

# EMERGENCY SERVICE CAPABILITY



**Senior Constable Mike Tavcar, Check & Training Pilot**

**Constable Matt Wallace, Pilot, NVG Instructor**

# OBJECTIVES

A blue helicopter is the central focus, positioned on a ship's deck. The helicopter's main rotor blades are visible, and it is surrounded by various deck equipment and structures. In the foreground, two crew members are visible: one wearing a yellow jacket and a yellow helmet, and another wearing a red vest with 'HLO' written on the back. The background shows the ship's deck with various pipes, railings, and equipment. The overall scene is brightly lit, suggesting a clear day.

- Discuss Air Wing Roles
- Discuss Current method of Night Ops
- Discuss Air Wing NVG Trial

# AIR WING ROLES



# *The Air Wing:*

## **Police Support Role**

- Patrol
- SOG / CT
- FLIR
- Drugs

## **SAR Role**

- Police Search & Rescue Squad
- AUSSAR

## **Emergency Medical Role**

- Primary Response

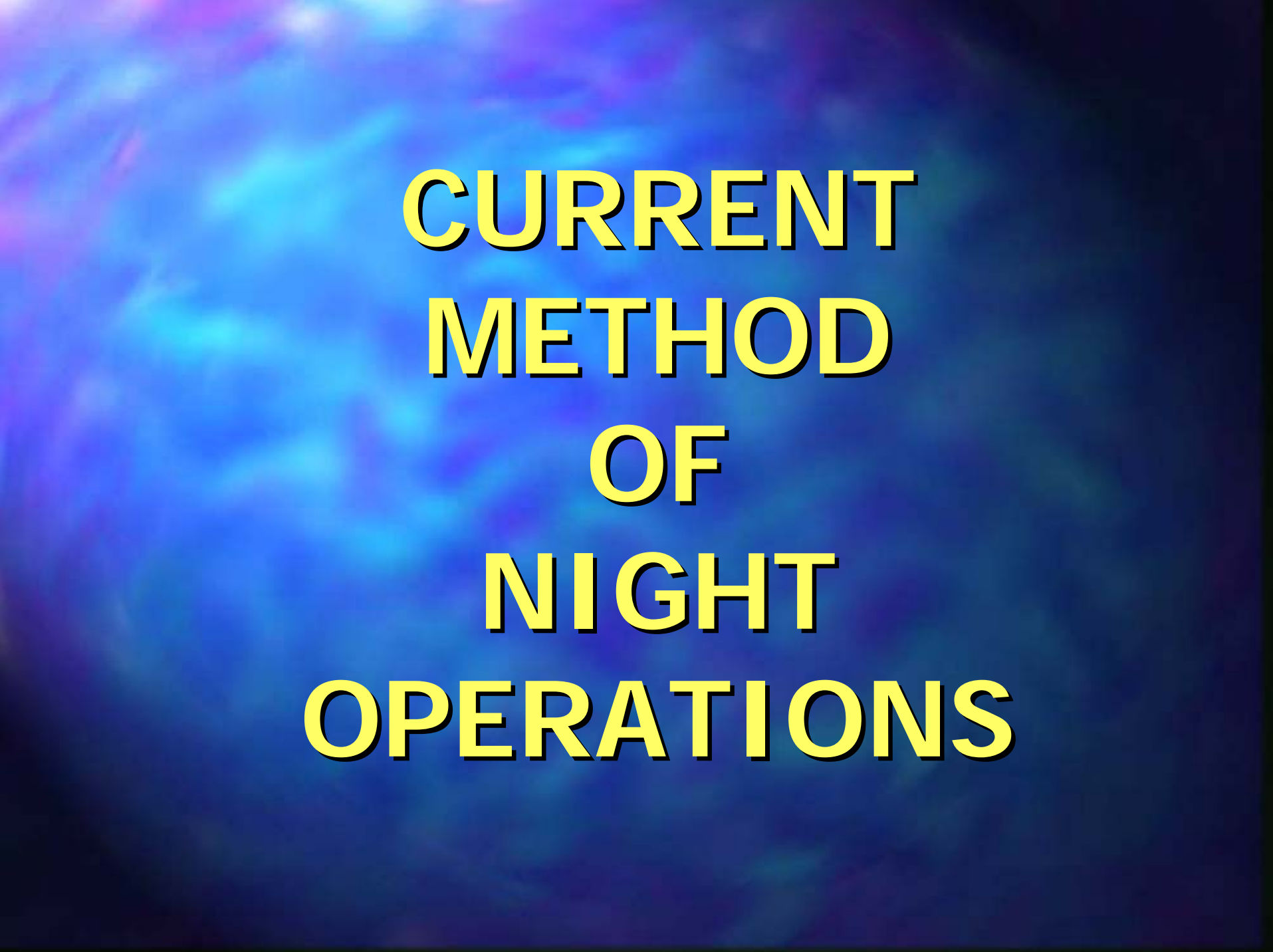
## *The Air Wing: Stats...*

### **FACT:**

*The Air Wing on average does  
40% of all flying at Night*

### **FACT:**

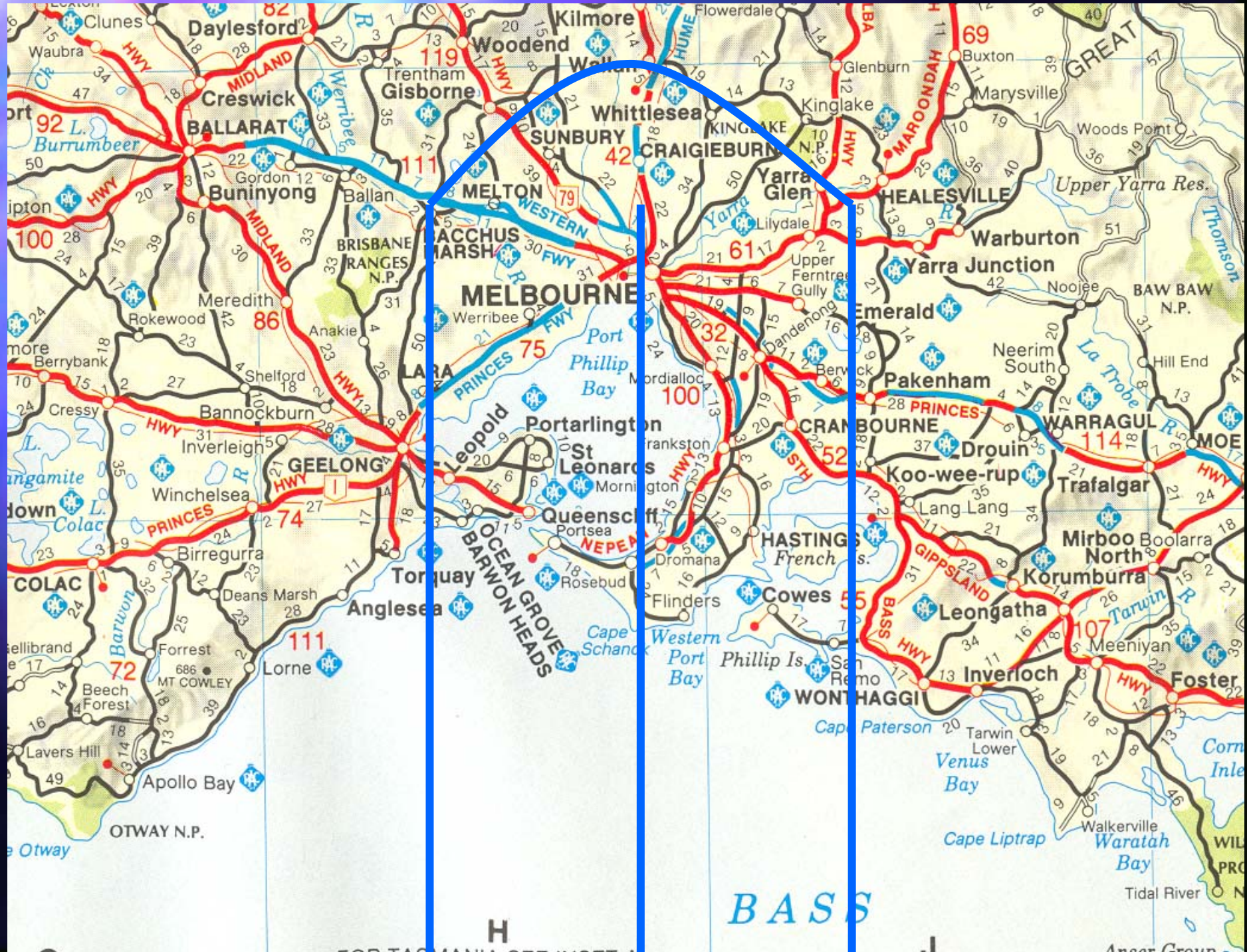
*The Air Wing is hampered in its  
ability to operate at night outside  
the metro area*



