Insulators &Energized Zones

Suzanne Brzoznowski and Michaela Suski
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POWER LINE SYSTEMS
Part of Bentley Systems

Agenda

What are insulator energized zones?

Display Options

Structure Clearances

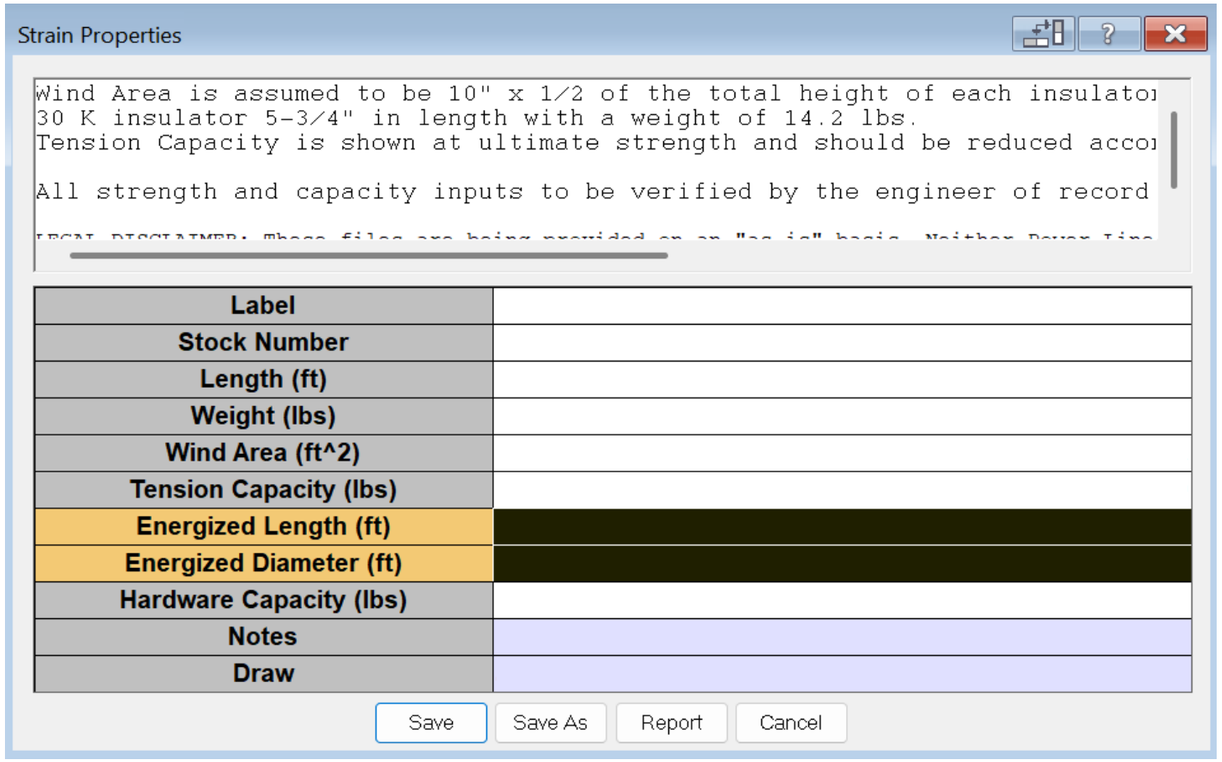
Future proposals

What are insulator energized zones?

What are insulator energized zones?

Strain Insulators

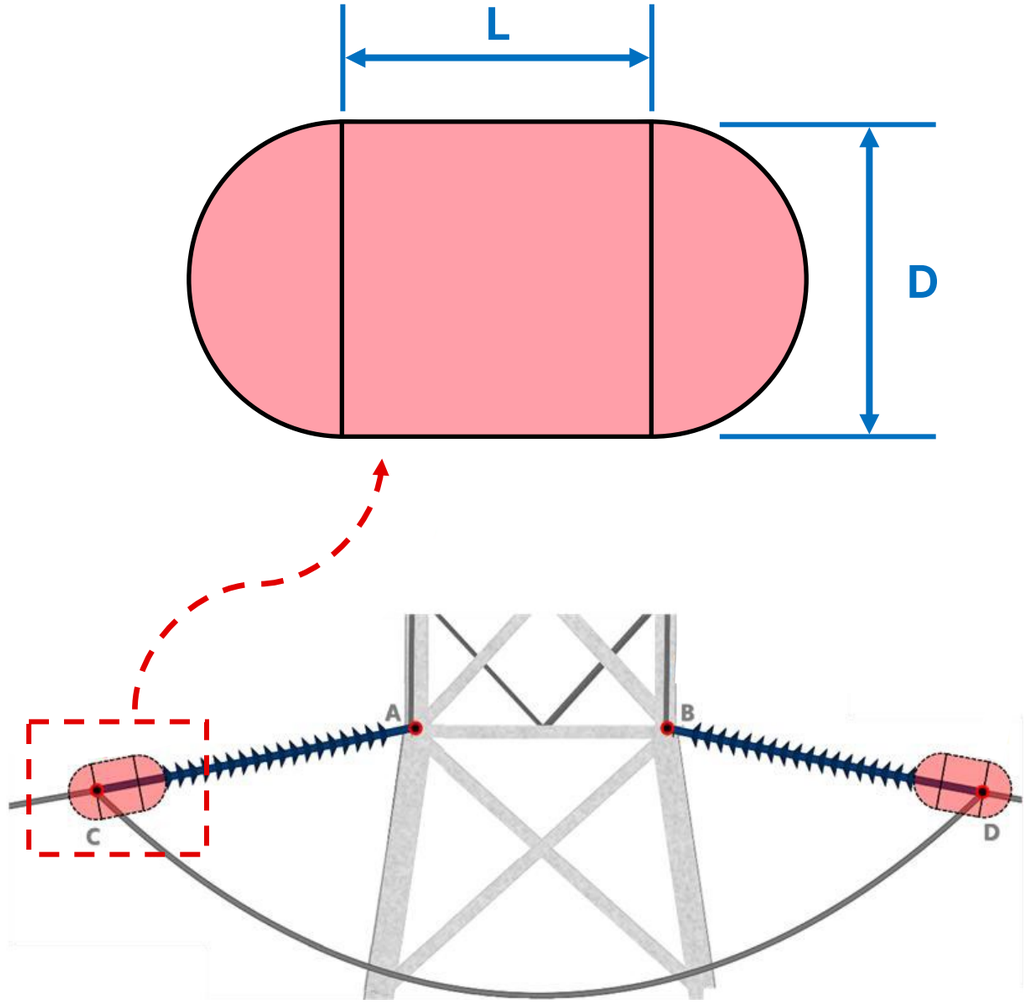
- *Components/Insulators/Strain Properties…*
  - Energized Length
  - Energized Diameter



