

PAPI Commissioning

Some experiences we've had.

Why do we do it?

- We want someone else to sign off on it.
 - Independent proof that it works as it should.
 - We “know” it is right, don’t we?
 - By lines of sight across the bar.
 - By bobbing between lights.
 - How can we be sure that it is?
 - Is the clinometer telling the truth?

Need independent verification, on site.

History.

- Australia

Big country with population on one edge.

Like Canada.

(only warmer)

Long shipping and trucking distances.

- Land of T.VASIS

DCA developed, when DCA owned the airports, wrote the rules, took responsibility, commissioned and maintained.

A closed loop

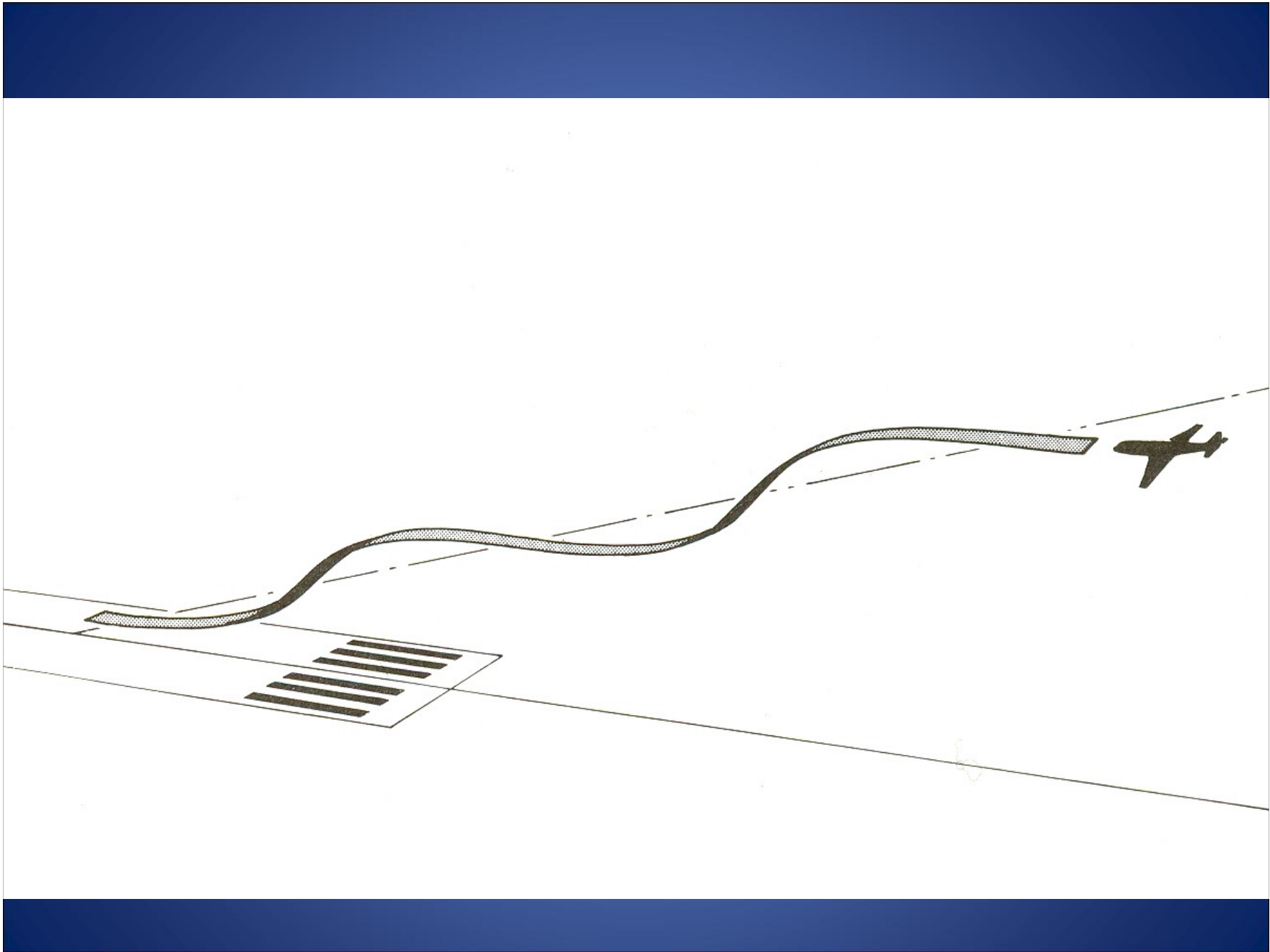
Efficiency not a concern

Airports in private ownership

- Liability is everyone's concern.
 - More properly, *passing of liability*.
 - So long as it's not me.

