

Release Notes for RISA-3D

Version 19.0 Enhancements/Corrections

- Interaction:
 - Enabled integration with RISAFloor, RISAFoundation and RISAConnection.
 - Added the ability to transfer Response Spectra Analysis (RSA) results from RISA-3D to RISAFoundation.
 - Added the ability to import and export models from Autodesk Revit.
 - Added the ability to import and export models from Tekla Structures.
 - Added the ability to import and export to CIS/2 file format with detailing information.
 - Added the ability to import tnxTower files.
 - Added the ability to export SDF files.
 - Added the ability to import STAAD files.
 - Resolved an issue where saved drawing grids would cause the program to close when integrating to RISAFoundation from RISA-3D.
 - Resolved an issue causing a duplicate node for a plate generated by semi-rigid diaphragms in RISAFloor.
 - Corrected an issue where saved results were incidentally deleted after integrating between RISAFloor and RISA-3D and sometimes unexpectedly close.
 - Corrected an issue where a customized wood schedule prevented a model from transferring to RISA-3D from RISAFloor.
 - Corrected an issue where nodes from non-rigid diaphragms in RISAFloor were included in the Drift Definitions spreadsheet, which only supports rigid diaphragms.
 - Resolved an issue where wind loads were conservatively generated for internal bays on some semi-rigid diaphragms.
 - Resolved an issue preventing the camber design rule for % DL from being retained when transferring between RISAFloor and RISA-3D.
 - Fixed an issue where RISAFloor member design rule camber information was not properly retained after integration.
 - Resolved an issue causing unexpected RSA results for some models transferred from RISAFloor.
 - Resolved an issue where certain models with semi-rigid diaphragms integrating from RISAFloor were reporting a non-planar plate mesh error.
 - Corrected an issue causing the program to close during solution due to slender wall panels integrated from RISAFloor.
 - Fixed an issue preventing hold downs and/or straps from being assigned to wood wall panels in some models integrated from RISAFloor.
 - Resolved a rare issue where Concrete Wall Panel Regions in RISAFloor caused the program to close in RISA-3D.
 - Resolved an issue where using shapes from RISASection prevented some User Defined shapes from being available in the Shape Database.
 - Resolved an issue that was preventing integration with RISAConnection v11 for models with quotations in the material label.
 - Fixed an issue where dynamic mass line loads applied in RISAFloor were not considered in the calculation of seismic weight in some cases.
 - Resolved an issue preventing base plates and member end reactions for lateral base plate connections from transferring to RISAConnection.
 - Resolved an issue causing an erroneous Invalid Connection error for columns assigned with a single column base plate connection.
 - Resolved an issue preventing Vertical Brace to Baseplate connections from transferring to RISAConnection from RISA-3D
 - Resolved an issue where forces associated with double sided connections were not transferred to RISAConnection when the member was also framing into another double sided connection.

