

PV Elite 2010 Webinar Questions & Answers.

(January 19, 2010)

Please note the recorded version of this webinar can be accessed at our Insider Blog in the Webinar-Archives category: <http://coade.typepad.com/coadeinsider/>

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PV Elite

Q: We have been using CodeCalc. Can we read CodeCalc input into PVElite?

A: No, PV Elite cannot read the CodeCalc input, but PV Elite includes the CodeCalc program which you can use to work with files. For new work you can use PV Elite.

Q: What reference do you use for designing the lifting lug?

A: We use standard engineering handbook such as Machine Design by Shigely, Pressure Vessel Dennis Moss etc.

Q: Some times we use lifting lugs attached to vertical vessel Girth Flanges (Under side)

A: At this time, lifting lugs can only be attached to PV Elite. We will review this for future. But, you can analyze the lifting lug as an individual component in CodeCalc.

Q: Is it possible to calculate trunnions for the model?

A: You cannot model trunnion in PV Elite at this time, but you can model them in CodeCalc, as individual component in the Legs and Lugs module.

Q: Between Div 2 and Zick methods for analyzing saddles, which one is the less conservative?

A: ASME Sec. VIII Div. 2 includes modified version of the Zick method, so it is a codified version. It also provides the material allowables to use which in some cases are different than the allowables used in previous implementation of Zick method in PV Elite (which is based on book by Megyesy). But, one also gets benefit if the saddle welded to the shell in the Div. 2 method.

Q: Also for Div 2 Support calculations does PVElite have an input for moments in the event of asymmetrical support locations or does PVElite calculate the Max Moments (See Sec 4.15.3.2(b)).

A: We will investigate this.

Q: In some cases, specifically on hillside nozzles which fall out of the scope of the WRC 107 and 297, how PVElite does calculate it?

A: As a user you should be aware of the geometrical limitation of the bulletins such as WRC 107, 297 and be aware when the nozzles fall out of the range. PV Elite should also print a warning about this particular case as it does for other cases. We will try to do so shortly. At this time PV Elite analyzes it as a radial nozzle. You may have to use FEA for critical hillside, Y-angle nozzles.

Q: Could you please tell Brief what difference between WRC 107 and WRC 297

A: In brief, WRC 297 extends the range of WRC 107; it also provides stresses in nozzles (which WRC-107 does not). But, it is limited to cylinder to cylinder intersections.

Q: PV Elite may introduce reinforcement calculations of Nozzle opening in short sides of Rectangular Vessels.

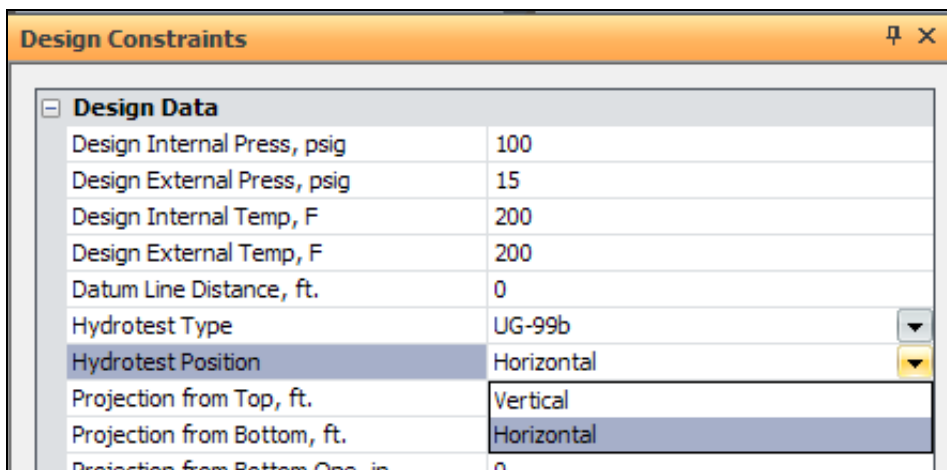
A: If you know of a published method for addressing this, kindly let us know we will investigate it.