What are insulator energized zones?

Strain Insulators

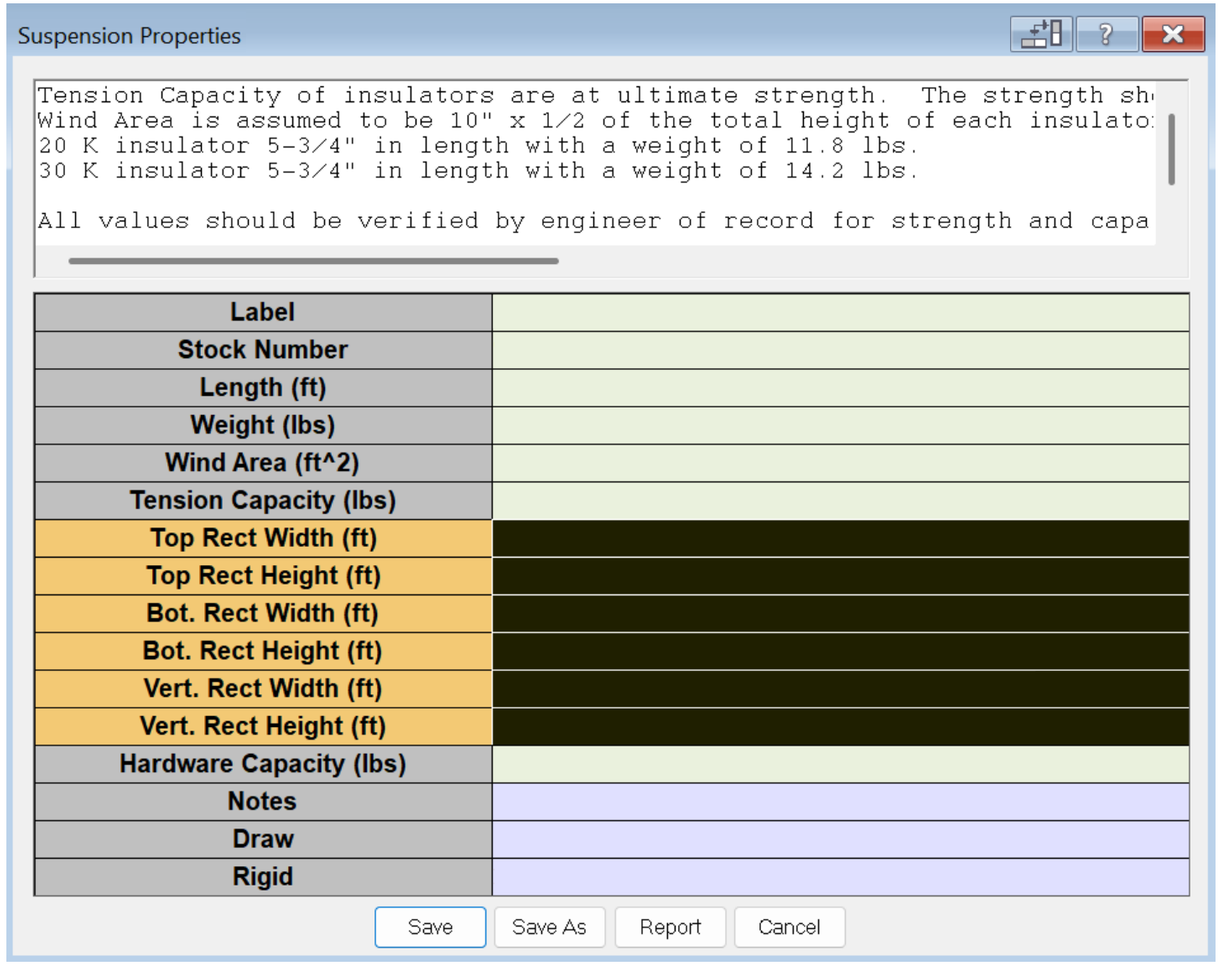
- *Components/Insulators/Strain Properties…*
  - Energized Length: **L**
  - Energized Diameter: **D**
- Energized cylinder with spherical ends
  - 3D
  - Only used in PLS-CADD



What are insulator energized zones?

