

CITY OF LOS ANGELES

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July 27, 2017

Honorable Mitchell Englander
Chair, Public Safety Committee
c/o Office of the City Clerk
Room 395, City Hall

Attention: Michael Espinoza, Legislative Assistant

REPORT BACK TO CITY COUNCIL PUBLIC SAFETY COMMITTEE: MOTION RELATIVE TO THE CURRENT STATE OF THE LOS ANGELES FIRE DEPARTMENT HELICOPTER FLEET

Summary

This report to the City Council completed by the Department of General Services (GSD), in consultation with the Los Angeles Fire Department (LAFD), is in response to your May 30, 2017 motion. The report will speak to the maintenance and availability of LAFD aircraft (Council File 17-0612).

It's important to note that GSD and LAFD provided a verbal report at the June 20, 2017 Public Safety Committee meeting. At the conclusion of the meeting, the committee requested two additional report back items:

- Provide availability updates to the Committee on a quarterly basis.
- Begin discussions with departments regarding a Memorandum of Agreement (MOA), which has been addressed in the recommendation section of this report.

The report gives a background of the LAFD, LAPD, and DWP aircraft fleets and recommends short and long term plans to address critical requirements to maximize helicopter availability. Important components of the short term plans are to recognize "fire season" as year round, re-align the Augusta AW139 48 month inspection schedule to perform only one inspection per year, to hire the Helicopter Mechanic position approved in the 2017-18 budget and to request two additional Helicopter Mechanic positions. The two additional positions would provide more timely inspections and maintenance of the aircraft, but would not guarantee the availability of three medium duty aircraft at all times.

Important components of the long term plans are for GSD, LAFD, LAPD and DWP to begin discussions on a Memorandum of Agreement (MOA), and for LAFD, through a future annual budget request, to increase its fleet configuration to 7 helicopters, consisting of 5 medium and 2 light duty helicopters.



Background

Our mission within GSD Fleet Services is to collaborate with our customers in order to provide safe, reliable equipment needed to do their jobs. This responsibility is heightened when it comes to the availability of aircraft for the Fire Department (LAFD), Police Department (LAPD), and the Department of Water and Power (DWP).

The City of Los Angeles maintains a Federal Aviation Administration (FAA) Certified Repair Station (GSD Fleet Services Heliport Maintenance Facility in Van Nuys) and performs all maintenance in accordance with federal regulations and oversight by the FAA. This ensures a higher level of safety is met while performing maintenance. There are very few municipalities that have a Repair Station Certificate, and some agencies operate under the public use guidelines which have no FAA oversight at all.

GSD Fleet Services maintains the City's air fleet of 27 helicopters and manages the maintenance of 1 airplane (which is outsourced) in accordance with Section 22.540 (b) (1) of the City Administrative Code. A highly specialized group within Fleet Services provides for the availability and safety of this critical equipment for the LAPD and LAFD, as well as DWP. Currently, GSD has 27 authorized Helicopter Mechanic positions. The City's helicopter mechanics are certified by the FAA.

Heliport staff works very closely with each of these departments to ensure priorities are being met on a daily basis. One way this is accomplished is the daily monitoring of flight hours for each of the 27 aircraft. This process alone assists in strategically scheduling aircraft for mandated inspections and component overhauls with the goal of limiting the number of like aircraft to be taken out of service at any one time. While LAPD has two full time pilots identified to oversee the project management of their helicopters, the LAFD does not have a designated position for the oversight of their fleet. The LAFD Chief Pilot is the point of contact with GSD in regards to project management for the LAFD. The LAFD will evaluate the need for an additional pilot position to provide project management for helicopter inspection cycles.

As occurred a few weekends ago, despite all the planning processes in place, unforeseen issues arise at times that will affect the availability of aircraft. Such issues are unscheduled events with the aircraft, the availability of parts from the manufacturer, staffing challenges associated with vacancies and workers compensation claims, just to name a few. Additionally, flight operations for both LAFD and LAPD are 24/7 operations, while GSD has Supervisors on call 24/7 they have limited staffing on Saturdays and Holidays, and are not operational on Sundays unless there is a need to call a mechanic in.

When confronted with unforeseen issues, as noted above, overtime is used in an attempt to address the additional workload. It should be noted that consideration must be given when approving overtime, as too much can lead to costly/catastrophic mistakes attributed to employee fatigue.

