PV Elite Tips and Tricks

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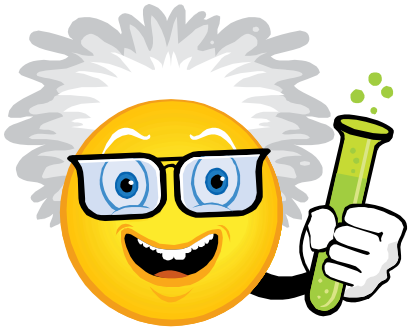
03/22/10: EDIT THIS IN THE "MASTER" > "SLIDE MASTER" UNDER THE "INSERT" MENU

COADE, Inc.

INTERGRAPH®

Welcome

Tips and tricks to make you



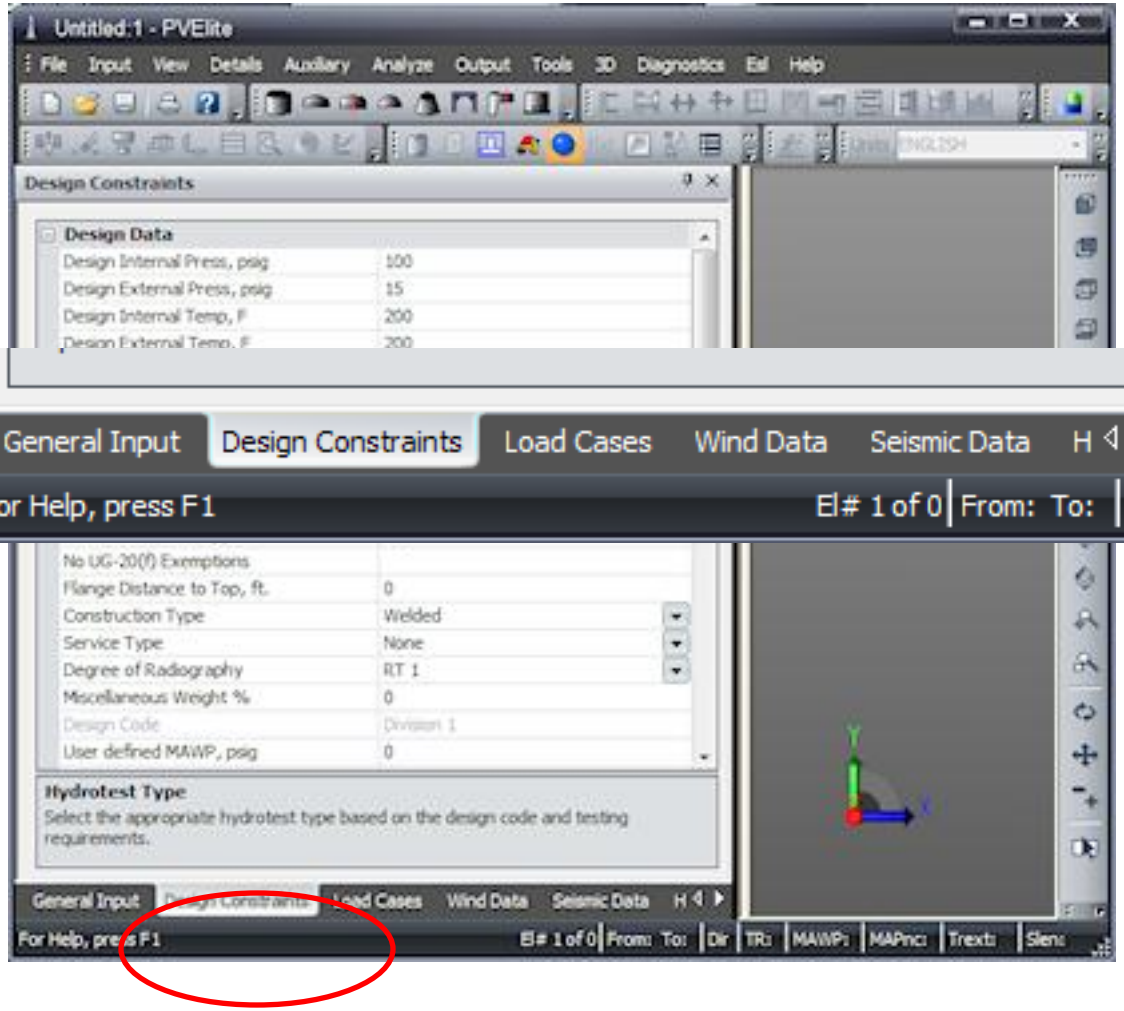
This is a Collaboration

- I will Share some tips with you.
- But you also have to Share your favorite tips.

And

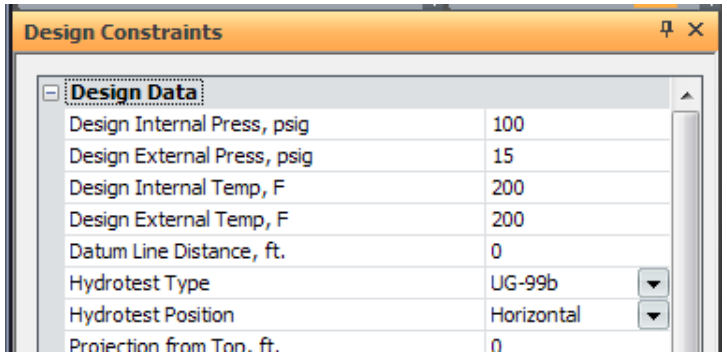
- Your feedback.

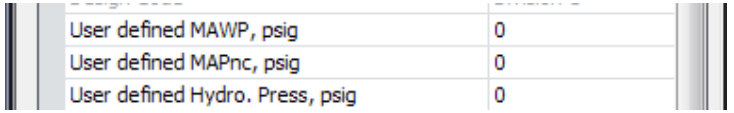
First add some Global data



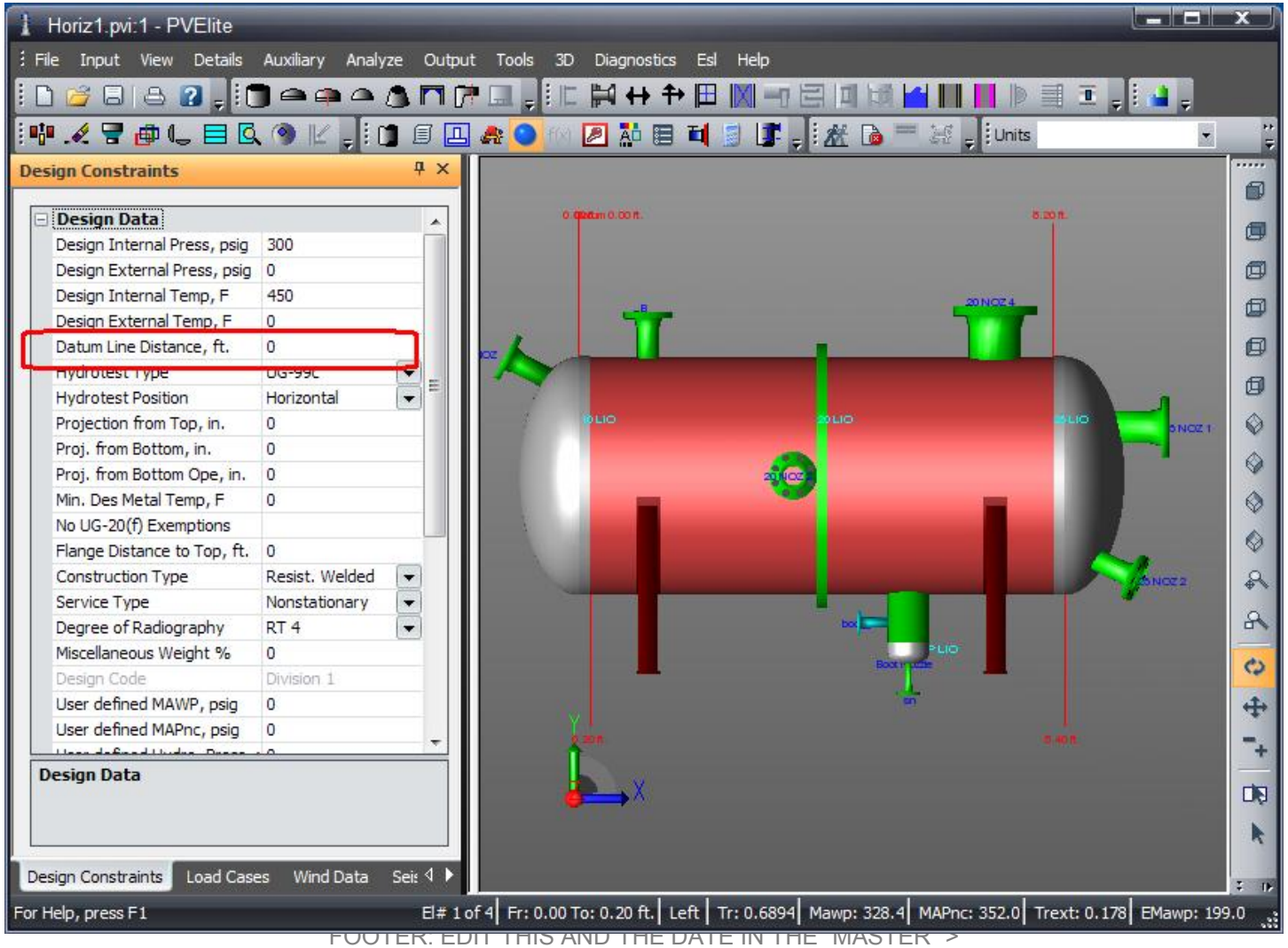
Design Constraints

- Pressure/temperatures
- Hydrotest type
- Set the Datum line
- Limiting MAWP (if needed)

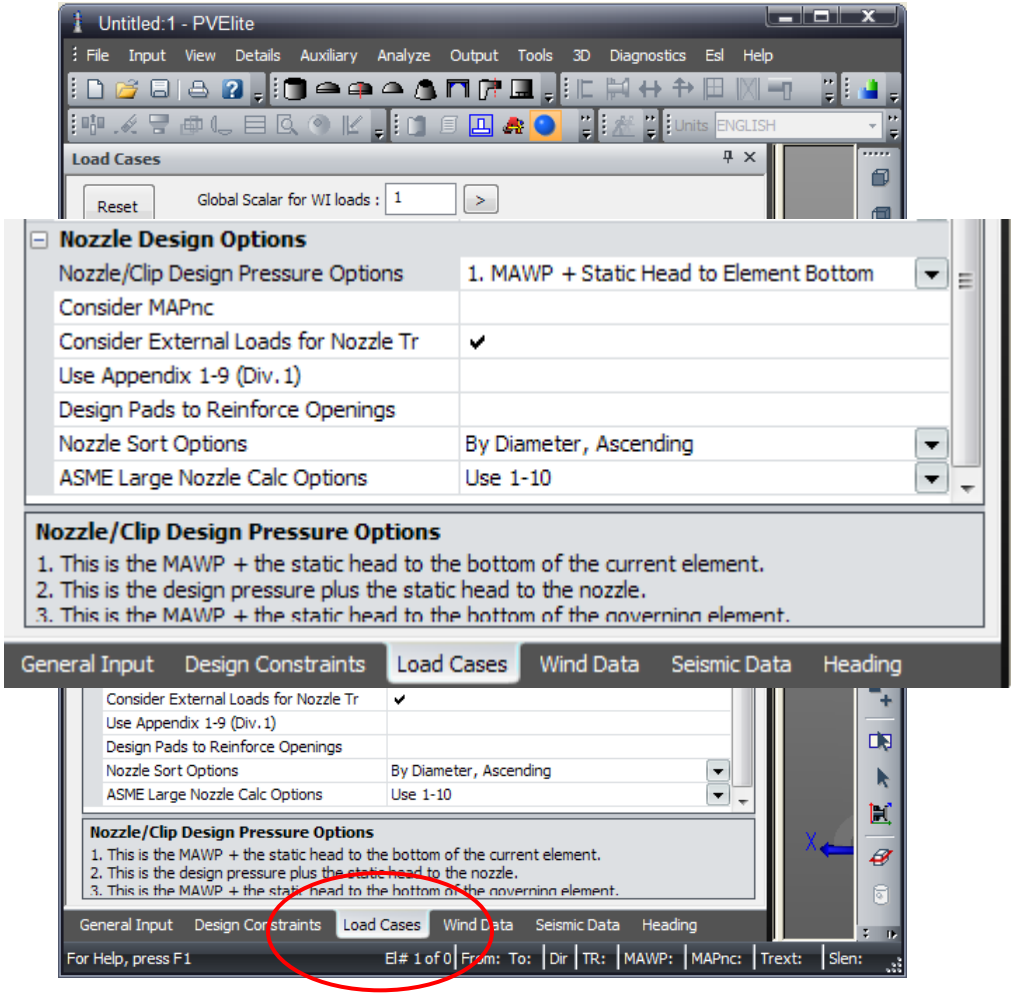




Design Constraints - Datum

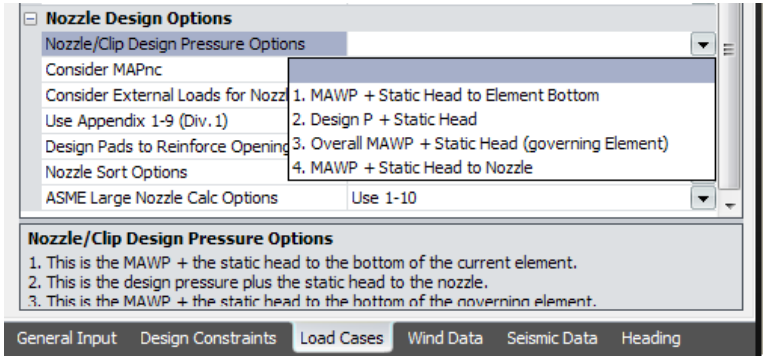


Lets go to Load Cases

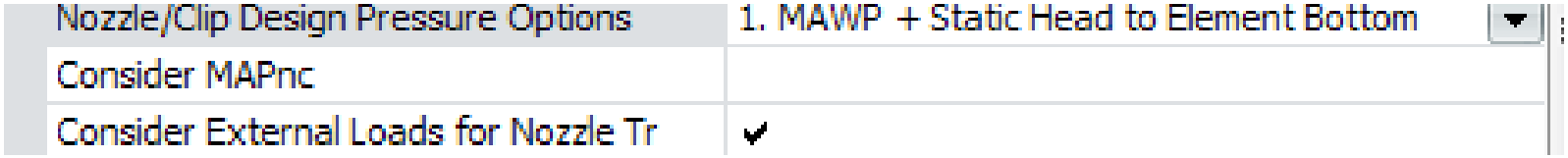


Load Cases – Nozzle Design Option

- “MAWP” option prevents nozzle from controlling
- Safeguard against Elevation change
- Design Pressure option – good for re-rating

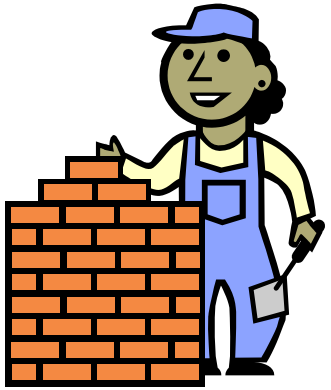


- Design for ‘MAPnc’ – safeguard for hydrotest



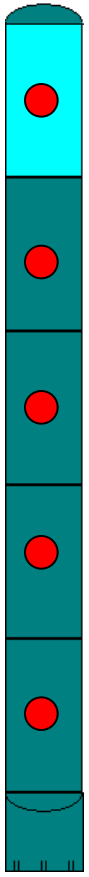
Let’s start building

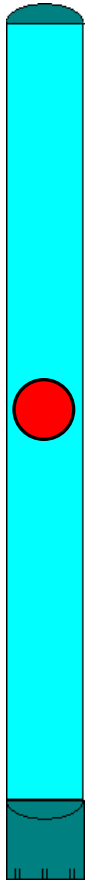
- Add element
- Give Elements descriptive names



