NATIONAL ASSOCIATION OF FLIGHT INSTRUCTORS

MENTOR LIVE

May 18, 2022

Welcome!

NATIONAL ASSOCIATION OF FLIGHT INSTRUCTORS

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Learjet Tragedy at Gillespie Field: What Went Wrong?

Presented by
John and Martha King
Co-Chairmen, King Schools

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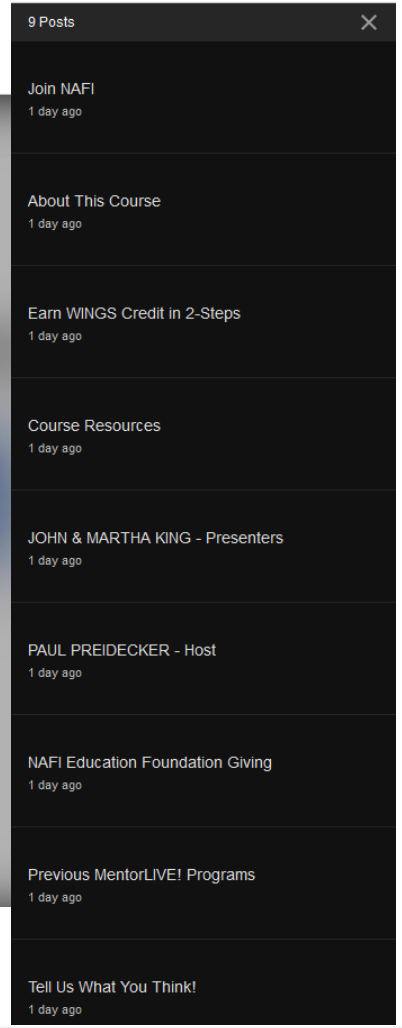

- Join NAFI!
- Earn WINGS Credit! New 2-clicks to quiz
- Course Resources
- Speaker Biographies
- Educational Foundation
- Mentor*LIVE* Archives
- Course Evaluation

LIVE

John and Martha King

- Began teaching to bide time to start a “serious business”
- After ten years teaching live seminars, they started using video and revolutionized flight training
- Over 40 years, taught more pilots than anyone in history
- Flown on every continent except Antarctica
- Flown blimp over events such as the Super Bowl, Kentucky Derby, and the US Open Tennis tournament
- Continue to transform flight training by pioneering development of multimedia programs

Q&A Break

- Your questions and comments are welcome! You bring extra value to Mentor*LIVE*!
- Join the chat on the right side of your screen and post your questions there
- We will do our best to get as many answered as possible.
- Thank you for joining us tonight

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Lear 35 Circling in Low Ceiling and Visibility

- Returning to base after a patient transport
- Hit the ground
- Killed 2 pilots and 2 nurses

Flight Crews Cannot Eliminate All Risks

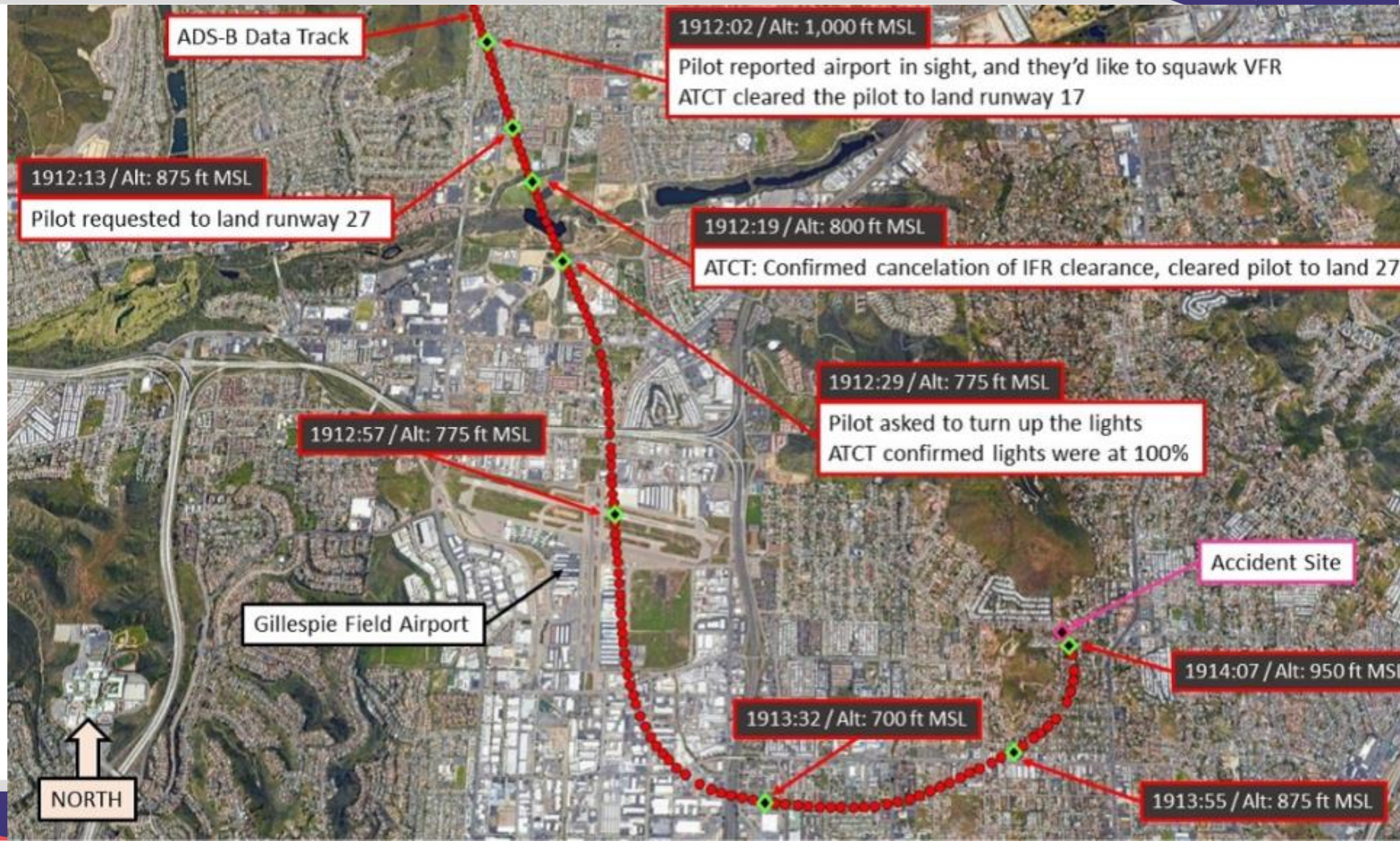
- These events heighten the urgency to manage risks
- Managing risks is the primary responsibility of the crew

