What's New in CAESAR II

The latest CAESAR II release delivers a number of significant new and extended capabilities in response to current market requirements, as well as direct feedback from the growing CAESAR II user community. The following changes have been made to CAESAR II.

CAESAR II 2017, Version 9.00

Technical Changes

Please be mindful of the following technical change for this release:

- Disabled the Search tab in the Online Help due to an issue when your CAESAR II installation uses OpenGL drivers. You can change the **Graphics Settings** > **Miscellaneous Options** > **Video Driver** to **Direct 3D** in the **CAESAR II Configuration Editor**. If you use Direct 3D drivers, you can download a copy of the Help with the Search tab enabled from Smart Support.

Added Support for the Latest Code Standards

- Updated the software to the latest ASME B31.4 code standards, which included the ASME B31.4 2009, B31.4 2012, and B31.4 2016 code editions.

  The update included the following changes and improvements:

  - Updated materials applicable to the B31.4 code in the Material Database Editor.

  - Updated the **Allowable Stress** tab in the **Piping Input** module by including an **Allowable Stress Indicator** option for **B31.4** and **B31.4 Ch XI**, and **Design Factor** and **Hoop Stress** options for **B31.4 Ch IX**.

  - Deprecated the B31.11 piping code, which is now included in B31.4 main code standard.

  - Provided options for CAESAR II to automatically determine the restrained/unrestrained state of the pipe elements, or for the user to specify the state. The software defaults to automatically determining the state.

- Added the evaluation of the creep condition using EN-13480 Creep code standards.

  The update included the following improvements:

  - Expanded the **Material Database Editor** to support EN-13480 Creep by adding material properties for 200k hours, in addition to existing properties for 100k hours. Refer to the Technical Discussion on evaluating creep conditions in the User's Guide for more information.

  - Added a new Creep (**CRP**) stress type in the **Static Analysis – Load Case Editor**. The software does not include the **CRP** stress type when it recommends load cases.

- Updated the software to support the June 2015 edition of Z662 and Z662 Chapter 11, the Canadian code for oil and gas pipelines.

- Enhanced the software to support the 5th Edition of API-560, February 2016, the equipment code for fired heaters.

Enhanced Piping Input Functionality

- Added an option to select a new user-defined **Custom** type for nozzle flexibilities, in addition to the existing **Nozzle Flex** types of **WRC 297**, **API 650**, and **PD 5500**. The **Custom** nozzle type includes user-defined nozzle stiffness values for **Axial** (radial force), **In-Plane Bending**, **Out-of-Plane Bending**, and **Torsional** (moment). Many improvements have also been made to the **Nozzles** auxiliary panel layouts to improve usability.

- Enhanced the existing right-click context menu options for restraints from within the graphics view. The **Restraint > Insert Restraint** option lets you right-click an element to break and insert restraints in one action, or you can or insert restraints at existing nodes. From the new **Insert Restraint** dialog, you can also define restraint options, such as distance from nodes.

- Improved the **Break at Element** dialog box (accessed by selecting **Model** > **Break** or right-clicking and selecting **Element > Break Element**). The software now automatically populates the **Insert Single Node** option to the halfway-point node number and distance. If there is not an available halfway-point node number, the software defaults the to the next available node number.

- The **Displacements** grid displays free and fixed designations to eliminate confusion. The **Fix DOFs** option applies the fixed value of **0.0** to any undefined (free) degree of freedom.

Streamlined Load Case Editing/Creation

- Updated the **Static Analysis – Load Case Editor** by adding the ability to copy and paste complete load cases.

- Enhanced the editor to allow the selection of multiple load cases in the **List** view and retain the selection when you switch to **Group Edit** view.

- Added a new Creep (**CRP**) stress type in the **Static Analysis – Load Case Editor**.

Improved 3D Model/Graphics

- Node numbers display in front of piping elements when you use **Options** > **Node Numbers** and rotate the graphics. Previously, the node numbers rotated with the elements and were sometimes obscured by piping elements.

- Symbols for LIM restraints (axial limit stops) display on the outside of the pipe and remain visible when you use **Options** > **Restraints**.

- Added a symbol for zero-length expansion joints on the model.

- Displacements on CNodes display graphically as arrows with **Options** > **Displacements**.

- Displacements, rotations, forces, and moments display graphically as arrows (vectors) when you select **Options** > **Displacements** or **Options** > **Forces**. You can also change the default colors and arrow sizes in the **Graphics Settings** of the **Configuration Editor** or by using **Plot Properties**.

Updated User Interface

- Added a news channel on the CAESAR II main window, where you can find out product version information, upcoming events, product training opportunities, and future webinars.

- Enhanced the **Distance** dialog box for better usability. When you choose **Origin and Selected Element** as your **Measure Method**, the **Distance** dialog box retains the selected **Measure Method** option for the duration of your use of the **Distance** dialog box.

Enhanced Integration/Data Export

- Combined the individual flexible nozzle input export options into a single **Flexible Nozzles** option on the **Data Export Wizard** to improve usability.

- Improved integration with Smart 3D using the Data Export Wizard (ODBC) by adding a new **LCASE_NAME** column to files exported to Microsoft Access through the **Data Export Wizard**. When you export to .mdb format, you can now see the Load Case Name (**LCASE_NAME** column) in applicable exported files for quick identification of your load cases.

- Improved the CAESAR II Translate DLL to acquire more data from FEATools. In addition, enhanced material management and data verification to facilitate the ability of FEATools v 3.0 to control CAESAR II execution externally.

Upgraded User Documentation/Help

- Updated **Restraints** in the *Piping Input Reference* section of the *CAESAR II User's Guide*. Each restraint type includes a graphic example to assist identification.

- Improved the *Global Coordinates* section of the *CAESAR II User's Guide*. The user's guide now references local coordinates as **a**, **b**, **c** to reduce confusion between local and global coordinates.

- Added navigation information, such as the location on ribbons and menus, to command topics to aid discovery when browsing the help.

- Updated the *Hinged Joint* section of the *CAESAR II Application Guide*. Updated the **Hinged Joint Model** graphic to include all of the necessary components to model a hinged joint.

- Updated portions of the user documentation to the latest Intergraph PP&M standards for formats, which included adding more white space and indentation for field property formats. (DI-TX-13824, DI-TX-15821)

- Converted the CAESAR II 2017 readme document to .pdf format to comply with the latest Intergraph PP&M standards.

- Updated the software to call the main CAESAR II Help file (C2ug.chm) when you press **F1** in Equipment and Auxiliary modules. Previously, these modules displayed in a text-based help dialog box.