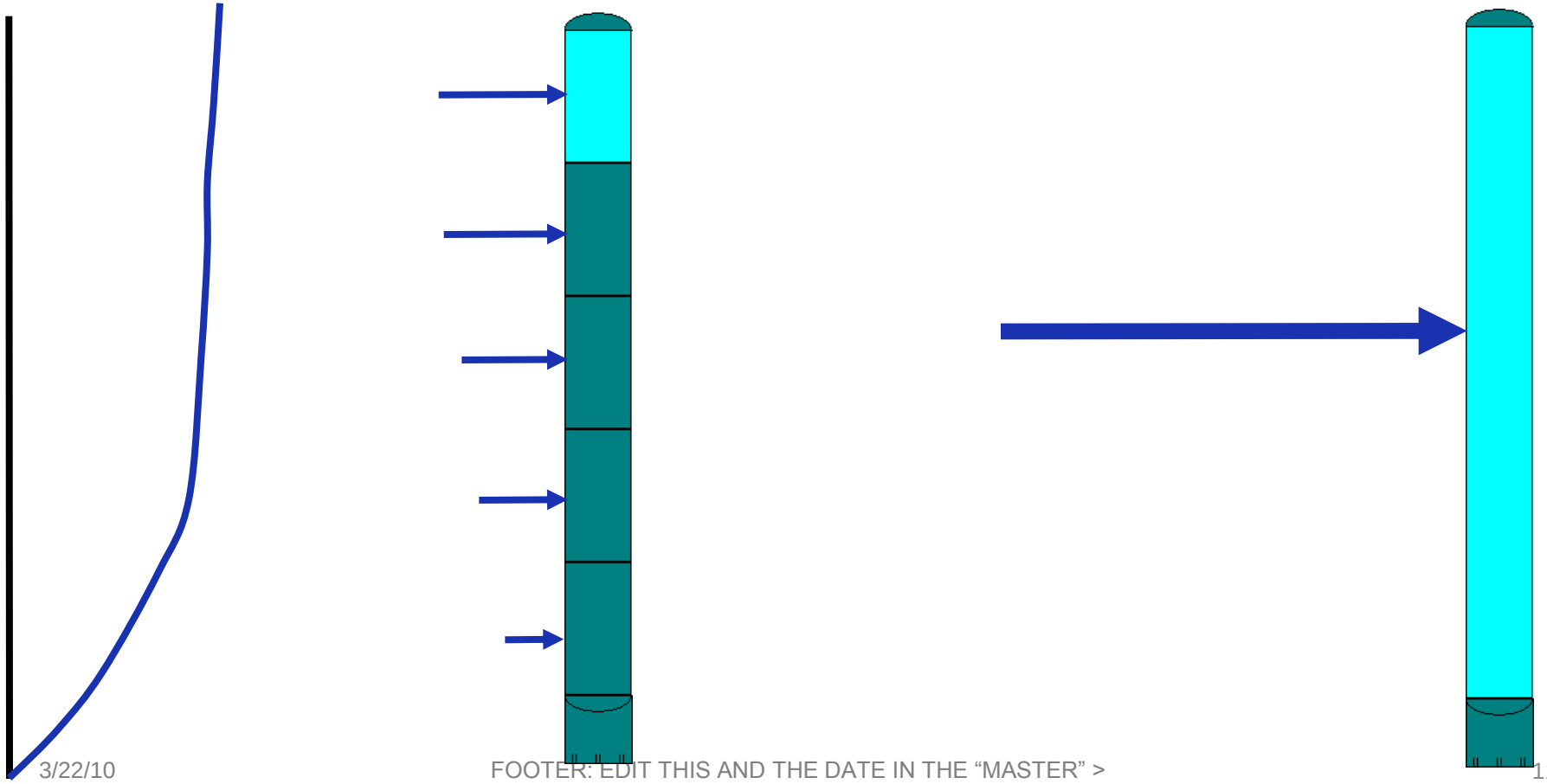
Effect of Shell length on Seismic loading

- Which is a Realistic Weight Distribution?





Which is more Accurate modeling of wind loading ?

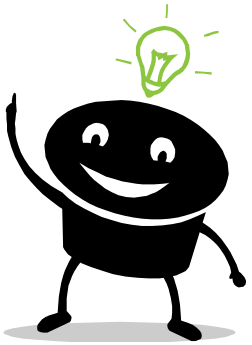


Tip - Shell Length

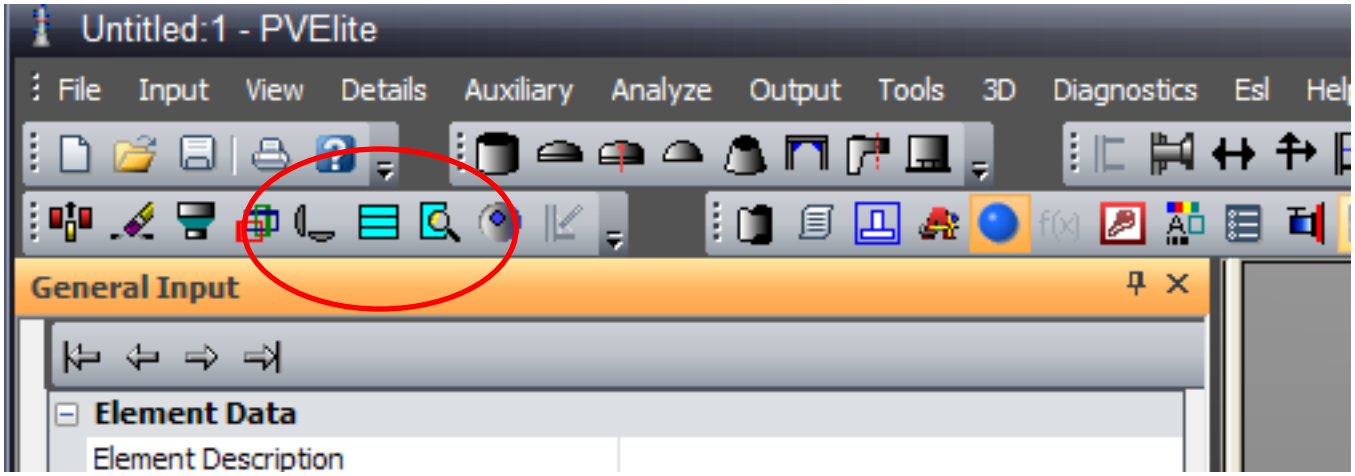
- Use plate length as element lengths, e.g.
  - 10 feet

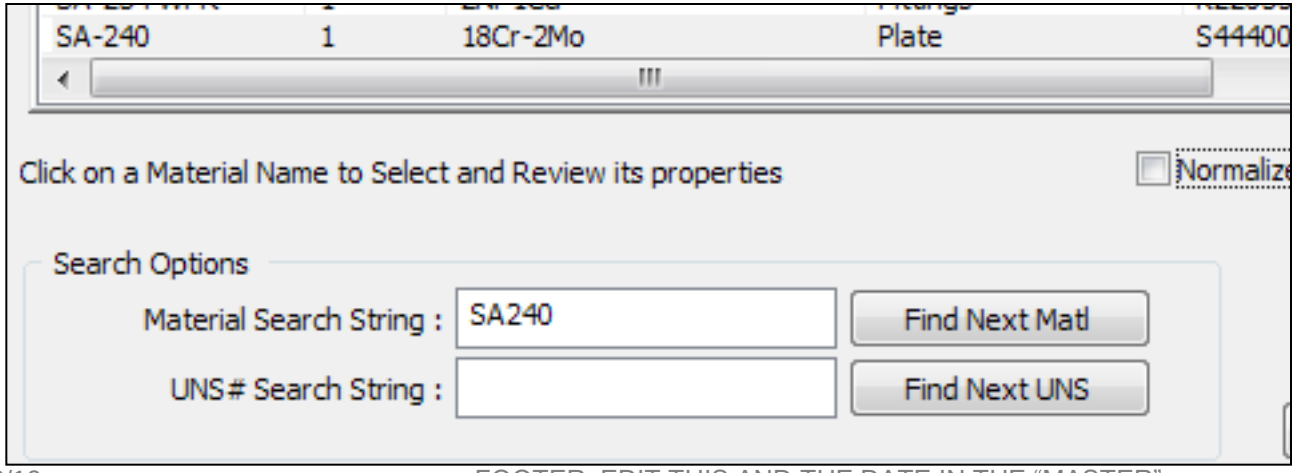
  or
  - 3 meters

  or
  - Other std.

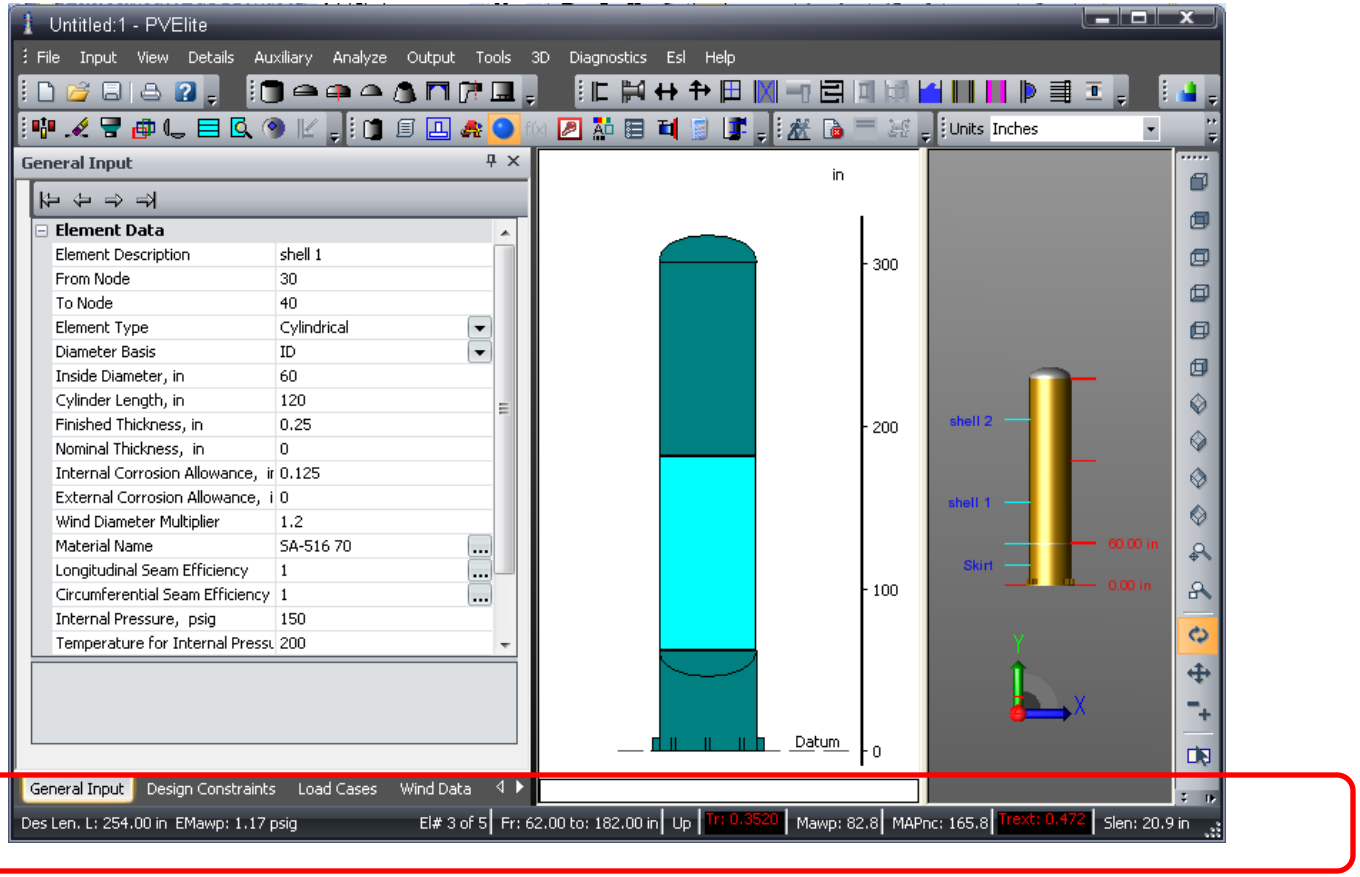


Finding your material

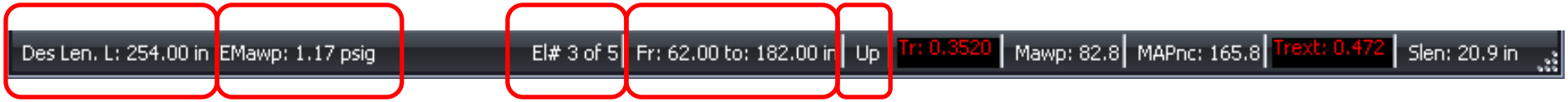




Lets look at the status bar



Status bar – a quick run down



Design Length for Vacuum calcs.

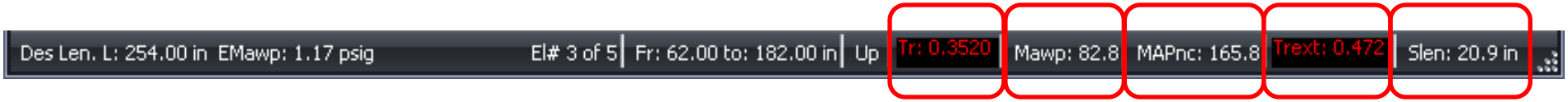
Maximum Vacuum Pressure

3rd element out of 5 total

Starting/Ending Element Elevations from datum

Orientation, usu. not needed

Status bar – a quick run down



Internal Pressure required Thickness

Maximum Internal Pressure

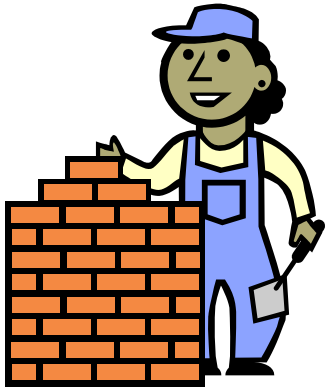
Maximum Pressure in New & Cold cond.