ATC Audio Before Crash

- https://youtu.be/xaw23d4UyX8

NTSB Aviation Accident Prelim. Report

Airport Elevation 388’ MSL



RUNWAY VIEW FROM CRASH AREA

Tower at 1,273 feet MSL

View from 950 feet MSL

Terrain 600 feet

1914:07 / Alt: 950 ft MSL

Terrain 500 feet

1913:55 / Alt: 875 ft MSL

View from 850 feet MSL

Field Airport

CUYAMACA BUSINESS PARK

Parkway Bowl

Parkway Plaza

Days Inn by Wyndham

Toyota of El Cajon

Kaiser Permanente Bostonia Medical Offices

Albertsons

99 Cents Only Stores

Terrain

View topography and elevation

PAVE Tool

- Puts risks into categories
- Great tool for analyzing and managing the risks of a flight
  - May have been used by the pilots

P

A

V

E

P = Pilot(s)

- Fatigue and crew condition
  - Same-day patient transfer flight from KHII to KSNA
  - Part 91 repositioning flight from KSNA to KSEE
  - No other details yet available from NTSB
- Crew time in type
  - No details yet available from NTSB
- Recency of experience
  - No details yet available from NTSB

These would reflect on the crew's ability to perform a difficult circling maneuver in poor weather at night

A = Aircraft (Lear 35A)

- Ability to fly some approaches
  - Learjet 35A is a Category D aircraft (FAA Aircraft Characteristics Database, approach speed of 143 kts)
  - Some approaches not available for Category C and D aircraft
- Ability to maneuver at slow speeds
- Ability to stop on wet runways

V = enVironment

- Extremely short trip
  - 68 NM, 18 minutes in the air
  - Very little time to get set up for approach
    - Even if briefing is completed before takeoff
- Nighttime
- Rain, low ceilings, low visibilities
  - Unusually poor weather for this area
- High terrain north and east of the airport

Reported Weather at Gillespie Field

Crash occurred at 1914 local (sunset was 1651 local)

At 1855 local:

- Wind: variable at 5 knots
- Visibility: **3 SM**, mist
- Clouds: **2,000 ft. broken,**
  2,600 ft. overcast
- Temperature: 10° C, dewpoint 8° C
- Altimeter setting: 29.98 inches
- Precipitation: None indicated

At 1955 local:

- Wind: variable at 5 knots
- Visibility: **3 SM**, mist
- Clouds: **1,100 ft. broken**,
  2,600 ft. overcast
- Temperature: 10° C, dewpoint 8° C
- Altimeter setting 29.96 inches
- Precipitation: None indicated

