Night Operations at New Orleans Lakefront Airport

Presented by: FAA Safety Team AFS-850

Date: 02/25/2023

Federal Aviation Administration

Objectives

- **Raise awareness of the increased risks of night-time operations**
- **Unique dangers of operating out of NEW**
- **Review best practices for safe night-time ops**

Dark Dangers

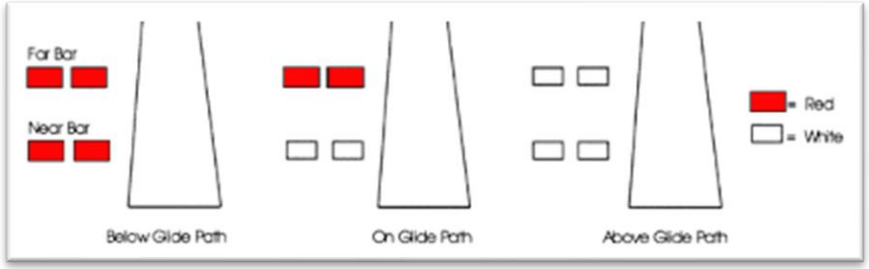
- Restrictions to visibility
- Lack of horizon requiring some reliance on instruments
- Runway illusions
- Black-hole effect
- Spatial disorientation
- Pan Am- Pago Pago

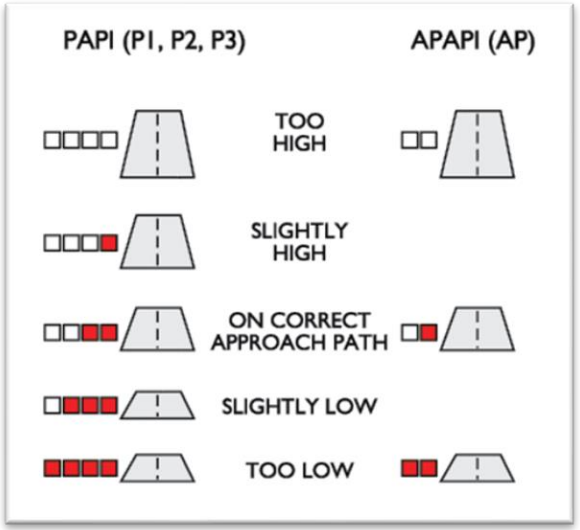
Restrictions to visibility

- **Lack of sunlight**
  - Exacerbated by cloud deck
  - No moon
  - False horizon
  - Misleading lights
- **Sometimes no ground reference for altitude**

Airport lighting

- **Airport Beacon**
- **Lead-in lights**
- **REIL**
  - runway end identifier lights
- **Runway edge lights**
- **VASI/PAPI**

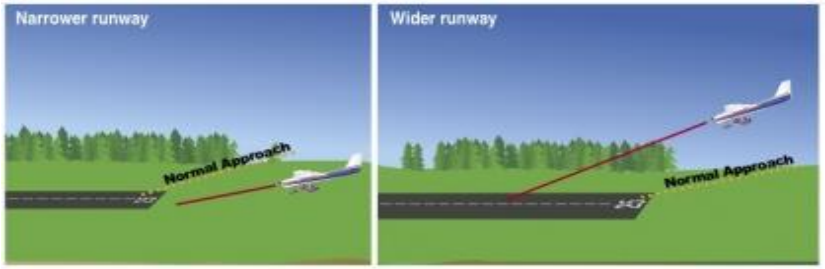


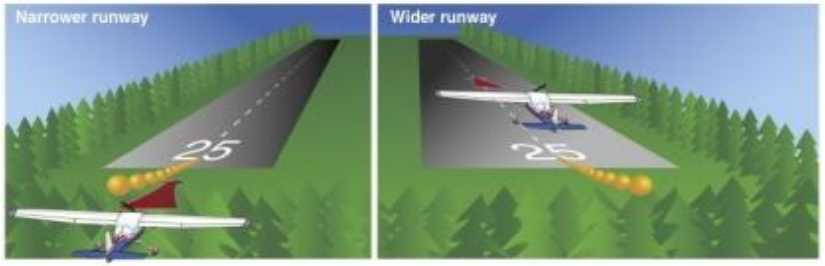


Runway illusions

- **Runway width**
  - Narrow runway makes relative altitude seem high
  - Wide runway makes relative altitude seem low
- **Runway slope affects visual perception as well**

Plan ahead and use all available resources





Runway width illusion

- A narrower-than-usual runway can create an illusion that the aircraft is higher than it actually is, leading to a lower approach.
- A wider-than-usual runway can create an illusion that the aircraft is lower than it actually is, leading to a higher approach.

