

March 7th 2003 Sun Valley Workshop Agenda and New Feature Summary

Friday March 7 th	
8:00 - 10:00	<p>Producing Final Plan & Profile Drawings from PLS-CADD</p> <p>New drafting features and plotting final drawings directly from PLS-CADD without passing through other CAD systems</p> <p>Eric Peyrot and Otto Lynch - Power Line Systems, Inc.</p>
10:00 - 10:15	Break
10:15 - 12:00	<p>Finite Element Modeling of Transmission Lines</p> <p>See how Finite Element modeling more accurately models transmission lines for practical applications.</p> <p>Steven Weber, Eric Peyrot, and Otto Lynch- Power Line Systems, Inc.</p>
12:00 - 1:00	Lunch
1:00 - 2:45	<p>What's New in PLS-CADD, PLS-POLE, and TOWER</p> <p>Be the first to know the latest developments!</p> <p>Eric Peyrot and Otto Lynch - Power Line Systems, Inc.</p>
2:45 - 3:00	Break
	<p>USGS Data in PLS-CAD</p> <p>Use readily available digital data for preliminary line designs.</p> <p>Otto Lynch - Power Line Systems, Inc.</p>
3:00 - 4:30	<p>Roundtable Discussion</p> <p>This is your chance to have the floor!</p> <p>Eric Peyrot and Otto Lynch - Power Line Systems, Inc.</p>
4:30 - 5:00	Wrap Up and Socializing



Summary of Improvements between March 2002 and March 2003

Interface improvements

- Internet update (updates not sent as email attachment)
- New user's manuals (PLS-POLE, TOWER and PLS-CADD)
- Help system including on-line manual, context sensitive help and topic search
- Help/Download alternate language (French and Spanish menus and dialogs, French manuals)
- Tables have XML export and "Copy with Column and Row Headings" options.
- Right click in reports to export to table, ODBC or XML
- Can now insert page breaks in reports by pressing Ctrl-Enter (requires Windows ME, 2K or XP)
- Removed limit on maximum number of parts and assemblies (previously limited to 6000)
- New code optimizations for approximately 25% speed improvement for computationally intensive operations.
- Detect Intel Hyper-Threaded processors (3Ghz and faster P4) and adjust algorithms to avoid huge performance hits. These pretend to be multi-processors but run our multi-processor structural analysis and clearance code 75% slower than our single processor code.

On-line library

- PLS-POLE ANSI O5.1-2002 wood pole library (all common species)

PLS-CADD Interface Improvements:

- Section/Display options, Section/Modify and Section/Graphical-sag weather case combo boxes now allow manual entry of a temperature (no need to create weather case in advance).
- Terrain/Edit/Deactivate-delete now gives AND/OR option for feature code criterion.
- TIN creation and break line insertion performance improved (over 10 times faster on big projects)
- Structure/Move-on now has option to snap to point where insulator attaches to structure.
- Stringing chart option for feet-inches rather than decimal feet
- Following reports are now customizable: PI report, loads report, sag-tension report, offset clipping report, summary report, section usage.

PLS-CADD Engineering Improvements:

- Interactive clearance to structure command (Sections/Clearance To Structure)
- Limits on the amount of compression in outer strands of an ACSR (Criteria/ACSR cable model)
- Offset clipping routines modified to accommodate temporary snubs and to allow stringing through dead ends.
- Finite element based multi-span sag-tension (requires SAPS)
 - Scenarios that finite element sag-tension can accommodate (ruling span can't)
 - Horizontal tension imbalances
 - Differential ice loading, partial span icing
 - Broken conductors
 - Moving structures or attachments with fixed wire length in each span
 - Cutting/splicing wire, shifting wire from one span to another
 - Insulator weight and flexibility, structure flexibility
 - Matching LIDAR surveys
 - Recent finite element improvements
 - Faster analysis and drawing
 - Improved convergence
 - New graphical sag options to match surveyed wire
 - Nonlinear wire properties (initial curve, limits on compression)
 - Option to display a load case (broken conductor, unbalanced ice...)
 - Option to prune L4 TOWER models down to joints that move (swing brackets...)
 - Stringing chart option to generate with or without concentrated loads applied (pre or post marker ball)

PLS-CADD Drafting Improvements:

- Sections/Display options has option to apply texture (wood grain, concrete, steel) to structures (requires PLS-POLE 5.41 or TOWER 5.22 or newer structures)
- Feature code symbol color, line width, size and the symbols themselves can now be customized.



- New "View/Display Options/Text size, line width, color, style and layer" gives much more control over appearance of lines and text than was previously available.
- Added option to locate structure text outside the profile view (Drafting/Scales)
- Can create a block of section information on sheets
- Added "Arrow From", "Arrow To" and "Dimension" annotation types.
- Annotation line style, pen thickness and text justification can now be controlled
- Tick marks at low point in span, wire labeling (View/Display Options/Sheet View Structure labels)
- Insulator counter weights now shown in profile, 3d and sheet views and listed in line/report/summary and line/report/staking-table.
- Imagery resolution, brightness and transparency can be changed in Drafting/Attachments/Image attachment options (formerly these settings were in the F1 menu and were not saved with project)
- Added support for 32bpp BMP images.
- Switched to new TIFF library. Allows use of newer TIFF formats and larger images.
- Transparency can be controlled independently for each image
- Improved sheet cutting- reduces unnecessary profile breaks

Recent PLS-POLE and TOWER Improvements

Interface

- Multi user file locking (makes files read only if some other user currently editing them)
- File/Apply Insulator Configuration command allows copying of insulators and PLS-CADD link from the current model to one or more other files.
- File/Backup now has option to include multiple models in .BAK file
- Automatic backup of library components used (protection against library deletion)
- Texture structure components (wood grain for wood elements, different texture for steel/concrete)
- Distance between joints now gives vertical angle between joints (lightning protection)

Engineering

- PLS-POLE can analyze/design base plates as per pending 2002/2003 revision of ASCE 72
- Can now input stiffness for post insulators and check cantilever strength
- TOWER now supports IS802 (India) for member and connection capacity calculation
- PLS-POLE now has an ANSI O5.1-2002 option (reduction in wood pole fiber stress with height)
- File/Analyze Multiple Models command for running batch of PLS-POLE or TOWER models
- TOWER equipment now has ice area field so TIA/EIA 222 users can apply ice automatically
- EIA loads can now include load case specific joint displacements and/or rotations
- TOWER "Model/Create Group Summary Super Set" command for creating group summary with the maximum forces from multiple models (good for summarizing results over family of towers with different leg and body extensions)
- TOWER "Model/Create Foundation Reactions Super Set" command for creating summary of foundation forces from multiple models.