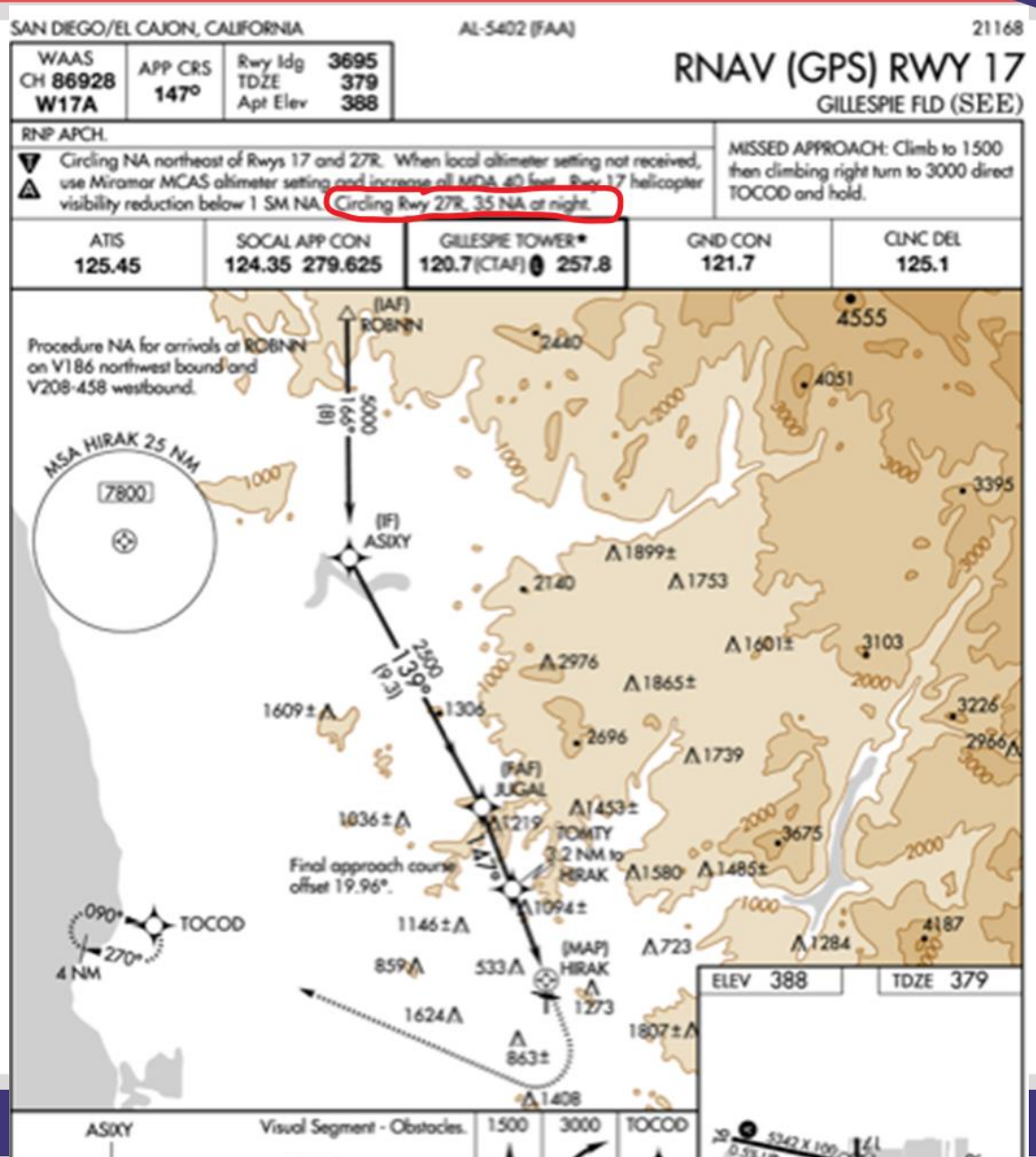
First responders reported heavy precipitation; witnesses reported dense fog

Let's Look at the Possible Options

- KSEE
  - Rwy 17 RNAV
  - Rwy 9L RNAV
  - LOC-D
- Other nearby airports
  - KMYF – Rwy 28R ILS
  - KCRQ – Rwy 24 ILS
  - KSAN – Rwy 9 ILS
- Remain overnight at KSNA