In addition, the "Request for Equipment List Deviation - CAO Rule 11" was approved, for one LAFD Bell 412 (N301FD), resulting in GSD providing maintenance for an estimated 55 additional flight hours at a cost of \$18,000 (parts and labor).

In preparation for the need for additional resources identified through our budget planning process, in FY 2017-18, a collaborative budget package was submitted for additional resources of one Helicopter Mechanic and \$237,000 in the Field Equipment Expense Account (Parts Account) to support LAPD and LAFD's plan to reconfigure their existing helicopter fleets. Although both departments will continue to maintain the same total number of helicopters in their fleet, LAPD now has a medium-duty helicopter

(Bell 412) in exchange for a light duty helicopter (Bell 206), and LAFD has added a medium duty helicopter (AW 139) and a light duty helicopter (Bell 206) in lieu of two medium duty (Bell 412) helicopters. This change was required for pilot training and succession needs.

The LAFD has temporarily adjusted their fleet from (5) mediums and (1) light duty helicopter to (4) mediums and (2) light duty helicopters in order to support the pilot training program and minimize risk by reducing its fleet from (3) "types" of aircraft to (2) "types" of aircraft. The LAFD anticipates returning to (5) medium helicopters in fiscal year 19/20 by eliminating (1) of the existing light duty helicopters. The optimal LAFD Air Operations configuration would include (5) medium and (2) light duty helicopters to support their operational mission as well as sustaining the pilot training program. The cost difference between light and medium duty helicopters is approximately \$14M with a light duty helicopter at approximately \$1M+ and a medium duty helicopter at \$15M+. Given the significant cost to add a medium helicopter to its fleet, the LAFD would evaluate its inclusion in a future annual budget request within the context of the Department's overall MICLA equipment needs.

The following is a summary of the specifics and related timelines regarding the aircraft that were down during the recent Sylmar and Mandeville Canyon fires.

There were 3 LAFD aircraft that were down for maintenance during the Mandeville fire on May 28, 2017 for the reasons noted.

Unit	Unit Type	Comments
N305FD (Agusta AW 139)	Medium lift, water dropping helicopter	The manufacturer required 48-Month Inspection for unit N305FD began on November 28, 2016, and the unit was returned to service on June 6, 2017. A major leading contributor to the prolonged down time was a defect on the mast cone seat found during this inspection, requiring the transmission and mast be shipped to Agusta (manufacturer) in Philadelphia for repair. It should be noted that the identification/detection of these types of issues before they become catastrophic is the very reason for complying with these proactive inspections. The other contributing factor was increased flight demands on the other water dropping helicopters. For example, N302FD flew 300 hours in 10 months, requiring the manufacturer 300- hour /12 month (whichever comes first) maintenance inspection to commence in May 2017, rather than in July, as originally anticipated. (Typical flight hours are approximately 250/year). We routinely have to adjust maintenance priorities because of changes in flight scheduling or unscheduled maintenance.
N303FD (Agusta AW 139)	Medium lift, water dropping helicopter	The manufacturer required 48-Month inspection began on May 1, 2017, and is currently in progress. It is estimated that the unit will be returned to service in August 2017.
N306FD (Bell 206 B3)	Trainer helicopter	The Bell 206 B3, 100 and 200 hour inspection, Engine turbine and gearbox change was started on May 23, 2017, and the unit was returned to service on June 5, 2017. It is important to note here that the turbine and gearbox change was a result of unscheduled maintenance from squawks that were written up and turned in with the helicopter for the inspection. Squawks are write ups done by flight and maintenance crews to report that there are problems with the helicopters.

Another factor adding to the challenges impacting availability of units N305FD and N303FD is that they were purchased within two months of each other. This allows for very little separation between the times when the 48-month inspections come due.

LAFD has implemented a short term, strategic plan to minimize risk by temporarily altering their fleet from 5 medium and 1 light aircraft to 4 medium and 2 light aircraft. GSD's goal will be to support the "LAFD aircraft availability expectation" of 3 medium and 1 light aircraft, although it must be noted that there will be times, because of scheduled maintenance or unscheduled maintenance, LAFD's fleet will drop below 3 available medium aircraft. The long term solution is to return LAFD's fleet configuration to 5 medium and 1 light aircraft, which the LAFD will request in the Fiscal Year 2019-20 MICLA helicopter replacement cycle.

