



# SANTA BARBARA COUNTY AIR OPERATIONS



1 11/27/18

SANTA BARBARA  
COUNTY FIRE DEPT.

UH-60L

SIKORSKY HH-60L FIREHAWK

# AVAILABLE HELICOPTER: SIKORSKY HH-60L “BLACKHAWK”

- # Year Flight Hours
- 964 2002 3196
- L model was released in 1989. Upgrades included 9000 pound hook, improved durability gearbox and upgraded engines.
- Aircraft has been in service the California Air National Guard as an rescue air ambulance



# *SIKORSKY HH-60L FIREHAWK*

- *Type 1 twin-engine firefighting aircraft*
- *High performance (speed, rate of climb, pilot controls)*
- *Proven performance in military service*
- *Neighboring agencies fly this aircraft*
- *Excellent safety record*
- *SAR and Medical Rescue helicopter*
- *Cal Fire chose the Black Hawk to replace its UH-1 (Huey) fleet*

# WEIGHTS & PERFORMANCE

	Firehawk HH-60L
Gross weight	22,000 lbs.
Useful load	9,000 lbs.
Fuel capacity	360 gals
Drop tank capacity	1,000 gals
Maximum speed	195 knots
Maximum cruise	160 knots
Maximum speed (w/tank)	155 knots
Maximum range	248 nautical miles
Hover ceiling (HOGE)	11,000 feet
Hover ceiling (HIGE)	15,000 feet
Rate of climb	2,250 feet



# *INITIAL TRAINING*

## Pilots

- HH-60L initial training consists of a 29-day course in Florida with a tuition cost per pilot of \$29,900. Travel, lodging and per diem are an additional \$6,574 per person.
- **Total for 3 pilots is: \$109,422**

## Mechanics

- HH-60L initial training cost per mechanic is \$16,200. Travel, lodging and per diem are an additional \$6,574 per person.
- **Total for 3 mechanics is: \$68,322**

# SIKORSKY HH-60L FIREHAWK ACQUISITION AND IMPLEMENTATION COST ESTIMATE

Initial Purchase of Used Helicopter	\$1,726,000
After Sale Inspection, PMI 2 Maintenance by Arista	\$301,905
Mission Specific Modifications/Added Equipment Avionics, Transponder, ADSB, striped blades etc.	\$450,000
External Tank and High Gear modification (1000 Gal)	\$2,100,000
Paint	\$160,000
<b>Completed Aircraft Total</b>	<b>\$4,737,905</b>
Initial Pilot Training (3 Pilots)-one time	\$109,422
Initial Mechanic Training (3 Mechanics)-one time	\$68,322
<b>Acquisition and Implementation Total</b>	<b>\$4,915,649</b>

# SIKORSKY HH-60L FIREHAWK VARIABLE HOURLY COST

* Per Ventura County Conklin & de Decker (Aircraft Cost Evaluator) and Arista bid	
Fuel	\$772.80
Parts and Lubricants	\$472.54
Engine Restoration	\$550.00
Periodic Maintenance (480 hr phase inspections) *does not include repairs to unserviceable items	\$628.96
<b>Total</b>	<b>\$2,424.30</b>

# SIKORSKY HH-60L FIREHAWK ANNUAL COST ESTIMATE

Maintenance and Fuel (Based on 115 flight hours per year)	\$ 278,795
Additional ASU mechanic	\$130,000
Annual Insurance	\$50,000
Recurrent Pilot Training (3 pilots)	\$49,500
<b>Total</b>	<b>\$508,295</b>



# *OPERATING COST COMPARISON FIREHAWK VS. COPTER 308*

	Firehawk	Copter 308
<b>115 Flight Hours (Maintenance/Fuel)</b>	\$278,795	\$182,381
<b>Annual Fixed Costs (Insurance and Recurrent Training)</b>	\$99,500	\$65,000* *Insurance est. at \$20k not currently carried
<b>Additional ASU mechanic</b>	\$130,000	
<b>Total</b>	<b>\$508,295</b>	<b>\$247,381</b>
<b>Estimated Annual Operating Cost Increase Over That of Copter 308</b>	<b>\$260,914</b>	

## *FIREHAWK HH-60L MAINTENANCE COST OFFSET*

The HH-60L will be more costly to maintain. Because it is a military surplus aircraft, there is a potential to offset some of the cost through the Federal Government Excess Property acquisition process. There is no guaranteed availability of needed parts, however the trend is expected to improve.



# OPERATING COSTS

- Although the smaller, less complex Huey would seem to be more economical to operate, its time out of production is becoming an issue. Bell ceased production in 1987.
- Finding qualified Huey mechanics and Huey parts is becoming increasingly difficult.
- With the CalFire, San Diego City, Los Angeles County, and Ventura County flying Firehawks, as well as the military still utilizing the Blackhawk platform, there will be a reliable supply of qualified mechanics and parts for at least 50 years.