T.VASIS commissioning.

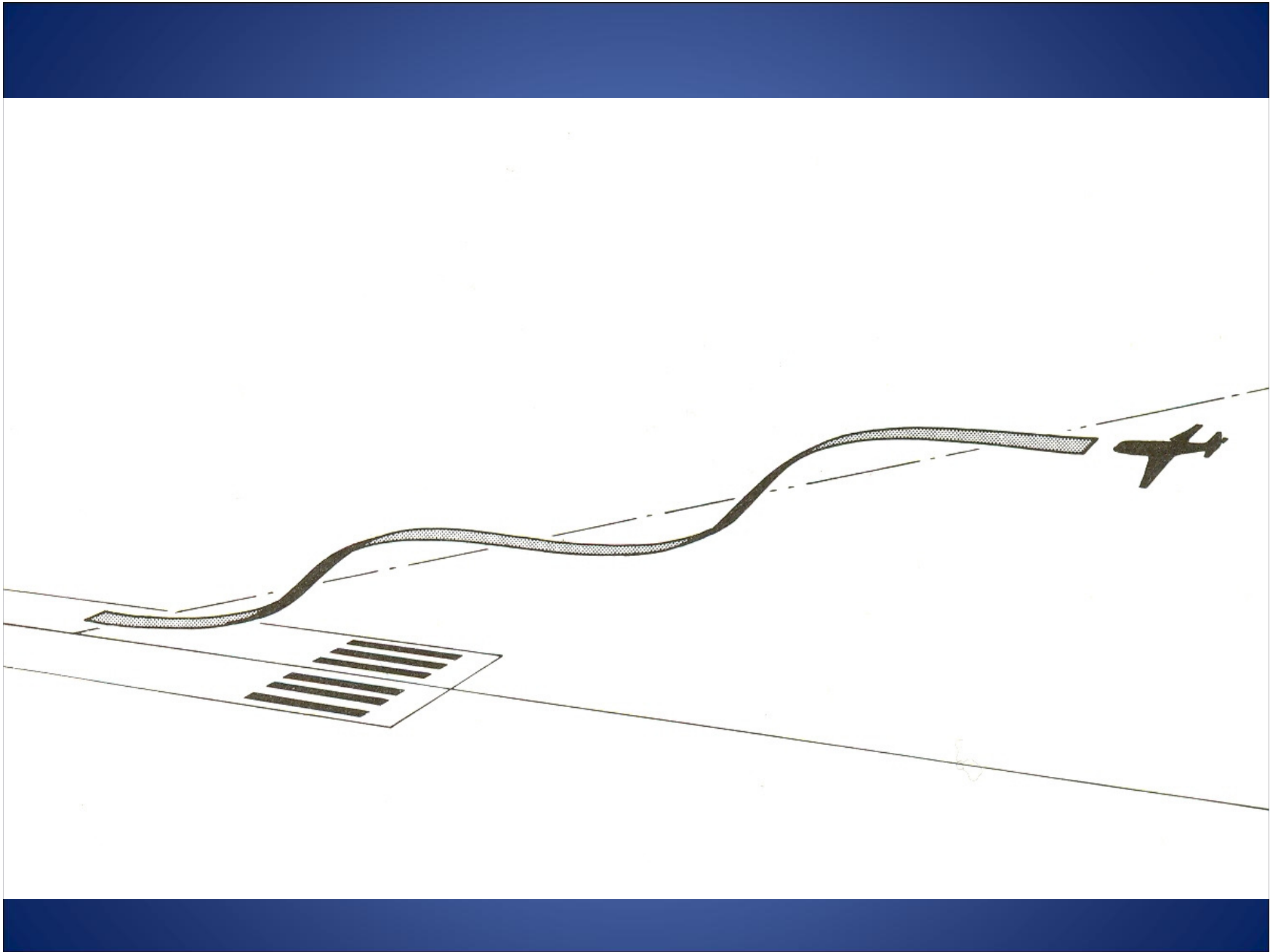
- Cast of thousands
 - F27.
 - 2 air crews.
 - Ground Party, usually 3 or 4.
- Madly expensive.
 - As closed loop, it did not matter.





