

# PUTTING THE TOOLS TO WORK OVERHEAD LINE DESIGN TOP ENERGY



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## WHAT TOOLS TOP ENERGY USE

- LINESMARTS
- COLDNET POLE
- CATAN



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# PUTTING IT TOGETHER



# COLDNet

The logo features the word 'COLDNet' in a blue, sans-serif font. The letter 'O' is significantly larger than the other letters. A graphic of a power line with three towers is positioned above the 'LDNet' part of the text.

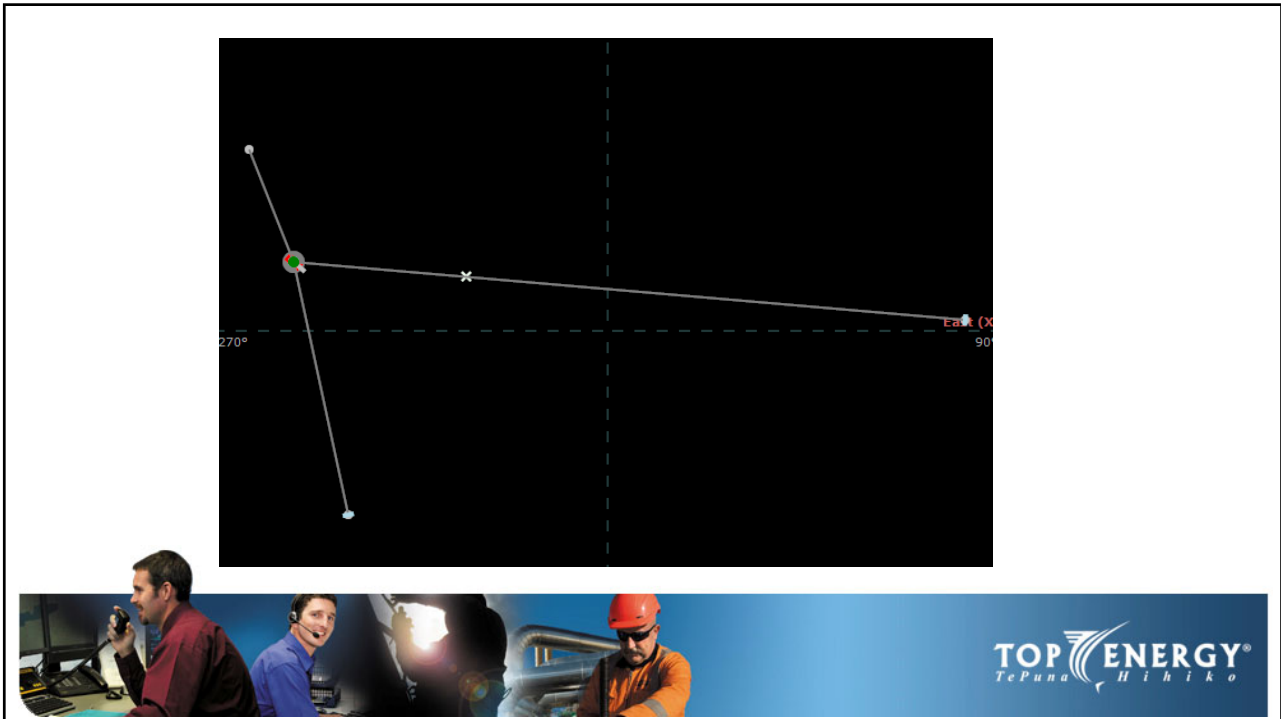
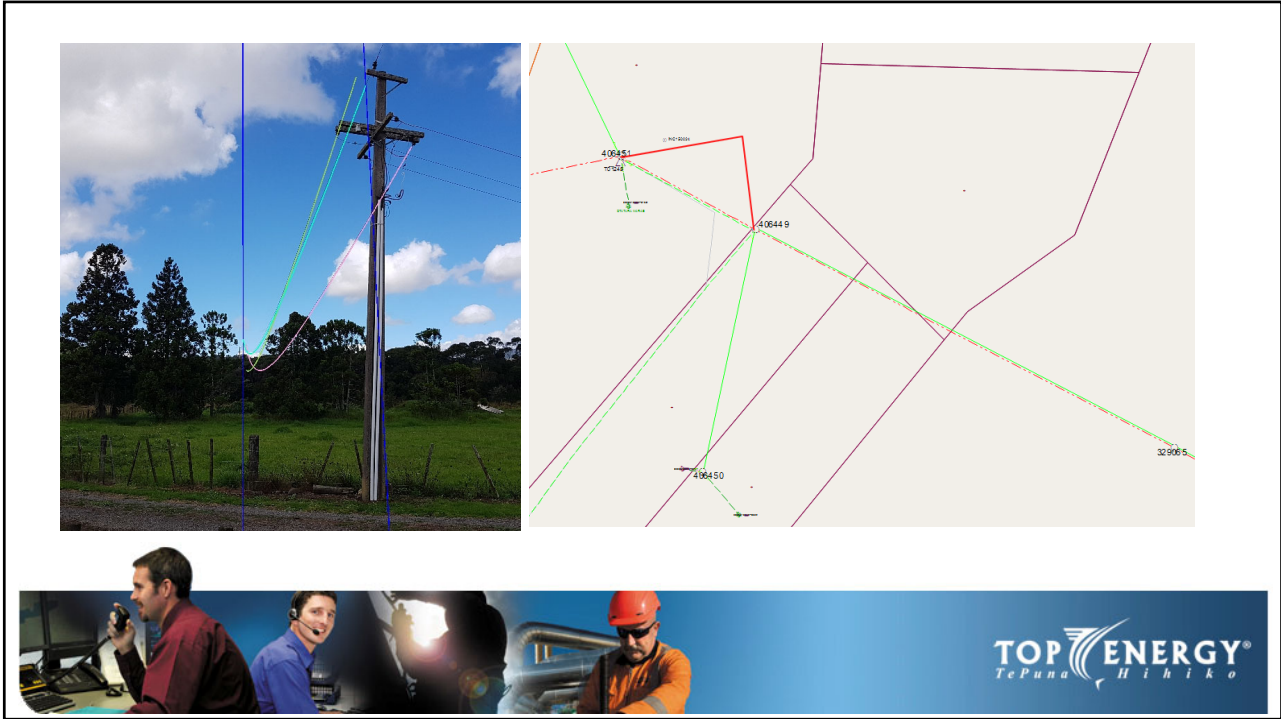
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# LINESMARTS