- Updated the calculation for top column distance to consider the height of the column when integrating models to RISACONNECTION.
- Corrected the top column distance for vertical brace connections integrated with RISACONNECTION which was conservatively affecting the column flange bending check.
- Concrete:
 - Added the ACI 318-19 concrete code for beams, columns and wall panels.
 - Resolved an issue which was providing erroneous Deep Beam warnings.
 - Resolved a graphical issue in the Rebar Detailing diagrams with custom reinforcement for concrete columns.
- Hot Rolled Steel:
 - Added Seismic Detailing per AISC 341-16 and AISC 358-16.
 - Added Buckling Restrained Brace (BRB) seismic checks to the Seismic Detailing feature.
 - Added the ability to assign Simpson StrongTie Yield Link at member end releases.
 - Improved the compactness class determination for single angles with the consideration of Clause 11.1.2 and 11.1.3 according to CSA S16-14 and CSA S16-09.
 - Updated Material Defaults to Include ASTM A500 Grade C for Round and Rectangular HSS sections.
 - Clarified the seismic detailing results for the width-to-thickness ratio check to show either 'Pass' or 'Fail' when using AISC 341/358 - 2010 and 2016 codes.
 - Corrected an issue where the slenderness check per AISC 341 section F1.5b was being applied to vertical X braces.
 - Resolved an issue where false miscellaneous seismic check/warning would be given for some V and inverted-V brace configurations.
 - Resolved an issue where AISC 358 prequalification limits for beams were causing erroneous Miscellaneous Seismic Checks for columns.
 - Resolved an issue where seismic braces were designed for overstrength load combinations when the Overstrength Req'd option was unchecked.
- Solving:
 - Improved the status bar during solution to show the status of each iteration, and to show the Load Step in progress for Moving Loads.
 - Resolved an issue where a Response Spectra Analysis would cause moment reactions in some members with pinned end releases and rigid end offsets.
 - Resolved a rare issue preventing Node Reaction results from populating after a solution is run a second time.
 - Resolved an issue causing the solution file to be deleted for models containing saved moving load results.
 - Resolved an issue that showed results for Cold Formed Steel members when no design should have been given due to P-Delta analysis not being performed.
 - Resolved an issue where K factors were being calculated for all material types when they should only be applied to hot rolled steel members.
 - Resolved a rare issue preventing the display of Eigensolution results.
 - Corrected an issue where the slenderness check per AISC 341 section F1.5b was applied to vertical X braces.
- Plates:
 - Added the ability to assign an Orthotropic material to plates.
- Solids:
 - Added Corner Force results for solids.
 - Added the ability to use the Internal Force Summation tool on solid elements.
- Wood:
 - Added the ability to edit and delete Custom Wood Materials.
 - Corrected the display of the COV_E parameter for custom wood materials.
 - Resolved an issue causing an erroneous 'No 16 in. thickness values in database...' warning message for wood members less than 16 inches thick.

- Corrected an issue with C_m value in E'_{min} calculation under the combined bending and axial compression check under NDS codes.
- Updated the calculation for the flat use factor, C_{fu} , for solid sawn members 5' or thicker.
- Resolved an issue where compression analysis according to CSA 086-14 was reporting incorrect values for F_c and K_{zc} .
- Resolved an issue where CSA wood material properties would not properly save, causing a 'check wood materials' warning message when opening the model.
- Resolved an issue preventing copied wood Redesign Lists from saving.
- Aluminum:
 - Corrected the LTB slenderness calculation for Aluminum Rectangular Bars per ADM 2015 Eqn. F4-7.
- Wall Panels:
 - Added Cold Formed Steel Wall Panels
 - AISI S400-15 w/S1-16 & AISI S240-15
 - Improved the Wood Wall Definition Editor by adding drop-down options for stud spacing.
 - Enhanced the Wall Panel Editor to open as a new tab alongside the 3D View.
 - Improved the wall panel meshing algorithm and the snapping tolerance to handle walls with very small offsets (e.g. less than 1in).
 - Updated the graphical In-Plane Shear Capacity being shown in the spreadsheets and Detail reports for Concrete Walls.
 - Resolved a mesh tolerance issue for wall panels that was unconservatively affecting masonry lintel forces and code check.
 - Resolved an issue where lightly loaded concrete wall panels were reporting a capacity of nearly zero.
 - Corrected an issue preventing the 'Slender Compression Failure ($P_u > .75P_c$)' warning message from displaying in the Detail Report for slender concrete wall panels.
 - Resolved an issue preventing the width of concrete Walls Panels to be converted when project Units were changed.
- General:
 - Added the ability to swap the I and J ends of a member.
 - Added the ability to include up to 100 custom other load cases.
 - Added the ability to Move elements Point-to-Point.
 - Added the ability to apply a scaling factor to Basic Load Cases.
 - Added the ability to set loads to inactive.
 - Added the ability to use the Tab key to cycle through items that are able to be selected within the 3D view.
 - Added move point to point functionality.
 - Added plates and solids to the Material Takeoff spreadsheet with the ability to exclude.
 - Added the ability to disable the Smart Ribbon behavior which opens a specific tab on the ribbon toolbar after a particular action is performed.
 - Improved keyboard shortcut behavior for switching between different property input regions.
 - Updated terminology in the program such that nodes can be tethered to other nodes rather than slaved.
 - Increased the upper limit for the number of Segments able to be created using the Split and Add Nodes tools.
 - Improved behavior of Copy, Paste and Fill tools.
 - Added the ability to view more than one Detail Report at a time.
 - Improved the behavior of the Undo command.
 - Corrected the rotation axis command in the Copy Rotation Tool.
 - Improved Line Loads by automatically populating the End Magnitude when the Start Magnitude is entered in the Property Panel.
 - Improved the behavior of the Retrieve Saved View tool.
 - Corrected an issue allowing Nodes to be tethered to themselves.
 - Resolved an issue preventing the generation of Project Grid Arcs with negative radial increments.
 - Resolved an issue where the Properties Panel did not properly update member design properties.
 - Resolved an issue where copied shapes were not saving to the database.