Required Thickness for Vacuum case

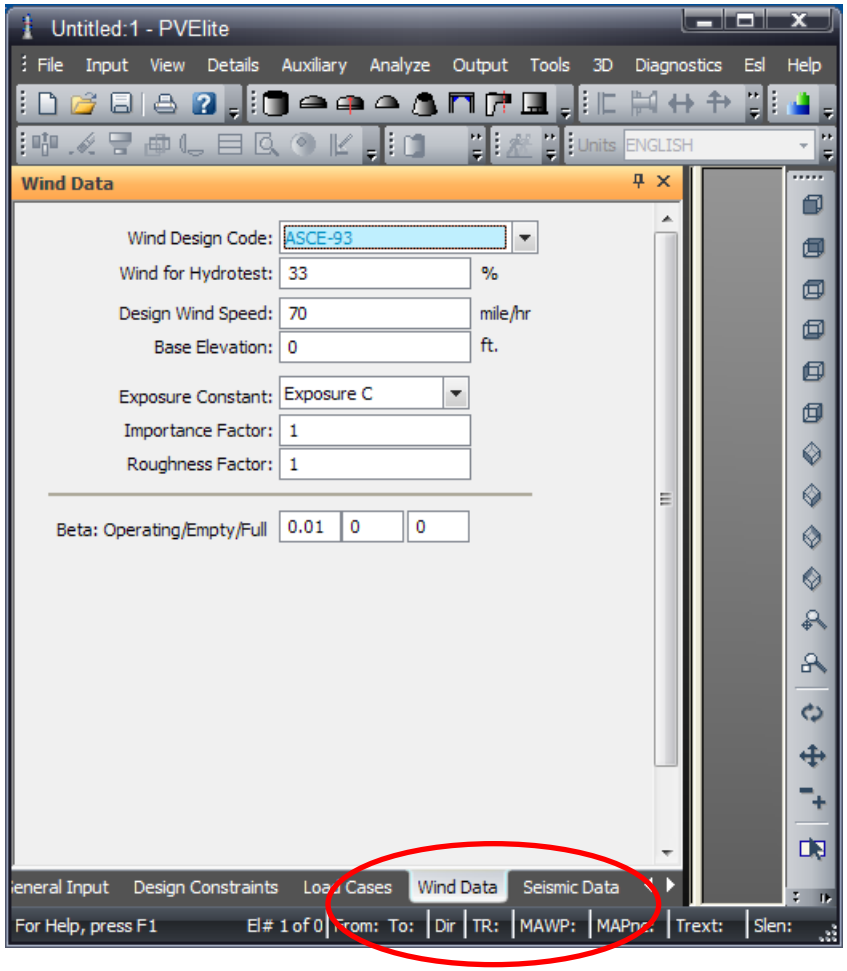
Maximum distance before ring needed

Let’s Continue building

- Check the on-screen results
- Fix **only** the **Internal Pressure** failures
- Complete the Pressure Envelope

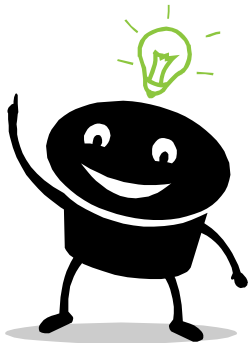


Now add Wind/Seismic loading

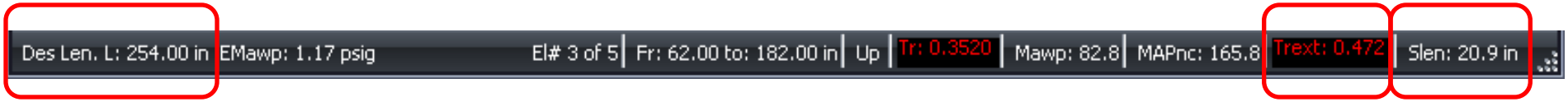


Continuing Building

- Analyze your job.
- Satisfy Internal Pressure
- Satisfy combined loads
- Now, we are ready to check for vacuum



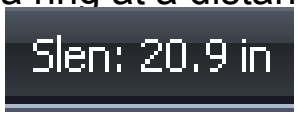
Now lets check for Vacuum



Design Length for Vacuum calcs.

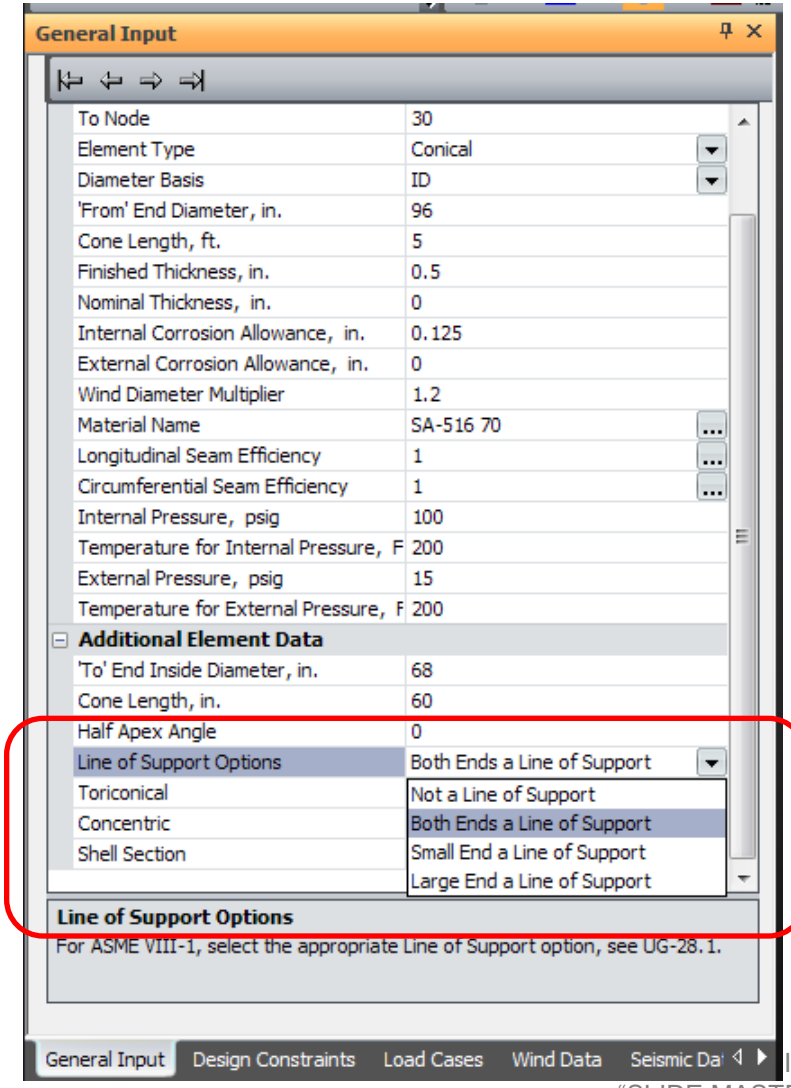
Required Thickness for Vacuum case

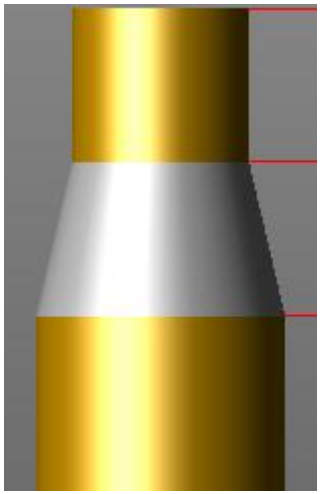
- Place a ring at a distance of “Slen”



Maximum distance before ring needed

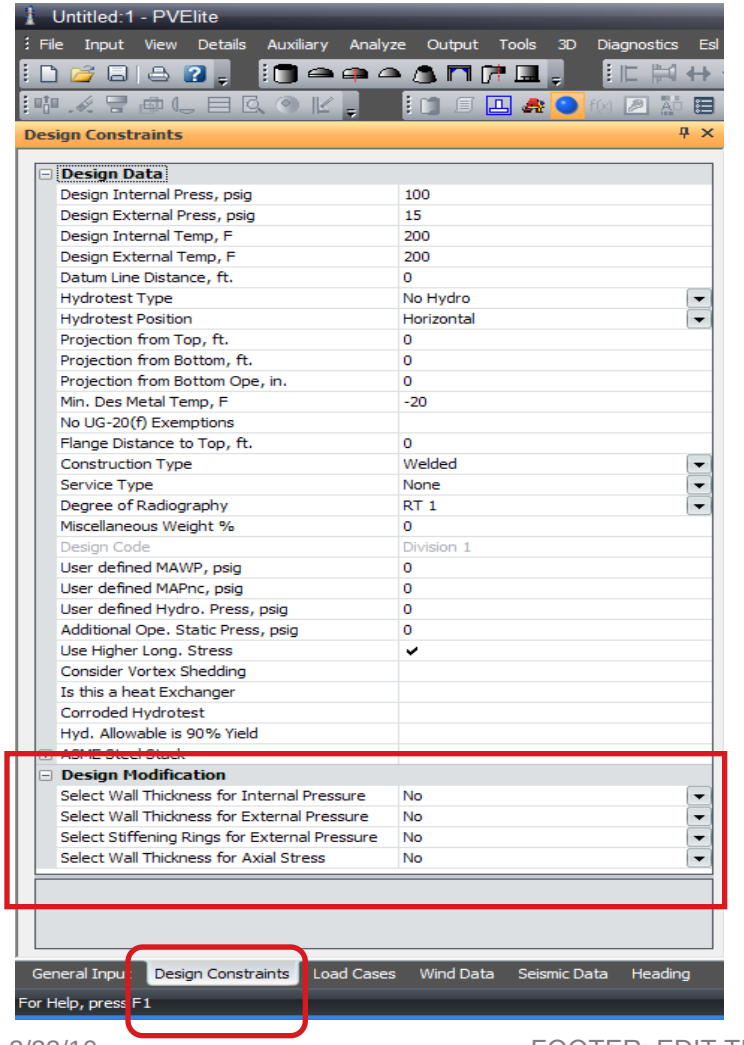
Cone-Cylinder Junction options





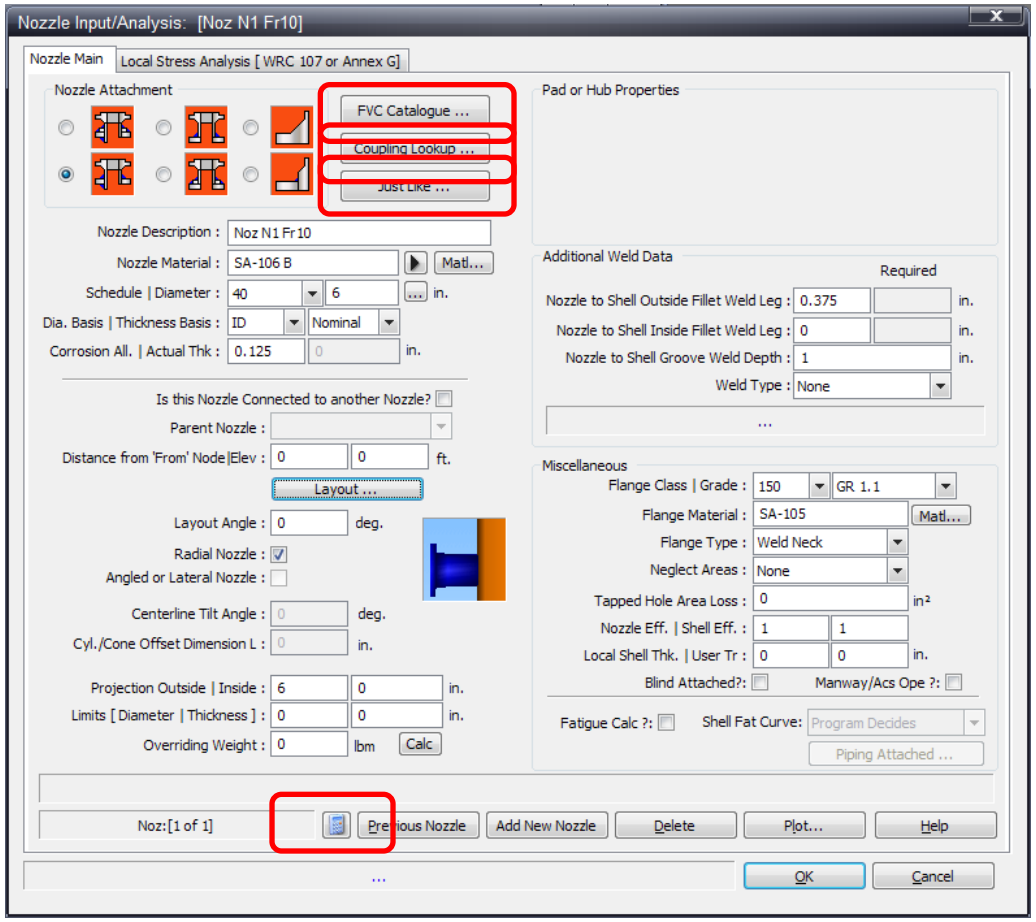
Try other design options as well.

Program Auto design Options



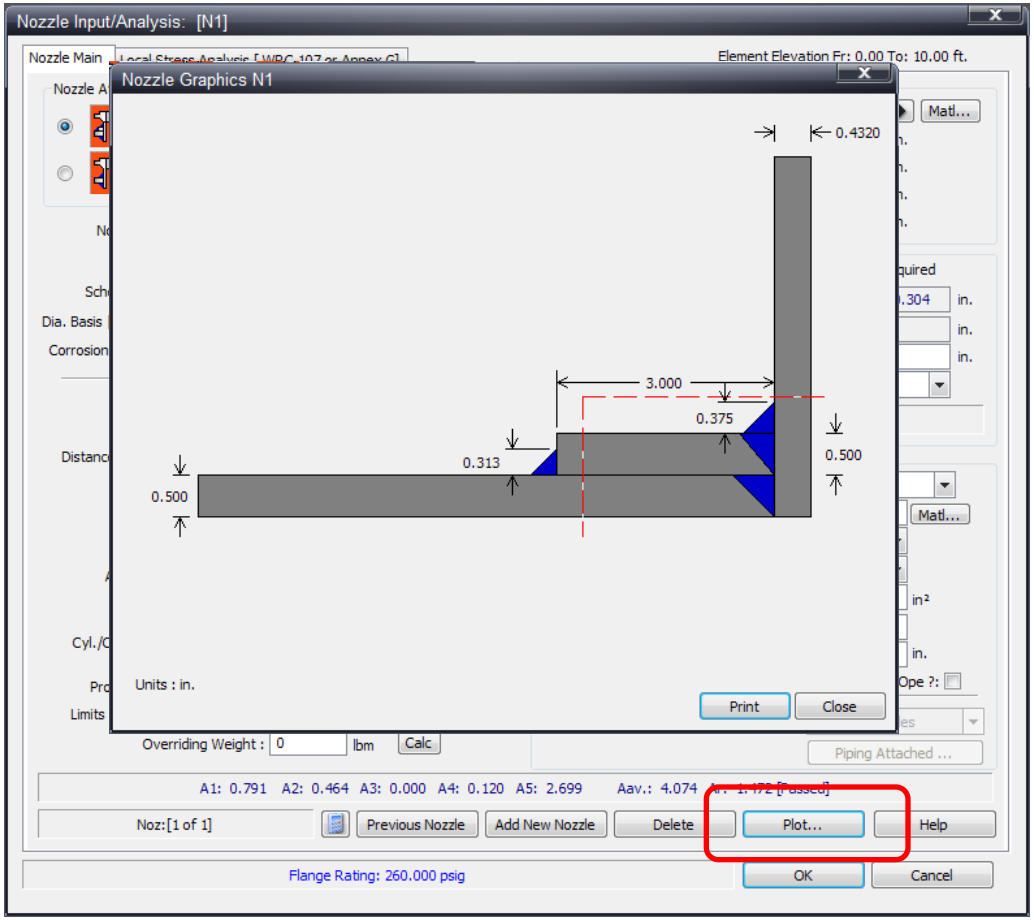
- Auto-select thickness for pressure
- Auto-select thickness for Vacuum
- Select rings for Vacuum
- Select thickness for combined wind/seismic/wt.

