



**SSIWSC 2024**

Design. Build. Maintain. Connect.

# Seeing the Bigger Picture: Model Exploration and Scoping with Advanced SSI Tools

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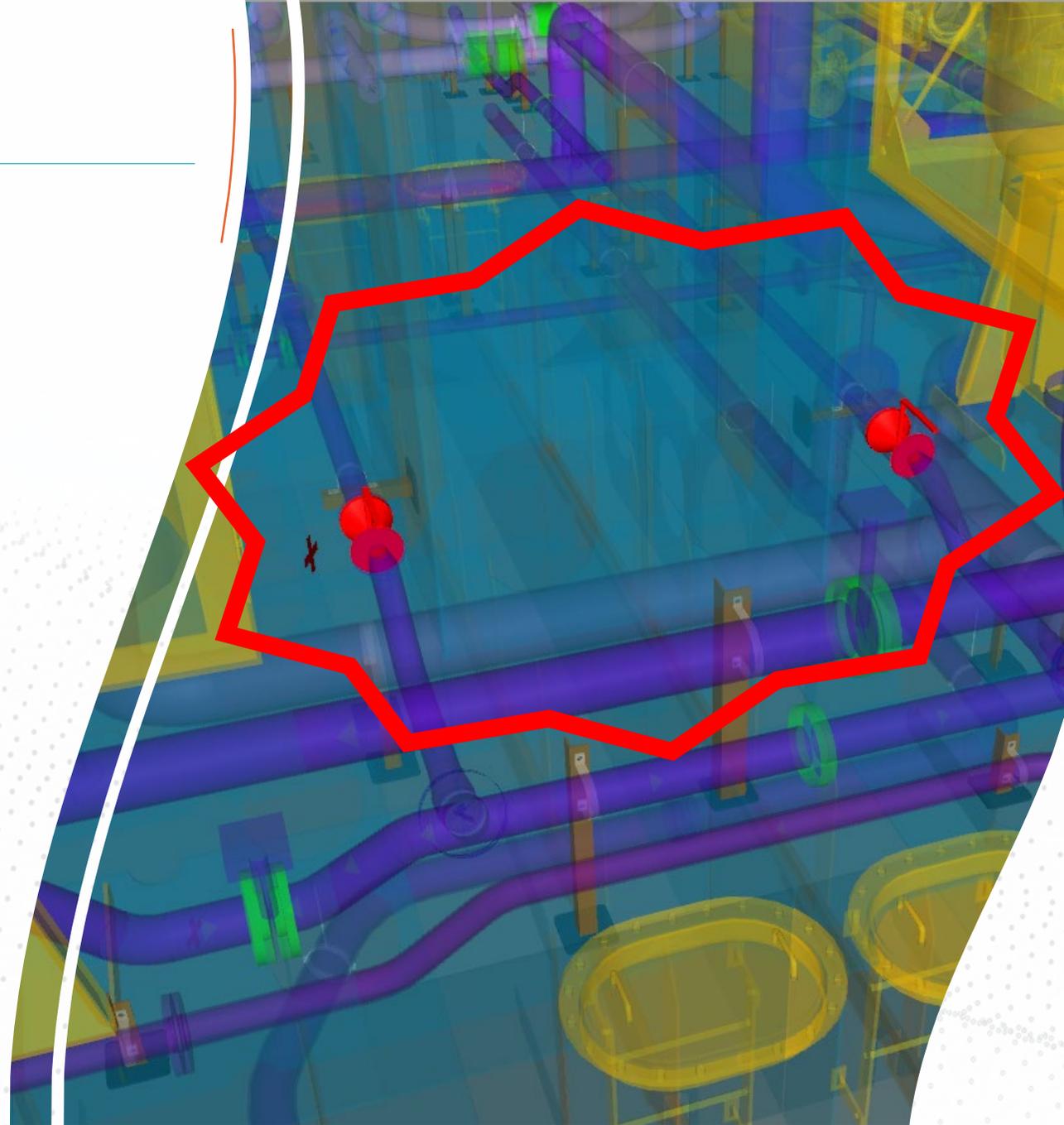
# Challenge

## CHALLENGE -

How do you efficiently scope and validate a change that needs to be made?

