What's New in PV Elite and CodeCalc

The following changes have been made to PV Elite and CodeCalc.

PV Elite and CodeCalc Version 24.0

Updated the following codes:

- EN 13445-3:2021. (CR-TX-38769)
- EN 13445-3, Section 16.12 Vertical vessels with skirts. (RI-TX-35673)
- EN 13445-3, Bearing plate. (RI-TX-36948)
- EN13445-3, Section 21, Circular flat ends with radial reinforcement ribs. (RI-TX-37181)
- EN 1991-1-4, Vortex shedding. (CR-TX-37441)
- ASME Section VIII 2021. (RI-TX-37178)
- UHX-13.10.2(c). Added a warning if the cone angle is greater than 60 degrees. (CR-TX-37805)
- UW-20 and Appendix A. Addressed new MDMT calculations, maximum cone angle calculations, and new inset tube welding calculations. (CR-TX-37848)

Input Processor and Analysis

- Added EN 13445-3, Section 16.12 support for vertical vessels with skirts. See Bolt Friction Factor mu | Assembly Factor phi and Basering Design Option. (RI-TX-35673)
- Added the option to use up to three times the allowable stress for pressure-only tubesheet load cases for EN-13445. See Load Cases Tab (Heat Exchanger Tubesheet Input Dialog Box). (CR-TX-38326, CR-TX-37934)
- Added the option to perform MDMT heat exchanger calculations on the selected load case. See Load Cases Tab (Heat Exchanger Tubesheet Input Dialog Box). (CR-TX-39057)
- Added the Rib/Stiffener Analysis command, which creates and analyzes radial stiffeners on a welded flat head. (RI-TX-37181)
- Added support for the 2015 code year of the Mexico Sismo seismic code (CFE-MDOC). See Damping Factor (B) (optional) and Overresistance Factor (R) (optional). (CR-TX-39281)
- Added support for blast load analysis to the Special Effective Wind Diameter & Blast Load Input Dialog on the Wind Data Tab. (CR-TX-38879)
- Added color-coded channel-side (green) and shell-side (blue) element grid descriptions to Element Data (General Input Tab). The color depends on the selected element in heat exchanger models. (CR-TX-39208)
- Added 1.5 as an option for Nominal Size Lookup. (CR-TX-37293)
- Added an option to exclude the BOM report from the output by adding the text "#NO_BOM" in the Title Page Text. (CR-TX-38357)
- Added the option of forcing Arl and Ars calculations for cones attached to cylinders. Calculations are only required according to 1-5(g) for Conical sections. (CR-TX-38546)
- You can now view the unit constants and labels that were stored in the input file and create a new unit file (*.FIL) using that information if the unit file is missing from the PV Elite System folder. (CR-TX-38947)
- The software now performs a check when **Appendix 26** is selected, and the type is **Thick Exp. Joint.** Appendix 26 data is then removed, and **Appendix 26** is cleared. (TR-TX-37790)

Output Processor and Reports

- The software displays a message when the MAWPs are negative for UG-44(b) calculations. (CR-TX-37792)
- Changed the pressure testing data fields on the [Pressure Testing Data (Design Constraints Tab)](#) to label **Shop** or **Field** pressure test types. (CR-TX-36769)
- For the PD5500 code and when the design temperature for external pressure is greater than the design temperature for internal pressure, the software now shows the warning in orange in the warning and errors section of the output report. (CR-TX-37884)
- The software checks if a result is less than one. If so, the result displays to 5 decimal places so that it is understandable. (CR-TX-37897)
- Added a UG-41 and UW-15 note for clarification of allowable stresses in the nozzle output report when calculating the strength of connection elements with the failure path analysis. (CR-TX-37516)
- Added a note when the maximum shell thickness exceeds 3/8 in. (10 mm) according to Appendix 14-1, Figure UW-13.2, Sketches (c) and (d). (CR-TX-38358)
- Added a warning note when the jacket internal design temperature is greater than the external temperature of the core and jacket. (CR-TX-38596)
- The software now considers the area of the partition gasket in the PCC-1 Appendix O calculations report. (CR-TX-38345)
- Added a warning when the expansion joint ID and OD are zero or smaller than the shell OD. (CR-TX-38441)
- When the half apex angle is less than 30 degrees, the software indicates that the discontinuity stress computation results are for information only. (CR-TX-38438)
- When a nozzle is hub type **Self-Reinforcing** and the FVC catalogue is used, the **Nozzle Schedule** report displays the FVC type in **Nozzle Schedule** table. (CR-TX-38937)
- Added a cone to the cylinder junction weld NDE warning. (CR-TX-39243)
- Removed the mean metal temperature input echo printout in the output report when the value is disabled in input. (CR-TX-39243)

Documentation/Help

- Added a help topic for an [MAWP for pressure testing](#) option on the [Tubesheet Type and Design Code Tab (Heat Exchanger Tubesheet Input Dialog Box)](#). (CR-TX-36805)
- Clarified the description of [Weight to Use for Lifting Analysis](#) on the [Equipment Installation and Miscellaneous Options Dialog Box](#). (CR-TX-37111)
- Updated help for the [Stiffening Ring](#) command to include all fields for the **EN-13445 Ring** dialog box. (DI-TX-38361)
- Updated [Tube Joint Type](#) to the ASME 2021 edition. (CR-TX-38741)
- Added a note to clarify how jacket calculations use the nozzle [Projection Inside](#). (CR-TX-36204)
- Added an explanation for the **Weldability Limit Thickness** default value used for [Retirement Limit Calculations](#). (CR-TX-39437)
- Added PD5500 limitations to [Inside Knuckle Radius](#). (CR-TX-39099)
- Added a note clarifying [WRC nozzle loads](#) when the nozzle is on a head element. (CR-TX-39478)
- Removed the edition year from [ASME Steel Stack](#). (CR-TX-39731)
- Clarified UW-11(b) requirements for [Longitudinal Seam Efficiency](#) and [Circumferential Seam Efficiency](#). (CR-TX-40026)
- Corrected missing graphics for [Figure Number for Type of Vessel](#) in *CodeCalc Help*. (TR-TX-39982)
- Updated the [installation](#) and [silent installation](#) instructions.