GSD has a maintenance strategy during times of decreased availability, when LAFD's fleet drops below 3 medium and 1 light aircraft, to use overtime, expedite parts shipping and re-allocate resources to the most immediate need.

In summary, the current availability of aircraft maintained by GSD Fleet Services (as of July 27, 2017) is:

- LAFD (5) of (7) units available, i.e., (3) Medium and (2) Light (71%)
- LAPD (11) of (17) units available (65%)
- DWP (2) of (4) units available (50%)

The following addresses the specific elements stated in the council motion:

- **Current maintenance, repair, and completion workload generated by the City's entire helicopter fleet, as compared to available hours provided by the current GSD helicopter maintenance labor force.**

GSD maintains a total of 27 aircraft, which consist of seven different aircraft models, each having its own unique recommended manufacturer maintenance schedule. The City's air fleet deployment by department is LAFD (6) units, LAPD (17) units and DWP (4) units. In addition to scheduled maintenance, there are factors out of GSD's control that can take or keep an aircraft out-of-service. For example, there are unscheduled events which require immediate response or action. These are any discrepancy caused by or reported by a pilot or mechanic. Human factors such as errors and omissions by the users and maintainers of the helicopters should also be factored in to the support equation. Although almost impossible to predict, there should be a factor built in to compensate for unscheduled maintenance which prevents the first responders from meeting their mission goals.

These 27 aircraft require approximately 41,647 direct billable maintenance hours per year (on average) to maintain the entire helicopter fleet. The breakdown of the 41,651 maintenance hours per year is LAFD 9,504 hours, LAPD 27,917 hours and DWP 4,230 hours.

For FY 2016-17, GSD Fleet Services approved over 4,500 hours of overtime for the heliport maintenance facility staff. (This is 35% more than last year.)

- **Current status of all filled and unfilled GSD helicopter maintenance positions, and how many additional full-time positions and/or overtime hours are required to address present day and anticipated workloads in the near future.**

There are currently 27 authorized helicopter Mechanic positions and 1 unfunded Helicopter Mechanic position approved in the FY 2017-18 budget. While there was an average vacancy rate of 1.2 positions for FY 2016-17, as of June 12, 2017, all 27 authorized positions have been filled. Aside from vacancies, there are variables such as sick time and Workers Compensation claims that affect Heliport staffing levels. During FY 2016-17, there was, on average, 2.5 mechanics out on Workers Compensation at any given time. Therefore, between unfilled positions and mechanics out on Workers Compensation, there was an average of 3.7 vacancies at the Heliport in FY 2016-17.

- **Current out of service status and maintenance backlog for the LAFD’s helicopter fleet, and exactly how long these helicopters have been out of service.**

As of July 27, LAFD has two medium helicopters out of service, N302FD and N303FD. Please see table below:

Unit	Unit Type	Comments
N301FD (Bell 412)	Medium lift, water dropping helicopter	N301FD in for 25 hour inspection. The out-of-service date was July 25, 2017 with an inspection start date of July 25, 2017. The goal is to complete the inspection by July 28, 2017.
N303FD (Agusta AW 139)	Medium lift, water dropping helicopter	N303FD in for 48-month inspection. Since we include service bulletins and modifications in scheduled inspections, the planned out-of-service period for this inspection is four months from the date the process is started. The out-of-service date was May 1, 2017 with an inspection start date of June 1, 2017. The (5) week delay was due to N305FD being out of service for an extended amount of time. The goal is to complete the inspection by August 31, 2017.

- **Current out of service status and maintenance backlog for the LAPD and LADWP helicopter fleets, and how they compare to LAFD.**

As of July 27, 2017, DWP has two helicopters out of service, N600WP and N83WP. Please see table below:

Unit	Unit Type	Comments
N600WP (Bell 206)	Light Duty	N600WP in for 100/200 Hour inspections. The out-of-service date was July 24, 2017, with an inspection start date of July 25, 2017. The goal is to complete the inspection by July 28, 2017.