Suspension Insulators

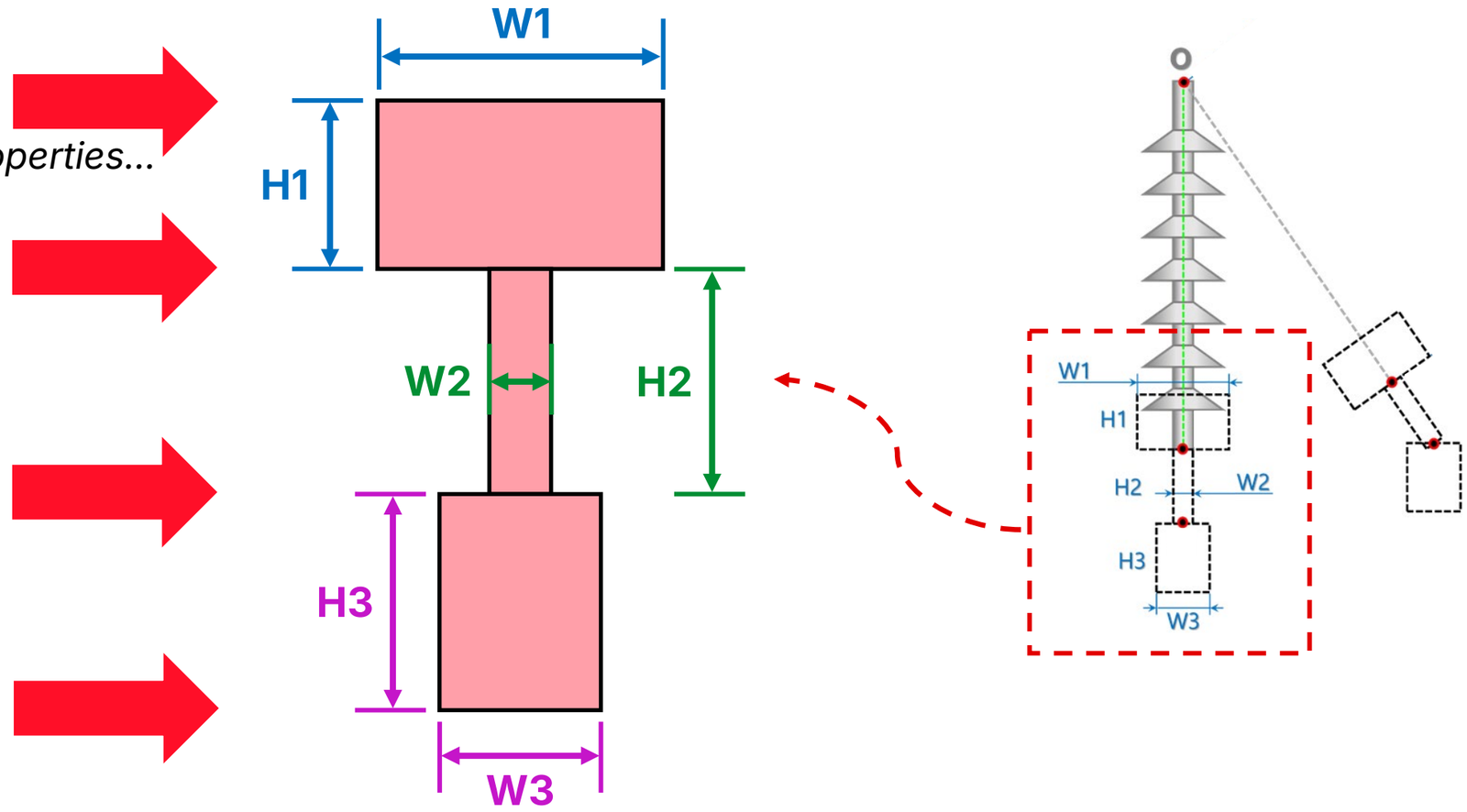
- *Components/Insulators/Suspension Properties…*
  - Top Rectangle Width
  - Top Rectangle Height
  - Bottom Rectangle Width
  - Bottom Rectangle Height
  - Vertical Rectangle Height
  - Vertical Rectangle Height



What are insulator energized zones?

Suspension Insulators

- *Components/Insulators/Suspension Properties…*
  - Top Rectangle Width: **W1**
  - Top Rectangle Height: **H1**
  - Bottom Rectangle Width: **W2**
  - Bottom Rectangle Height: **H2**
  - Vertical Rectangle Height: **W3**
  - Vertical Rectangle Height: **H3**

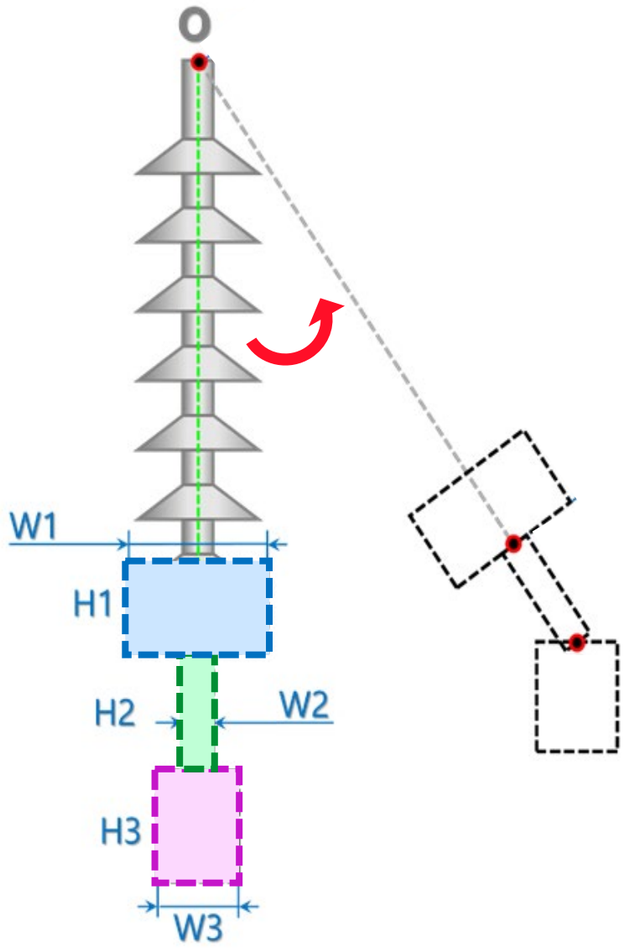


What are insulator energized zones?