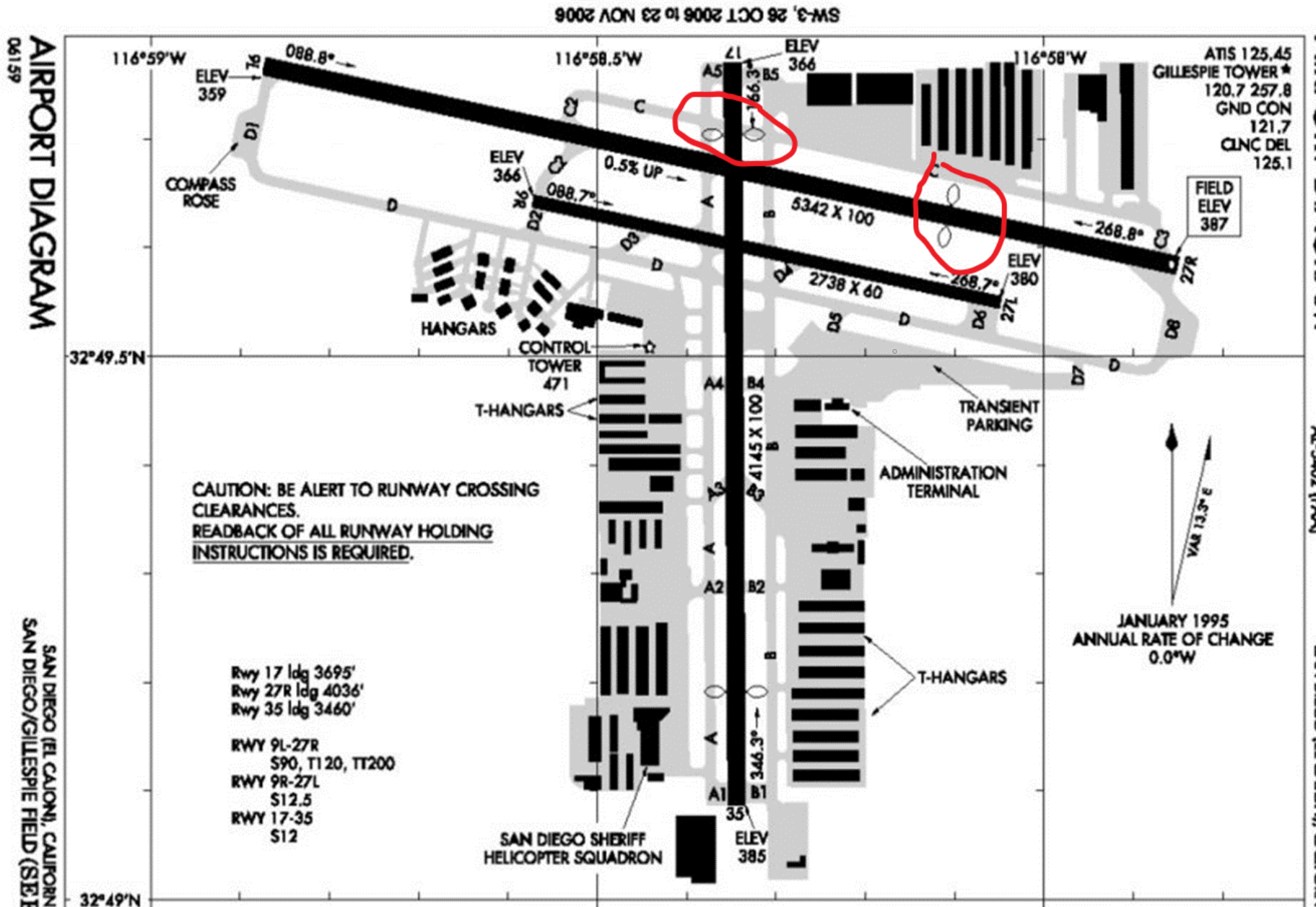
Rwy 17
RNAV Approach

- Circling to runway 27R or runway 35 NA (Not Authorized) at night



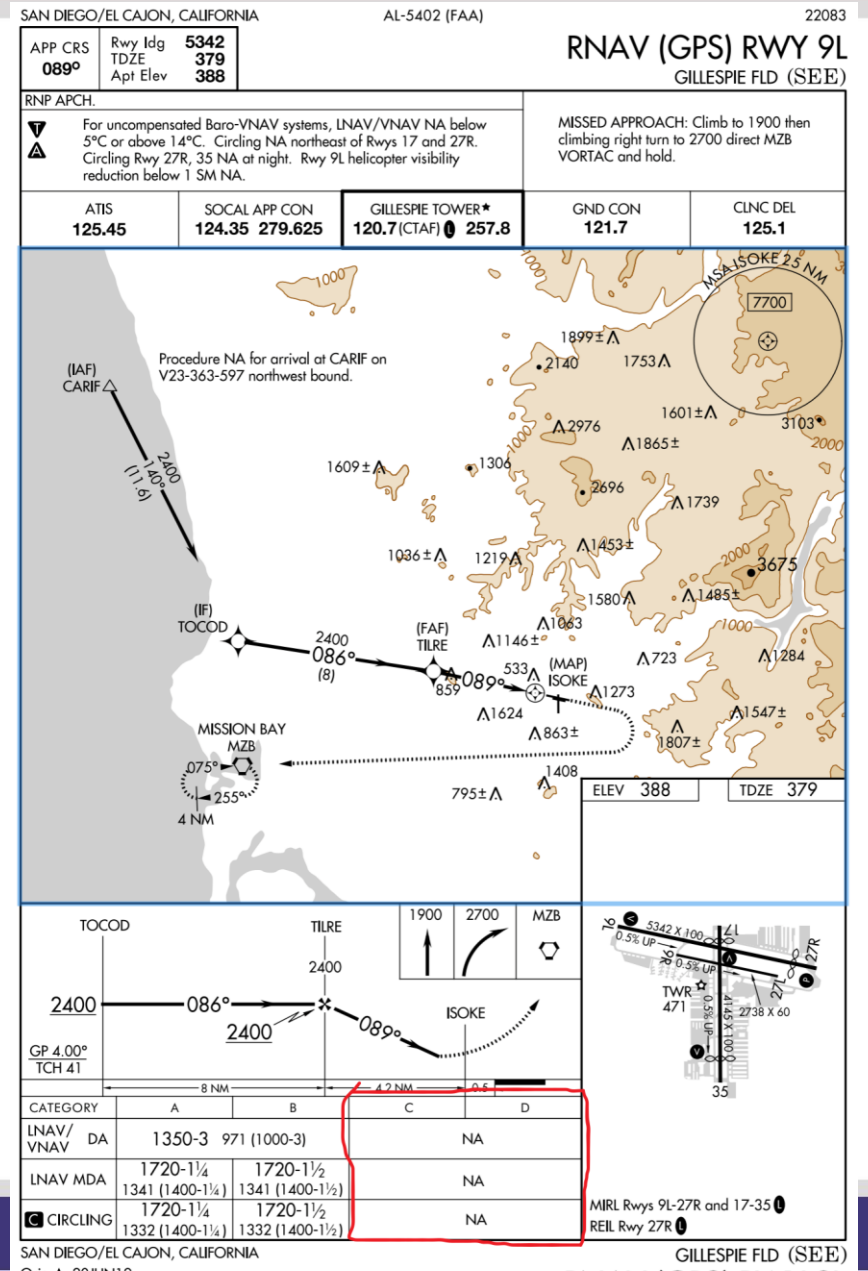
Airport Diagram

- Displaced thresholds on runways 17 and 27R
- Usable for landing:
  - 17 – 3,695’
  - 27R – 4,636’