- Resolved an issue where spreadsheets remained open when the program was minimized.
- Resolved an issue to correctly display the node coordinates on hover after using the Move operation.
- Resolved an issue where all nodes were selected when the Ignore option was chosen in the Coordinates tab of the Select by Property tool.
- Resolved an issue preventing the Tab key from functioning in the Properties Panel after a value is entered into an empty field.
- Resolved an issue preventing Time History animations from being exported.
- Resolved an issue causing the location of point loads on some members to change when the Model Merge tool was used.
- Resolved an issue preventing forces from being displayed in the Properties Panel when using the Internal Force Summation Tool.
- Corrected an issue where saving results in a model caused transient area loads to be doubled in the Distributed Loads spreadsheet.
- Fixed an issue preventing member end releases from being edited after assigning partial fixity.
- Resolved an issue causing the program to freeze when trying to split a member into a large number of segments.
- Corrected an issue where leaving the base elevation blank in the wind load generator would produce erroneous results in some cases.
- Resolved an issue causing instabilities at nodes generated by lateral load generators.
- Corrected an issue where the option to Filter out Unselected Items from Results did not work for plates with the Color Contour displayed.
- Resolved an issue where member area loads did not properly get copied when using the Global Copy tool.
- Fixed an issue preventing the option to disable Save Results with Model.
- Corrected an issue where some drawing tools were enabled while using the Snapshot feature.
- Resolved an issue where changes to the member label were not retained after closing the model.
- Resolved an issue where force values displayed in the Property Panel when using the Internal Force Summation Tool were not consistent with the Internal Force Summation pop-up dialog.
- Resolved an issue where graphical display of node coordinates weren't updating after moving the node.
- Detail Reports:
 - Added the expanded Torsional Analysis calculations in the member Detail Report for hot rolled HSS members.
 - Modified the Detail Report to clarify that the shear force includes torsion (not applicable to concrete).
 - Modified the Detail Report for wood members when the beam stability factor is 1 due to the member being fully braced.
 - Updated the graphical display of Slender Bending Span results shown in the Detail reports for Concrete Walls.
 - Resolved a graphical display error that showed incorrect Available Shear Capacity in Concrete Wall Detail Report.
 - Resolved a graphical issue in the Cross Section Detailing section for masonry out of plane reinforcement.
 - Corrected the display of values reported in the concrete member Detail Report for the depth to the equivalent rectangular stress block and for the depth to the neutral axis.
 - Resolved an issue where the masonry wall panel Cross Section Detailing graphic did not reflect the correct Wall Design Rule parameters.
 - Fixed a graphical issue in the Concrete Rebar Detailing section of the Detail Report for concrete beams with custom rebar defined.
 - Corrected a graphical issue in the Detail Report for the Shear Analysis according to CSA 086-14 which was incorrectly reporting V_r and F_v .
 - Fixed a display issue for concrete wall panels where the reinforcement layout in the Cross Section Detailing graphic did not match the wall design rule.
 - Resolved an issue where custom print reports were not retained in the original program after using the Director tool to integrate between multiple programs.

