

BFED Committee

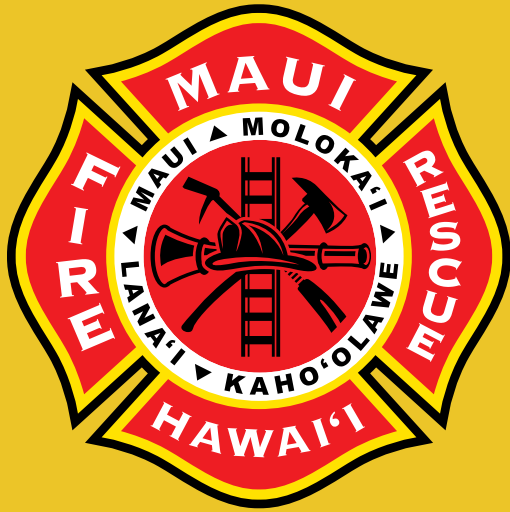
From: Bradford Ventura <Bradford.Ventura@co.maui.hi.us>
Sent: Monday, June 28, 2021 4:00 PM
To: BFED Committee
Subject: Fire Department Presentation for June 30, 2021
Attachments: Fire Dept Helicopter Presentation County Council 6-30-21.pdf

Hi Leslie,
Please see the attached presentation for Wednesdays meeting at 130pm.

Have a great day.

Brad Ventura

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MAUI COUNTY DEPARTMENT OF FIRE & PUBLIC SAFETY

AIR 1

PAST » PRESENT » FUTURE





MAHAALO TO MAUI COUNTY!

1985 - 1999

A BRIEF HISTORY OF AIR 1

Prior to the exclusive use contract, helicopters were utilized on a call-when-needed basis.

» 1.5 hours could expire before a helicopter was on scene to assist.

In 1999 the interpretation of the regulations by the FAA changed for commercial operators hauling live loads.

Operators were required to acquire an aircraft that met Category D requirements or a county municipality would be required to give a minimum 90-day exclusive use contract to a commercial operator to be exempt from Category D requirements.

SEPTEMBER 18, 2000

Windward Aviation was instrumental in developing an AIR 1 contract by assisting the Department with aviation knowledge & FAA compliance requirements.



**499 FIRE CALLS IN
LAST 10 YEARS.**



**855 RESCUE CALLS IN
LAST 10 YEARS.**

A VITAL LINK

2010-2020

AIR 1

TOTAL CALLS <i>Over a 10 year period</i>	1,428
FIRE	399
EMS / RESCUE	845
MISC <i>Service call, good intent call, severe weather, hazardous conditions, false call, other</i>	184

AIR 2, 3 + 4

TOTAL CALLS	116
FIRE	100
EMS / RESCUE	10
MISC	5

ANNUAL AVERAGE:
232 HOURS



SAFETY EVOLUTION

**THE MAUI DEPARTMENT OF FIRE & PUBLIC SAFETY
+
WINDWARD AVIATION'S CULTURE
INFORMS EVOLUTION OF SAFETY STANDARDS.**

The reality of the risks associated with aviation is at the forefront of our decision making:

- » Eliminated night time helicopter operations
 - » Limited distance we travel off-shore
 - » Rappelling occurred from 1985-2008 & was terminated
 - » Designed a robust training program for rescue 10 personnel
 - » **Recommending an upgrade to meet industry standards**
-



HUMAN EXTERNAL CARGO

Every mountain/ocean rescue evolution requires a minimum of 4 human external cargo (HEC) operations.

1st Evolution:

Helicopter performs a 100 foot hover where rescue specialist attaches himself to the line & is transported to the victim to evaluate needs to bring victim to next higher level of care.

2nd Evolution:

2nd rescue specialist hooks up to line with necessary equipment & a possible 3rd rescue specialist.

3rd Evolution:

Lift of victim and 1 rescue specialist to awaiting medics.

4th Evolution:

Pick up of remaining rescue personnel at scene & transport to landing zone.

