## Night Aerial Firefighting Operations



# Objectives:

Discuss history of NVG flight operations Training requirements for air crew members NVG goggle maintenance Night aerial firefighting policy 2015 Ventura County in review.



Ventura County Aviation unit has had a NVG program since 1995. The unit has performed night time aerial firefighting since 2005 Firescope published a policy in California in 2007 What brought this subject back into the lime light LA County leaders back night fire flights

(AP) – Nov 24, 2009

LOS ANGELES — Los Angeles County leaders responding to the summer's destructive Station Fire voted Tuesday to urge the U.S. Forest Service to allow helicopters to battle wildfires at night.

The review concluded that experienced county helicopter pilots could have made water drops on the first night of the fire — although it conceded that it was not known if that would have made a difference.



### General NVG Training Requirements minimums

- All personnel participate in classroom instruction
- Pilots: Initially each PIC shall have min 20 hours NVG and 10 of it be wilderness/ remote.
- Qualified Crew Chiefs: Log a minimum 15 hours NVG flight time 10 hours wilderness/ remote.
- Areas of training: hoist rescue, hover load and off loads, confined area landings, firefighting

### NVG Training Requirements Recurrent

- PIC : perform 1 each: Hoist evolution, hover load, confined area landing every 6 months.
- Crew chiefs: 1 Hoist evolution, Rescue crewman, hover load, every 6 months



"The introduction of Night Vision Goggles has been the single most important advance in night flying Operations for the Rescue Helicopter Service and has





significantly enhanced the overall safety for the flight crew, allowing a better Air Ambulance and Search and Rescue capability..."

**Night Vision Goggles: How they work**??? NVG works by intensifying the available ambient light (moonlight, starlight, street lights etc) up to 3500 times - creating an image which appears green when viewed through the goggles. This enhances the pilot's visual acuity at night to 20/25 vision as opposed to unaided vision at night of 20/200. The difference of flying at night with or without goggles is like comparing driving along the road at night with your parking lights on rather than with your headlights on full.



Cigarette lighter illuminating person and surroundings. Visible from several kilometers away



Mountainous terrain with person illuminating a cellphone (white dot center). Light pictured from distance of 4 miles



Power transmission lines in rural area as seen through Night Vision Goggles



Wires as viewed through Night Vision Goggles - only visible in ideal lighting conditions



#### Township as seen through Night Vision Goggles

## Goggle Maintenance

- Units to be serviced by technician every 180 days.
- Log of use kept by each individual user.
- Batteries changed every 10 hours use or 90 days in service.



### **Referenced Documents:**

• FIRESCOPE Night Flying Guidelines: A guide developed by FIRESCOPE agencies to provide procedures for night operations on fires.

• Interagency Helicopter Operations Guide (IHOG): The operational guide adopted by the Fire District for helicopter operations. The decision to fly helicopters at night for water drops should only be considered after a thorough risk / benefit analysis. Nighttime helicopter operations may be appropriate in situations where the following conditions exist:

- Lives are or will be threatened
- Structures are or will be threatened
- Resources or infrastructure of significant value are or will be threatened

Excessively high suppression costs can be prevented

• Fire behavior is within the threshold of control of the assigned helicopters

Probability of mission success is HIGH

 The mission objectives and outcome must justify the risk of night flying

# The assigned pilots(s) must approve of the operation:

• Confirm operation is in compliance with FIRESCOPE Night Flying Operations

 Pilots should NEVER be pressured into night operations! A pre-designated helispot <u>approved</u> for night operations is available:

An engine shall support the helispot

 The helispot shall have dust abatement and adequate lighting Pilots shall be familiar with the terrain in the area of operation:

- Operations conducted on the incident during the day meet this requirement
- Consideration must be given to pilot flight time, duty day, and the impact on the following day's operations

#### Ventura County Aviation Unit

#### Initial Attack Night Aerial Firefighting Checklist in Ventura County

Incident:	Date:	
The decision to fly helicopters at night for water drops should only be considered after a thorough risk/benefit analysis. Nighttime helicopter operations may be appropriate in situations where the following conditions exist:	YES	NO
Pilots have given approval for the night flying mission and are familiar with the FIRESCOPE Night Flying Guidelines.		
Lives are or will be threatened		
Structures are or will be threatened.		
Resources or infrastructures of significant value are or will be threatened		
Excessively high suppression costs can be prevented.		
Do the mission objectives, outcome and the probability of mission success justify the risk of night flying.		
Pilots have been made aware of the known hazards in the area of operation, or the hazards are assessed and mitigated during initial attack incidents.		
Pilots should be familiar with the terrain in the area of operation.		
Ground surface lights and /or ambient light in the drop area are adequate for the Pilots to make the drops with or without the aid of night vision goggles		
A night time approved helispot is assigned and staffed. The helispot will be dust-abated and have adequate lighting (ambient or artificial).		
Additional Considerations		
Objectives will be clearly given and understood by the Pilots, justified, and essential to accomplishing incident objectives as resources arrive at the scene.		
With multiple aircraft, flight routes to and from the fire area, check-in points, po helispot traffic patterns will be established by pilots on scene.	tential drop are	eas, and
Reminder: incidents involving more than 2 helicopters should utilize night aerial supervision.		

Incident Commanders are to continually assess the need to continue night water drops.

## 2015 NVG Incidents in Review



# 137 Brush Fire Responses31 after hours night fire responses

Burson Incident 2340 hrs CA VNC 15-0059075 @ 20 acres in LPF DPA No threat to life / property, RECON of fire

Forrero Incident 11-7-15 0245 hrs 50 acres in light to medium Brush Wind driven low humidity, threat to structures 20 drops from H 35 A Coordinated with LACOFD copter 16 ,AA 310 Charo Incident CA LPF Acres



Banister Fire 11-11-15 1800 hrs CA VNC 15-0077051 27 acres north east wind Structures threatened 18 drops Multiple aircraft including LACOFD HELCO Solimar Fire 12-25-15 2340 hrs Christmas night CA VNC 15-0089187 1200 acres wind driven fire Structures threatened multiple NVG aircraft 95 drops from H 23A Piru Fire 11-16-15 1900 hrs North Wind driven Fire in oil field Remote Difficult access, 5 acres Aircraft held in check till ground resources able to make access







#### Thanks for listening

SHERIFF



VENTURA COUNTY