Suspension Insulators

- *Components/Insulators/Suspension Properties…*
  - Top Rectangle Width: **W1**
  - Top Rectangle Height: **H1**
  - Bottom Rectangle Width: **W2**
  - Bottom Rectangle Height: **H2**
  - Vertical Rectangle Height: **W3**
  - Vertical Rectangle Height: **H3**
- Energized rectangles
  - 2D
  - Only used in PLS-POLE and TOWER

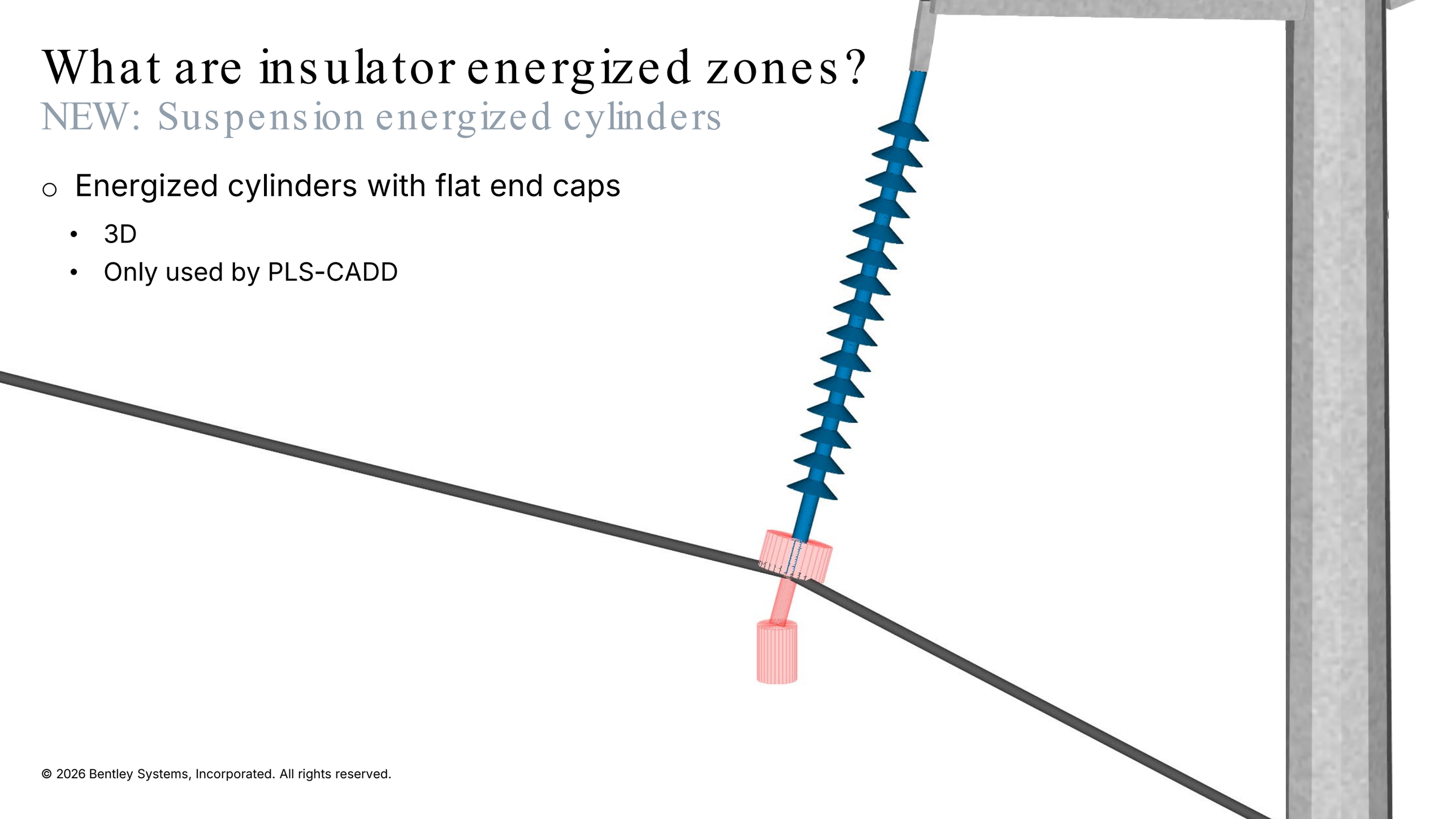
Until now…



What are insulator energized zones?