T.VASIS Ground Party.

- one to track.
- one to read and call
- one to watch, just in case.....



- Not only expensive.
- Hopelessly unreliable.
- Cost far exceeded the cost to buy and install PAPI system.
 - Suited all players at the time.
- Had to be cheaper and “better” way.
 - Preferably without an aircraft.
 - Practical at remote sites.
 - No special equipment needed.

- Options:
 - Bucket truck at the threshold.
 - 23m/80' truck required for a B747.
 - 13m/45' truck required elsewhere.
 - Angles derived by triangulation
 - Direct reading not possible.
 - Bucket truck on runway shoulder.
 - Easier truck, easier measurement.
 - Direct reading possible.
 - In theory, at least.



Next easiest, step ladder in the pickup.

A few OH&S issues here.



All very much comparable.

- Awkward by varying degrees.
- Required triangulation to resolve.
- Not independent.
- Surprisingly consistent.

Other Ideas.



Level flight and time the transitions.

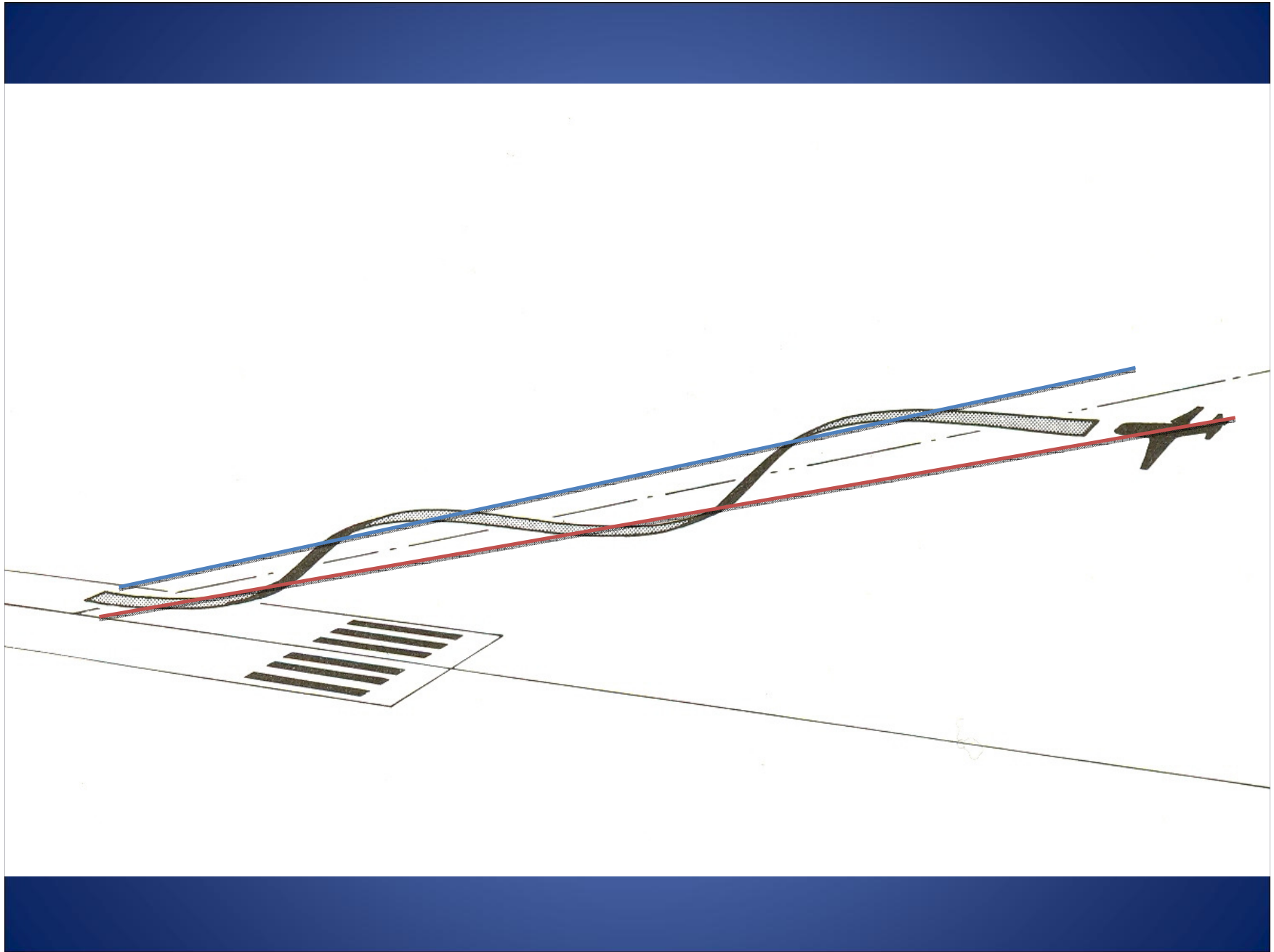
- Quite clever
- Needs trained calibration crew.
- Needs faith in the maths.