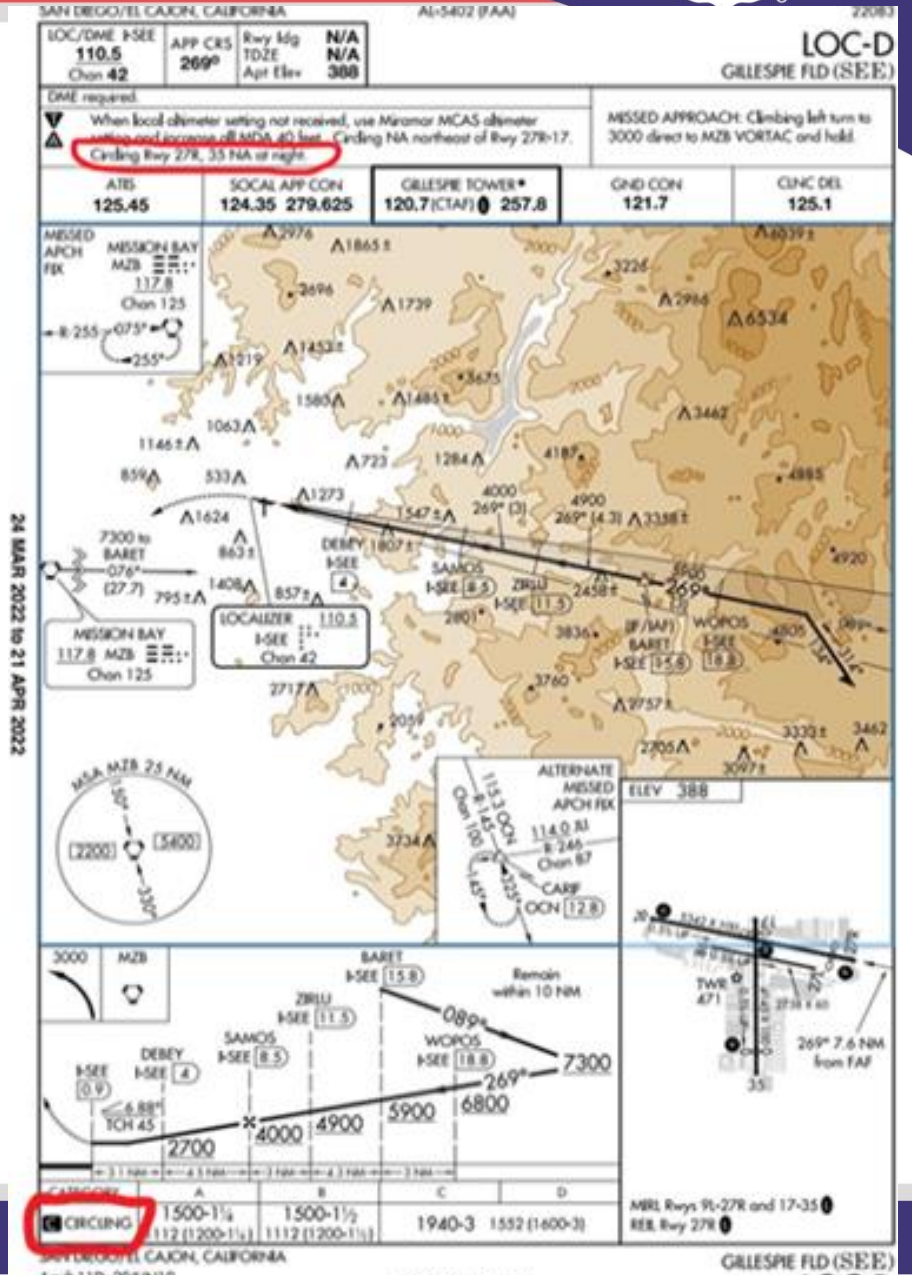
Rwy 9L RNAV Approach

- Full length available (5,342’)
- Not available for category C and D aircraft



LOC-D Approach

- Lined up with runway 27R
- Has multiple step-down fixes
- Is unusually steep due to high terrain east of runway (4.5º VASI) – too steep for straight-in minimums
- Circling to runway 27R or runway 35 NA at night