NEW: Suspension energized cylinders

- Energized cylinders with flat end caps
  - 3D
  - Only used by PLS-CADD



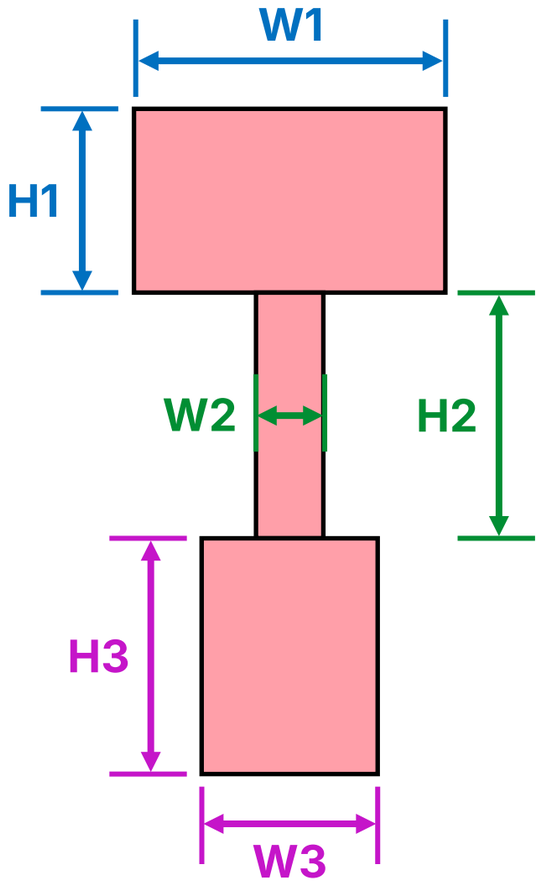
What are insulator energized zones?

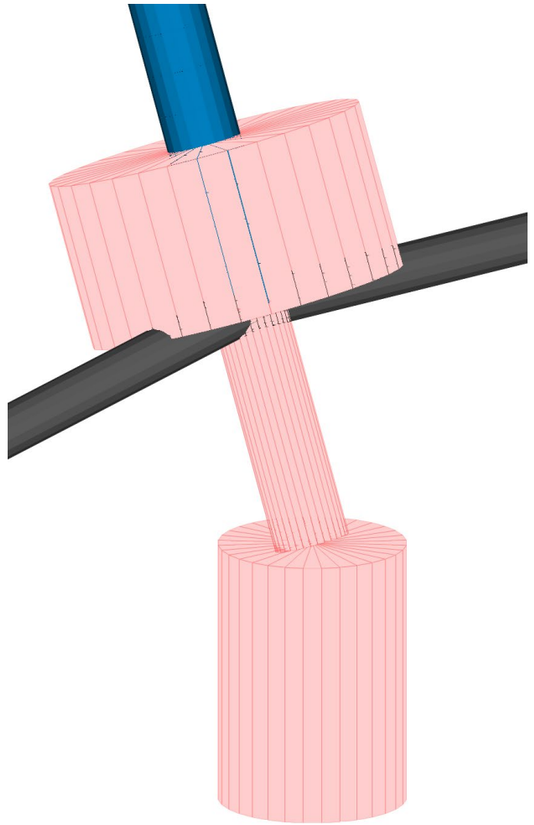
NEW: Suspension energized cylinders

- Dimensions defined in PLS-POLE/TOWER
  - *Components/Insulators/Suspension Properties…*

Top Rect Width (ft)	0.85
Top Rect Height (ft)	0.45
Bot. Rect Width (ft)	0.2
Bot. Rect Height (ft)	0.65
Vert. Rect Width (ft)	0.5
Vert. Rect Height (ft)	0.7

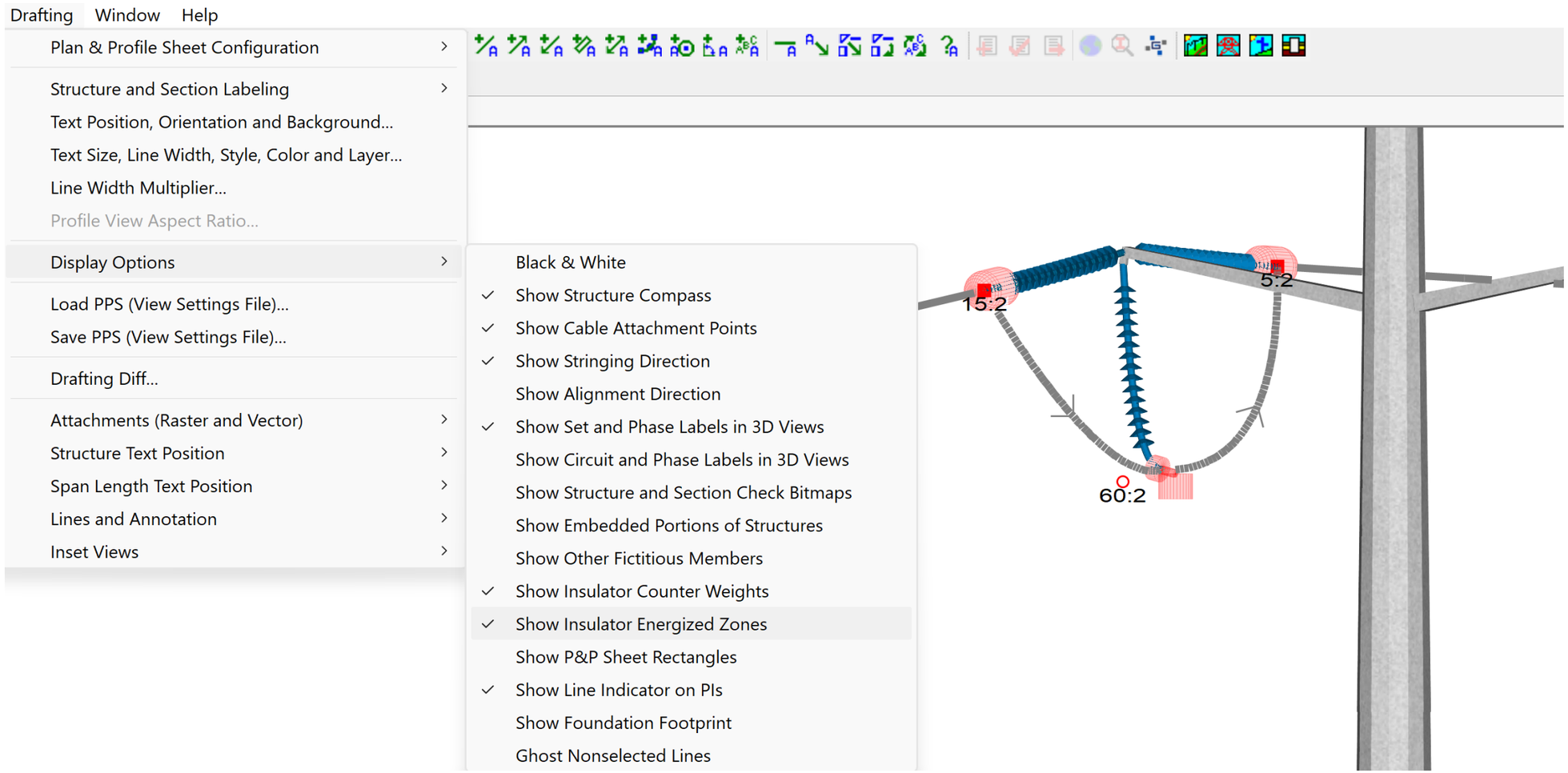
  - Rectangle width = cylinder diameter
  - No separate inputs in PLS-CADD