GPS Plotted descent



GPS Plotted descent.

- direct read from the technology.
- easy.
- descent rate as an angle.
- still need an “authorised” crew.





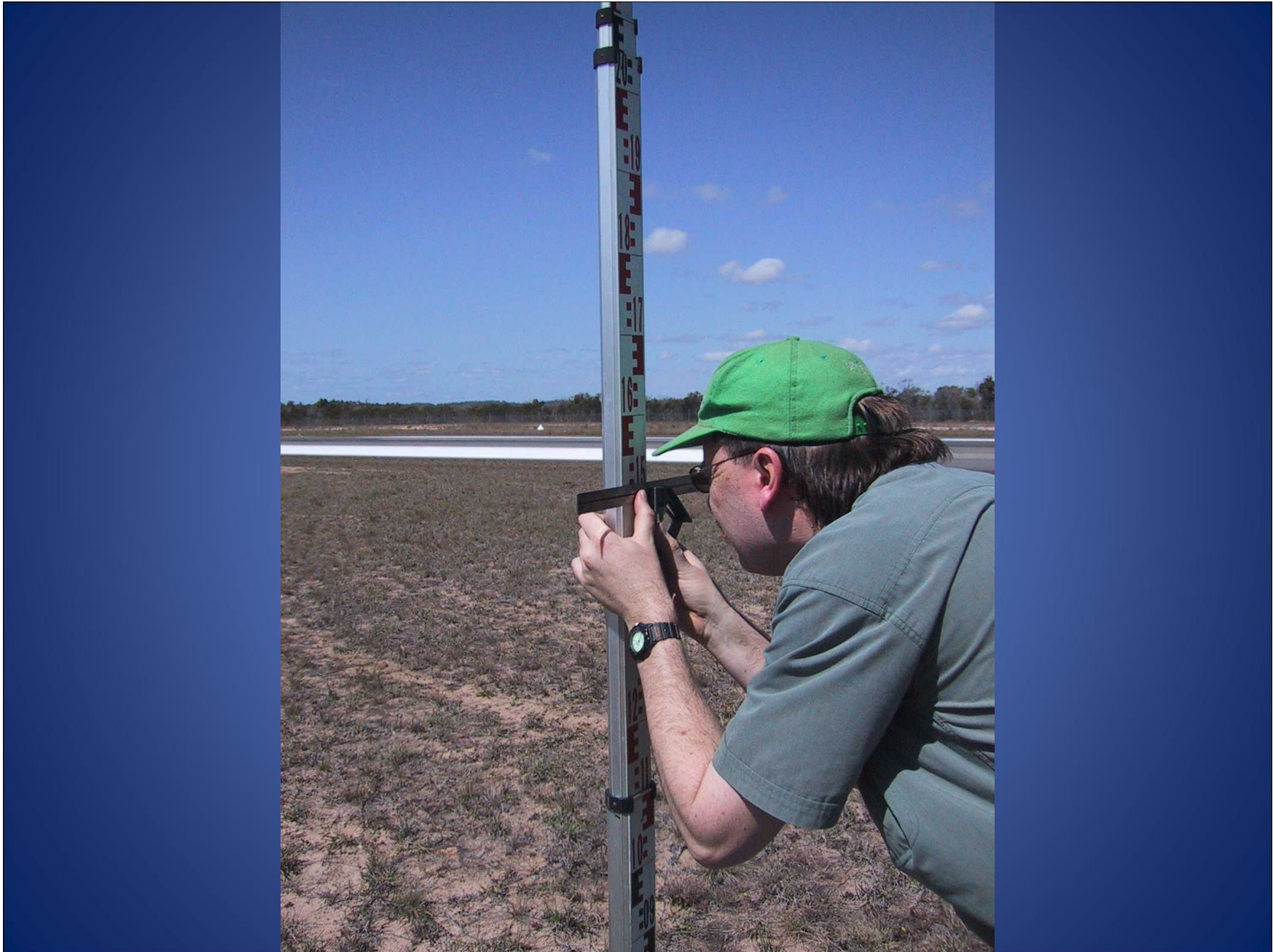
Periscope Systems.