- Measurements Available
- Who can use
- What you need to use it
- Limitations




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| Show Results   |          |                       |                      |                                     |                                |                                |                              |                           |                      |                 |                    |  |
|--|----------|-----------------------|----------------------|-------------------------------------|--------------------------------|--------------------------------|------------------------------|---------------------------|----------------------|-----------------|--------------------|--|
| <input type="checkbox"/> Tiploads <input type="checkbox"/> Foundations <input type="checkbox"/> Uplift <input type="checkbox"/> Horiz. Midspan <input type="checkbox"/> Vert. Midspan <input type="checkbox"/> Tensions <input type="checkbox"/> Stay Calcs. <input type="checkbox"/> Simple Point Loads <input type="checkbox"/> Complex Point Loads <input type="checkbox"/> Crossarm Calcs. |          |                       |                      |                                     |                                |                                |                              |                           |                      |                 |                    |  |
| Pole Tip Loads   | Loadcase | Nominal Strength (kN) | Pole Strength Factor | Allowable Load Strong (kN)          | Calculated Load Strong (kN)    | Utilisation Strong (%)         | Allowable Load Weak (kN)     | Calculated Load Weak (kN) | Utilisation Weak (%) | Biaxial Bending | Vertical Load (kN) |  |
|  | Max Wind | 43.00                 | 0.72                 | 30.96                               | 30.30                          | 97.87                          | 7.52                         | 6.12                      | 77.22                | 1.75            | 27.64              |  |
|  | Everyday | 43.00                 | 0.30                 | 12.90                               | 9.17                           | 71.06                          | 3.30                         | 2.19                      | 66.23                | 1.37            | 22.56              |  |
| Foundation   | Loadcase | Strength (kPa)        | Strength Factor      | Required Embedment Length Strong    | Actual Embedment Length Strong | Required Embedment Length Weak | Actual Embedment Length Weak |                           |                      |                 |                    |  |
|  | Max Wind | 100                   | 1.5                  | 3.32                                | 3.20                           | 1.38                           | 3.20                         |                           |                      |                 |                    |  |
|  | Everyday | 100                   | 1.0                  | 2.14                                | 3.20                           | 1.00                           | 3.20                         |                           |                      |                 |                    |  |
| Uplift (+ve means uplift)  | Loadcase | Profile               | Crossarm             | Common Crossarm                     | Allowable Uplift (kN)          | Calculated Uplift (kN)         | Calculated Uplift (kN)       |                           |                      |                 |                    |  |
|  | Uplift   | 95°                   | Circuit 1: SWER      | 338° Circuit: ...                   | 0.00                           | 1.018                          | 103.88                       |                           |                      |                 |                    |  |
|  |          |                       | Circuit 2: LV ...    |                                     | 0.00                           | -0.182                         | -18.57                       |                           |                      |                 |                    |  |
|  |          |                       | 168°                 | Circuit 1: LV ...                   | 0.00                           | -0.104                         | -10.60                       |                           |                      |                 |                    |  |
|  |          |                       | 338°                 | Circuit 1: SWER                     | 0.00                           | 0.061                          | 6.21                         |                           |                      |                 |                    |  |
| Mid-span Separation Same Circuit   | Profile  | Circuit               | Actual Value (m)     | Required Value (m)                  |                                |                                |                              |                           |                      |                 |                    |  |
|  |          | Circuit 2             | 0.32                 | 1.15                                |                                |                                |                              |                           |                      |                 |                    |  |
|  |          | Circuit 1             | 0.11                 | 0.51                                |                                |                                |                              |                           |                      |                 |                    |  |
| Mid-span Separation Between  | Profile  | Top Circuit           | Lower Circuit        | Actual Value (m)                    | Required Value (m)             |                                |                              |                           |                      |                 |                    |  |
|  | 95°      | 1                     | 2                    | 3.84                                | 0.83                           |                                |                              |                           |                      |                 |                    |  |
| Conductor Tensions per Wire  | Profile  | Circuit               | Conductor            | Calculated Breaking Load (kN) (CBS) | Allowable Tension (kN)         | Case                           | Calculated Tension (kN)      | Utilisation (% Allowable) |                      |                 |                    |  |
|  | 95°      | Circuit 1             | 6.6 kV SQUIR...      | 7.75                                | 3.875                          | Everyday                       | 0.543                        |                           |                      |                 |                    |  |
|  |          |                       |                      |                                     |                                | Maximum Tem...                 | 0.495                        | 12.8                      |                      |                 |                    |  |
|  |          |                       |                      |                                     |                                | Minimum Tem...                 | 0.557                        | 14.4                      |                      |                 |                    |  |
|  |          |                       |                      |                                     |                                | Max Wind                       | 5.014                        | 129.4                     |                      |                 |                    |  |
|  |          |                       |                      |                                     |                                | Everyday                       | 1.573                        | 40.6                      |                      |                 |                    |  |
|  |          |                       |                      |                                     |                                | Everyday                       | 1.064                        |                           |                      |                 |                    |  |
|  |          | Circuit 2             | LV1 FERRET ...       | 15.20                               | 7.600                          | Everyday                       | 1.064                        |                           |                      |                 |                    |  |

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### Support measurement

**Survey info**

- Left support ID <empty>
- Right support ID <empty>
- Notes <empty>
- Creation date 2021-03-31 10:49
- Surveyed temperature (°C) 21.1
- Span (m) <empty>

**Support measurement**

- Support ID <empty>
- Notes <empty>
- Pole Height (m)** 4.466
- Lean (°) 0.232
- Notes <empty>
- Pole top Diameter (mm)** <empty>
- Notes <empty>
- Pole base Diameter (mm)** <empty>
- Notes <empty>
- Crossarm 1 Height (m)** <empty>
- Width (m) <empty>
- Notes <empty>
- General 1 Length (m)** <empty>
- Horizontal length (m) <empty>
- Vertical length (m) <empty>
- Lean (°) <empty>
- Notes <empty>

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# QUESTIONS