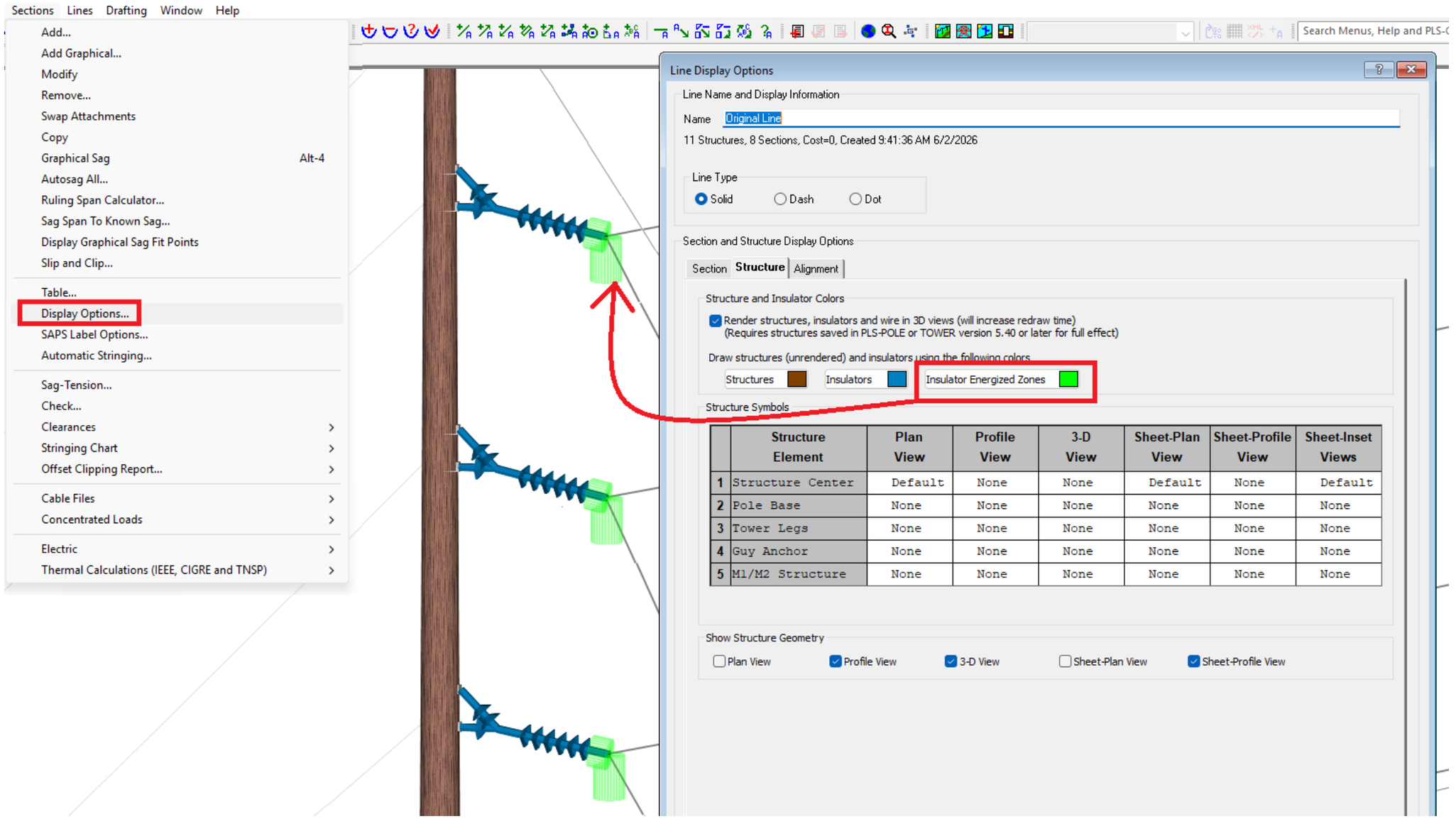


Display options

Display options



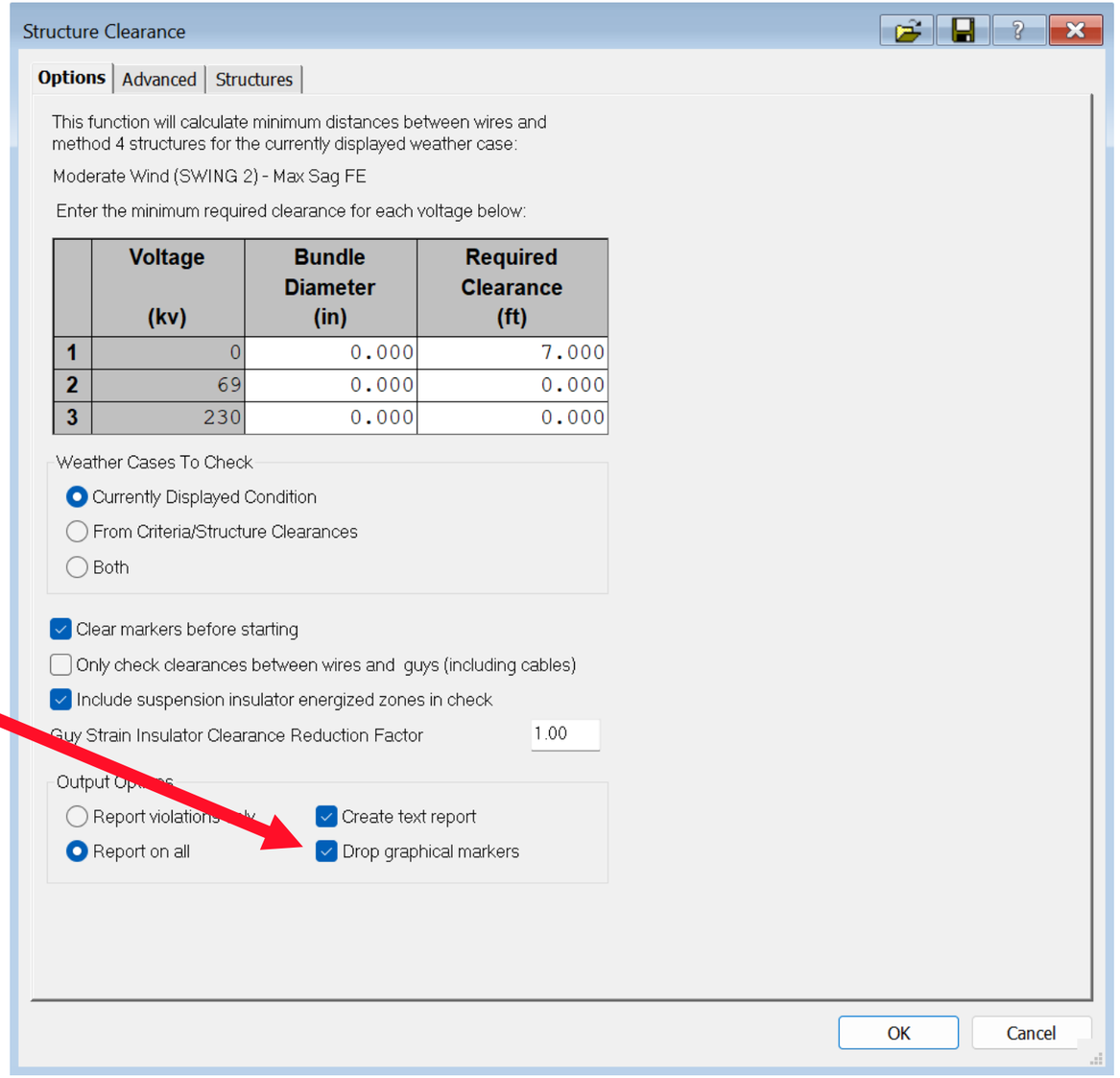
Display options



Structure clearances

Structure clearances

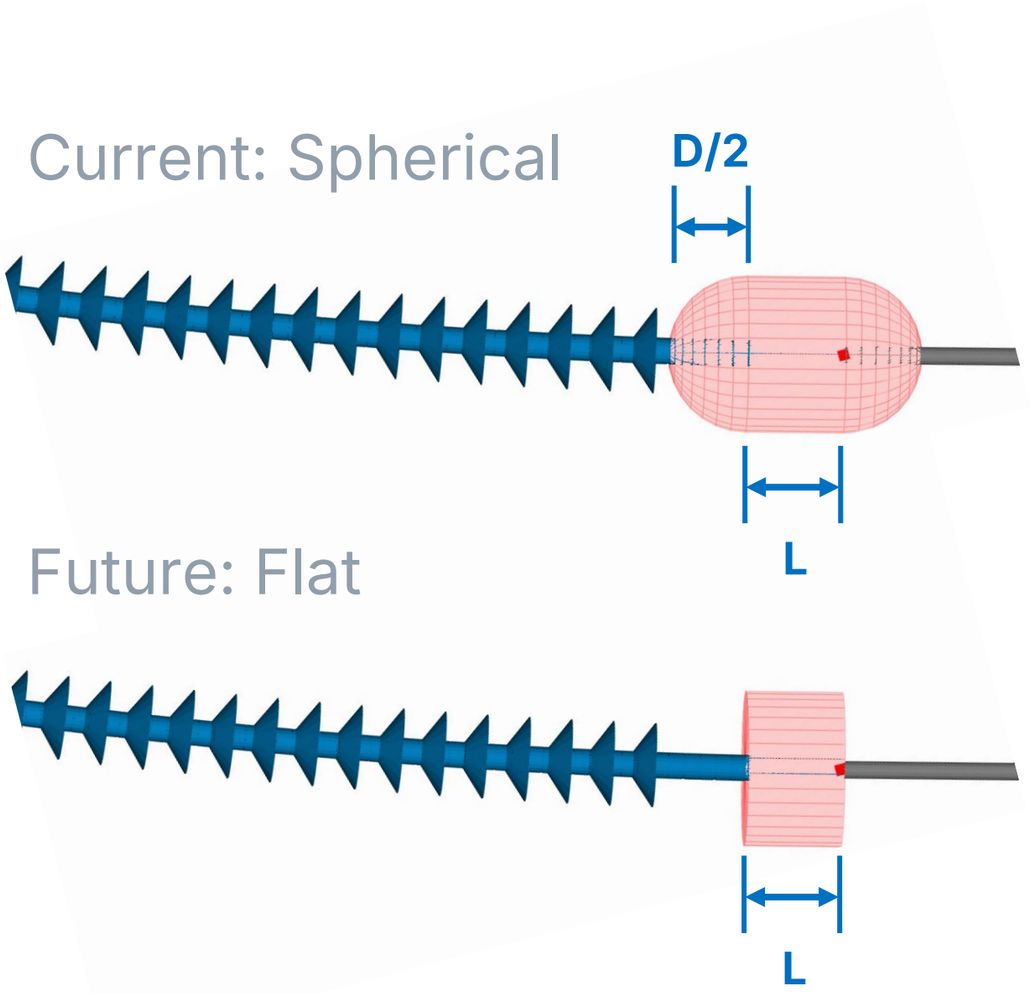
- **Lines/Reports/Structure Clearances**
  - Must check “Include suspension insulator energized zones in check”
  - “Drop graphical markers” will toggle on **Drafting/Display Options/Show Insulator Energized Zones** temporarily