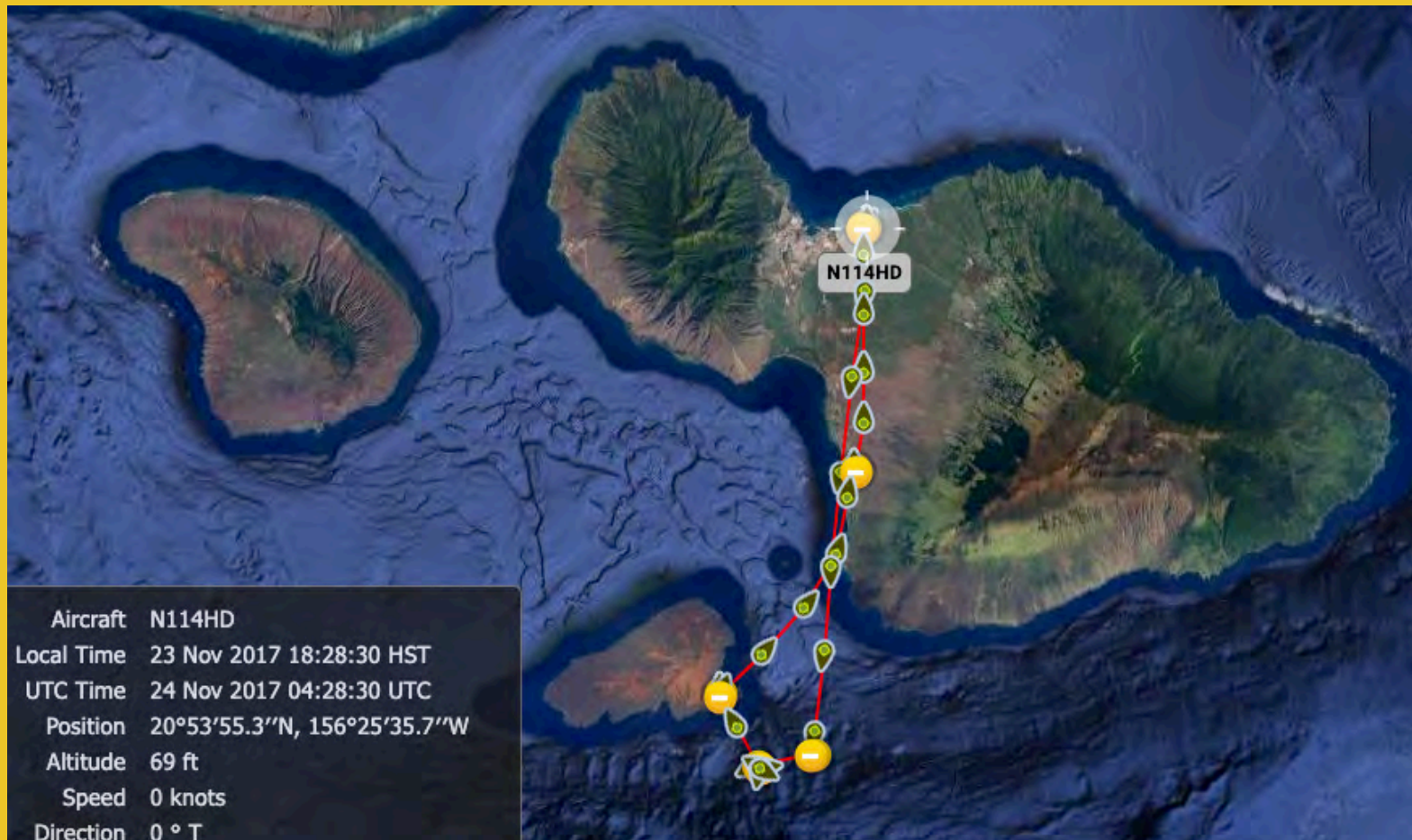


4 EVOLUTIONS - THE MINIMUM # OF TIMES WE CAN EXPECT TO PERFORM THE ABOVE HEC AT A RESCUE.

EXPOSURE & RISK

MAUI COUNTY HELICOPTER OPERATIONS RESPOND TO ~5,000 SQ MILES,
THIS IS OVER SOME OF THE MOST INHOSPITABLE TERRAIN IN THE WORLD.

KAHO'OLAWE, 11/23/2017:





PAST



PRESENT



PRESENT



FUTURE

THE BK 117 850D2



SEATING CAPACITY



OFF-SHORE CAPABILITIES



FIRE FIGHTING



MEETING INDUSTRY STANDARDS

- » An upgrade that far outweighs the risk
- » Can't be complacent
- » In Hawaii'i let's be the exception rather than the rule.
An example to other counties in Hawai'i that we are ahead of the curve
- » Third party review indicated a more capable aircraft be utilized for initial attack in fire fighting & transportation of personnel across the county
- » For Human External Cargo the industry has transitioned to an aircraft with a hoist & twin engine. The hoist eliminates the # of evolutions it takes to perform a rescue & tremendously reduces exposure.



THIRD PARTY AUDIT



COUNTY OF MAUI, HI

PERFORMANCE AND FISCAL AUDIT OF THE DEPARTMENT OF FIRE AND PUBLIC SAFETY MARCH 20, 2018

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» Concluded that Maui County utilize a more capable aircraft that has a stronger initial attack in fire fighting & that can transport multiple personnel across the county.

» A MD 500D is a simple single engine aircraft with limited capability - it can only transport 3 rescue personnel or can carry 108-120 gallons of water in a fire bucket at sea level.

» Many times crew and gear must be off-loaded to decrease the weight for operations above 6,000 feet, which cuts into response time.

» The main concern is that a single engine aircraft is being operated offshore, over remote locations & is routinely transporting personnel & victims suspended on a rope up to 200 feet below the aircraft.

BUDGET

AIR 1 COST	Hourly Rate	Monthly Rate	Annual Cost
2021-2022	\$590	\$72,119	\$865,428
2022-2023	\$1,100	\$157,607	\$1,891,284
2023-2024	\$1,155	\$122,760	\$1,473,120
2024-2025	\$1,213	\$125,011	\$1,500,132
2025-2026	\$1,273	\$127,329	\$1,527,948

COMPARING COSTS BK 117 850-D2 pricing around the world
\$2,745 / hour in Alberta, Canada for firefighting.
\$3,500 / hour in Australia for firefighting.
The above rates are seasonal & don't have a dedicated flight / maintenance crew on-call to perform search & rescue operations.
Rates in the U.S. for firefighting are not easily accessible due to USFS / DOI contracts.
\$5,600 / day + \$1,200 / hour to operate in Papua New Guinea.

RECAP

» The bottom line is it all comes down to safety & having two engines.

» The added benefits of the two engines is not just to protect us from an engine failure.

» Safety margins for power is greatly enhanced by having the two engines.
Very limited with power in the MD 500.

» Ability to carry up to 10 passengers.

» Can depart with a *250 gallon water bucket*, almost 3 times our current abilities. Will enhance initial attack on fires & ultimately save the county time & money.

» Companies performing HEC work have transitioned to an aircraft with a *hoist* & twin engine.

» Ability to safely service the 5,000 sq. miles in Maui County.