**CURRENT  
METHOD  
OF  
NIGHT  
OPERATIONS**

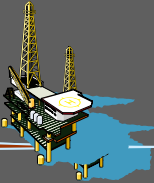
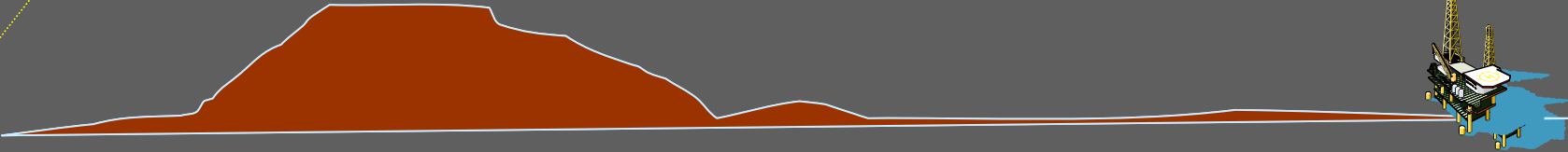
# LOWEST SAFE ALT (LSALT)

- OUTSIDE CULTURAL LIGHTING AREA
- LINE FROM DEPARTURE TO DESTINATION (Eg En to Ensco 102)
- 10 nm BUFFER ZONE
- 1360' TO HIGHEST OBSTACLE WITHIN TEMPLATE
- Min Height LSALT 1500'



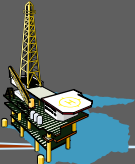
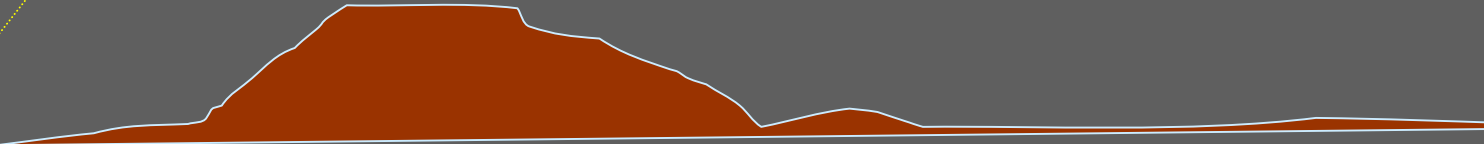


1360'





2100'