Now let's add Nozzles



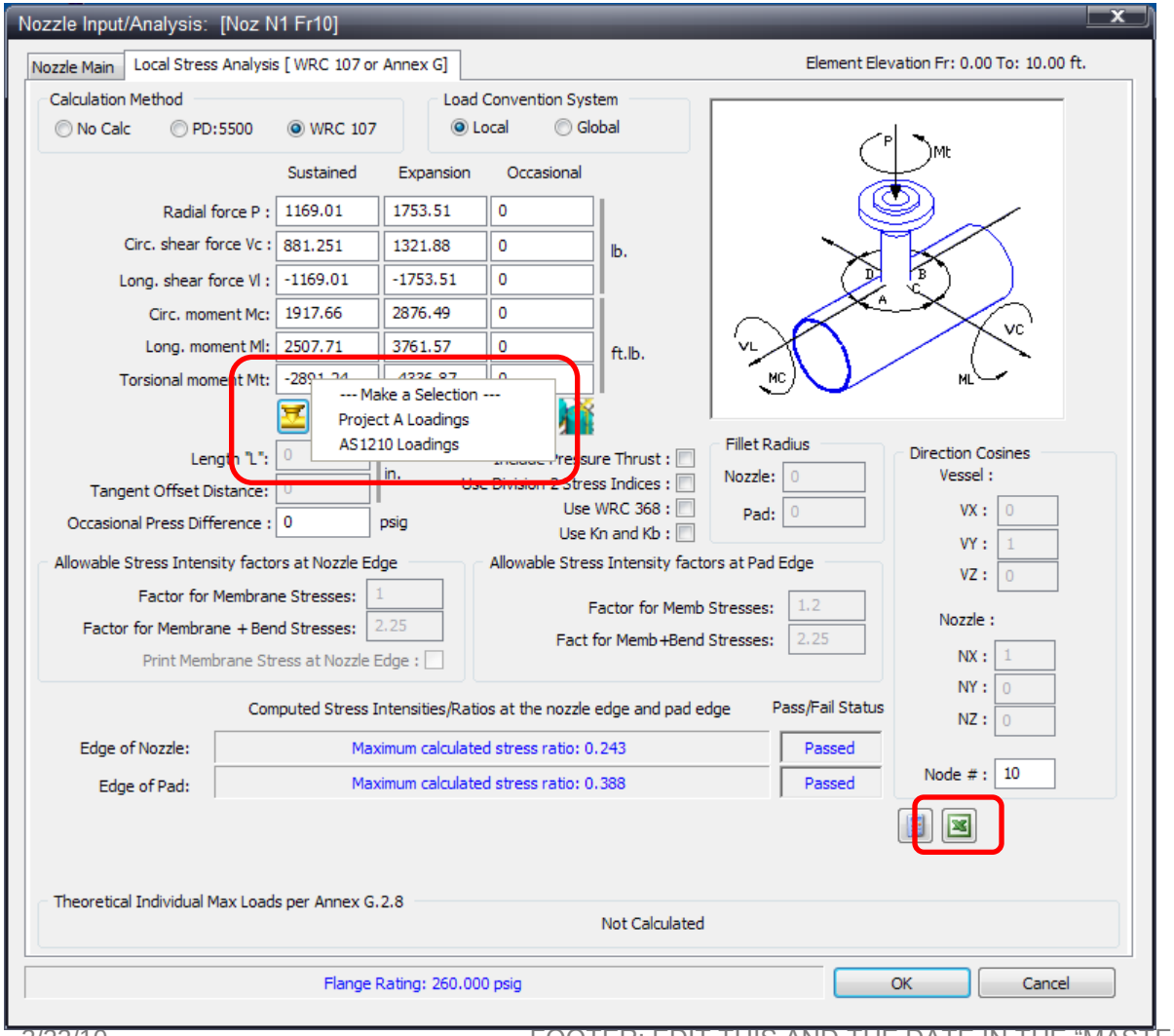
- Try these :
  - FVC catalog
  - Coupling lookup
  - "Just like"
  - View Results

What's wrong here ?



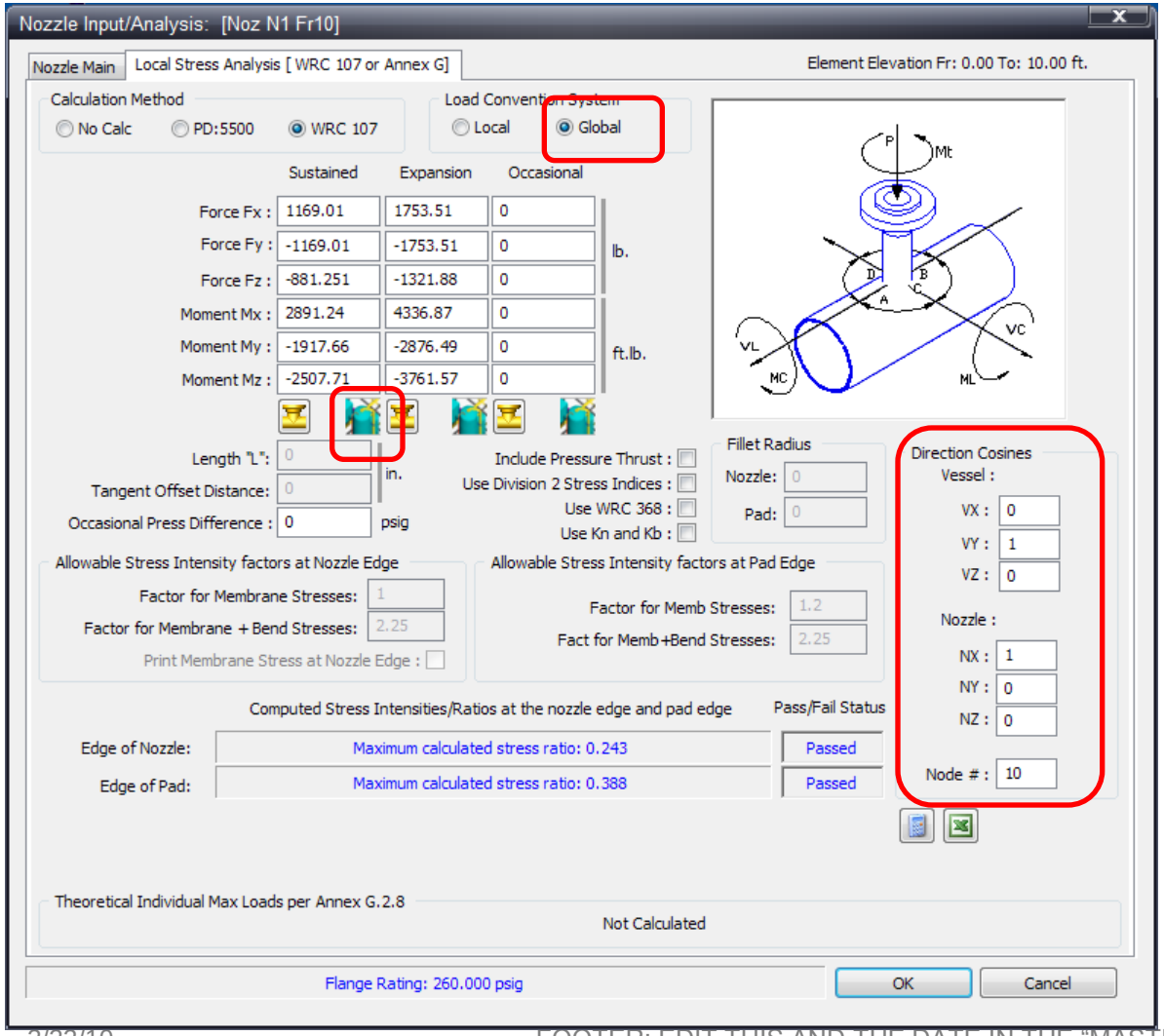
- Using “Plot” button
- Watch for “reinforcement limits” in red dotted line.

Store & Apply Std. Nozzle loads



- Store std. loads
- Import loads on nozzle

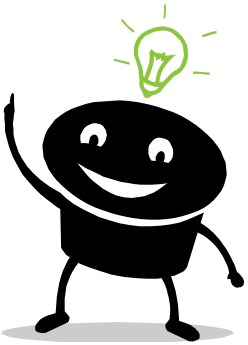
Import piping loads from CAESAR II

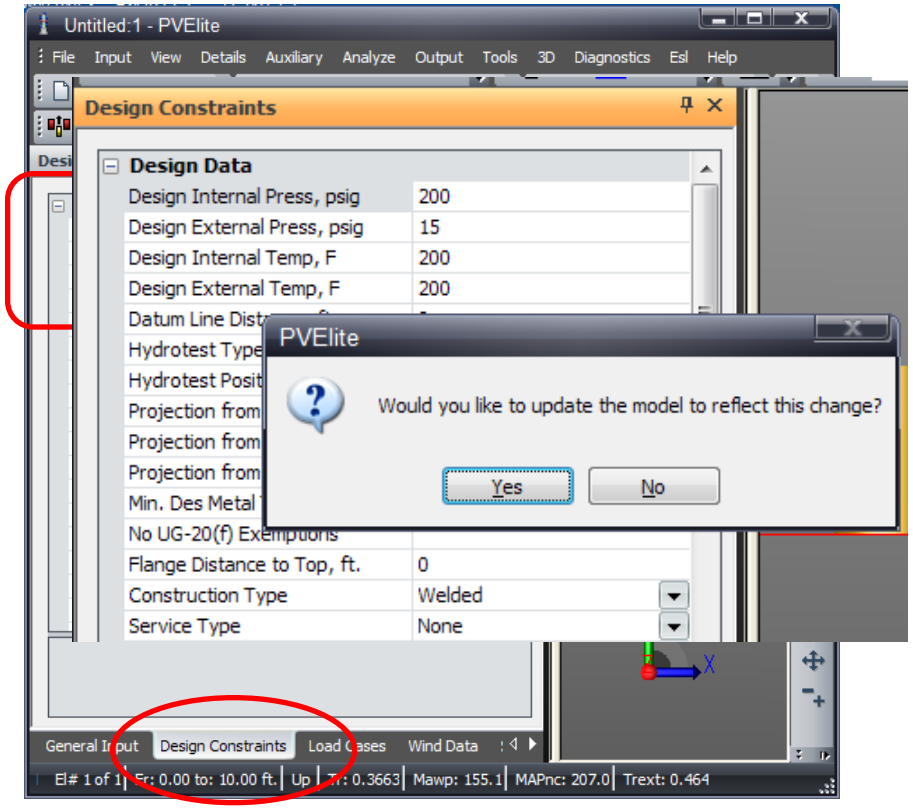


- Specify,
  - Global conv.
  - direction cosines
  - Node #
- Import loads from C2 file

