Release Notes for RISA-3D v10

Version 10.0.1 Enhancements/Corrections

Enhancements

- Enhanced performance on 64-bit operating systems to allow use of up to 4 GB of memory.
- Added spacing and minimum steel reinforcement area checks for concrete walls.
- Added Seismic Design Rule selection to the member double click dialog.
- Added ability to do concrete member design for overstrength load combinations.
- Added automatic flipping of gravity loads and diaphragms to the Switch Vertical Axis tool in the Tools menu.
- Added the calculation of Cv for shear capacity of single angles for the AISC 14th Edition.
- Principal axis notation was added to the detail report for aluminum single angles.
- Added detail report warnings for members and wall panels when these elements are not considered for overstrength load combinations.
- Enhanced spreadsheet behavior so that column widths will be remembered when they are updated.
- Simplified database shape comparisons to reduce program start-up time.
- Updated the Draw Wall Panels dialog to remember a previous action.
- Updated the program to account for story shear in the Seismic Detailing Panel Zone shear demand calculations.
- Updated saving results behavior when working in linked programs so that clicking the Save Results button once will save the results for all linked programs.
- Updated the Copy Rotate tool default settings and updated the Status Bar to better prompt the user.
- Added validation to confirm that all Design Rules are valid upon opening a model.
- Changed member detail reports to show AISC-style report when AISC design is used. This happens when foreign codes are unclear on provisions.
- Updated the model deflected shape to now include solid elements. Previously when viewing the deflected shape the solids were not visible.
- Updated wood wall header output to state whether the header is controlled by bending or shear.
- Added a restriction on single angles such that "depth" leg cannot be shorter than "width" leg.
- Renamed AISI NAS-07 to S100-07 based on code naming conventions.
- Removed the upper limit of 3.0 on Cb for bending capacity for the AISC 14th Edition.
- Removed moment magnification for the ACI 318-08 code, as a P-Delta analysis is required.
- Removed a limitation on rebar Fy on the Concrete tab of the Materials spreadsheet and added a warning for ACI codes when rebar Fy exceeds allowable.
- User-defined wall panel boundary conditions are now consistent across masonry, concrete, and general wall types.
- Made the calculation of the total seismic weight consistent between the Spectra Scaling Dialog and the Insert Seismic Loads dialog. Both now compute any load between the diaphragms (or base and 1st floor diaphragm) based on the distance of the load to the floor or base.
- Removed Ltorque from the bending capacity calculations for AISC 13th and 14th editions. Ltorque now only affects axial capacity calculations.
- Changed column Euler buckling slenderness violations of AISC 341 Seismic Detailing from a failure to a warning.
- Updated shear panel optimization and hold-down selection in wood walls to be based on wall design rule's Max Shear Check and Max Bending Check respectively. Previously this value was always taken as 1.0.
- Updated masonry design for both ASD and Strength so that the Wall Design Rules - Max Shear Check column works properly. Previously it was assumed that the maximum shear check was always 1.0.
- Updated the M2 calculation for out of plane design of concrete walls so that there is an interior and exterior value. Previously the maximum value was being used in both instances.
- Updated the calculation of the M2 moment for concrete wall panels at each section along the height of the wall. Previously it was taking maximum M2 moment at any place along the height of the wall and using it for every section.
- Updated Chilean Steel database per Acero Diseño Estructural Manual – Segunda Edicion

Corrections

- Corrected an issue with network license validation that could cause a slow down with the user interface.
- Corrected an issue where network client computers could not find databases when launching the program in demonstration mode.
- Corrected the bending capacity of double angles in the AISC 14th Edition.

- Fixed an issue in the ASCE 7-10 Seismic Global Parameters where Omega and Rho could not be anything other than 1.0.
- Fixed a unit conversion issue with the Material Take Off output so that the volume of concrete is only based on the density unit.
- Corrected a problem where wall panel stiffness was incorrectly overestimated when using metric units due to a unit conversion error.
- Fixed a problem with the load meshing for flexible diaphragms that would produce error code 2136.
- Fixed the Load Combination Generator so that the notional load direction will always be the same as wind load direction for an individual combination.
- Fixed a metric units problem with masonry lintels where check to make sure that the reinforcement fits within the member geometry was not working correctly.
- Fixed the flexible area load attribution in a RISA-3D under RISAFloor model so that inactivated members do not have load attributed to them.
- Fixed an issue with the calculation of the tributary area of double angle members for Open Structure area loads.
- Corrected a load attribution issue with area loads and metric units not matching the same attribution as imperial units, although total load was still correct.
- Corrected an issue where concrete columns in tension would not design shear reinforcement spacing in the center span region.
- Fixed the display of incorrect governing equation numbers for bending capacities on flat aluminum plates in the detail reports.
- Corrected an issue where the Web Yielding limit state could be overestimated in the continuity plate checks of the Seismic Design results.
- Corrected an issue where the phi factor was not being applied for Web Buckling calculations within the Seismic Design results.
- Updated an issue with wood wall panel optimization where having multiple design rules could cause an individual wall to be designed to a different wall design rule.
- Fixed an issue with masonry walls where the stiffness was not being reset when you make a change in the Wall Design Rules spreadsheet.
- Fixed multi-story wood walls in RISA-3D only models so that you would get results for all regions.

