OIG Recommendation 4:** Evenly distribute the placement of new trainees to SCT throughout the year to avoid training "bottlenecks."

**FAA Response:** Concur. In October 2008, Terminal Services began a process that evenly distributes new hires through the year. This metering process offers a range of how many new hires a facility can accommodate at one time, and the rate of acceptance.

The metering process complies with an earlier Office of Inspector General's recommendation to consider facility training resources when allocating new hires. For FY 2009, 134 of 292 Terminal facilities requested grouping and time intervals for their planned new hires. Terminal Services tracks and evaluates the metering results, and facilities are able to request adjustments to metering as needed.

**OIG Recommendation 5:** Conduct an independent analysis of overtime scheduling practices at LAX, SCT, and NCT to determine if the amount of overtime is appropriate, needed, and effectively utilized.

**FAA Response:** Concur. Terminal Services is in the process of conducting an independent analysis of overtime scheduling practices at SCT, LAX, and NCT to determine where inefficiencies exist, and what factors are driving these issues. We anticipate a completion date of December 31, 2009.

**Appendix.  Agency Comments**

The following pages contain textual versions of the graphs and charts found in this document. These pages were not in the original document but have been added here to accommodate assistive technology.

**Controller Staffing at Key California Air Traffic Control Facilities**
**Section 508 Compliant Presentation**

**Table 1. Increased Overtime at LAX, SCT, and NCT Over 2 Years**

At LAX, overtime hours in fiscal year 2006 were 606. In fiscal year 2008, overtime hours at LAX were 5,866—an increase of 868 percent.

At SCT, overtime hours in fiscal year 2006 were 7,300. In fiscal year 2008, overtime hours at SCT were 36,700—an increase of 400 percent.

At NCT, overtime hours in fiscal year 2006 were 5,685. In fiscal year 2008, overtime hours at NCT were 12,511—an increase of 120 percent.

**Table 2. OIG Assessment of FAA's Plans for Ensuring Adequate Controller Staffing at LAX, SCT, and NCT**

We evaluated LAX, SCT, and NCT across five areas: staffing levels, workforce composition, overtime worked, incentives, and hiring plans over the next 2 years. Table 2 summarizes our assessment of controller staffing issues at all three facilities.

Area 1: Staffing Levels:

- LAX: No FAA action needed now. LAX is at or above authorized staffing levels, and its operations have declined.

- SCT: Immediate FAA action needed. FAA needs to validate staffing ranges for large TRACONs. SCT's operations have increased.

- NCT: Immediate FAA action needed. FAA needs to validate staffing ranges for large TRACONs. NCT's operations have remained constant.

Area 2: Workforce Composition:

- LAX: Future FAA action needed. LAX currently has 10 (20 percent) controllers-in-training, but that will change in 2010 based on hiring plans. LAX's percentage of controllers-in-training is still under the national average.

- SCT: Immediate FAA action needed. SCT currently has 76 (32 percent) controllers-in-training. SCT's percentage of controllers-in-training is over the national average.

- NCT: Future FAA action needed.  NCT currently has 41 (24 percent) controllers-in-training, but that will change in 2010 based on hiring plans.  NCT's percentage of controllers-in-training is still under the national average.

Area 3: Overtime Worked Per 6-Day Week:

- LAX:  Immediate FAA action needed.  Overtime hours increased by 868 percent since fiscal year 2006.  LAX controllers are working 33.05 to 37.37 total hours per 6-day week.

- SCT:  Immediate FAA action needed.  Overtime hours increased by 400 percent since fiscal year 2006.  SCT controllers are working 31.43 to 36.97 total hours per 6-day week.

- NCT: Immediate FAA action needed.  Overtime hours increased by 120 percent since fiscal year 2006.  NCT controllers are working 30.88 to 36.11 total hours per 6-day week.

Area 4:  Incentives

- LAX:  Future FAA action needed.  FAA approved 6 relocation incentives in fiscal year 2008.

- SCT:  Future FAA action needed. FAA approved 17 retention bonuses in FY 2008.

- NCT:  No FAA action needed now.  FAA is not offering incentives at NCT.

Area 5: Hiring Plans Over the Next 2 Years

- LAX:  No FAA action needed now.  LAX will receive 8 new controllers and lose 10 controllers.  Hiring plans will impact workforce composition in 2010.

- SCT:  No FAA action needed now.  SCT will receive 66 new controllers and lose 48 controllers.  Hiring plans will impact workforce composition in 2010.

- NCT:  No FAA action needed now.  NCT will receive 46 new controllers and lose 39 controllers.  Hiring plans will impact workforce composition in 2010.

**Figure 1. LAX Controller Staffing and Air Traffic Operations, Fiscal Year 1997 to Fiscal Year 2008**

In fiscal year 1997, LAX controller staffing was 44, and LAX air traffic operations were 767,352.

In fiscal year 1998, LAX controller staffing was 42, and LAX air traffic operations were 786,364.

In fiscal year 1999, LAX controller staffing was 42, and LAX air traffic operations were 771,337.

In fiscal year 2000, LAX controller staffing was 42, and LAX air traffic operations were 781,418.