Q: With material property updates, if the value decreases, will users be notified?

A: We update material properties in PV Elite and CodeCalc every year along with ASME code changes; it is up to the users to review the changes in the material properties from the ASME code.

Q: In column design Hydrotest position in shop may be Horizontal but in field they test the vessels in vertical condition. How to put that in PV Elite?

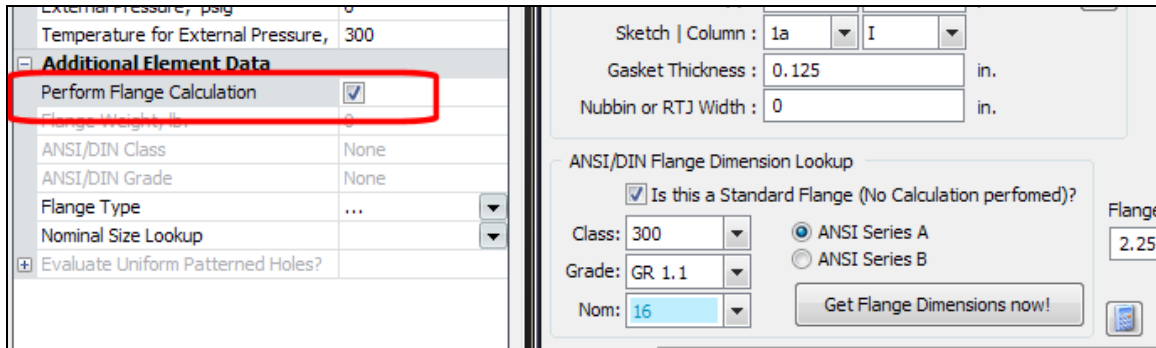
A: From the Design Constraints tab you can specify a vertical (or horizontal) hydrotest position. See below,



PV Elite - Heat Exchanger

Q: If the flange attached to the tubesheet is a standard flange, we want to use its rating to check its suitability for pressure and also extract bolt loads to apply to the tubesheet.

A: This is possible in PV Elite. When you attach a body flange, check the box to perform Flange Calculation, and then on the Flange Dialog, check the box to indicate that it is a Standard flange. Then PV Elite will perform a partial Appendix. 2 calculations to find the bolt loads (W , $Wm1$, $Wm2$) for the tubesheet calculation. But, for the flange it self, its pressure rating will only be used.



Q: Will baffles ever be shown in the graphics?

A: They are not shown at this time. We will try to address them in future.

Q: why doesn't PV Elite take the mawp of the tubesheet calculations into the vessel summary at the end? I always have to check against that, also why can't we have the TEMA and ASME UHX in the same report?

A: that is a good suggestion, than you. We will try to do so.

Q: At this time TEMA and ASME calculations have to be done separately.

A: We will investigate having an option to combine them.

Q: Are there any future plans to generate tube layout based on user inputs in the heat exchanger module, so that the layout can then be imported into AutoCAD. This will help fabricators to generate his fabrication drawings faster.

A: We are working on new enhancements to the tube layout program.

