



November 28, 2018

(rev. 1)

Release Notes for tnxTower Version 8.0

This document describes Version 8.0 of tnxTower. Please contact TNX Support at support@towernx.com if you need update instructions.

New Features and Bug Fixes

v. 8.0.5.0

1. Added consideration of target reliabilities in accordance with TIA-222-H, Annex S. (TIA-222-H)
2. Added the Individual Lines Feed Line Cluster Treatment for monopoles under TIA-222-H. (TIA-222-H)
3. Corrected calculations for poles with linear attachments. Previously, some feed line configurations and their impact on the pole force coefficient C_f were not properly considered. (TIA-222-H)
4. Adjusted calculations for pole attachments located at the point where the Windward, Leeward, and Lateral zones meet to ensure that such attachments are excluded from the R_w ratio calculation. (TIA-222-H)
5. Corrected calculations of P_n and T_n for polygonal poles. Previously, the P_n calculation did not include the F_y limit on the $F'y$ value. In the T_n calculation, the flat-to-flat width was determined incorrectly, which impacted the calculated C_t value. (TIA-222-H)
6. Corrected a problem with User Forces data omission. Previously, in scenarios where some of the input rows were disabled, the program might not include all active rows in forces applied to the structure.
7. Corrected calculations of the torsional constant J for square and rectangular tubes.
8. Corrected calculations of M_n for square and rectangular tubes. (TIA-222-G and H)
9. Corrected calculations of M_n for channels. (TIA-222-G and H)



10. Changed calculations of bolt strengths for some default grades. Previously, the program used database rather than hard-coded strength parameter values. (TIA-222-G and earlier)
11. Increased the number of input entries on the User Forces page.
12. Corrected the Risk Category description on the Material Take-Off page. Previously, an incorrect or no category identifier was displayed for Risk Category IV. (TIA-222-H)
13. Corrected the location description on the Material Take-Off sheet. Previously, an incorrect location might be shown under TIA-222-H, if the model was generated under a Standard earlier than TIA-222-H with the Use County/State Lookup option selected. (TIA-222-H)
14. Added a notification alerting the user when a file being opened was saved by a different version of the program and analysis results exist.

v. 8.0.4.0

1. Corrected shear capacity calculations for pipes. (TIA/EIA-222-F and earlier, CSA S37-01)
2. Corrected occurrences of superfluous characters in the analysis and design report, which might be generated for some feed line configurations.
3. Increased the number of input rows on the User Forces page.

v. 8.0.3.2

1. Added seismic data input on the User Forces page. (TIA-222-G, H)
2. Added seismic load combinations. Currently, these load combinations only use data entered in the Seismic section of the User Forces page. (TIA-222-G, H)
3. Revised the treatment of feed lines attached to Upper Structure poles on top of Base Towers. Such feed lines are now considered also when specified with the Surface Component Type. Previously, the Surface Component Type was considered for monopoles only. (TIA-222-G, H)
4. Added an option on the Feed Lines page to exclude individual feed lines from the global torque calculation.



5. Added an option to ignore the KL/ry ratio of schifflerized angle and 60 deg. bent plate legs in staggered bracing patterns. (TIA-222-G and earlier, CSA S37-01)
6. Added the ability to set custom utilization ratio limits, using the Stress Ratio For Wind and Safety Factor For Guys settings on the Code page. (TIA-222-G, H, CSA S37-01)
7. Added a force and moment diagram for seismic loads on the Material Take-Off screen.
8. Corrected exported tower base dimensions in the tnxFoundation data transfer file for models in the metric unit system.
9. Changed the wording of some labels in the Design group on the Code page for consistency reasons.
10. Increased the length limit for text strings entered as Additional Notes on the Material Take-Off screen.

v. 8.0.2.1

1. Corrected Cf calculations for poles with linear attachments. Previously, the program might report incorrect, larger Cf values. (TIA-222-H)
2. Adjusted Ca calculations for flat feed lines with aspect ratios less than 25.
3. Corrected Ca calculations for flat feed lines under the metric system.
4. Corrected calculations of global torsion due to feed lines. (TIA/EIA-222-F and earlier)
5. Corrected calculations of global torsion due to feed lines for monopoles for service load combinations.
6. Corrected calculations of the Rooftop Wind Speed-Up Factor, Ks. Previously, the Base Elevation input was not considered in the determination of different Ks zones on a tower. (TIA-222-H)
7. Modified and clarified calculations of the coordinates in the Feed Line Center of Pressure table. Previously, the coordinates were output as zeros for some tower types.
8. Eliminated the KL/r(y) consideration for schifflerized angle and bent plate legs with K Brace Left and L Brace Right bracing (staggered bracing patterns). This change



makes the design consistent with the requirements stipulated in Table 4-3 of the Standard. (TIA-222-H)

9. Corrected calculations of grouted pipe strengths. Currently, grouted pipe members generate an error in the design stage. (TIA-222-H)
10. Corrected the sign of overturning moments applied as point loads in models exported to RISA-3D. Previously, the moments in exported models had an incorrect direction. This problem affected only exported models, on the RISA-3D side.

v. 8.0.1.0

1. Added support for the TIA-222-H Standard, except for Section 2.7, Seismic Load Effects. Section 2.7 will be implemented in a future release of the program.
2. Corrected application of wind loads associated with feed lines on lattice towers. Previously, for some feed line configurations, the program might underestimate reactions, displacements, and member forces.
3. Modified generation of feed line eccentric loads for all Feed Line Cluster Treatment settings to more accurately model global torsional effects.
4. Adjusted calculations of wind forces on monopole feed lines to better reflect line spacing parameters.
5. Corrected calculations of areas (A_E), forces (F), and overturning moments (OTM) reported in the Tower Forces tables.
6. Corrected interpolated values of the wind direction factor for flat structural components, D_f , for certain wind directions.