Version 10.0.0 Enhancements/Corrections

Enhancements

- Added AISC 360-10 (14th Edition) ASD and LRFD code checks for hot rolled steel members.
- The AISC Database has been updated to include new shapes in the 14th Edition AISC Manual.
- Added ASCE 7-10 to the Wind / Seismic Load Generation and to the Load Combination Generator.
- Added ACI 318-11 code checks for concrete members.
- Added a "Threshold Torsion" check for concrete beams.
- Added ability to assign openings in concrete wall panels.
- Added a user defined torque length to the design properties for AISC 360-05 (13th Edition) and the AISC 360-10 (14th Edition).
- Added Canadian Parametric Design Spectra per NBC 2005 to the Response Spectra Library.
- Added CSA S136-04 code checks for cold formed steel members.
- Added CSA S136-07 code checks for cold formed steel members.
- Added the location of demand and capacity points on interaction diagrams for concrete walls.
- Added a Tools-Preferences option to add the individual Load button options back to the Data Entry Toolbar.
- Added a Copy Offset tool.
- Added Load Combination Generation files for the Saudi SBC 301-2007 code.
- Added the ability to print Response Spectra and Moving Load input data.
- Added tension code checks for Aluminum single angles.
- Added hydrostatic loads to the circular tank generation utility.
- Added the ability to click a joint to define the origin of the copy-rotate or move-rotate commands.
- Added the ability to flip local axes of Wall Panels without flipping the opening locations.
- Added the ability to print section properties from the Shape Database dialogs.
- Added optional ability to copy headers with spreadsheet data. (Optional based on a Tools-Preference setting.)
- Expanded the Torsional Buckling / Flexural Torsional Buckling code checks for AISC 360-05 (13th Edition) and AISC 360-10 (14th Edition) to apply to shapes other than WT's and LL's.
- Modified the treatment of masonry and wood Wall Panels to automate stiffness updates within the optimization / Suggested Shapes results.
- Improved the graphical Copy tools.
- Improved masonry Wall Panel definitions to be based on Wall Design Rules so that it will be easier to change multiple walls at the same time.

- Improved reporting of Overturning Moment Safety Factors when RISAFoot runs from within RISA-3D. (This affects Load Combinations built with Basic Load Case numbers rather than load Categories).
- Improved / reorganized the Solution tab of Global Parameters to be more user-friendly and easier to read.
- Updated properties in the Cold Formed Steel Database (based on bend radius changes).
- Improved the code checks for concrete columns for cases where the column is subjected to net tension plus bending.
- Removed the obsolete Trade Arbed database from the installation routines.

Corrections

- Corrected an error with Canadian NBC 2005 Seismic Load Generation where the program was using the Sa(0.2) value instead of the S(0.2) value.
- Corrected an issue where shapes from older RISASection files (version 1.1 and earlier) had issues with shear deformation.
- Corrected a bug that caused the weak-axis bending strength of wide flanges members with slender flanges to be overestimated in the AISC 360-05 (13th Edition) code.
- Corrected an issue with distributed loads on tapered Wide Flange steel members where a portion of the distributed load could get ignored.
- Corrected an issue with Canadian design of single angles where compression code checks were reporting a value of 0.0 rather than 'No Calc'.
- Corrected an issue related to aluminum databases and single angle flexural-torsional buckling code checks.
- Corrected an issue with the aluminum code related to the allowable bending stresses for rectangular tubes subjected to a minor axial force.
- Corrected and issue where seismic detailing slenderness limit failures were reported in the wrong column of the Seismic Design Results spreadsheet.
- Corrected a seismic design results issue where the connection design moments for SMF frames were being conservatively reported at the center line (rather than the face) of the column.
- Corrected some issues related to how overstrength load combinations were included in an envelope solution.
- Corrected an issue where Notional Load Generation was not properly accounting for effects of openings in wall panels.
- Corrected an issue with the Load Combination Generator where the program was producing extra (and unnecessary) load combinations.
- Corrected a units conversion issue related to rebar strength for custom rebar layouts.
- Corrected a units conversion issue related to thermal loading on plate elements.
- Corrected an issue where several Global Parameters values were omitted from printed output or were printed incorrectly.
- Eliminated lateral-torsional buckling code checks for Cold Formed HU sections bent about their y-y axis.
- Fixed a units conversion problem with RISASection shape properties used in RISA-3D/RISAFloor.
- Corrected an issue with the RISA-Revit Link which could result in loads being deleted during a round-trip.
- Corrected a display issue where envelope solutions for cold formed steel were not properly showing phi and omega values.
- Corrected an issue where the Replace and Resolve function was not properly interacting with the graphical Exclude feature.
- Corrected an issue with the shear code check of multi-span concrete columns where the controlling shear location was always assumed to be at the end of the member.
- Corrected an issue where the 'j' value displayed in a masonry wall detail report could be erroneously shown as 1.0. (This was a display issue only; the calculations were correct.)
- Corrected an issue with the calculation of As_max for the IS456 Indian concrete design code.
- Corrected an issue where the Gupta modal combination method would cause a wall panel model to crash during an Response Spectra Analysis solution.
- Corrected an issue with Open Structure area loads where round members were receiving over-conservative loading.