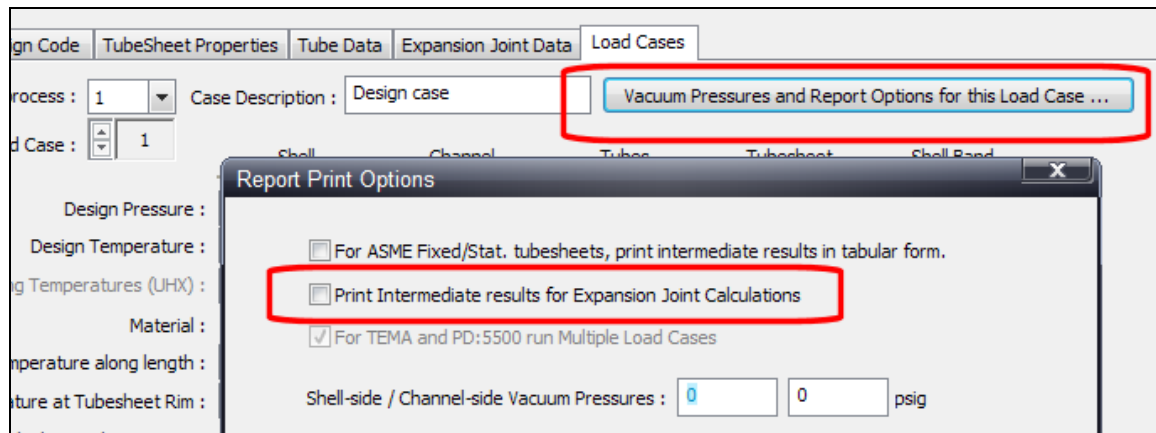
Q: As latest TEMA thick Expansion Joint calculations have introduced FEM analysis, how you are going to deal with it in PV Elite. Would you introduce the same method?

A: We are still reviewing it. This will depend upon the demand from users. The 2010 version of PV Elite introduced another option, the Kopp and Sayre method, which can also be used for designing thick Expansion Joints. Though, this is not a replacement for

Finite Element based solution (per TEMA 9th edition) but many users have used this method successfully to design their heat exchangers.

Q: Can full calculation steps be given for the stresses in the Expansion Joint.

A: Yes, you have the option to get detailed output for the thick expansion joint calculation in PV Elite. This option is located on the Load Cases tab in the tubesheet dialog, see below.



Q: In PV Elite, is there any way to calculate big Tubesheet with a big central hole (product passage)? We have some cases with outside diameter of about 5000 mm and a central tube of 2000 diameter, fluid passage, and we have also connecting bars between tubesheets. Is there anyway PVElite considers this kind of situation?

A: You would have to simplify that to one of the types of exchangers addressed by the design codes available in PV Elite.

PV Elite - CAD related questions

Q: Can we export 3D model into Intergraph PDS?

A: No, at this time PV Elite does not have an interface to PDS. You can Import the PV Elite model in to AutoCAD environment using COADE's CADWorx suite which can be saved in the AutoCAD format (*.dwg). Then, you can import the AutoCAD file (*.dwg) in to other CAD software. But, you will lose the intelligence in the model and also lose the integration with PV Elite. Now, that Intergraph has purchased COADE, the import/export function to PDS may be a possibility in the future.

Q: Does the drawing generated by PV Fabricator show the base plate on these legs?

A: Yes, if it is included in the PV Elite file.

Q: What happens if you have more than one nozzle in the same plane? How can the program know which nozzles to label?

A: the program uses a 3D model to represent the vessel so the nozzles will be shown rotated as they are.

Q: From PV Fabricator will be getting the detailing and BOM.

A: Yes you can.

Q: But complete detailing was not there in previous version

A: The PV Fabricator is a tool to reduce your detailing work; it will not completely eliminate manual work. There will some amount of manual work. Using PV Fabricator compared to vanilla AutoCAD you should see a 25 - 50% time improvement to develop a drawing.

Q: Does it show the liquid levels?

A: At this time PV Fabricator will not show liquid levels.

Q: Do we have to buy PV Fabricator or it is in built

A: PV Fabricator is separate package. Please contact your local COADE dealer or contact COADE sales at sales@coade.com.

General Questions

Q: Will your product line-up be the same this time next year, or will your new parent company move us to some of their products?

A: Intergraph does not have a pressure vessel or heat exchanger design software. So, we are not anticipating any drastic changes. There may be changes, but we will be sensitive to our customer's needs in doing so.

Q: Are we going to receive invitation for the next seminar?

A: We will email registered users about the next webinar. You can register at <http://info.coade.com/content/JoinCOADElist>