KSEE IFR Options at Night – Category C and D

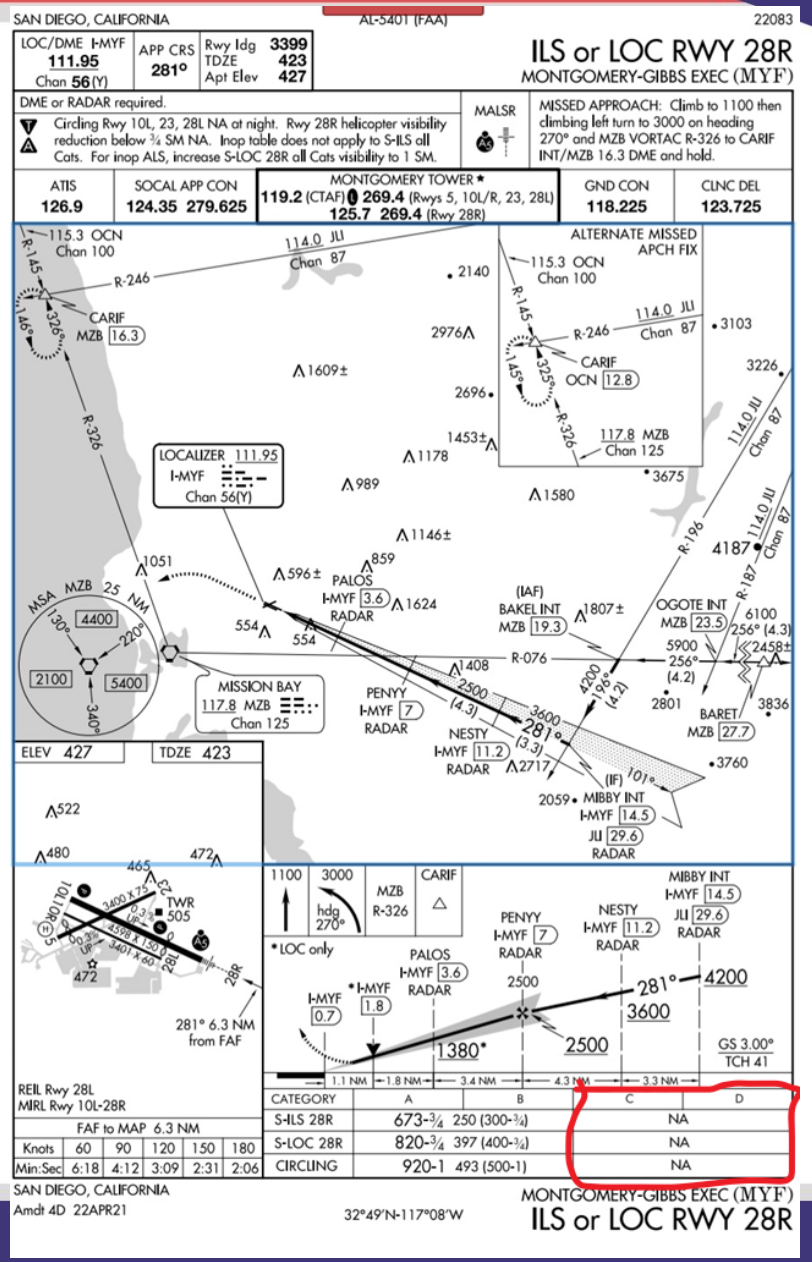
- Straight-in approach to Runway 17
  - Runway length is an issue (3,695’), particularly if runway is wet
- Fly LOC-D approach
  - If runway is in sight early enough, cancel IFR and land straight-in (circling is NA)

Other Nearby Airports

- Had better approaches
- Would require ground transportation back home that evening and return to pick up the airplane