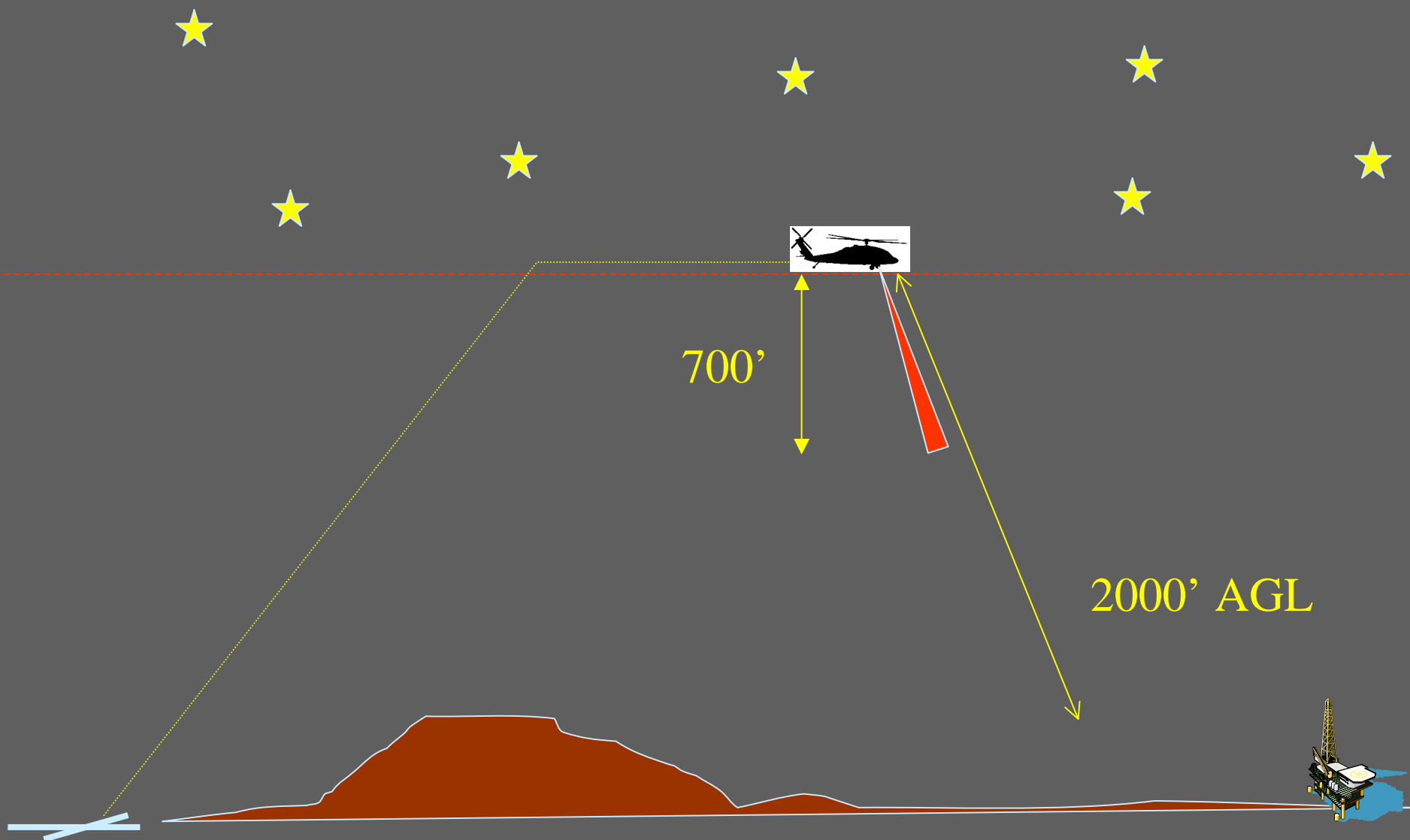
# POLICE OPS



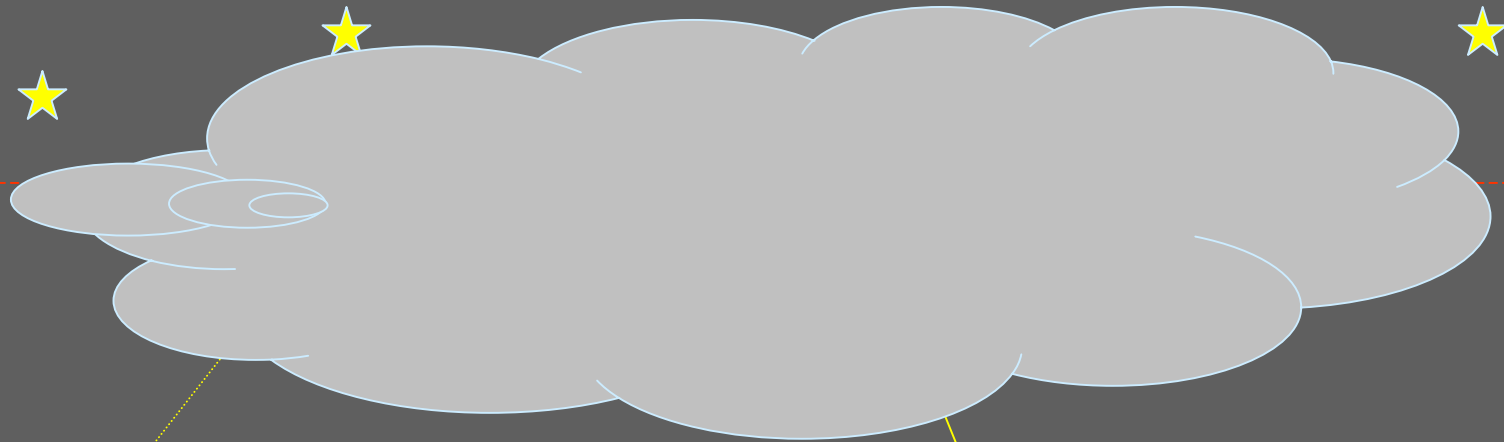
# USE OF FLIR

- INEFFECTIVE ABOVE 700 - 1000'
- MIN OPERATING HT 1360'
- NORM OP HT OF APPROX 2000' AGL
- CLEAR WX DEPENDANT

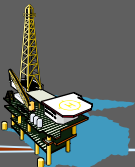
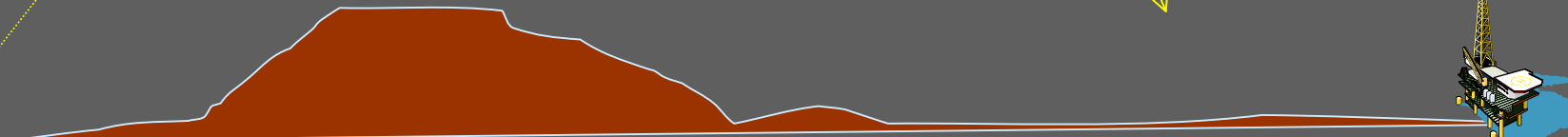
# ***USE OF FLIR***



# ( *WEATHER DEPENDANT*



2000' AGL