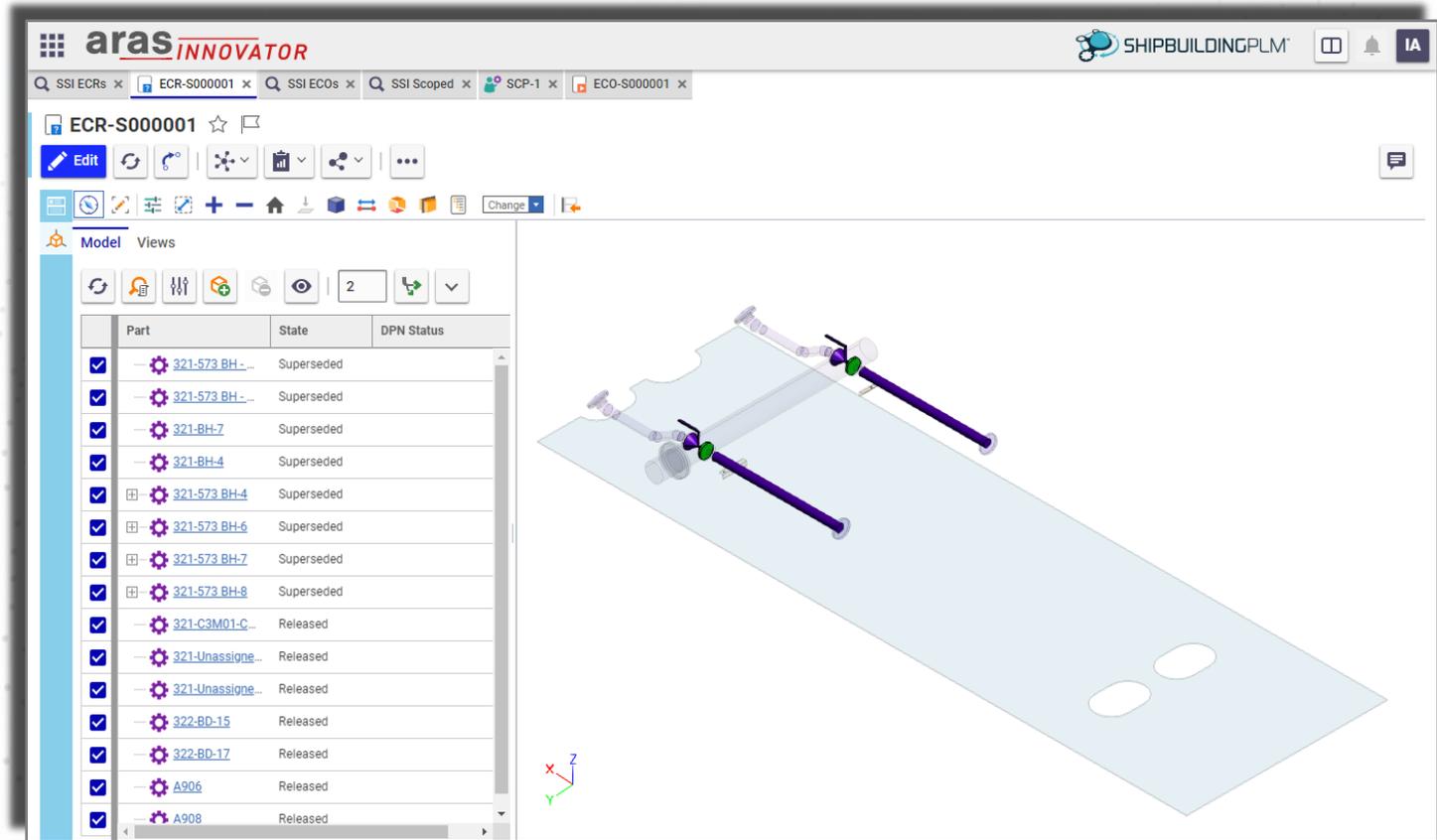
## SOLUTION -

Use new tools like Portal, WorkView, PartViews and PublisherLT to easily visualize and fully understand the change.



# Scoping the Change

- Scoping a change will usually begin with the latest released configuration.
- ShipbuildingPLM is a great place to start:
  - Parts being changed are easily visualized and reviewed.
  - Functional design information is quickly accessed.
  - Additional items can be referenced as needed.
- Without ShipbuildingPLM you would still start with the latest released configuration.