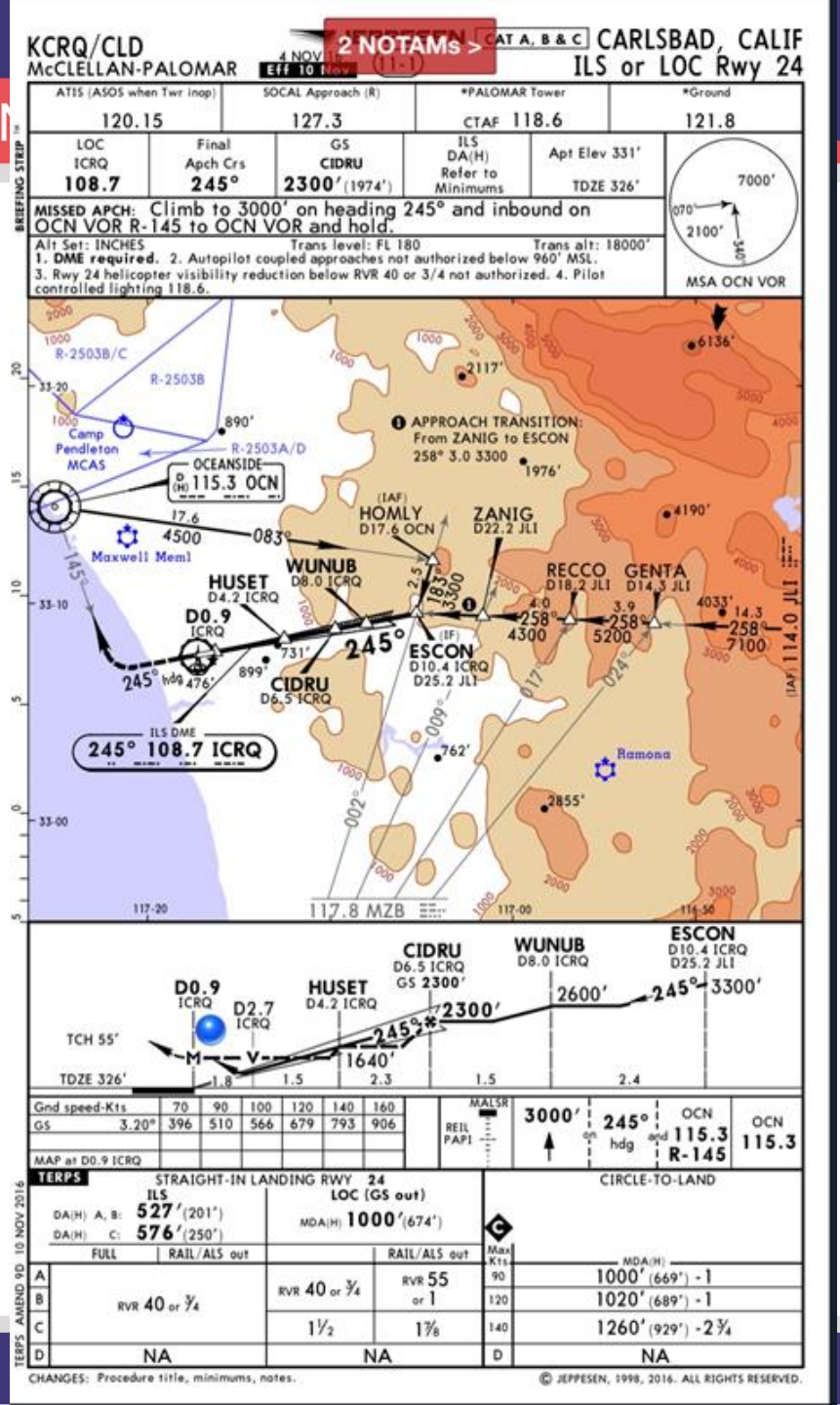
Montgomery-Gibbs Executive Airport

- ILS or RNAV runway 28R
  - Not available for category C and D aircraft
- Adequate runway pavement
  - Shortened for political reasons by airport operator
  - Runway after displaced threshold is 3,400’
    - Short for a Lear 35 on a rainy day