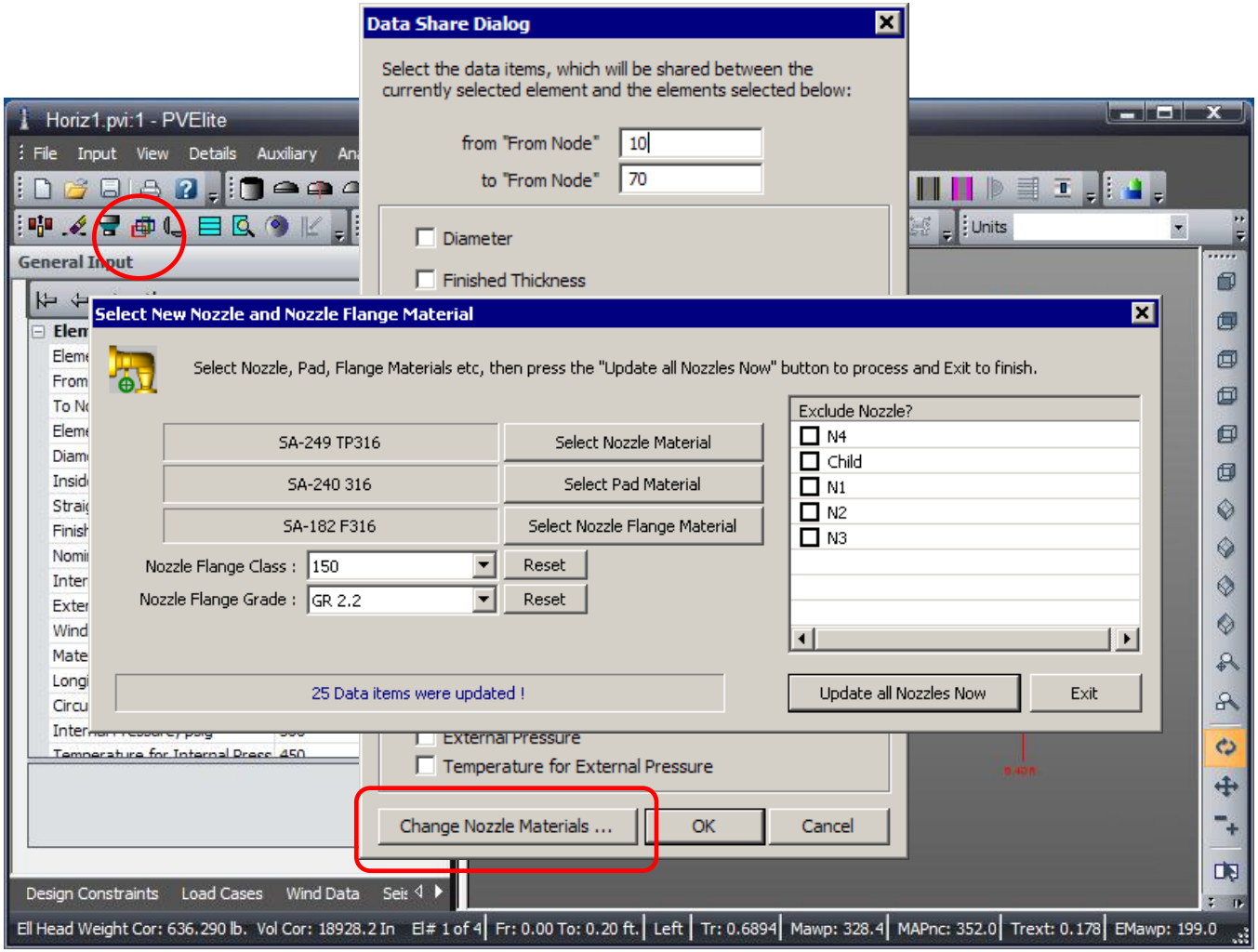
Editing tips

- Global Pressures/Temperatures change

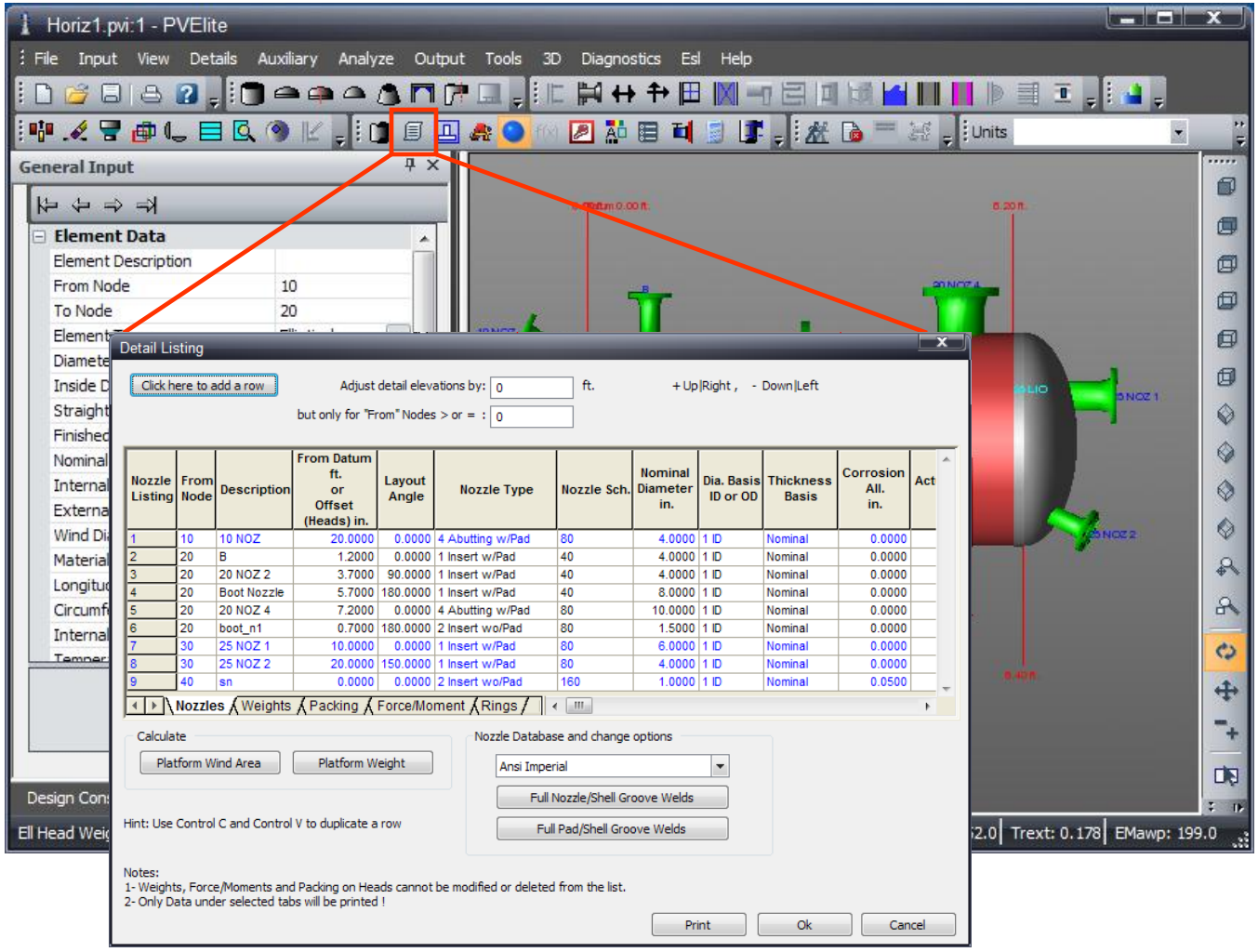




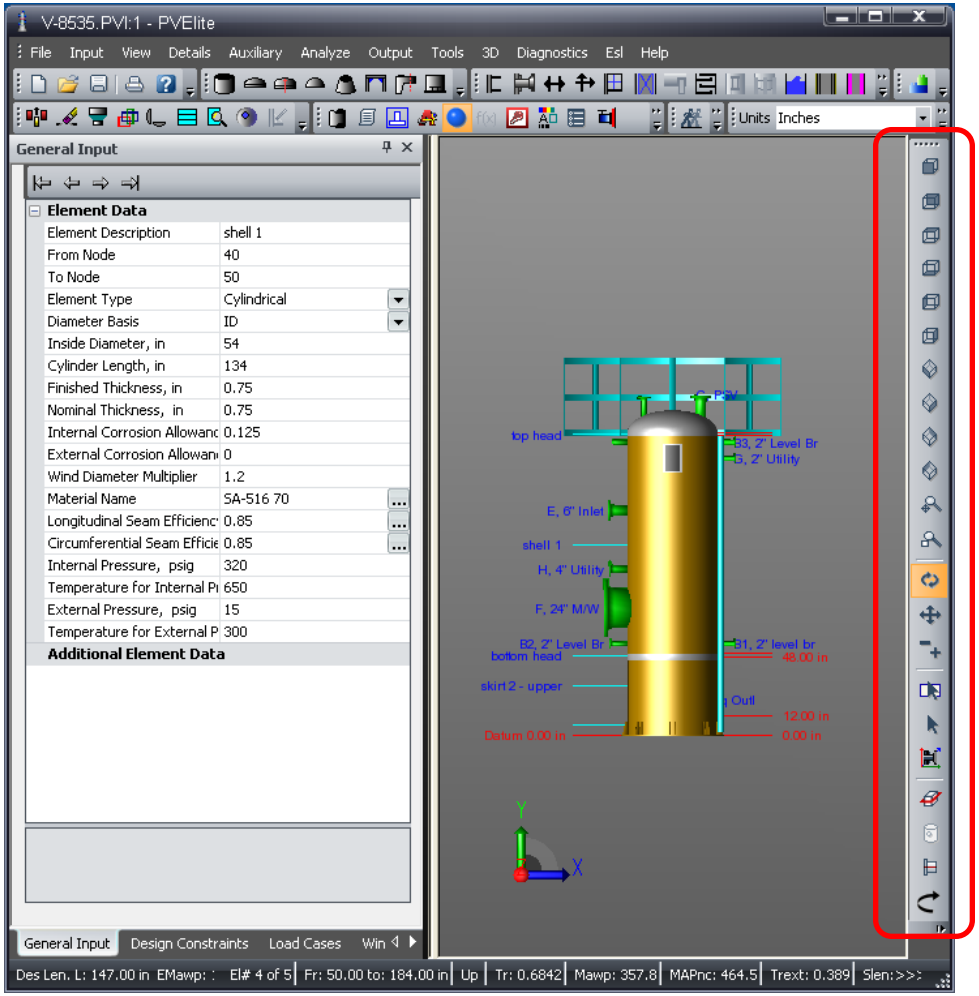
Global share



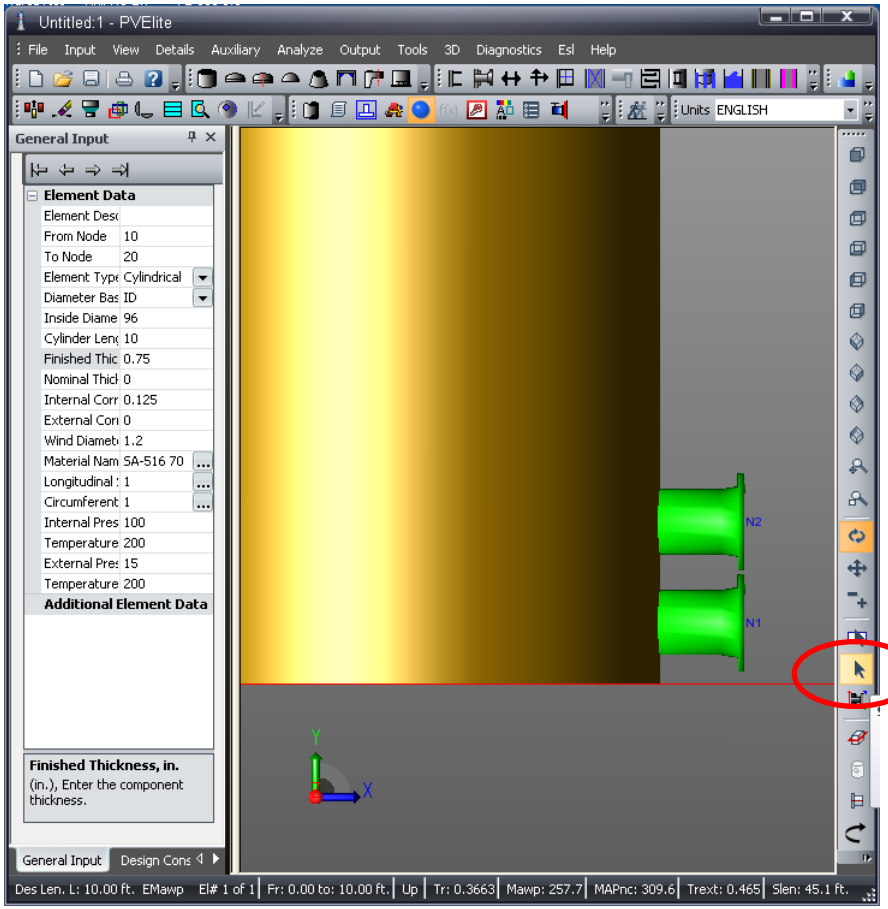
List Dialog for fast manipulation



Lets look at the 3D palette.

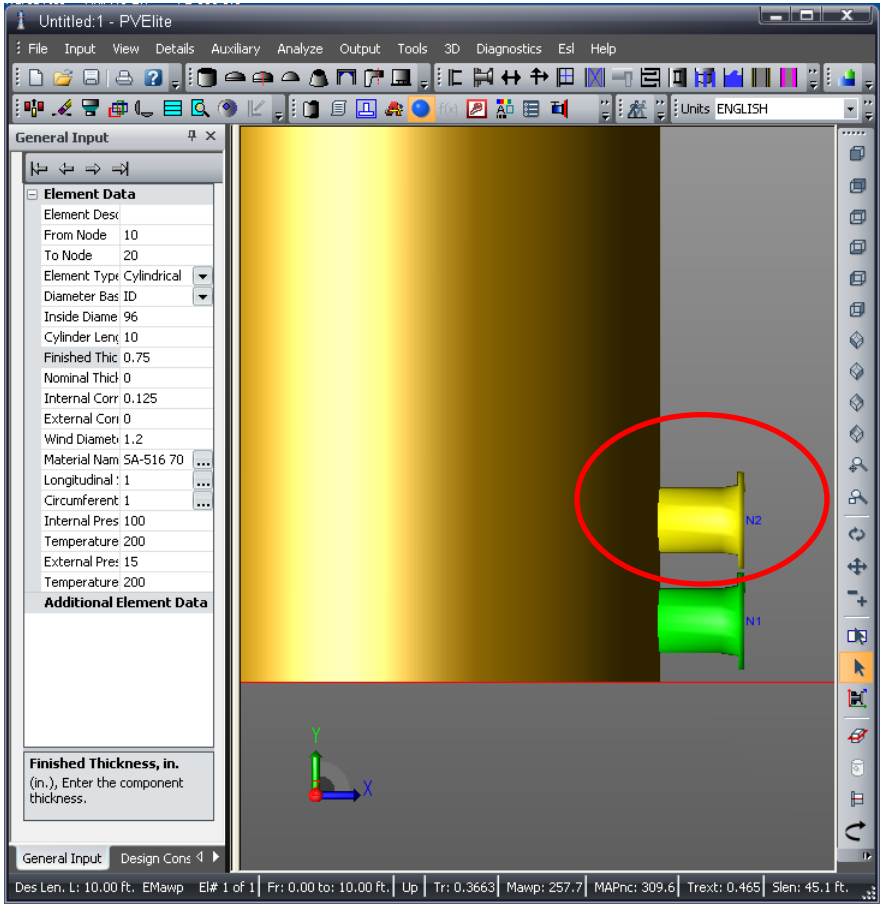


Visually Translate Nozzles, rings etc.



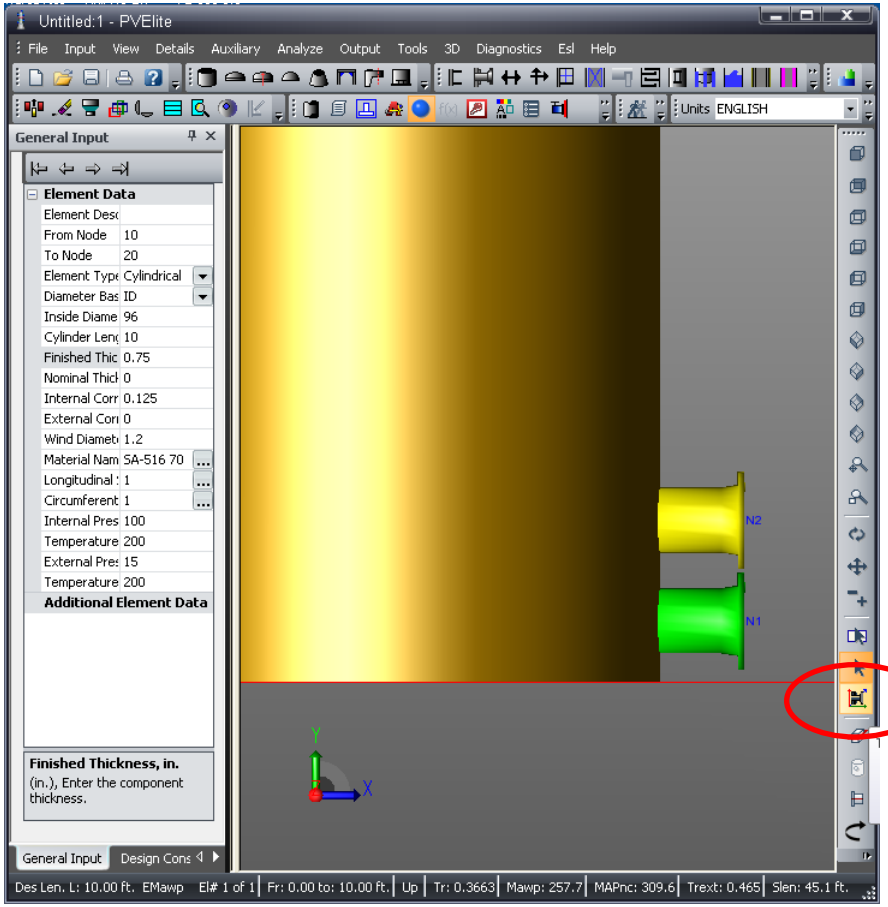
Click on the “Select-by-Click” icon

Translating a nozzle



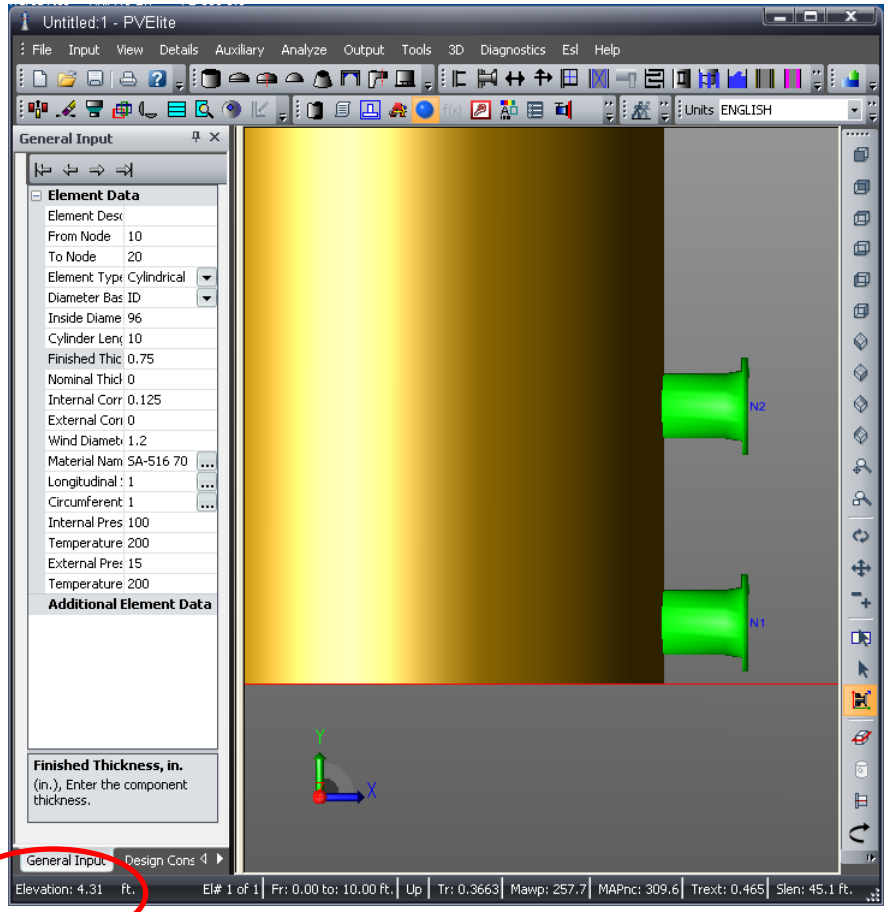
Click and Select the nozzle to move.

Translating a nozzle



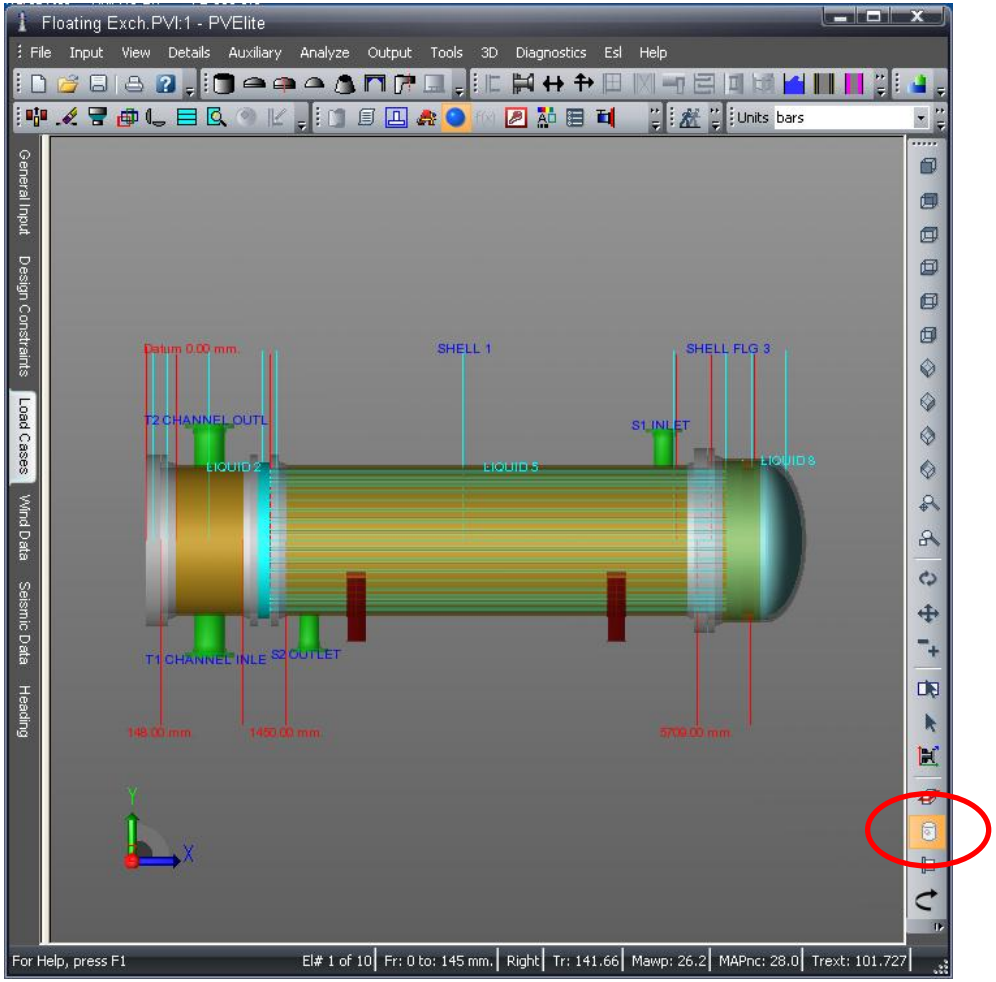
Click on Translate detail icon and click on the nozzle move it.

