

# TRIFLEX<sup>®</sup> Versions of 4.X Enhancements Summary Sheet from 2014 through February 5, 2015

## *Enhancements*

1. ***Time History*** – Removed the limitation on the number of generated snap-shots and made interface a little more streamlined in the selection method.
2. ***B3.1.3 Piping Code*** – Updated Material Database and program according to code revision 2012
3. ***B31.1 Piping Code*** – Updated Material Database and program according to code revision 2012.
4. ***EURO Piping Code*** – Updated Material Database and program according to code revision 2012.
5. ***F1 (Context-Sensitive) Help System Available*** – We have F1 Help available and are working on making the content better quality and more comprehensive each day. It can be deployed by using TRIFLEX to access your local computer or online (web).
6. ***Cold Sustained Case*** – We added a check-box that will designate a case for cold case consideration, so that a user may opt out of the “hot sustained” if desired. The ANSI style codes allow for both considerations. The “Cold Sustained Case” typically considers Pressure & Weight, but may be altered and never considers thermal.
7. ***Case Definition Editing Options*** – Added capability for the user to set their specified load cases as default to be seen each time the user opens a new model and other options in this dialog.
8. ***Modeling Defaults Options*** – Added capability for the user to set their specified selections as default to be seen each time the user opens a new model.
9. ***Interfaces*** – PSI made imports of PCF files and .cii files a little smoother, more intuitive and comprehensive.
10. ***Load Case Combination*** - Load Case Combination now allows a user-defined combination in to the operating case. We also added more flexibility to the interface with regards to time history.
11. ***Semi-Random Component Order*** – Components may now be entered to a large extent without regard to the order in which they appear in the component list. Exceptions to this random ordering are when a component requires another for completion such as a bend and a valve or flange coded to a point other than the far end weld point. No longer must an anchor be the first component in the sequence of the component list. The piping system also need not be contiguous as the calculator will handle each piping segment independently.
12. ***Stress Intensification Factors*** – Stress Intensification factors are calculated as a part of the input sequence and are available for inspection and modification if desired in the input dialogs. When required by the piping code in-plane as well as out-of-plane SIF's are given for components.

13. ***User Defined Selection Sets*** – Multiple selection sets consisting of various components are now available, allowing the user to view, modify, ripple, copy, delete, rotate, and otherwise operate on selected sets of components with more versatility.
14. ***Multiple Boundary Conditions*** – No longer is the number of boundary conditions at a particular node limited to three. Restraints may now include a mixture of translational and rotational conditions as desired.
15. ***Directional Specification Dialog*** – A dialog has been added to aid in the specification of 3D directional vectors as used in wind and uniform loading, restraints, and release elements.
16. ***Restraint Extension*** – In addition to the restraint types used in previous versions, we have added a means of specifying break forces, intermediate limit stop stiffness, dampers with specified static/dynamic stiffness, and limit stop directionality in cylindrical or spherical coordinates.
17. ***Load Cases Extended*** – Load cases are now extended to cover restraints and external loading, so long as the system itself consistent between the load cases. Thus the effects of, for example, different limit stop positions or different wind speeds/directions may be examined in the same TRIFLEX run.
18. ***Release Elements*** – The functionality of the release element has been extended to include almost all the features of restraints. Whereas a restraint defines the interaction between the component and the outside world, a release element can be used to define the interaction between two components.
19. ***Import Functionality*** – Importing third party data files into TRIFLEX has been greatly improved. These file types include PCF, CII, and PDMS formats.
20. ***Output Consistency*** – All output including special reports and code compliance data is now contained in spreadsheet form, accessible from “View Analysis Results”. Further when exporting this data to EXCEL, all load cases are available with a single action.
21. ***Gravitational Direction*** – The user is able to specify, in the load case definition dialog, the direction in which the gravitational vector will act.
22. ***Independent External Loading*** – External loads (seismic, wind, and uniform loading) are now independently available rather than being exclusively applied as previously.
23. ***Wind Load Calculations*** – In addition to the classic fluid mechanics drag formulation for wind loading, Unified Building Code & American Society of Civil Engineers methods are now available.
24. ***Time History Excitation*** – Kinematic excitation has been added to time history excitation dialog, allowing displacement, velocity, or acceleration to be used in addition to force at a particular node.