- Resolved a graphical display issue in the Cross Section Detailing for concrete Wall Panels.
- Spreadsheets:
 - Added masonry wall panels, general material wall panels, and wood wall sheathing to Material Takeoff spreadsheet.
 - Added input spreadsheet for solids.
 - Added Find/Replace functionality to the right-click menu in all Input spreadsheets.
 - Improved the Enveloped Wall Panel Results spreadsheet to include an asterisk on Load Combination numbers that are overstrength.
 - Improved the Math on Block tool to apply the function to only valid highlighted cells in the spreadsheet.
 - Improved behavior of copy, paste and fill tools for input spreadsheets.
 - Improved the Member Design Rules spreadsheet to include Max Axial Check.
 - Added the ability to type directly into the Category column of the Basic Load Case spreadsheet.
 - Added the ability to sort Nodal Deflections spreadsheet when showing Batch Result grouped by element.
 - Added the ability to designate the type of lateral force resisting frame in the Seismic Design Rules spreadsheet.
 - Improved the speed and functionality for all Results spreadsheets.
 - Resolved an issue causing results in the Story Drift spreadsheet to change after results are saved.
 - Corrected an issue that enabled certain columns to be sorted in the Member Forces spreadsheet.
 - Resolved an issue in the Member Deflections spreadsheet where the absolute deflection (y) was incorrectly reported as the relative deflection (y') in the Beam Check tab.
 - Resolved an issue allowing the maximum spacing to be less than the minimum spacing for concrete wall vertical rebar when using the Fill Cells tool.
 - Fixed a graphical display issue where the per unit of length was not included in the heading of the Plate Forces spreadsheet.
 - Corrected the display of the number of decimal places for values entered in the Boundary Conditions spreadsheet.
 - Resolved an issue preventing the ability to sort the Distributed Loads spreadsheet.
 - Resolved an issue preventing the Fill Cells command from working within the Seismic Design Rules spreadsheet.
- Printing:
 - Added the ability to print Dynamic Data and Member Detailing Data.
 - Added the ability to scroll within the Print Preview dialog.
 - Added the Time History Loads spreadsheet into the Report Printing dialog.
 - Improved Report Templates to save the specific order of the sections in the report.
 - Improved the titles of spreadsheets within Printed Reports to reflect the title displayed on the spreadsheets when opened.
 - Corrected an issue where landscape oriented images did not rotate to fit portrait oriented reports when printing.
 - Resolved an issue causing a portion of the expanded Detail Report to be excluded from the Print Report when using landscape orientation.
 - Corrected an issue where BLC headers were not being shown in the printed report.
 - Resolved a printing issue producing blank pages in the printed report PDF.
 - Resolved a rare issue that caused the program to close when attempting to print graphical image.
 - Resolved an issue where certain Masonry Wall design results spreadsheets were not included in the Print Report.
 - Resolved an issue preventing spreadsheet row numbers from being printed.
- Graphics:
 - General:
 - Corrected a graphical issue where member lengths displayed incorrectly in the 3D view after changing member node.
 - Improved the color coded display of Member Forces and Column Stiffener Check.
 - Resolved rare occurrence of arrows not being displayed properly in 3D View for Area Loads.

- Results:
 - Added the ability to scale the deflected shape of the model in fractions of a whole number.
 - Enhanced the Quick View Member Label and Member Color options so that when one is changed, the other is updated to match in the 3D view.
 - Improved the display of member diagrams in the 3D view by Increasing the available range.
 - Improved the display of member force diagrams in the 3D view by disabling the member Unity Check display.
 - Improved the display of the Locked Node View by selecting the entire wall panel when the instability is a hidden node within the wall panel.
 - Corrected description of axis directions in the Slab-IFST dialog.
- Operations:
 - Added the License Manager Version number in the About RISA-3D dialog.
 - Added the ability to recover a file if the model file closes unexpectedly in an integrated program.
 - Enhanced the program to start up on the users primary screen.
 - Improved opening a model with saved results such that the Project Information dialog appears in front of the Warning Log.
 - Resolved an issue preventing a model from opening due to an erroneous Foreign Key Constraint error.
 - Resolved a rare issue that caused an exception message to appear during solution.
 - Resolved an issue causing the model file to become corrupt after using the Append feature multiple times.
 - Resolved an issue producing an Exception Message when opening a masonry Wall Detail Report with merged lintels.
 - Resolved an issue where applying an area load in some cases would cause an Exception Message.
 - Resolved a mouse issue during modeling which resulted in an 'arithmetic operation overflow' error.
 - Resolved an issue preventing the program from launching in demonstration mode after receiving the 'S303 - Connection Error' message.
 - Resolved an issue causing an erroneous Base Exchange Compatibility Warning when integrating with Tekla Structures.
 - Fixed an issue where custom shapes created in RISAFoundation were not retained when integrating.
 - Resolved an issue preventing the Windows Start menu to appear when RISA-3D was full screen.