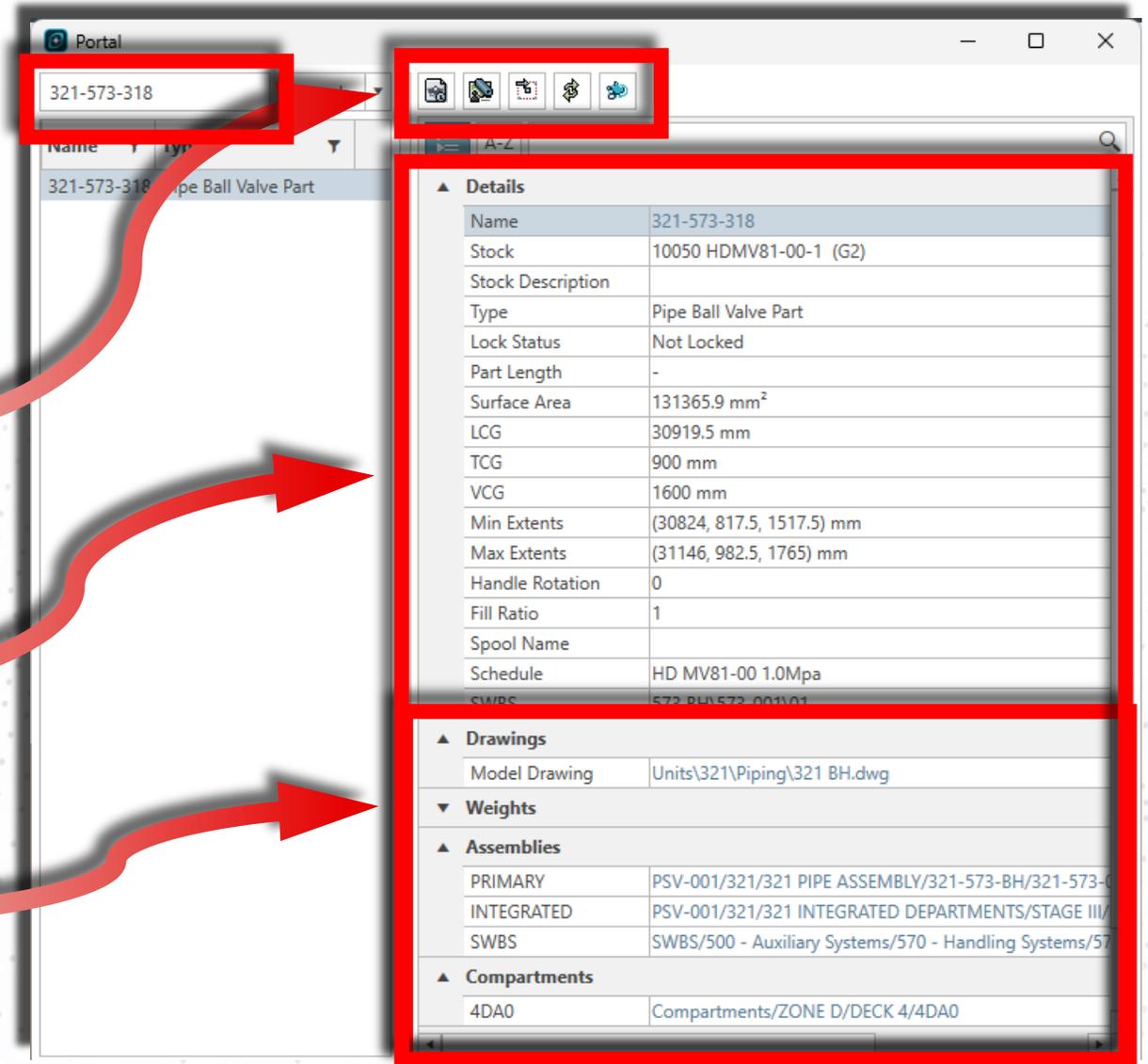
# Scoping the Change

- Traditionally when scoping a change, designers typically go back to Navisworks, hope it's current, and:
  - Find the part(s) to be changed.
  - Fly around looking at all parts in the area.
  - Start selecting parts to get part names, drawing names, assembly names, etc.
  - Make a list of everything that needs to be touched with the change.
- All of which is very time consuming and leaves room for mistakes, missed items, rework, etc.