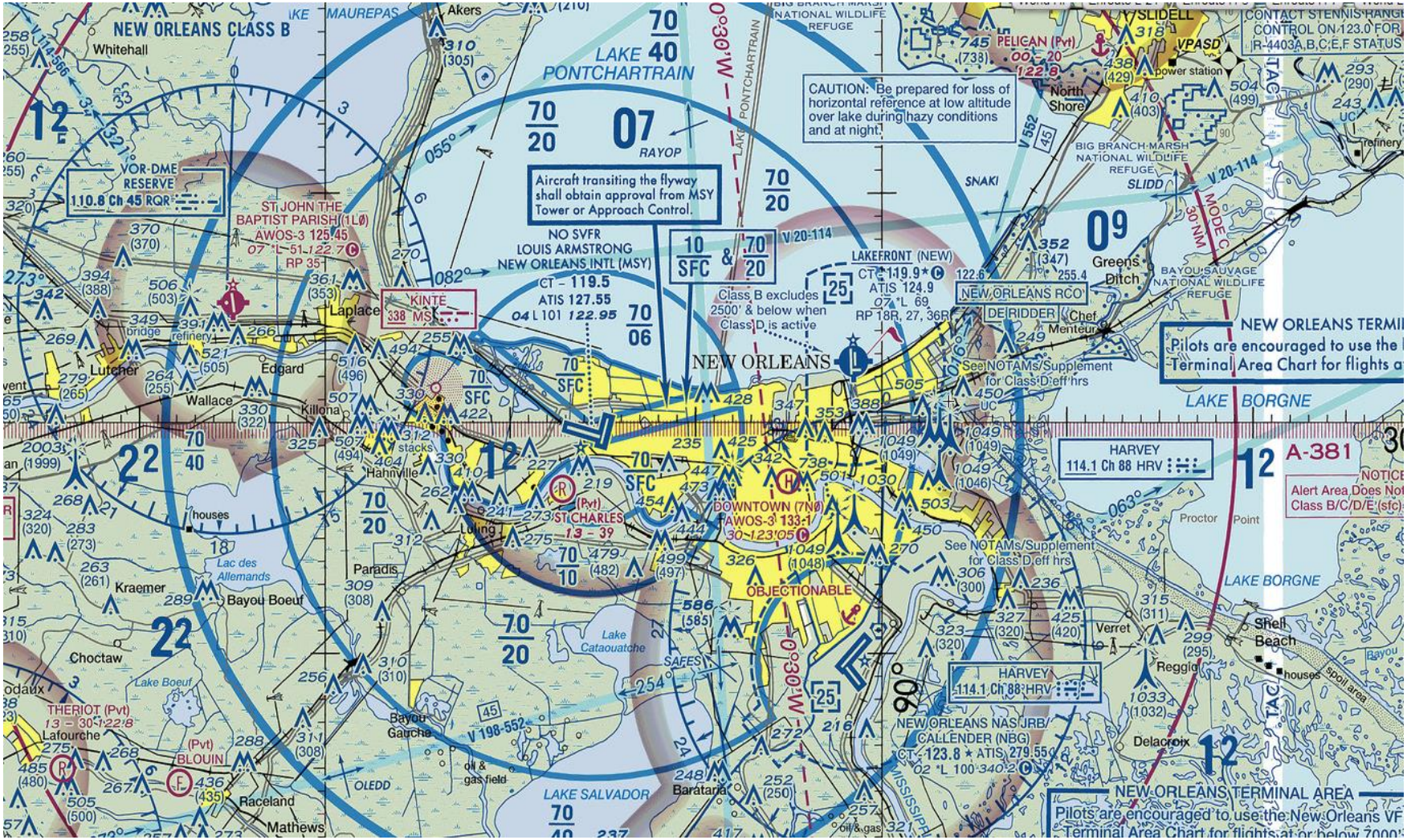
Runway slope illusion

- A downsloping runway can create the illusion that the aircraft is lower than it actually is, leading to a higher approach.
- An upsloping runway can create the illusion that the aircraft is higher than it actually is, leading to a lower approach.

