

**National Business Aircraft Association  
International Operators' Conference  
March 1997**

**Slide Presentation by Captain Steve Bergner**

Because a very large percentage of its operators are flying advanced-cockpit aircraft, the National Business Aircraft Association has formed an FMS/Charting subcommittee, chaired by Bluecoat contributor (and Falcon 900 captain) Steve Bergner.

Steve writes: "These PowerPoint slides were part of a presentation to about 500 pilots and flight department managers who attended the NBAA's International Operators' Conference in March of 1997. Bluecoaters will recognize that several of the slides are based upon papers previously presented by Wally Roberts and Jim Gregory. Perhaps these illustrations will stir some additional discussion or provide some ideas for instructors and check airmen tasked with teaching instrument approaches using FMS databases."

If anyone needs the original PowerPoint file containing these slides, please contact the undersigned.

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# VNAV

- ILS “look-alike”
- VNAV Coding of Non-Precision Approaches
  - ARINC 424 Specifications
  - Coding varies with procedure configuration
- Crew operating procedures

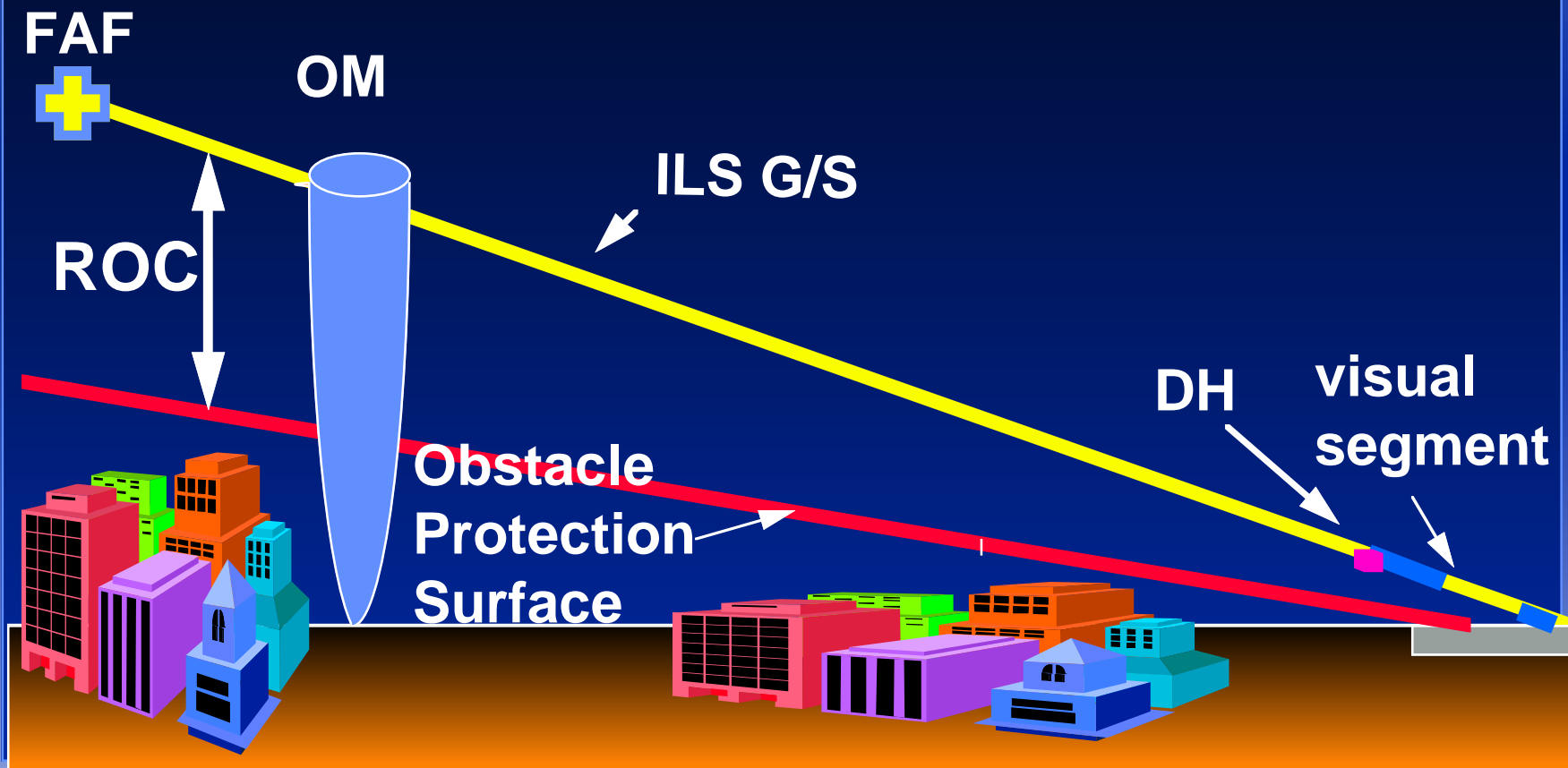
**VPATH = G/S?**

**NOT !!!**

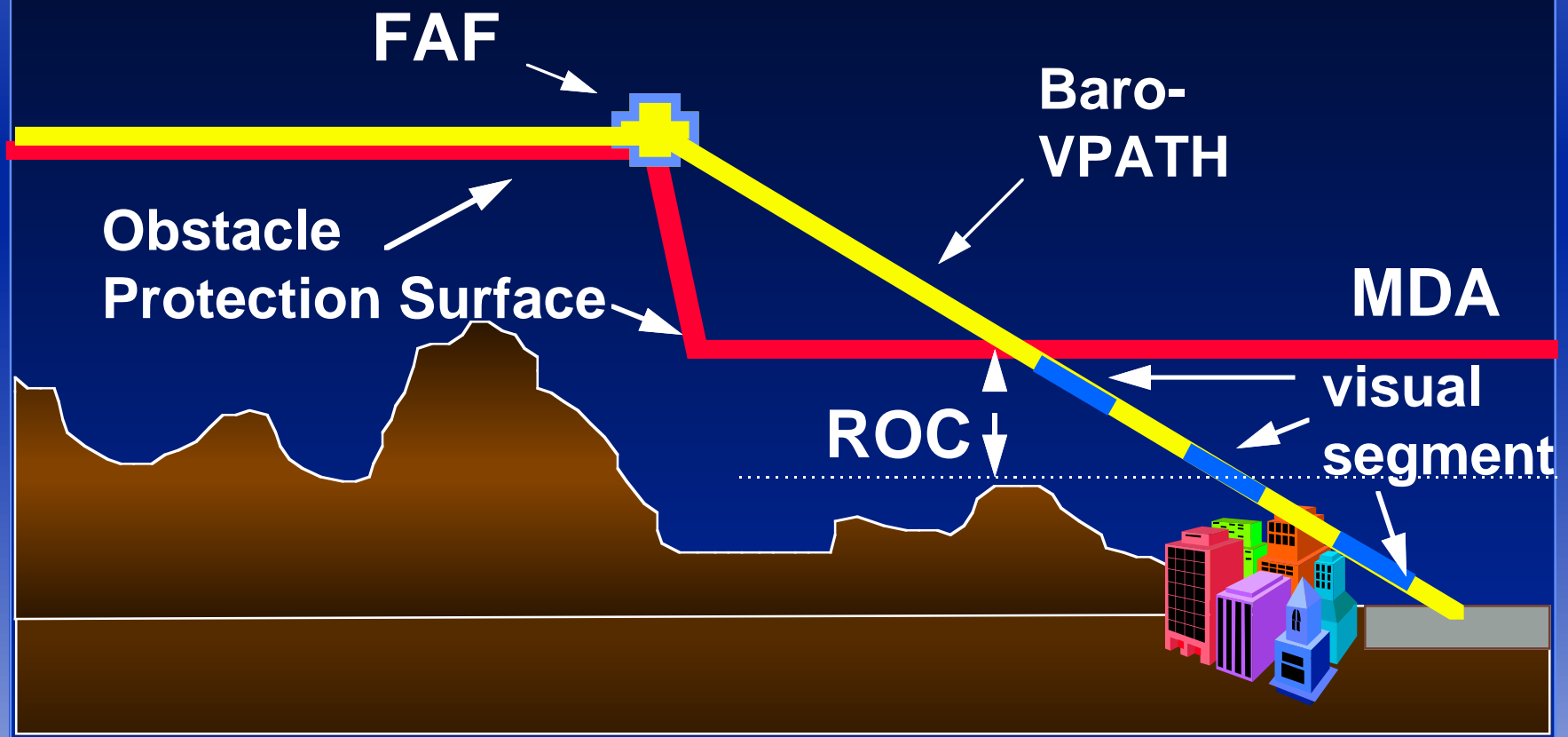
# TERPS Considerations

- Precision vs. Non-Precision
  - Procedure Design
  - ROC (Req'd Obstacle Clearance)
- Tilted vs. Horizontal Obstacle Protection Surfaces
- Obstacle Avoidance Critical in Visual Segment

# Precision Surfaces are Tilted



# Non-Precision Surfaces are Horizontal



# Obstacle Surveys for Visual Segment

- ILS G/S
- VASI / PAPI
- Published VDP
  
- Caution! -- Present VNAV Database Coding DOES NOT respect VASI / PAPI angles

# VPATH vs. Electronic G/S

- G/S = Electronic “Iron Rail”
  - Monitored
  - Integrity Standards
  - Unaffected by Atmospheric Pressure/Temp
- VPATH = Barometric Calculation
  - Susceptible to Altimetry Errors

**VPATH = G/S?**

**NOT !!!**