# HIGH RISK OPERATION



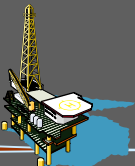
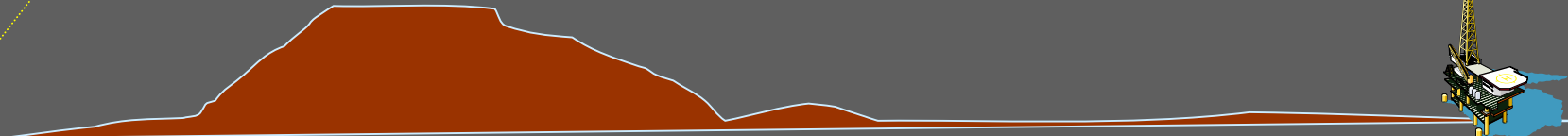
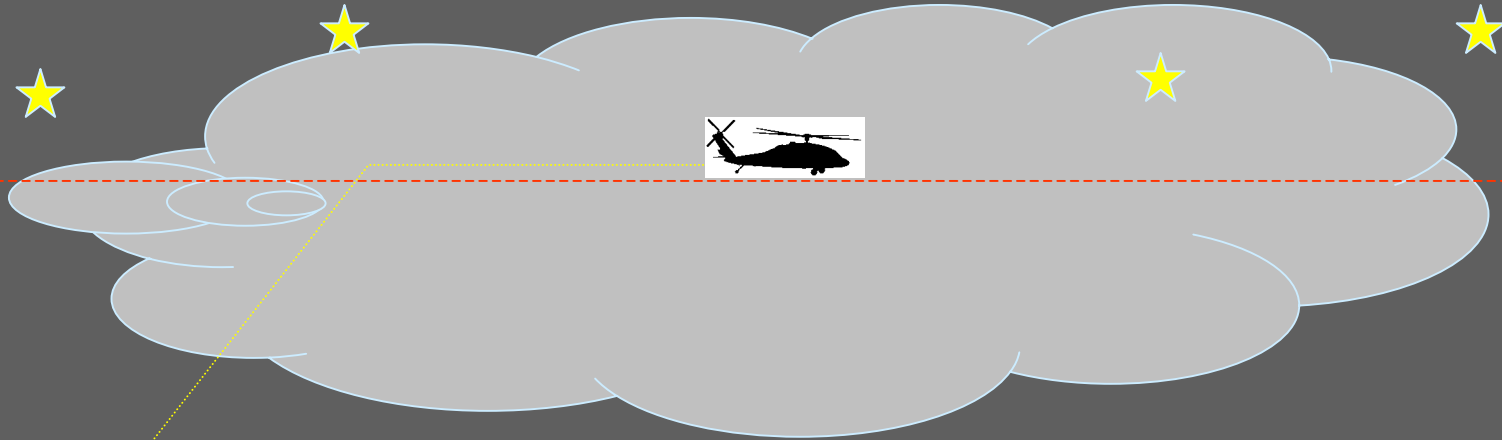
# CASE STUDY

- Request to attend overturned boat and persons in water San Remo
- Transit height 2000' to area
- Minimum height in area 1500'
- FLIR and Nitesun ineffective
- No Persons located