Normal approach
Approach due to illusion

Black-hole effect

- https://www.youtube.com/watch?v=Q7pyHDEyegc
- **Use all resources**
  - VASI/PAPI
  - Lead-in lights
  - Know minimum safe altitudes



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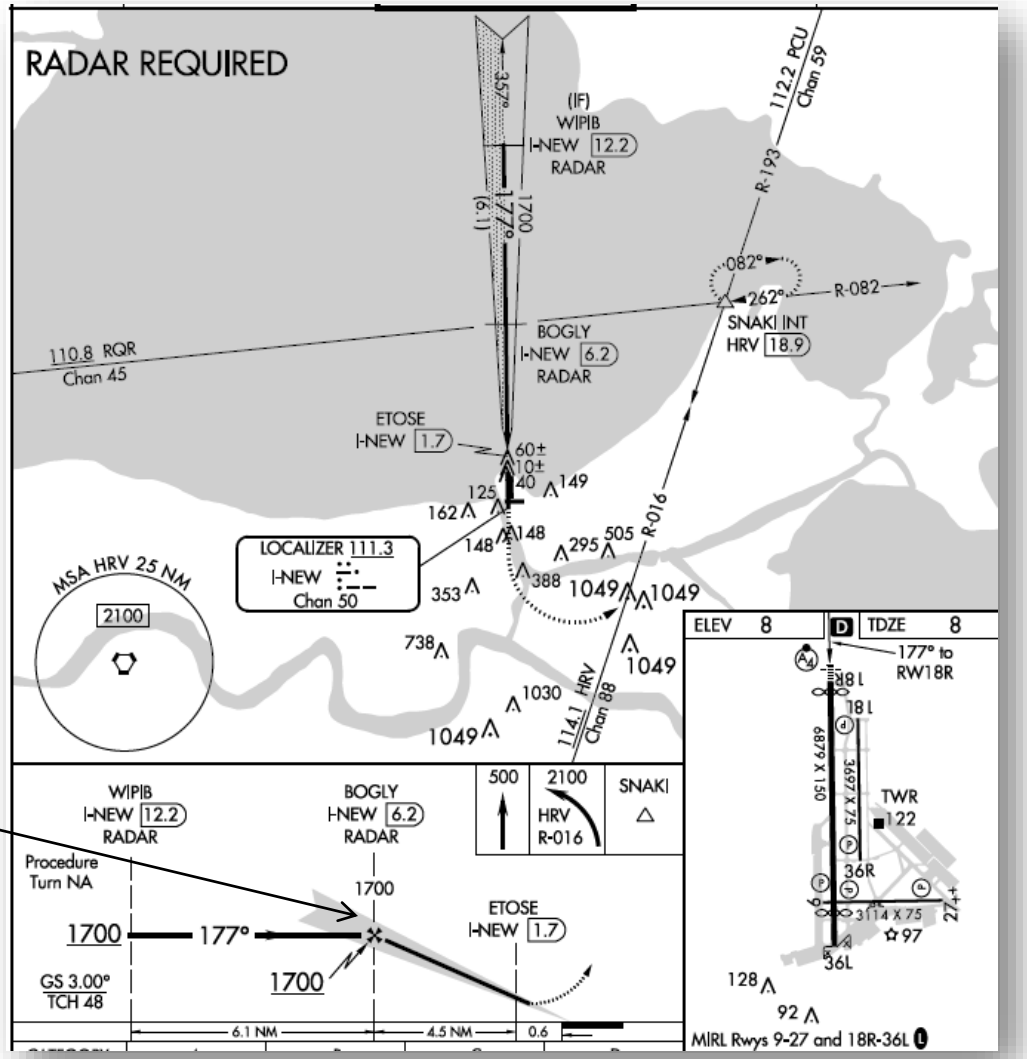
ILS 18R at NEW



Safe altitude is 1700 feet until 5 mile final, 1500 feet would be acceptable.

Spatial disorientation

- Spatial disorientation- visual illusions
- **At night VFR ops require more reliance on instruments**
- **NEW- departing 36 at night**
  - Take-off over “black hole”
  - Acceleration vs climbing illusion (somatogravic illusion)

Best practices

- **Use all available resources**
- **Stay current- day/night**
- **Get instrument rated**
- **Use standard traffic patterns with cardinal altitudes- traffic pattern altitude downwind to base, 500 ft. final until on VASI/PAPI**
- **Understand that marginal VFR weather at night is much worse than daytime**
- **When hazards are present increase your margins**

Case study

- **Recent NEW accident**
  - Cessna 172 crashed while on final for Runway 9
  - Most likely a CFIT accident
  - Facts
    - Night time approach
    - Low clouds and rain
    - Narrow runway with no lead-in lights
      - ***Visual perception is higher than actual***
    - Witness account says low on VASI
- **What can we learn?**