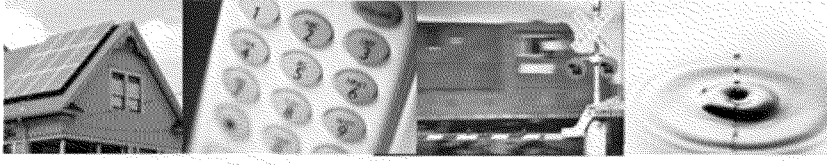
NERC Facility Rating Alert

“Design” Vs. Actual Conditions

Background

- NERC Alert issued on October 7, 2010
- The NERC Alert required Transmission Owners
  - To asses “as-built” conditions
  - Create a plan and methodology to asses lines
  - Establish a schedule for assessments
  - Perform corrective actions



NERC Minimum Assessment Timeline

"Plan"

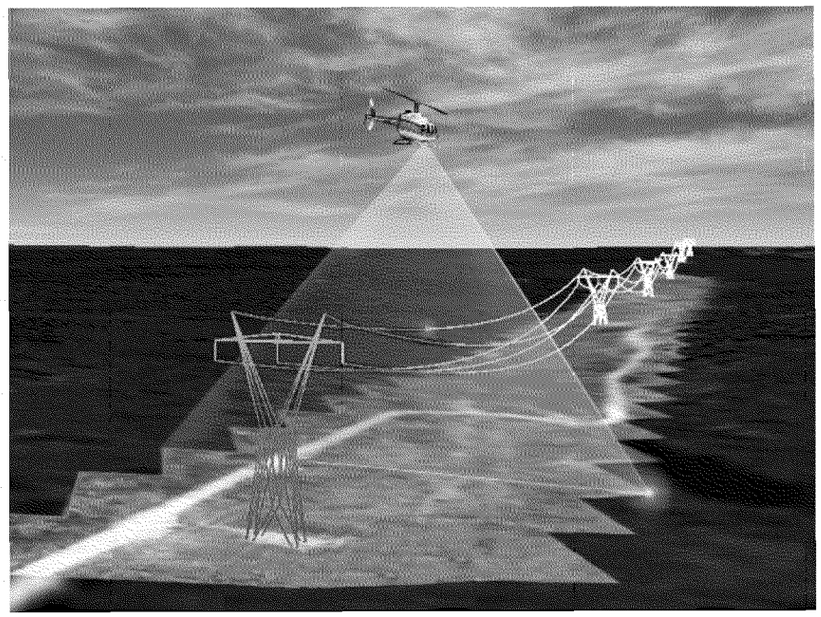
"HIGH"

"MEDIUM"

"LOW"

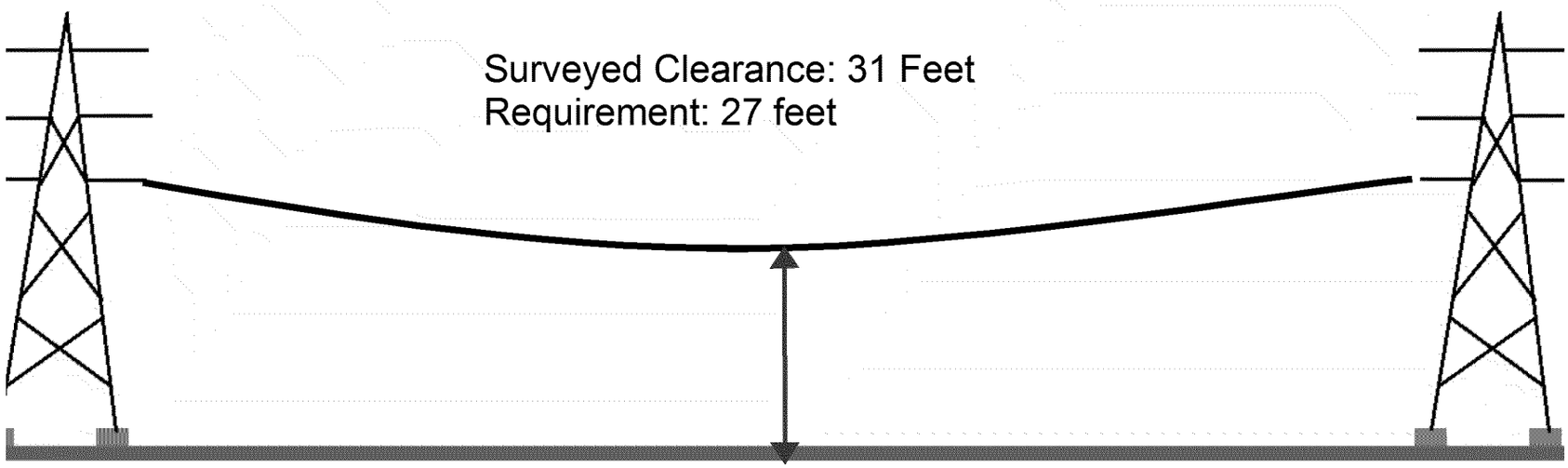
How Where Assessments Done?