# AMBULANCE OPS

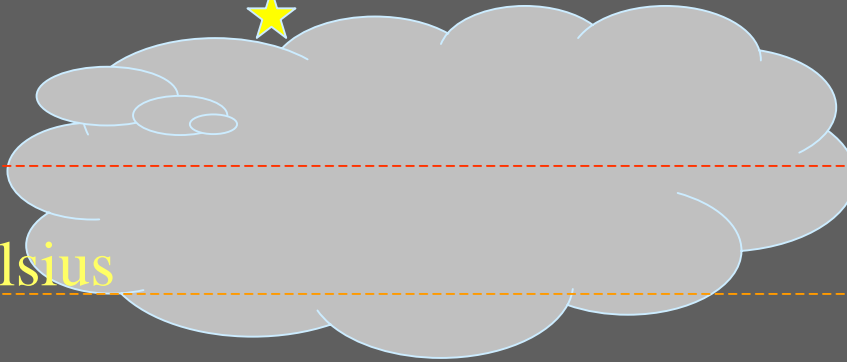


# ( *WEATHER DEPENDANT*

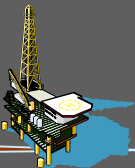
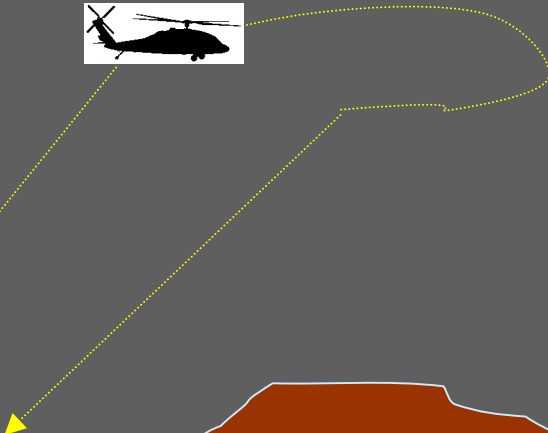


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# ***ICING DEPENDANT***



Zero degrees Celsius



# HIGH RISK OPERATION



# CASE STUDY

- Patient on Jack Bates Oil Rig
- Low cloud in area
- Flight terminated at Warrnambool
- Crew waited till first light
- Sortie achieved in daylight
- Approx 6 hours after call received
- Expectation of 80 min callout





**AIR WING  
NVG PROJECT  
HISTORY**

# *The Air Wing: NVG History*

Project commenced 1995

Project stalled 1996

Project re-commenced 2000

First Civil Australian Trial by VICPOL 2002 – Major success

Goggles ordered / Casa approval

# VPAW – NVG Proof of Concept Trial

## Trial Objectives

- Night flying safety below LSALT outside the Melbourne cultural lighting area.
- Emergency Service delivery to the public during night tasks (EMS & SAR).
- Delivery and operation of the Thermal Imager to rural areas (at night) at an effective search height.

# VPAW – NVG Proof of Concept Trial

## Night flying safety:

- 'Black-hole' landings
- Aircraft Emergencies (eg. OEI)
- Situational Awareness
- Reduced Aircrew Stress
- Obstacle Avoidance



# VPAW – NVG Proof of Concept Trial

## Emergency Service delivery:

- Medical
  - Descent from LSALT
  - Night out-landings
  - Altitude effects to trauma patients
  - Freezing Level
- SAR
  - Night searching & rescue
  - Effective FLIR height



# VPAW – NVG Proof of Concept Trial

## Thermal Imager:

- Most effective at about 500 – 1000 feet.
- LSALT limitations



# ***ABILITY TO SEE AT NIGHT!!***



# VPAW – NVG Proof of Concept Trial

## Cockpit Modification :

- Modified for NVG operations using a trial kit from Oxley Avionics Group, England at no cost to Department
- This temporary fit was an effective and workable solution for the trial.
- Future modification would be to CASA airworthiness accepted standard DO275

# VPAW – NVG Proof of Concept Trial

## Cockpit Modification :



AS365N3 Trial NVG Cockpit Modification

# VPAW – NVG Proof of Concept Trial

**The Future:**

**Current aircraft not to be modified**

**New aircraft late 2006**

**Capability late 2007**

**3 year wait for capability**

