What's New

PV Elite and CodeCalc 2017, Service Pack 1
(Version 19.00.01.0003)

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This document details the technical changes and revisions included in PV Elite and CodeCalc 2017, SP1 (Version 19.00.01.0003).

Revisions in PV Elite and CodeCalc 2017, SP1

The following list details revisions made to PV Elite and CodeCalc Version (19.00.01.003).

PV Elite and CodeCalc 2017 SP1 (Version 19.00.01.0003)

Material Updates

- Updated PV Elite to correctly reference External Pressure Chart NFC-3 for material SB-466 H55.

- Fixed an issue in CodeCalc in which the software contained too many decimal values in the metric allowable stress for the second listing of material SA-193 B7.

Input Processor

- Fixed an issue in PV Elite in which the software did not correctly import certain saddle data from a customized SaddleData.xls file. The issue has been resolved, and the software now uses the correct conversion factor for customized saddle data.

- Fixed an issue in CodeCalc in which the **What's New** icon on the Help tab did not link to the correct file. The issue has been resolved, and the *What's New in PV Elite and CodeCalc* document now displays when you click the icon.

- Fixed an issue in CodeCalc in which importing nozzle data from PV Elite in the WRC 107/537 and WRC 297 modules caused the software to crash. The issue has been resolved and the **Import Nozzle Data from PV Elite** field now works correctly in the software.

- Fixed an issue in CodeCalc in which the software displayed an incorrect label for operating loads when performing an FEA analysis for WRC 107/537 & WRC 297 nozzles. Previously when you selected **FEA** in the **Analysis Type** field for WRC modules, the software did not update the **Loads** tab to indicate where to enter operating loads. The issue has been resolved, and the software now renames the **Expansion** section to **Operating** when you perform an FEA analysis.

- Fixed an issue in PV Elite in which the diagram on the **Saddle Dialog** displayed an incorrect designation for the **Height of Web at Center**. The issue has been resolved and the diagram no longer displays the **Height of Web at Center** designation.

- Fixed an issue in CodeCalc in which the software encountered an error when trying to load the structural data while performing a leg calculation. Previously, when you selected **AISC Member Designation** on the **Vessel Leg** tab, the software could not open the Structdata.txt file. The issue has been resolved and the software now opens the file so you can select a structural shape for legs.

- Fixed an issue in PV Elite in which the software did not retain **PD5500** as the **Tubesheet Analysis Method** when analyzing a tubesheet. Previously, if you selected **PD5500** as the **Tubesheet Analysis Method** and then closed and reopened the **Heat Exchanger Tubesheet Input** dialog, the software reset the **Tubesheet Analysis Method** to **ASME**. The software has been updated to retain your selection for **Tubesheet Analysis Method**.

Analysis & Calculations

- Fixed an issue in PV Elite regarding the **Nozzle to Shell Groove Weld Depth** limit. Previously, if you had a child nozzle attached to a parent nozzle, the software limited the **Nozzle to Shell Groove Weld Depth** to the thickness of the shell, even if the parent nozzle was thicker than the shell. The software no longer limits the weld depth based on the shell alone, but determines the limit based on the thickness of the element/detail to which the nozzle is attached.

- PV Elite no longer limits the nominal bolt diameter when you select **User Root Area** for **Type of Threads** on the **Basering Dialog**.

- Fixed an issue in PV Elite in which the software did not calculate the flange small end hub thickness for nozzles selected from the ANSI metric nozzle database. Previously, the software displayed calculations for the flange small end hub thickness for nozzles analyzed using Imperial units but did not display the calculations when analyzing using metric units.

- Fixed an issue in PV Elite in which the **CrateRD** field was incorrectly active on the API 579 Dialog when performing a Part 5 analysis according to the MAWP Approach. The **CrateRD** field only applies to the Part 5, Thickness Approach, so it was made inactive for the MAWP Approach to eliminate confusion.

  - Fixed miscellaneous issues related to API 579 analysis:
    - The **tam_prev** field now allows you to override the calculated value in remaining life calculations.
    - Supplemental load values now correctly progress through the analysis.
    - The software now correctly calculates the sum of the points for PTR data.
    - The **Rerated MAWP, Circumferential [MAWPrC]** calculation now uses the correct **tam** value.