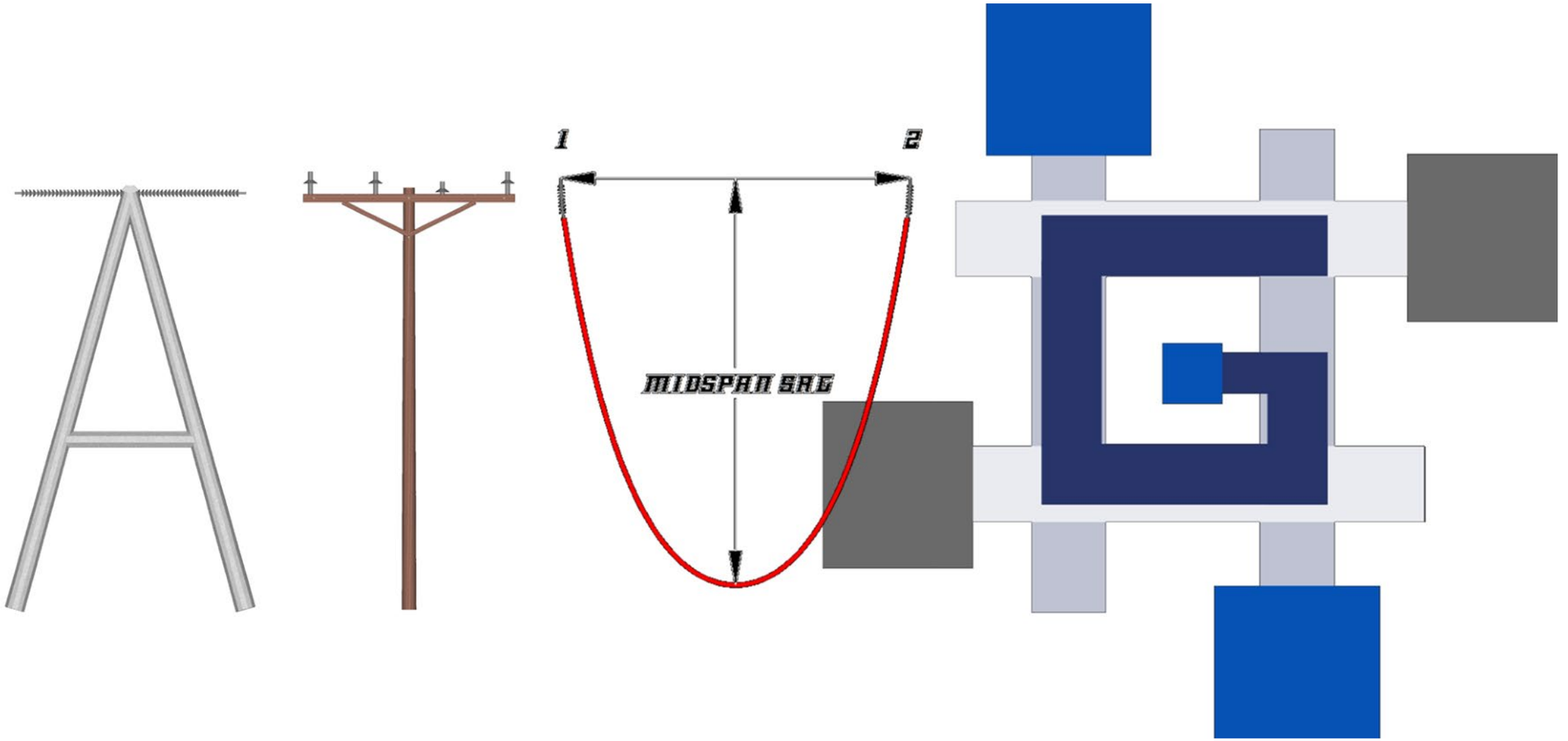


Future proposals

Future proposals

- Flat end cap option for strain insulator energized zones
- Extend energized zones to other insulator types
  - Lambda insulators
  - Double suspension insulators
  - 2-part insulators





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