Translating a nozzle

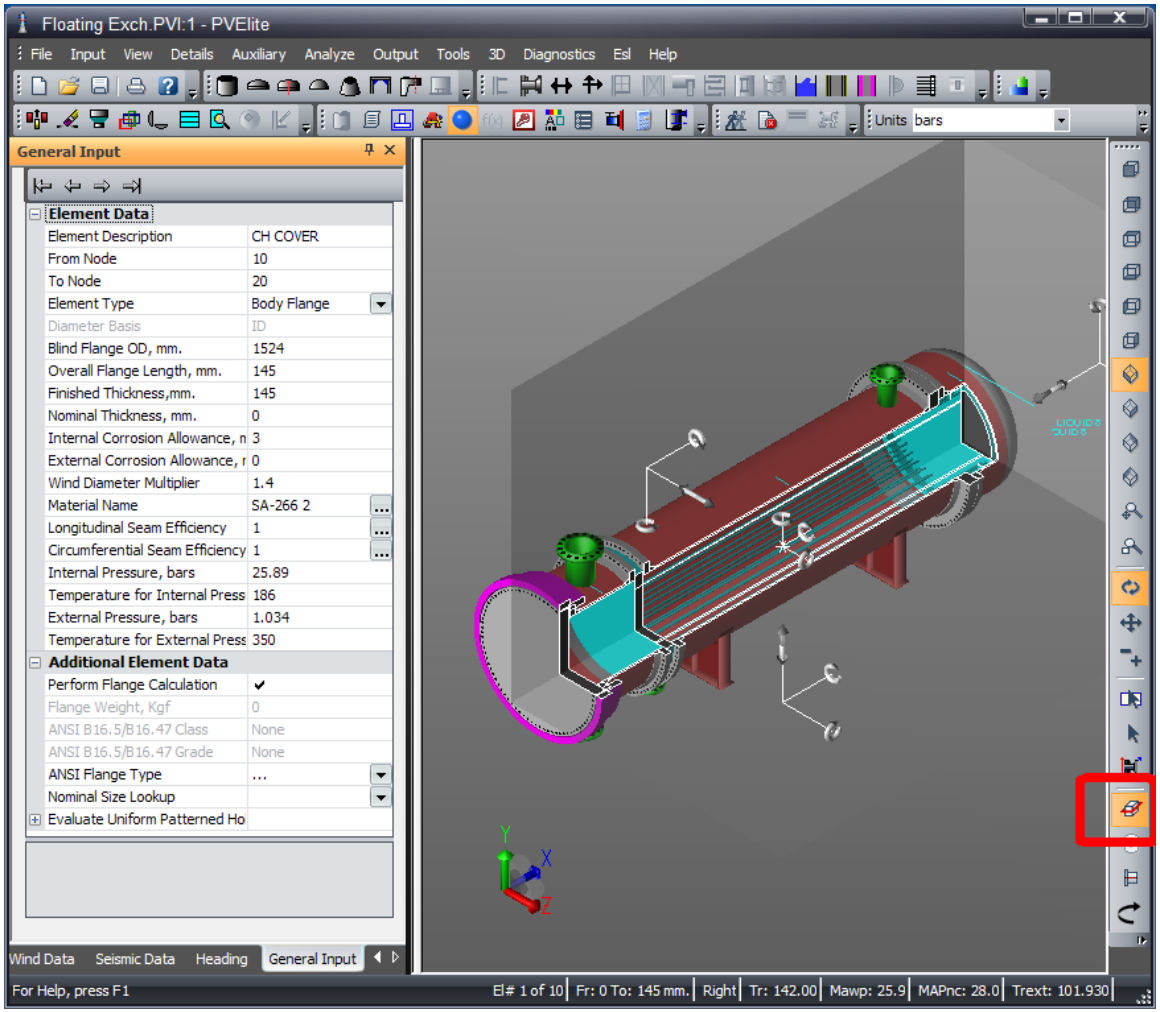


Nozzle moves to new location.

