

Release Notes for RISATower Version 4.5

April 12, 2006

This document describes the enclosed Version 4.5 update for RISATower. There are many feature additions in this version, as well as many smaller improvements. Please install this upgrade at your earliest convenience.

Upgrade Instructions – Stand Alone Copies

If you are upgrading the program, you will need to install the program first. After the installation has been completed you will need to update your hardware key(s) using the Remote Update Service (RUS) password code. This code is contained in the enclosed Installation Information Sheet(s). Please refer to the *Stand Alone Installation Instructions.pdf* file, part B, Option #2 for more information.

Upgrading From the Network Version of 4.0

Before installing version 4.5, please take a moment to review the enclosed Network Installation Instructions. If you are upgrading an existing network version, the instructions normally require you to perform only parts A, B, and C. For this upgrade, however, you will also need to update your hardware key as described in part D of the Network Installation Instructions. The key update must be performed with the new 2.1 version of the RISA Key Manager utility which is installed during part A. This key update must occur BEFORE you attempt to load the new license (Part B4 of the Network Installation Instructions). This is a onetime update needed to establish compatibility between the key and the newer version of Sentinel LM that we are now running.

Documentation

RISATower manual will be installed in \Program Files\RISA\RISATower\Manuals directory. Hard copies will be made available to those who request them.

New Features and Enhancements

Changes affecting TIA-222-G Revision only

1. In accordance with TIA-222-G feed lines may no longer be treated as structural components for calculation of solidity ratio and wind forces. Provisions of Section 2.6.9.2 - Design Wind Force on Appurtenances have been implemented.
2. Input/calculation of shielding factor Ka added. The program now automatically computes Ka values for Feed Lines and Discrete Loads. Alternatively, users may input arbitrary values manually.

3. Feed Line input is diameter/width or CaAa based. The program calculates the Ka and Ca values for single row and cluster configurations. Ka values used and associated feed lines are included in the input/output report.
4. State and county database of design criteria added. The database includes values based on the three-second gust reference wind speed (Annex B) and on revised ice thickness maps (Appendix 1).
5. Gust effect factor Gh manual input has been added. It is now possible to assign an arbitrary value to the base tower, and to the upper structure and antenna pole (if present). Forces on guys are associated with $Gh = 0.85$, regardless of input mode or values.
6. Output for multiple Gh values (base tower, upper structure, antenna pole – as applicable) added.
7. Wind load pattern generation suppression switch added.
8. Fixed load pattern generation problem for certain self-supporting towers and for guyed masts 450 ft. tall or shorter.
9. Corrected force coefficient Ca calculations for appurtenances for loading conditions including ice.
10. Corrected round element reduction factor Rr calculations. In some circumstances the Rr values used by the program were constant (independent of the solidity ratio) and equal to 0.57 and 0.36 for subcritical and supercritical flow, respectively.
11. Revised force coefficient Cf calculations for monopoles in accordance with Table 2-7.

Changes affecting all Revisions of TIA-222

12. Added new toolbar with Input/Edit Tower Data, Run Solution, and View Reports buttons.
13. Fixed ice thickness calculations. Under some conditions the program used incorrect ice thickness for solidity ratios, and consequently, force coefficients Cf, and round element reduction factors Rr.
14. Fixed display of displacements (Show Deformed Geometry pop-up option, Geometry page) to allow dynamic switching between different load combinations.

15. Fixed incorrect redundant bracing force calculations for three-sided towers. The program now increases the required bracing member's capacity to account for its axis being 30 deg. off the leg's buckling plane.
16. Added miscellaneous internal optimizations.