- Fixed an issue in PV Elite in which the software did not calculate the hydrostatic head pressure for the last element of a model with a skirt that was completely filled with liquid. The issue has been resolved and the software now calculates the hydrostatic head pressure for all elements in the model.

- Fixed an issue in PV Elite in which the software calculated an out-of-range value for the allowable compressive stress for certain vessels according to ASME VIII, Division 2. Previously, when analyzing a tubesheet according to ASME VIII, Division 2, if the shell side was in compression and the tubesheet material was not carbon steel, the software calculated a very high value for the allowable shell compressive stress. The issue is resolved and the software now calculates an allowable compressive stress value in the appropriate range.

- Fixed an issue in PV Elite in which the software incorrectly calculated the value for the longitudinal moment for lugs on a horizontal vessel. Previously, the software calculated the longitudinal moment by multiplying the values of the longitudinal shear and the **Height from Bottom to Center of Hole (h)**. The software has been updated to calculate the longitudinal moment by multiplying the values of the longitudinal shear and the **Offset from Vessel OD to Center of Hole (off)**.

- Updated PV Elite to no longer use the **Radial Top Plate Width** value when calculating the required thickness of the gusset plate. The software has been updated to use the **Average Gusset Plate Width** value in the **Required Gusset Plate Thickness** calculations on the **Basering Calculations** report.

Output Processor & Reports

- Fixed an issue in which PV Elite did not produce a **Conical Section** output report for models with a flange-cone-flange assembly. The software now creates the **Conical Section** output report for all models with a conical element.

- Updated PV Elite by removing the **Required Area for Each Bolt, Based on Max Load** and **Area Available in a Single Bolt (Corr)** calculations from the **Basering Calculations** output report when **Neutral Axis Shift Method** is selected for **Method for Thkness Calc.** and **Analyze** is selected for **Basering Design Option**.

- Fixed an issue in PV Elite in which the software displayed a different vessel weight on the **Lifting Lug Calcs: Lift Lug** and **Element and Detail Weights** output reports.

- Fixed an issue in PV Elite in which the software incorrectly calculated the value for **Distance from Edge of the Head to the Edge of Nozzle or Pad L** for certain nozzles on the **Nozzle Calcs** report.

- Fixed an issue in CodeCalc in which the **Append Results** icon did not function properly. Previously when you clicked **Append Results**, the software did not append the full output report. The issue is resolved and the software now includes the complete output report when performing the append function.

- Fixed an issue in CodeCalc in which the software showed an incorrect required thickness value in the external pressure calculations for a cone. Previously, the software calculated an incorrect **TCA** value in the **Results for Maximum Allowable External Pressure** section of the **Conical Analysis** report. The issue has been resolved and the software now displays the correct thickness value for cones.

- Fixed an issue in PV Elite in which the **Area Available in Welds** section of the **Nozzle Calcs** report displayed an incorrect substitution value for **Wp**. The software now correctly displays the **Weld Leg at Pad OD** value from the **Nozzle Dialog** as the **Wp** substitution value.

- Updated PV Elite to no longer use the **Radial Top Plate Width** value when calculating the required thickness of the gusset plate. The software has been updated to use the **Average Gusset Plate Width** value in the **Required Gusset Plate Thickness** calculations on the **Basering Calculations** report.

- Updated PV Elite by removing a warning on the **Internal Pressure Calculations** report that indicated the user-defined MAWP was greater than the computed MAWP for TEMA tubesheets. The warning is not applicable to the TEMA code and no longer displays when you analyze a TEMA tubesheet.

- Fixed an issue in PV Elite regarding the calculation of the vessel weight for vessels with sump heads and sump flanges. Previously, when your vessel contained sump heads or nozzles, PV Elite calculated differing values for the **Fabricated Weight** on the **Element and Detail Weights** output report and the **Total Vessel Weight (No Liquid)** on the **Lifting Lug Calcs:** report. The software has been updated to correctly calculate the same vessel weight in both instances.

- Fixed an issue in which PV Elite used incorrect load values for conical calculations on the **Conical Section** report for vessels with a skirt connected to a cone. The issue has been resolved and the software now performs the conical calculations with the correct load values.