N83WP (Bell 206)	Light Duty	N83WP had a Wire Strike on June 15, 2017. The unit struck (3) high voltage wires just outside of Lee Vining in the north end of the Owens Valley. The wire strike provisions severed all (3) wires and the aircraft was able to land at a nearby DWP facility. DWP flew a GSD mechanic to evaluate the damage to the aircraft; the damage was significant enough to require that the aircraft be trailered back to the GSD Heliport in Van Nuys. Therefore, GSD/Fleet dispatched (2) mechanics with a truck and trailer on June 16, 2017, to pick up the unit. Mike Finnegan (DWP) verified the voltage transmission in the wires was 12,000 volts; GSD/Fleet has contacted Bell Helicopter Product Support Engineering regarding this incident and for further instruction. GSD/Fleet is waiting for a response. The goal to complete the repairs by August 10, 2017.
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As of July 27, 2017, LAPD has six helicopters out of service, N664PD, N229LA, N913WB, N661PD, N662PD, and N665PD. Please see table below:

Unit	Unit Type	Comments
N664PD (Bell 206)	Light Duty	N664PD is a 100/200/300/600/ANN Inspection with M/R Head Overhaul. The out of service date was July 24, 2017. The start date was July 26, 2017. The goal to complete the inspection by August 4, 2017.
N229LA (A-Star 350)	Light Duty	N229LA in for high amperage squawk. The out-of-service date was July 25, 2017. The goal is to complete the squawk by July 28, 2017.
N913WB (A-Star 350)	Light Duty	N913WB in for 100/200/200/300/500/600/1200/T/2T inspection. The out-of-service date was July 21, 2017. The start date was July 24, 2017. The goal to complete the inspection by August 11, 2017.
N661PD (A-Star 350)	Light Duty	N661PD in for major T inspection with Churchill (manufacturer) moving map modifications scheduled to be performed. The out-of-service date was June 4, 2017, and the inspection start date was June 7, 2017. The goal is to complete the inspection by August 2, 2017.
N662PD (A-Star 350)	Light Duty	N662PD in for 100/200 Hour inspection with an engine module change. The out-of-service date was July 19, 2017, with an inspection start date of July 19, 2017. The goal is to complete inspection by July 28, 2017.
N665PD (A-Star 350)	Light Duty	N665PD in for 150 Hour inspection. The out-of-service date was July 17, 2017, with an Inspection start date of July 18, 2017. The goal to complete the inspection by July 28, 2017.

Currently, LAFD has 71% availability compared to DWP at 50% and LAPD at 65%. Of the Heliport's available workforce today, 19% is assigned to LAFD, 19% is assigned to DWP, and 62% is assigned to LAPD.

- **Additional maintenance burden created by the LAPD's recent acquisition of a retired Bell 412 medium lift helicopter from LAFD, and whether or not it feasible to maintain this additional aircraft, in light of the status of the existing fleet.**

The addition of the Bell 412 to LAPD's aircraft fleet will require an additional \$56,358 in parts funding, as well as 409 man-hours to maintain. The approved 2017-18 collaborative budget

package submitted by GSD addresses the resources needed to maintain the Bell 412; therefore, it is not a maintenance burden.

Conclusion

GSD Fleet Services and its specialized staff at the Heliport are doing everything possible to ensure the maximum availability of safe reliable aircraft for each of its partners (LAFD, LAPD and DWP) while working within the parameters established by all available resources. All of the City aviation stake holders continue looking for ways to become more efficient with the common goal of maintaining mission critical fleet minimums.


The aircraft operated by all three city agencies continue to become more complex, requiring increased maintenance, in a heavily regulated FAA environment. The individual mission profiles also continue to increase as police and fire first responders become more reliant on the capability of the helicopters to support emergency and non-emergency ground operations as was seen in the Mandeville Canyon brush fire. While GSD will continue to find ways to adapt and grow to meet the demands of its city aviation partners, the user departments agree that additional helicopter mechanics are required to accommodate the workload and provide more timely completion of helicopter inspections and maintenance requirements to meet operational needs.

Recommendations:

1. That City Council, subject to approval of the Mayor,
 - (a) Approve regular authorities in the Department of General Services (GSD) for two additional Helicopter Mechanic (Class Code 3742) positions.
 - (b) Instruct the City Administrative Officer to identify funding for the two Helicopter Mechanic positions.
2. That City Council approve in concept:
 - (a) Instructing the LAFD, LAPD and DWP to collaborate with GSD before making changes to current aircraft configuration to ensure needed maintenance resources are addressed.
 - (b) Authorizing GSD to outsource new aircraft completion work and outsource consideration of selected modification and non-critical work (i.e. small components, night suns and batteries).

Fiscal Impact

The Fiscal Year 2017-18 salary cost for regular position authority for two Helicopter Mechanics is \$146,752. The Department of General Services will work with the City Administrative Officer to identify funds for the positions



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