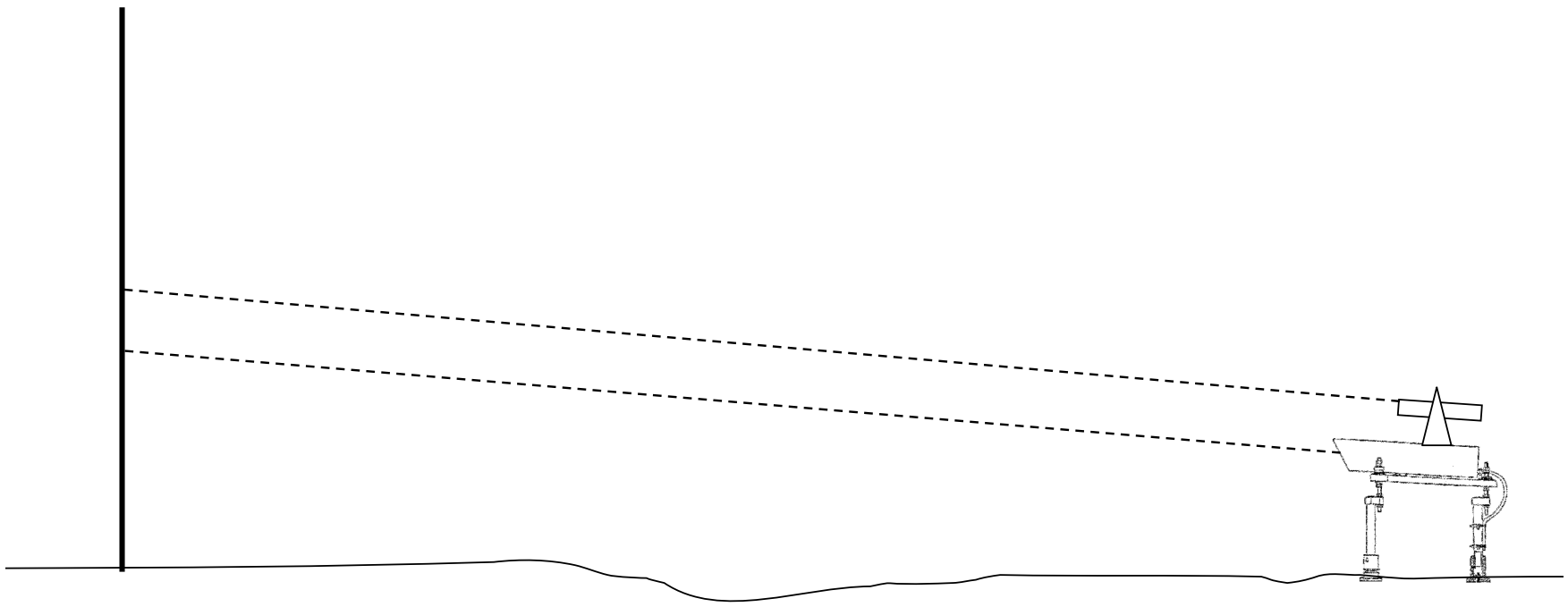
- allows greater observation distance.
- still triangulate for angles.
- still needs faith in the maths.

End Result.

- A fixed observer is best.
- Man Standing distance, but directly read.
 - Use local surveyor
 - Cheap, local, independent.
 - Uses his standard theodolite.
 - Measure each light in turn.







- Time for a demonstration.
 - Impossible to photograph.