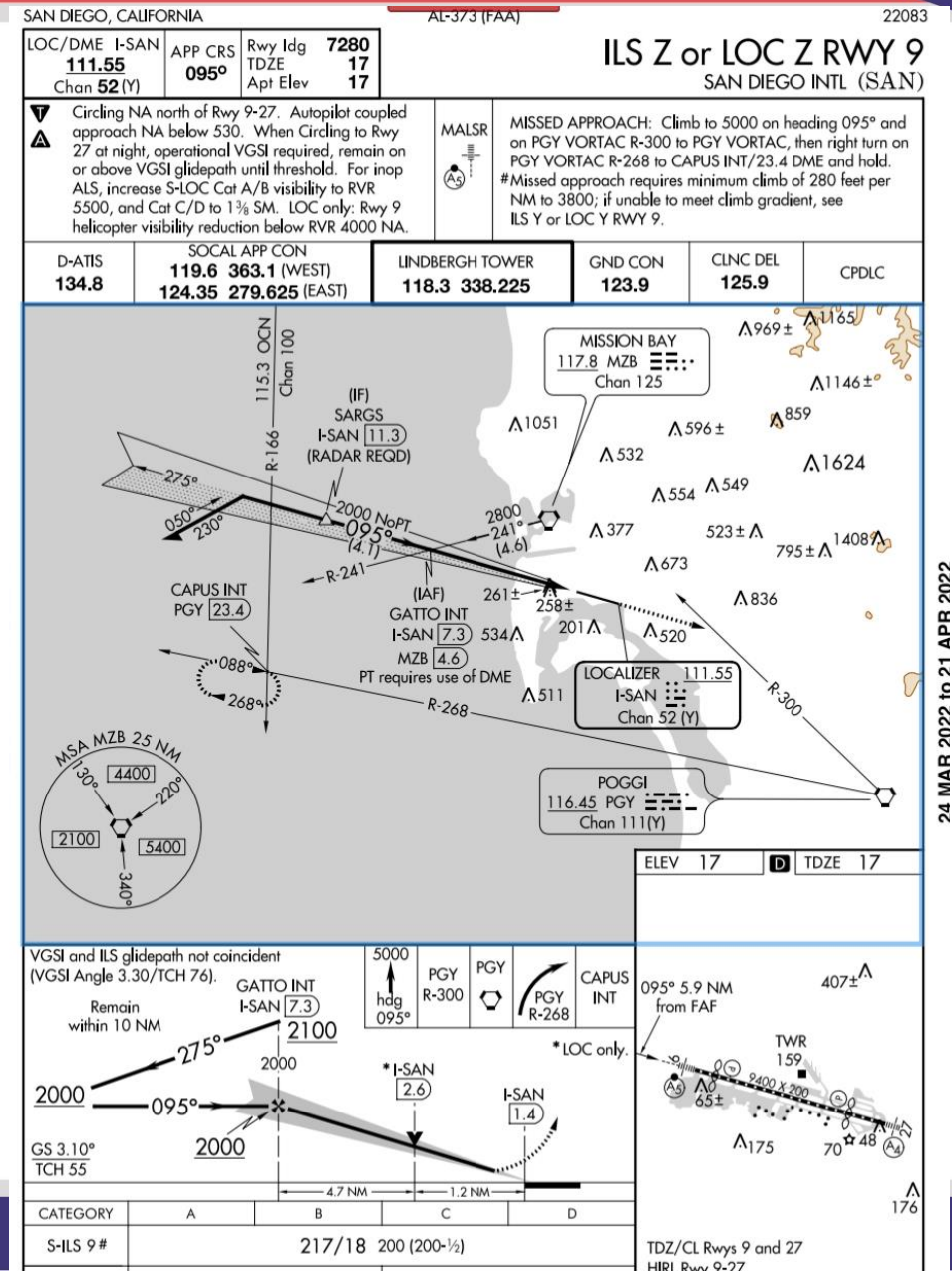
McClellan Palomar Airport

- Better approach
  - ILS, which is less steep with no high terrain close to airport
- Longer usable runway
- Not usable by category D aircraft



San Diego International Airport

- ILS approach
- Much longer runway
- Expensive monopoly FBO (Signature)



Issues With Using an Alternative Airport

- Time
  - Leave airplane overnight and return next day
  - Aircraft not positioned for next medical flight
- Money
  - More expensive alternative

enVironment Weather Risks

- Moving the airplane in bad weather increases risk
- Could have been avoided by staying overnight at the departure airport

Let's Review the Possible Options

- KSEE
  - Rwy 17 RNAV – short runway
  - ~~Rwy 9L RNAV –~~ NA for C and D
  - LOC-D – straight-in only (if see runway in time)
- Other nearby airports
  - ~~KMYF Rwy 28R ILS –~~ NA for C and D
  - ~~KCRQ Rwy 24 ILS –~~ NA for D
  - KSAN – Rwy 9 ILS
- Remain overnight at KSNA

E = External/Internal Pressures

- This is the reason pilots fail to mitigate the other risks
  - Pilots and nurses would have wanted to be home for the evening
  - Company would have wanted the airplane back at the base

Managing The External/Internal Pressures

- **This is the primary responsibility of the pilot-in-command**

Actions Suggesting Less Than Ideal Risk Management

- Circling from runway 17 approach to 27R to gain runway length
- Cancelling IFR to avoid restriction against circling IFR
- Not taking action to prevent circling too low

A Factor Leading to Failure to Mitigate Circling Risks?

- During recurrent training jet pilots are required to demonstrate a circle at night after an IFR approach
  - Maneuver is not at all realistic
  - Simulator company gives a “gouge” on how to fly it successfully in the simulator
    - You are coached on the timing and landmarks for your turns
  - Maneuver may produce overconfidence, not competence?

Circling Maneuver in Real Life is Difficult, Especially in a High-Performance Airplane

- Requires:
  - Crew coordination
  - Bank control in low visibility
  - Crew ability to maintain altitude
  - Precise speed control

Some airlines and operators don’t allow circling approaches

How Can a Satisfactory Outcome Be Managed?

- Brief the risk factors in advance
- Acknowledge the risks of circling
  - Brief minimum descent altitude required until in a position for normal descent for landing
  - Make altitude callouts during the circle
- Consider staying overnight at the departure airport
- Consider landing at an alternative airport

LOC and CFIT

- They are not the CAUSE of accidents
- They are the END RESULT of

The crew getting into a situation that either the airplane or the crew can't handle

To learn: Look upstream for opportunities for **proactive risk management** to avoid getting into that situation

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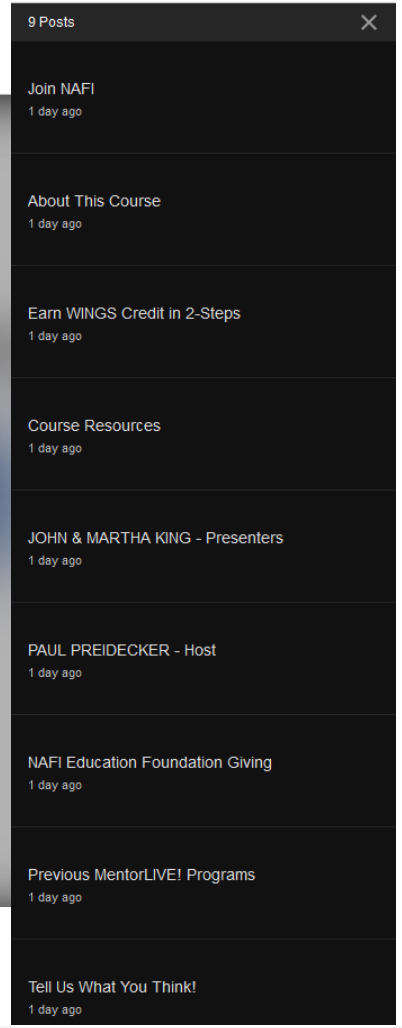

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Save the Date!

Join us for next month's MentorLIVE, June 15 at 8:00 p.m. ET

"Understanding Slips and Skids"

Presented by Capt. Brian Schiff, Airline Captain, CFI, NAFI Board Member, and Mark King, Southern California Flight School Instructor

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Thanks for Watching!

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