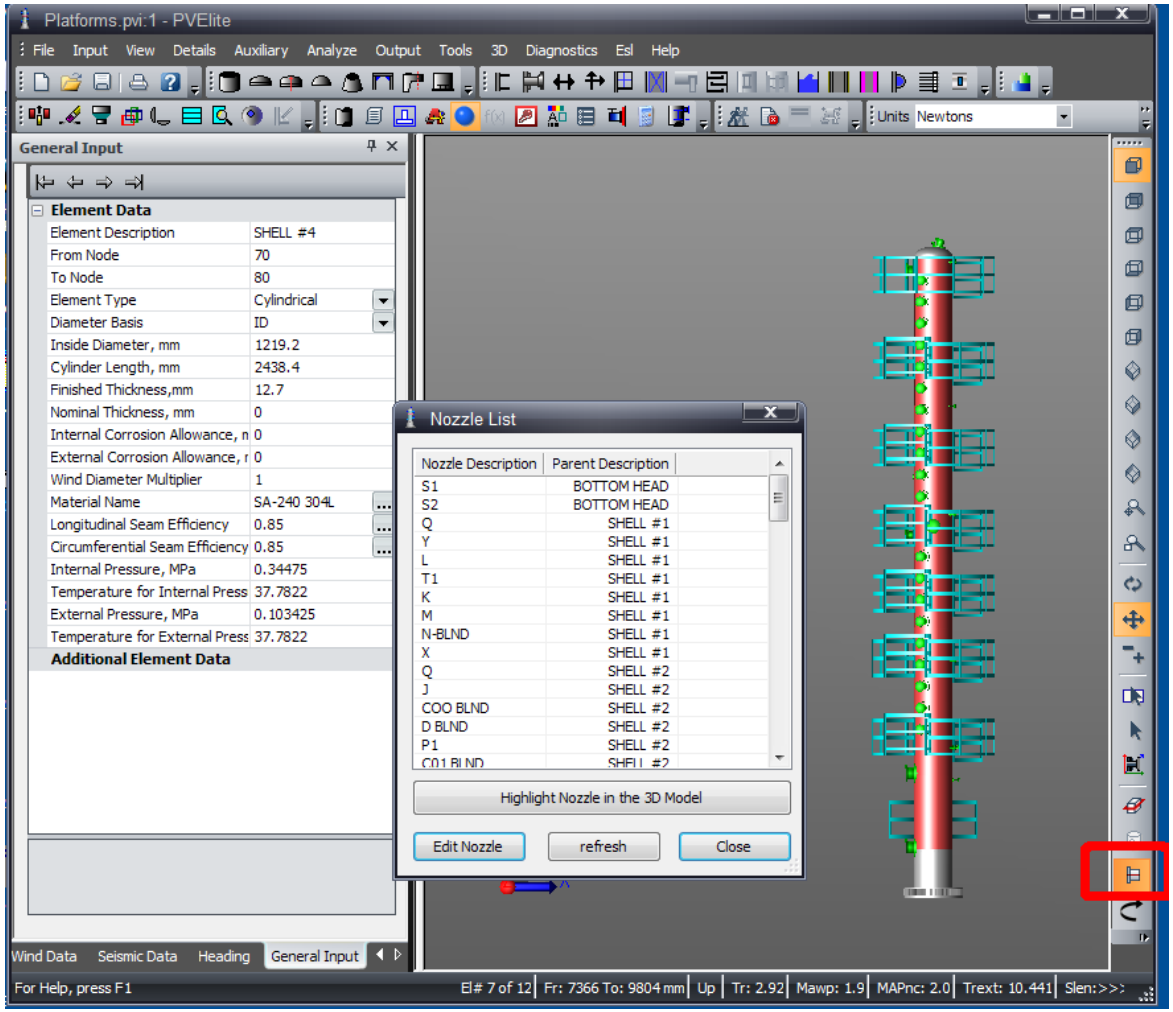
Make 3D model transparent



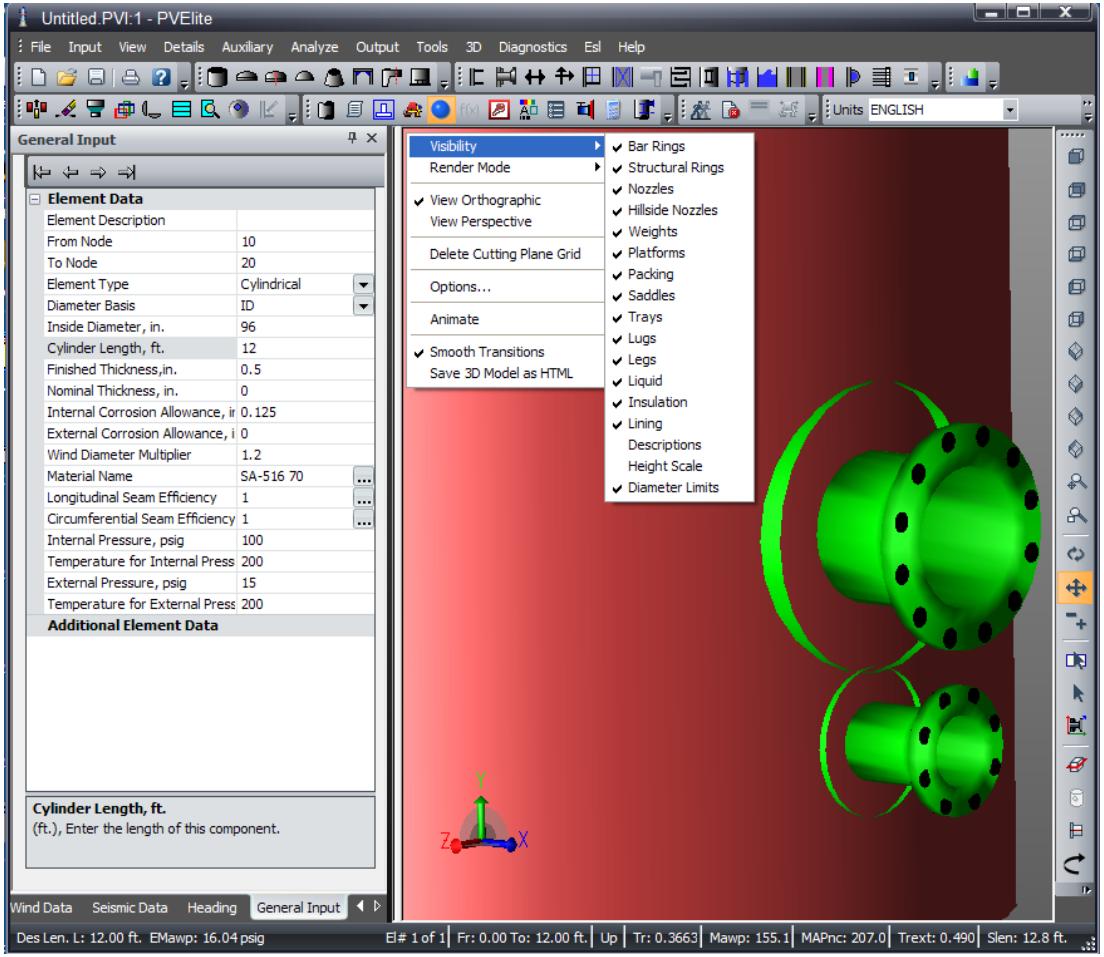
Use Cutting Planes to dissect



Find my Nozzle

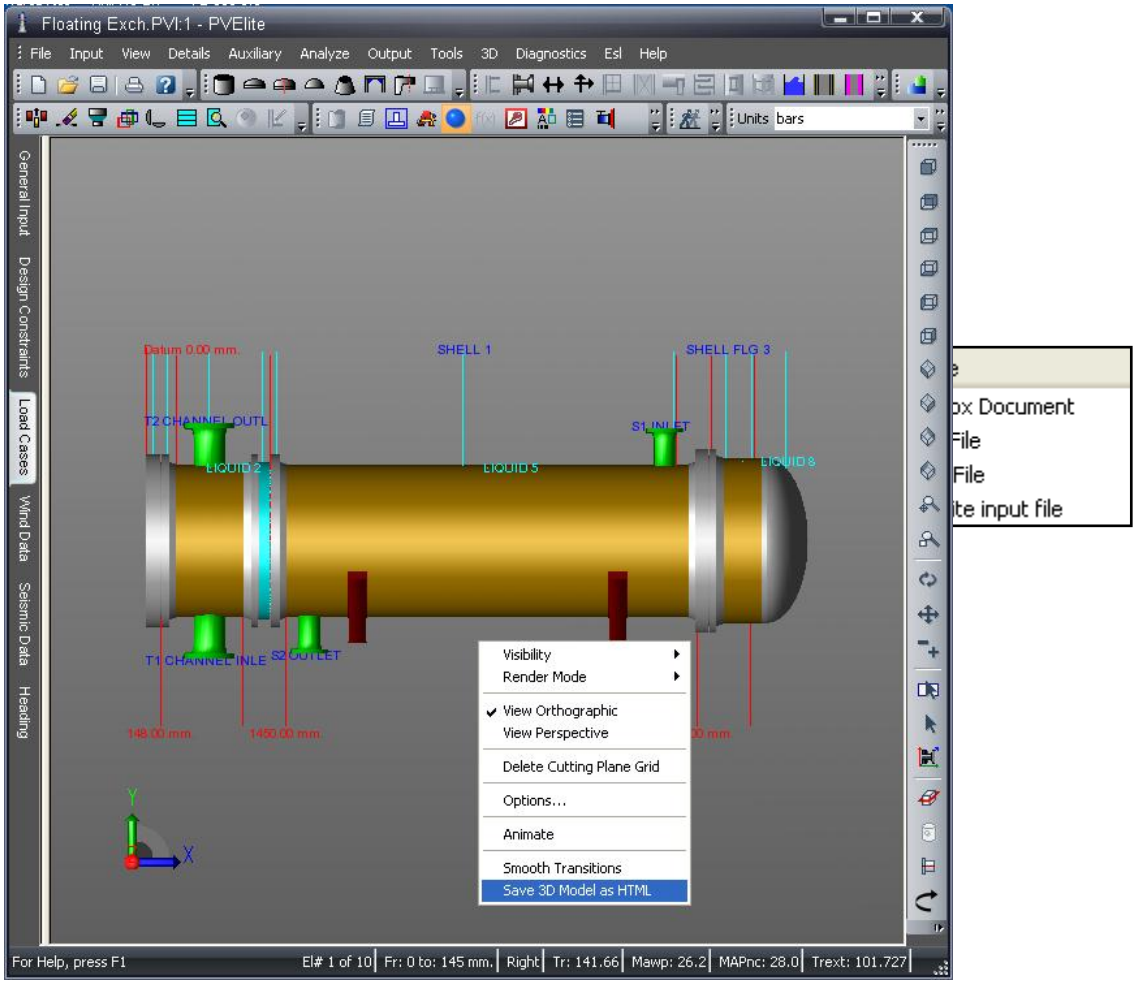


See Nozzle Interference



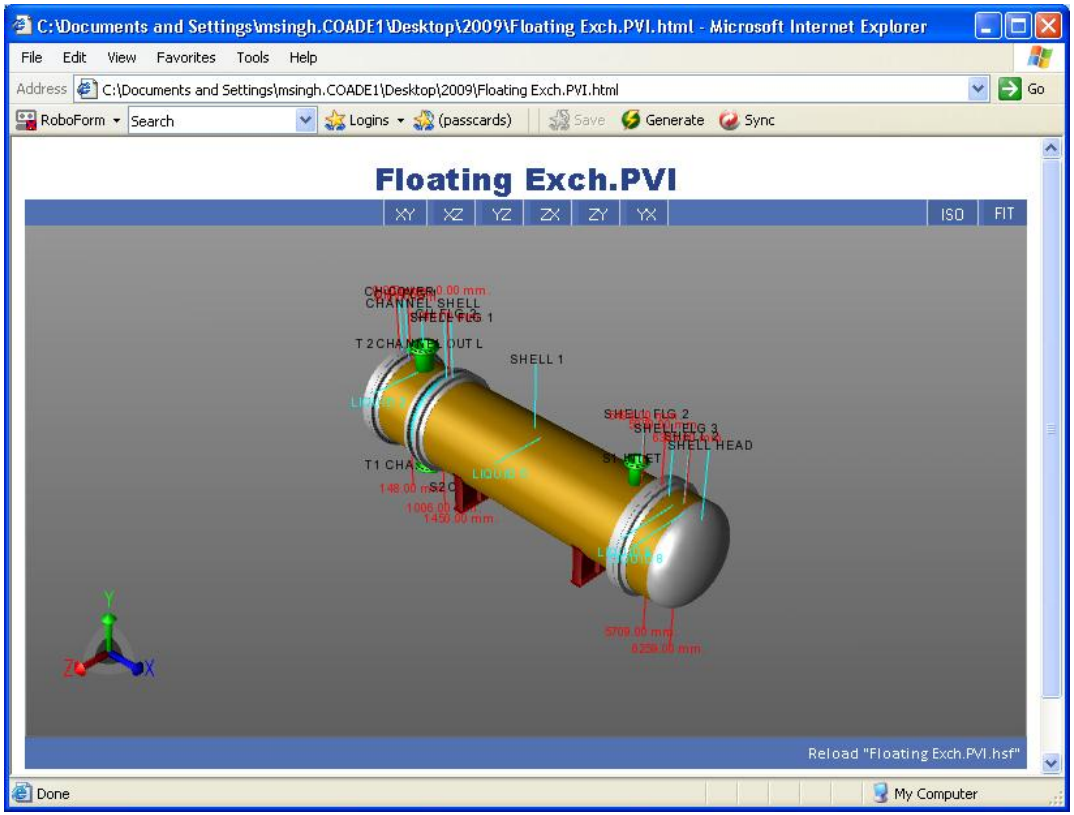
Right click on 3D
or
From “3D” menu.

Share 3D model with customers

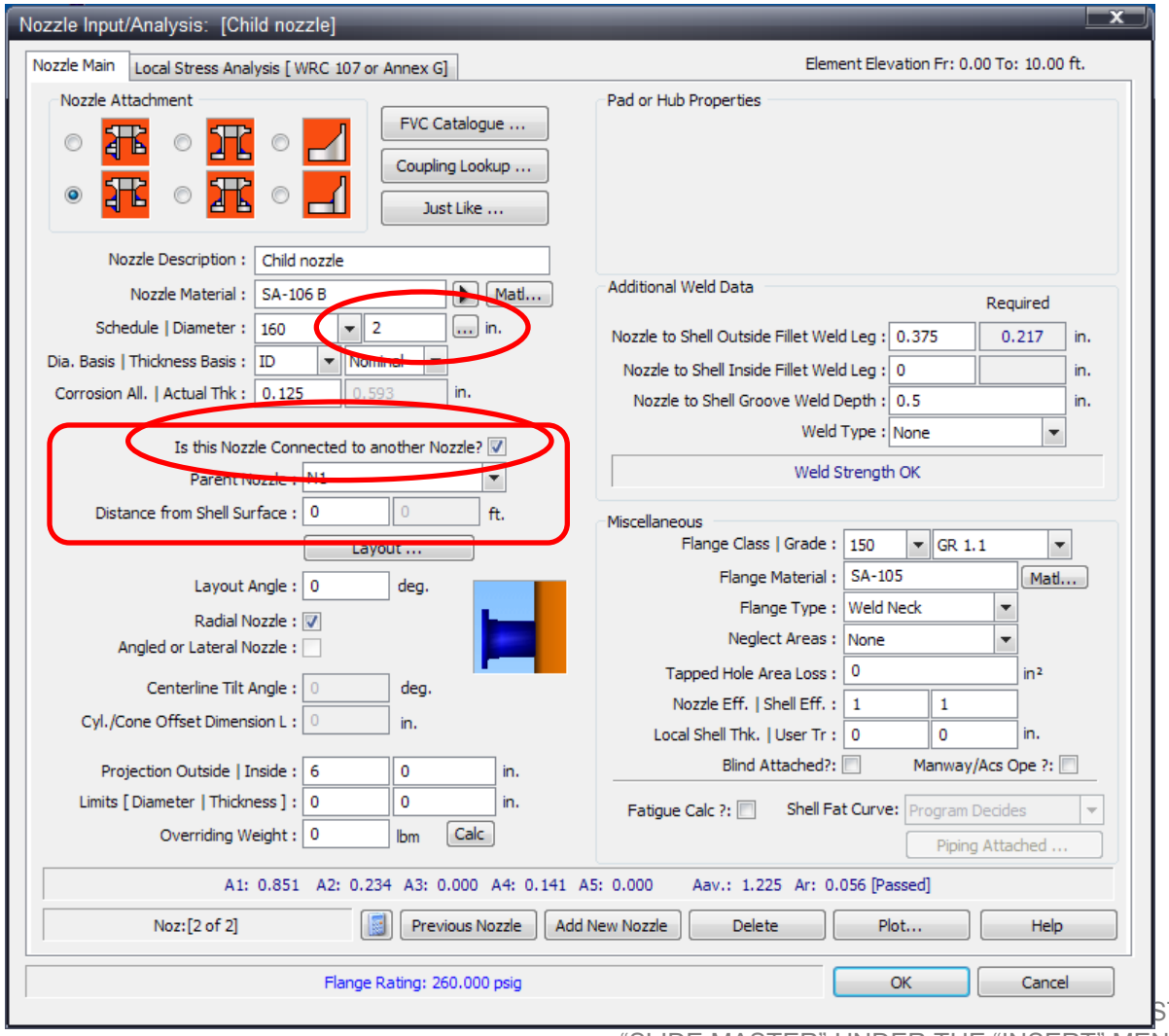


PV Elite model in Internet Explorer

- May need to install Viewer from Tech Soft

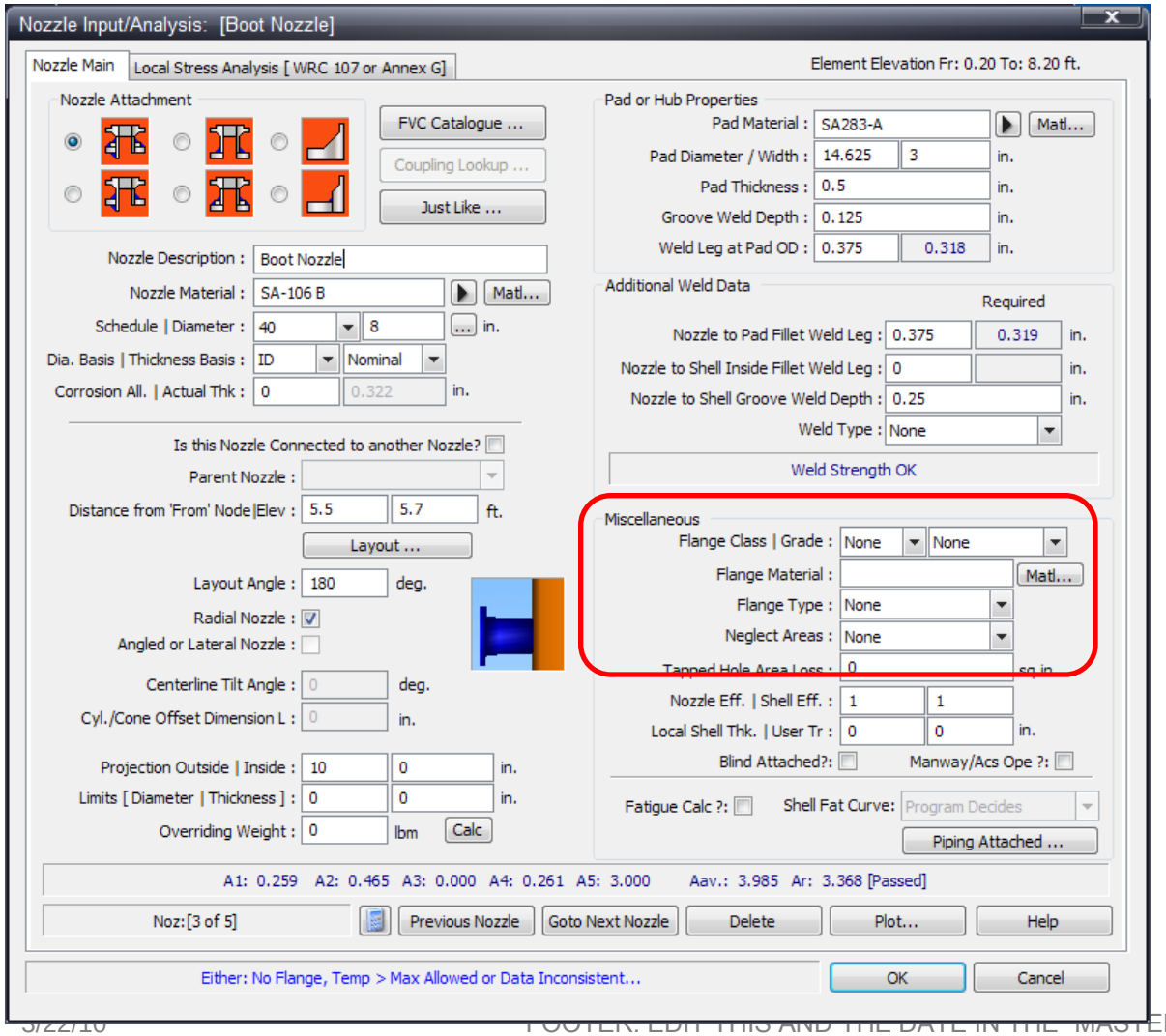


How to add a Nozzle to a Nozzle



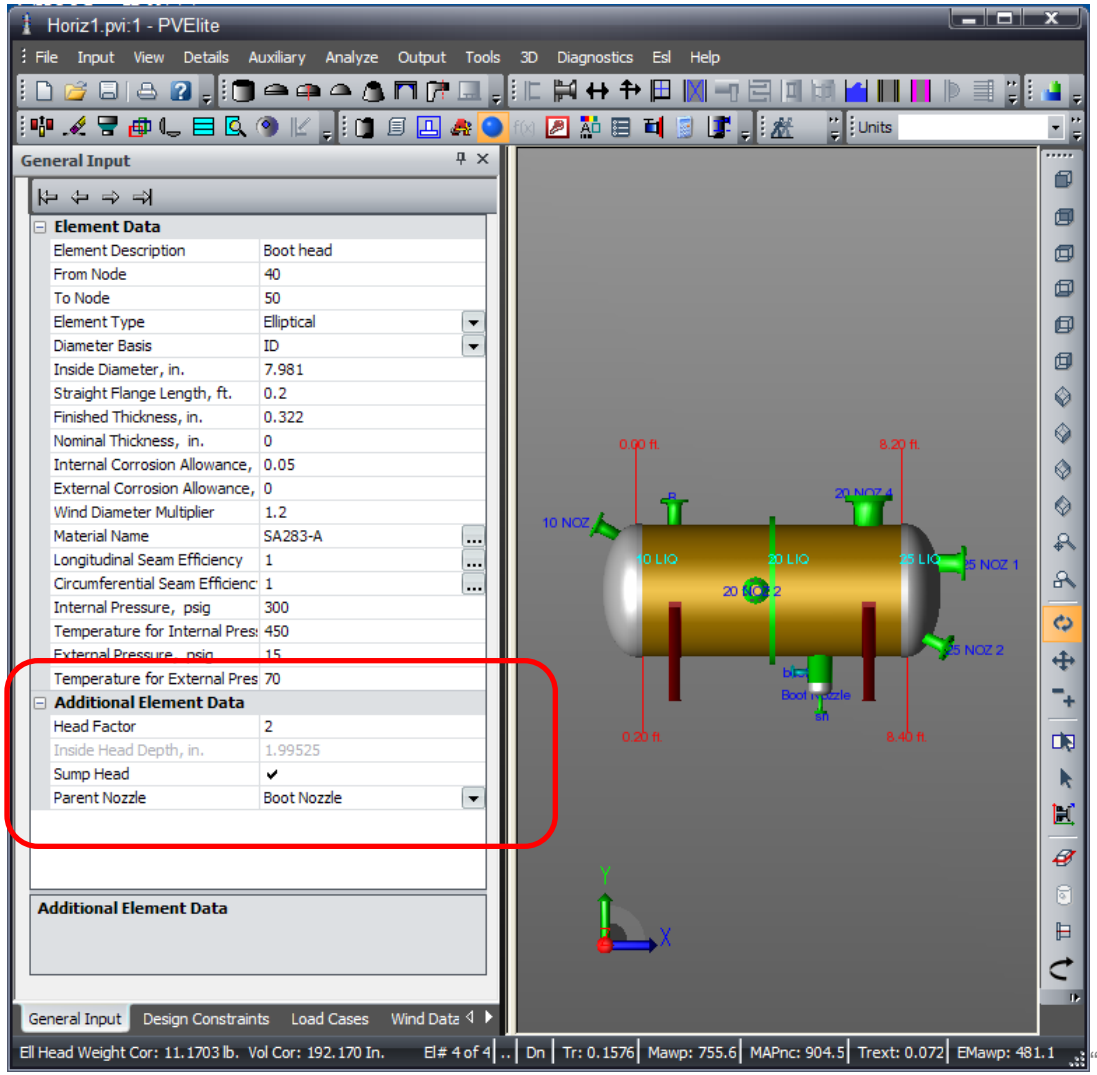
- Add the Parent nozzle
- Add child nozzle
- Specify its diameter
- Indicate it's a child
- Select its Parent nozzle

How to add a Sump/Boot - 1



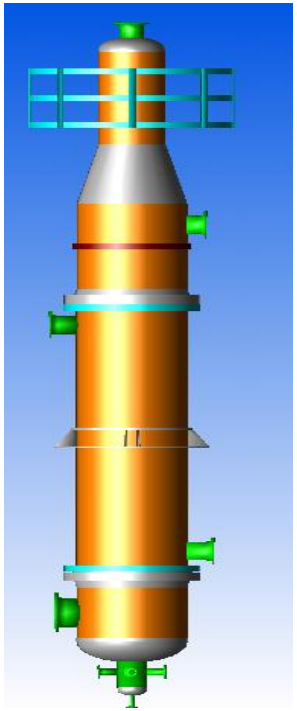
- Add the “boot” as a nozzle
- Select “None” for flange.

