This PP PRESENTATION includes data that shall not be duplicated, used or disclosed – in whole or in part – for any purpose other than to evaluate this product.
Altitude:
200-400 feet above ground
50-150 feet away from line
depends on line voltage

More then 150 miles of transmission lines per day
depends on span distance

Operative:
All-seasons ready to fly
superior weather versatility
Faults probability statistics

150 miles line

~800 Structures

Insulators ~4800

16%

Corona Faults 128

High 5%
Repair/Replace ASAP

Medium 15%
Monitor or Repair/Replace

Low 80%
Schedule repair or replacement
DayCor® Rom – Multi Spectral

Option I
2 sensors payload

possible combinations:

DayCor® Bi-Spectral UV-Visible

→ + IR
→ or
→ + Stills
→ or
→ + Broadcast
Option II
3 sensors payload

possible combinations:

DayCor® Bi-Spectral UV-Visible

+ IR + Stills

or

+ IR + Broadcast
Multi spectral inspection

Toggle between Corona/Visible
Multi spectral inspection

Toggle between Corona/IR
Multi spectral inspection

Percentage Of Problems Found By Cameras

- Corona: 50%
- Visual/TV: 28%
- IR: 22%
## Attribute & Benefit

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Benefit</th>
</tr>
</thead>
<tbody>
<tr>
<td>• High sensitivity of 3x10^{-18} watt/cm²</td>
<td>• High speed</td>
</tr>
<tr>
<td>• Corona detection of 1.5 pC</td>
<td>• Long distance and safe detection</td>
</tr>
<tr>
<td>• Overlay accuracy of less than 1 miliradian</td>
<td>• Accurate pinpointing of corona sources</td>
</tr>
</tbody>
</table>
Gyro stabilized gimbaled payload

- Stabilization of 100 micro radian
- GPS based
- High backlit screens at the observers station
- Flight without topographic limitation
<table>
<thead>
<tr>
<th>Component</th>
<th>Problem</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corona ring</td>
<td>Missing/faulty installations</td>
</tr>
<tr>
<td>Porcelain Insulators</td>
<td>Punctured / contaminated / broken</td>
</tr>
<tr>
<td>Polymer insulator</td>
<td>End-fitting / Split / Punctured / Surface tracking</td>
</tr>
<tr>
<td>Conductor</td>
<td>Broken strands / &quot;Bird-cage&quot; / Nicked / Abandoned / Flashed</td>
</tr>
<tr>
<td>Spacers</td>
<td>Broken/loosen</td>
</tr>
<tr>
<td>Misc</td>
<td>Poor grounding of structures</td>
</tr>
</tbody>
</table>
Types of detected faults

- Conductor: 12%
- Encroachment: 33%
- Hardware: 7%
- Insulator: 25%
- ROW: 23%
Grounding structure
Case study - Outage

- **Problem**
  - Outages on 110 Kv line

- **Monitoring**
  - Outages cost $350,000
  - Total repair cost $9,000
  - Inspections with IR in DayCor® revealed nothing

- **Findings**
  - Corona sources were found and pinpointed on a certain phase

- **Action taken**
  - New insulators and corona rings were installed

- **Result**
  - No More Outages
Conclusion

DayCor® Rom inspection is instrumental to comprehensive survey
Case study - Contamination

Problem

- Flashover on 500 Kv transmission line
- Line could not be re-energized for nine hours (9 hours out of service) costing $400,000.

Monitoring

- 1 hour airborne UV inspection
- DayCor® Rom inspection cost $850

Finding

- 4 structures were found with very high corona activity
- 2 structures needed hand wiping

Results

- No More Outages
DayCor®Rom inspection

500KV

CORONA FLIGHT

SEPT 30 2004
Use the DayCor® to determine washing effectiveness
Conclusion

DayCor® products are Non Destructive Testing (NDT) equipment with proven

- Performance
- Cost effectiveness

An indispensable preventive and predictive maintenance tool
Thank You