- Aerial surveyed
  - Light Detection and Ranging (LiDAR)
- Modeled Systems
  - Temperature
  - Wind
  - Electrical Load
- Field checks
  - As necessary



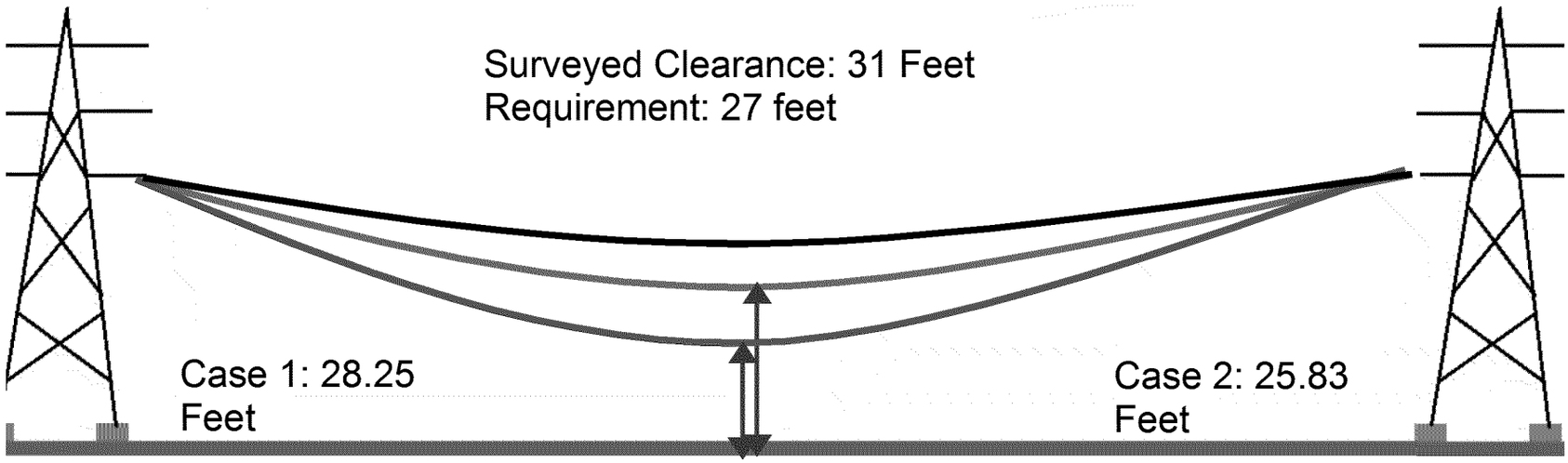
Why Run Models?

- Conditions vary:
  - Wind
  - Temperature
  - Electric Load
- Assume:
  - Wind 15 MPH
  - 60° F Ambient
  - Low Electrical Load
  - Wire Temperature ~70°F



Why Run Models?

- Case 1:
  - No Wind
  - 80° F Ambient
  - Normal Electrical Load
  - Wire Temperature ~130°F
- Case 2:
  - No Wind
  - 100° F Ambient
  - High Electrical Load
  - Wire Temperature ~194°F



Assessments

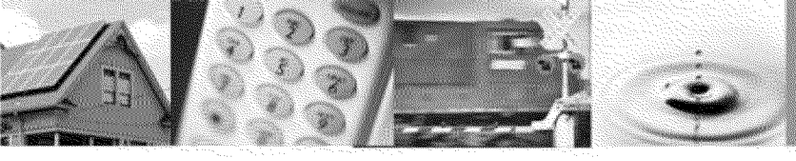
- SCE
- SDG&E
- PacifiCorp
- PG&E
  - Started assessments in 2011
  - All “High” and “Medium” priority line assessments completed
  - Assessments to be completed in 2013

Potential Issues Found

Utility	Issues Found	Issues Corrected	Notes
PacifiCorp			
PG&E	6896	1028	Surveys and Assessments not complete
SCE			
SDG&E			

Reasons For Potential Issues

- Changes in land use
  - Rural to Residential
- Installation by other utilities
- Road resurfacing /rebuild
- Foreign object encroachment
  - Street light
  - Traffic Light
  - Billboard
- Higher Electrical Load



Mitigation: Example
Risk Vs. Compliance

Location	Urban	Agricultural	Rural
Deviation greater than 20%	2011 – Evaluate	2011 – Evaluate	2012 – Evaluate
Deviation between 20% and 10%	2011 – Evaluate	2012 – Evaluate	2013 – Evaluate
Deviation less than 10%	2012 – Evaluate	2013 – Evaluate	2013 – Evaluate