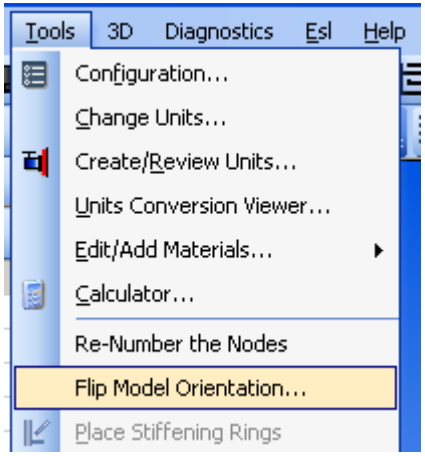
How to add a Sump/Boot - 2

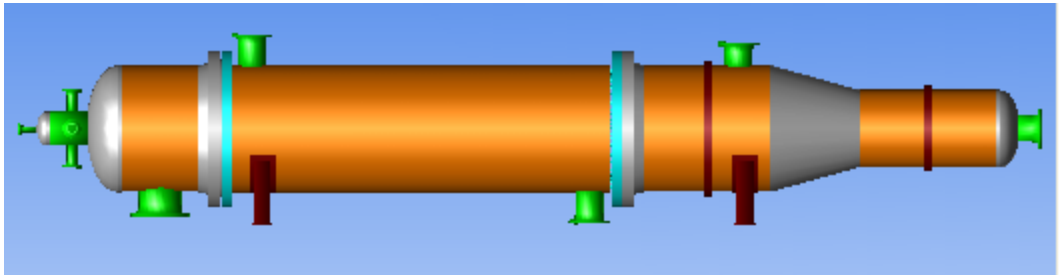


- Now add a head
- Check the box for “Sump Head”
- Connect it to the “boot” nozzle

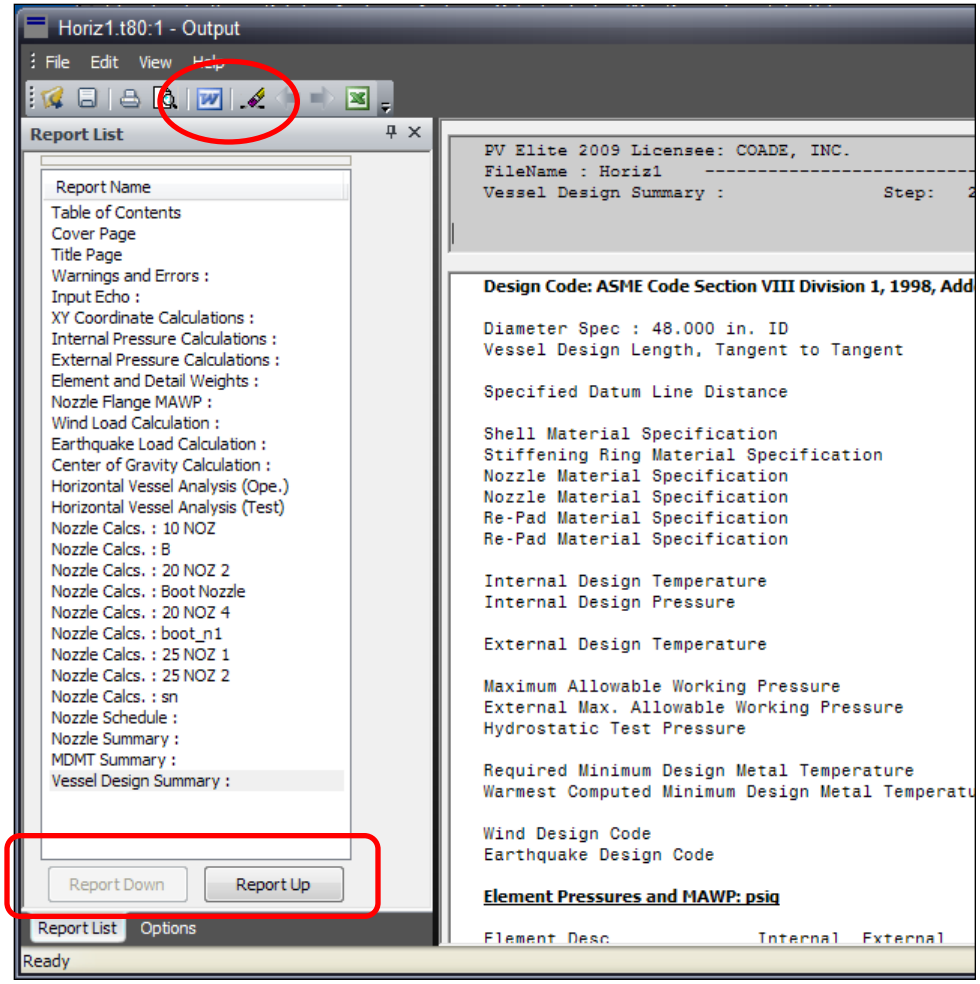
Flip Vessel for analysis





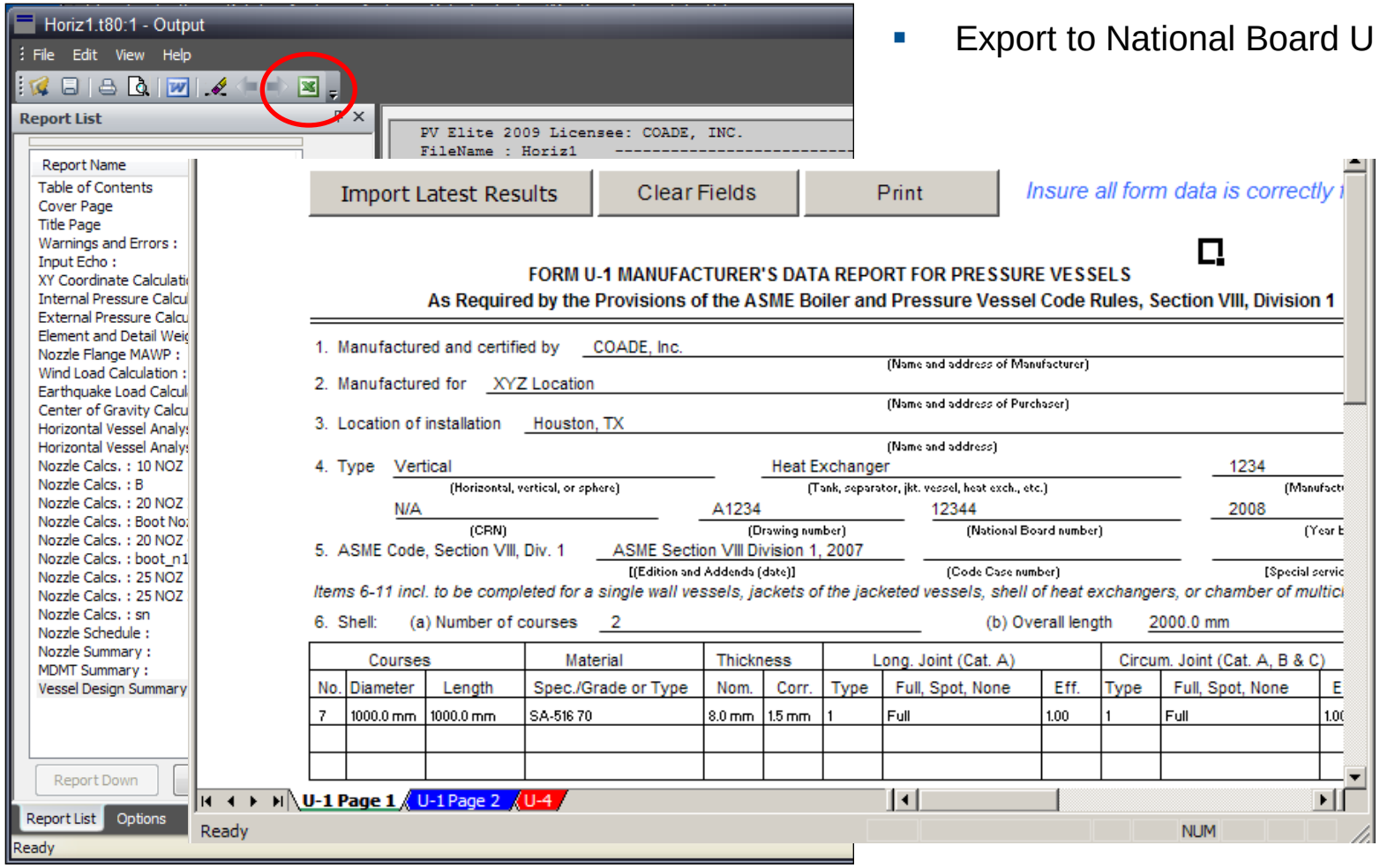


Output tips - 1



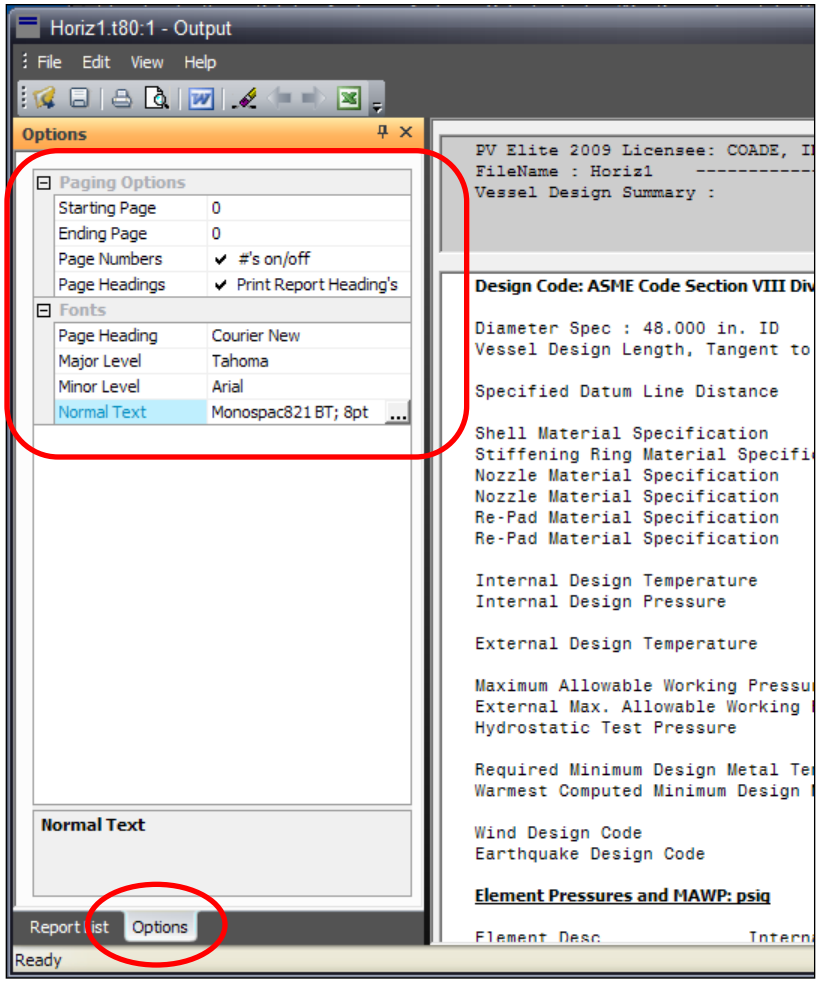
- Export (all or some) reports to MS-Word
- Can re-order Report list.
- Reports can be deleted too

Exporting to ASME U forms



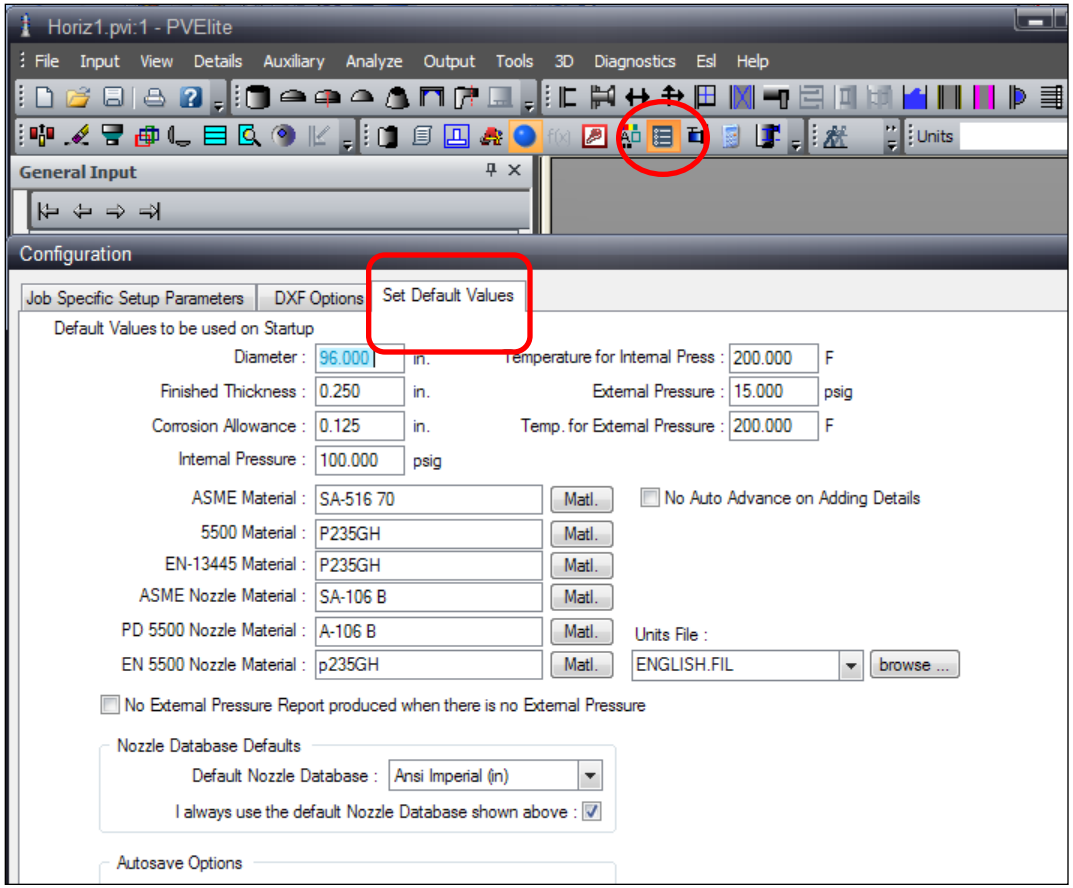
- Export to National Board U forms

Output tips – Set font/Other options



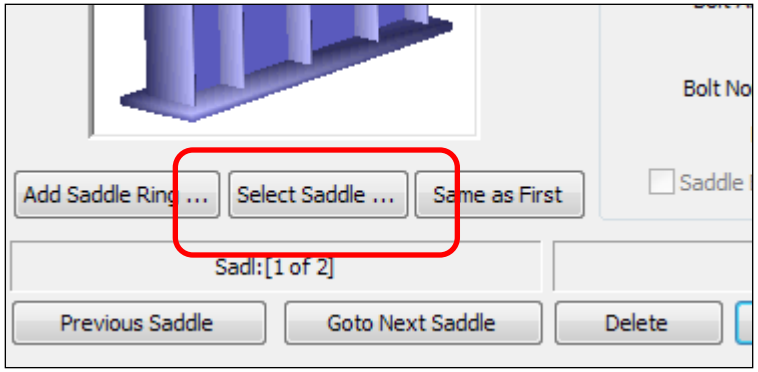
- Select Options tab
- Set font/Page #s

Set some defaults

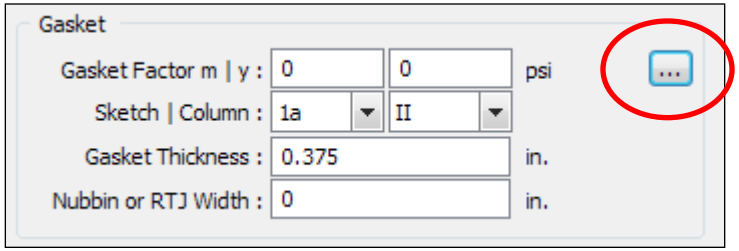


More customization

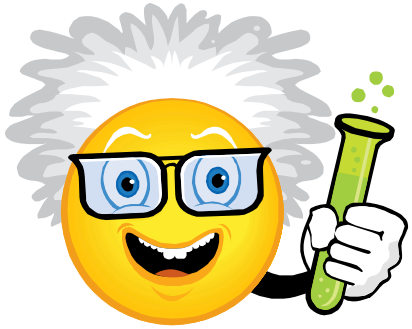
- Std. Saddle dimensions



- Gasket Properties



That are some of tips/tricks



The End