In fiscal year 2001, LAX controller staffing was 48, and LAX air traffic operations were 783,160.

In fiscal year 2002, LAX controller staffing was 51, and LAX air traffic operations were 637,588.

In fiscal year 2003, LAX controller staffing was 51, and LAX air traffic operations were 630,755.

In fiscal year 2004, LAX controller staffing was 50, and LAX air traffic operations were 646,919.

In fiscal year 2005, LAX controller staffing was 44, and LAX air traffic operations were 653,534.

In fiscal year 2006, LAX controller staffing was 40, and LAX air traffic operations were 653,181.

In fiscal year 2007, LAX controller staffing was 46, and LAX air traffic operations were 672,245.

In fiscal year 2008, LAX controller staffing was 44, and LAX air traffic operations were 659,221.

**Figure 2.  LAX Controller Staffing Composition, Fiscal Year 2004 through December 2008**

In fiscal year 2004, LAX had 5 certified professional controllers in training and 45 certified professional controllers.

In fiscal year 2005, LAX had 2 certified professional controllers in training and 42 certified professional controllers.

In fiscal year 2006, LAX had 3 certified professional controllers in training and 37 certified professional controllers.

In fiscal year 2007, LAX had 10 developmental controllers, 6 certified professional controllers in training, and 30 certified professional controllers.

In fiscal year 2008, LAX had 2 developmental controllers, 3 certified professional controllers in training, and 39 certified professional controllers.

In December 2008, LAX had 7 developmental controllers, 3 certified professional controllers in training, and 39 certified professional controllers.


**Figure 3. SCT Controller Staffing and Air Traffic Operations, Fiscal Year 1997 through Fiscal Year 2008**

In fiscal year 1997, SCT controller staffing was 273, and SCT air traffic operations were 2,272,135.

In fiscal year 1998, SCT controller staffing was 278, and SCT air traffic operations were 2,239,477.

In fiscal year 1999, SCT controller staffing was 258, and SCT air traffic operations were 2,290,048.

In fiscal year 2000, SCT controller staffing was 281, and SCT air traffic operations were 2,456,065.

In fiscal year 2001, SCT controller staffing was 280, and SCT air traffic operations were 2,359,052.

In fiscal year 2002, SCT controller staffing was 271, and SCT air traffic operations were 2,143,429.

In fiscal year 2003, SCT controller staffing was 255, and SCT air traffic operations were 2,075,308.

In fiscal year 2004, SCT controller staffing was 244, and SCT air traffic operations were 2,119,851.

In fiscal year 2005, SCT controller staffing was 224, and SCT air traffic operations were 2,119,708.

In fiscal year 2006, SCT controller staffing was 222, and SCT air traffic operations were 2,128,347.

In fiscal year 2007, SCT controller staffing was 227, and SCT air traffic operations were 2,216,604.

In fiscal year 2008, SCT controller staffing was 224, and SCT air traffic operations were 2,246,877.


**Figure 4. Composition of SCT Controller Workforce, Fiscal Year 2004 to December 2008**

In fiscal year 2004, SCT had 8 certified professional controllers in training and 236 certified professional controllers.

In fiscal year 2005, SCT had 8 certified professional controllers in training and 216 certified professional controllers.

In fiscal year 2006, SCT had 12 developmental controllers, 13 certified professional controllers in training and 197 certified professional controllers.

In fiscal year 2007, SCT had 38 developmental controllers, 16 certified professional controllers in training and 173 certified professional controllers.

In fiscal year 2008, SCT had 44 developmental controllers, 19 certified professional controllers in training and 163 certified professional controllers.

In December 2008, SCT had 52 developmental controllers, 24 certified professional controllers in training and 161 certified professional controllers.

**Figure 5. NCT Controller Staffing and Air Traffic Operations, Fiscal Year 2004 through Fiscal Year 2008**

In fiscal year 2004, NCT controller staffing was 183, and NCT air traffic operations were 1,606,516.

In fiscal year 2005, NCT controller staffing was 173, and NCT air traffic operations were 1,560,357.

In fiscal year 2006, NCT controller staffing was 163, and NCT air traffic operations were 1,622,068.

In fiscal year 2007, NCT controller staffing was 164, and NCT air traffic operations were 1,616,204.

In fiscal year 2008, NCT controller staffing was 165, and NCT air traffic operations were 1,587,161.

**Figure 6. NCT Controller Staffing Composition, Fiscal Year 2004 through December 2008**

In fiscal year 2004, NCT had 3 developmental controllers, 90 certified professional controllers in training and 90 certified professional controllers.

In fiscal year 2005, NCT had 77 certified professional controllers in training and 96 certified professional controllers.

In fiscal year 2006, NCT had 4 developmental controllers, 23 certified professional controllers in training and 136 certified professional controllers.

In fiscal year 2007, NCT had 15 developmental controllers, 19 certified professional controllers in training, and 130 certified professional controllers.

In fiscal year 2008, NCT had 28 developmental controllers, 5 certified professional controllers in training, and 132 certified professional controllers.

In December 2008, NCT had 38 developmental controllers, 3 certified professional controllers in training, and 129 certified professional controllers.