# PRODUCTIVITY

- Per Fuel Cycle

UH-1 (Huey)

1 Hour Flight Time

10 Drops

**2,500 Gallons of Water**

Firehawk

2 Hours Flight Time

20 Drops

**15,000 Gallons of Water**

(Amounts approximated)



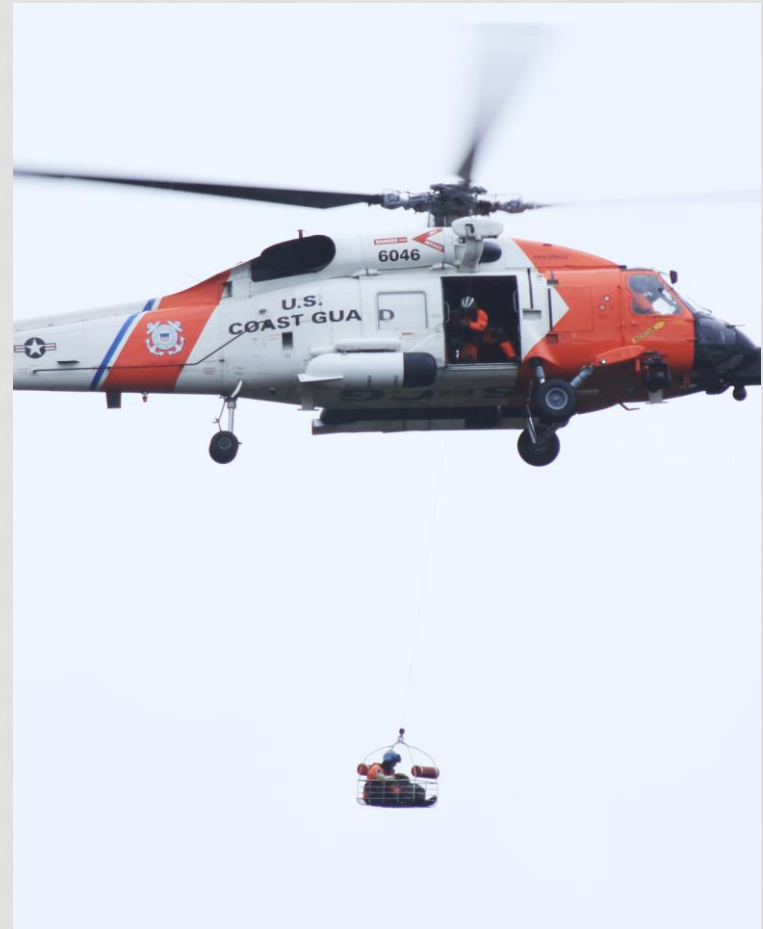
# MULTI-MISSION CAPABLE AIRCRAFT

- SWAT/ SAR
  - The Firehawk has the capability to insert a robust force for law enforcement and search and rescue missions in a single load



# MULTI-MISSION CAPABLE AIRCRAFT

- Rescue Aircraft
  - The Firehawk is hoist equipped and can remove several people from harms way per flight
  - The aircraft is often too large for local hospital helipads and would require off-site transfer of patients



# MISSION READY MODIFICATIONS

The Blackhawk will require modifications to become a mission-ready Firehawk for Santa Barbara County

- Transition aircraft into an FAA approved maintenance schedule
- Modify aircraft for single pilot VFR operations
- Remove any military-specific equipment
- Upgrade avionics for interagency communication
- Installation of water-dropping tank for fire mission
- Paint and blade striping as required

# WATER TANK MODIFICATION

## External Tank 1000 gallons

- Requires replacement of current landing gear with “High Gear” to clear tank
- 3 door tank allows for greater variability in drops
- Aircraft can alternate between mission sets without the need to reconfigure
- \$2,100,000







# WHY NOW?



## Reasons to choose the BLACKHAWK

### 1. Productivity

- Aircraft carries more water/personnel and flies faster than the Bell mediums

### 2. Safety – invest in our own

- OEI (one engine inoperable) flyaway ability, power margins are greatly improved
- Crashworthiness of airframe significantly improved over current fleet

### 3. Program longevity

- Bell mediums, while capable, are a legacy aircraft and the future labor pool has limited time on this platform
- Military releasing qualified pilots/mechanics proficient on the Blackhawk aircraft.

### 4. Fiscally appropriate

- All aircraft and air programs are expensive. The Blackhawk offers significant improvements in functionality over other platforms
- Recently chosen by the State of California to replace their entire Cal Fire UH-1 helicopter fleet
- Cal Fire's new Firehawks will cost \$24 million per aircraft
- A privately owned Blackhawk of similar make to the county's purchase is available at \$6.5m



# QUESTIONS?



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