# Scoping the Change with Portal

Portal is a new one stop shop that lets you:

- Quickly search a project for items.
- Use shortcuts to the item's Part Revision history, UDA Editor & ShipbuildingPLM data.
- Easily review the data associated with the item.
- Use live links to the drawing, assemblies and compartment containing the item and to the item itself.



The screenshot displays the Portal application interface. A search bar at the top contains the ID '321-573-318'. Below it, a table lists search results, with the first entry being '321-573-318 Pipe Ball Valve Part'. To the right, a detailed view of this item is shown, including a toolbar with icons for various actions. The details are organized into sections: Details, Drawings, Weights, Assemblies, and Compartments.

Details	
Name	321-573-318
Stock	10050 HDMV81-00-1 (G2)
Stock Description	
Type	Pipe Ball Valve Part
Lock Status	Not Locked
Part Length	-
Surface Area	131365.9 mm <sup>2</sup>
LCG	30919.5 mm
TCG	900 mm
VCG	1600 mm
Min Extents	(30824, 817.5, 1517.5) mm
Max Extents	(31146, 982.5, 1765) mm
Handle Rotation	0
Fill Ratio	1
Spool Name	
Schedule	HD MV81-00 1.0Mpa
SWBS	573-BV-573-001-01

Drawings	
Model Drawing	Units\321\Piping\321 BH.dwg

Weights	
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Assemblies	
PRIMARY	PSV-001/321/321 PIPE ASSEMBLY/321-573-BH/321-573-0
INTEGRATED	PSV-001/321/321 INTEGRATED DEPARTMENTS/STAGE III/
SWBS	SWBS/500 - Auxiliary Systems/570 - Handling Systems/57

Compartments	
4DA0	Compartments/ZONE D/DECK 4/4DA0

# But What Other Parts Are Here

➤ Portal and PartViews make it easy to answer this question:

➤ Want to see what's around the part?  
*Use the part Name link & then load PartViews by Selected Extents.*

➤ Want to see what else is in the same assembly?  
*Use the Assemblies links & then Load PartViews.*

➤ Want to see what else is in the same compartment?  
*Use the Compartment link & then Load PartViews.*

The screenshot shows the Portal software interface. At the top, there is a search bar with the text '321-573-318' and a 'Search' button. Below the search bar is a table with columns 'Name' and 'Type'. The table contains one row: '321-573-318 Pipe Ball Valve Part'. To the right of the table is a 'Details' panel with a search icon and a list of properties for the selected part. The properties are:

Details	
Name	321-573-318
Stock	10050 HDMV81-00-1 (G2)
Stock Description	
Type	Pipe Ball Valve Part
Lock Status	Not Locked
Part Length	-
Surface Area	131365.9 mm <sup>2</sup>
LCG	30919.5 mm
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Min Extents	(30824, 817.5, 1517.5) mm
Max Extents	(31146, 982.5, 1765) mm
Handle Rotation	0
Fill Ratio	1
Spool Name	
Schedule	HD MV81-00 1.0Mpa
SWBS	573 BH\573-001\01

Below the details panel are sections for 'Drawings', 'Weights', 'Assemblies', and 'Compartment'. The 'Drawings' section shows 'Model Drawing' as 'Units\321\Piping\321 BH.dwg'. The 'Assemblies' section shows three entries: 'PRIMARY' with path 'PSV-001/321/321 PIPE ASSEMBLY/321-573-BH/321-573-001', 'INTEGRATED' with path 'PSV-001/321/321 INTEGRATED DEPARTMENTS/STAGE III/321-573-001', and 'SWBS' with path 'SWBS/500 - Auxiliary Systems/570 - Handling Systems/573 BH\573-001\01'. The 'Compartment' section shows '4DA0' with path 'Compartments/ZONE D/DECK 4/4DA0'.

# Using WorkViews to Identify Parts

- Only want to see some of the parts in a Compartment or Assembly?

*Create a WorkView & use it to load PartViews.*

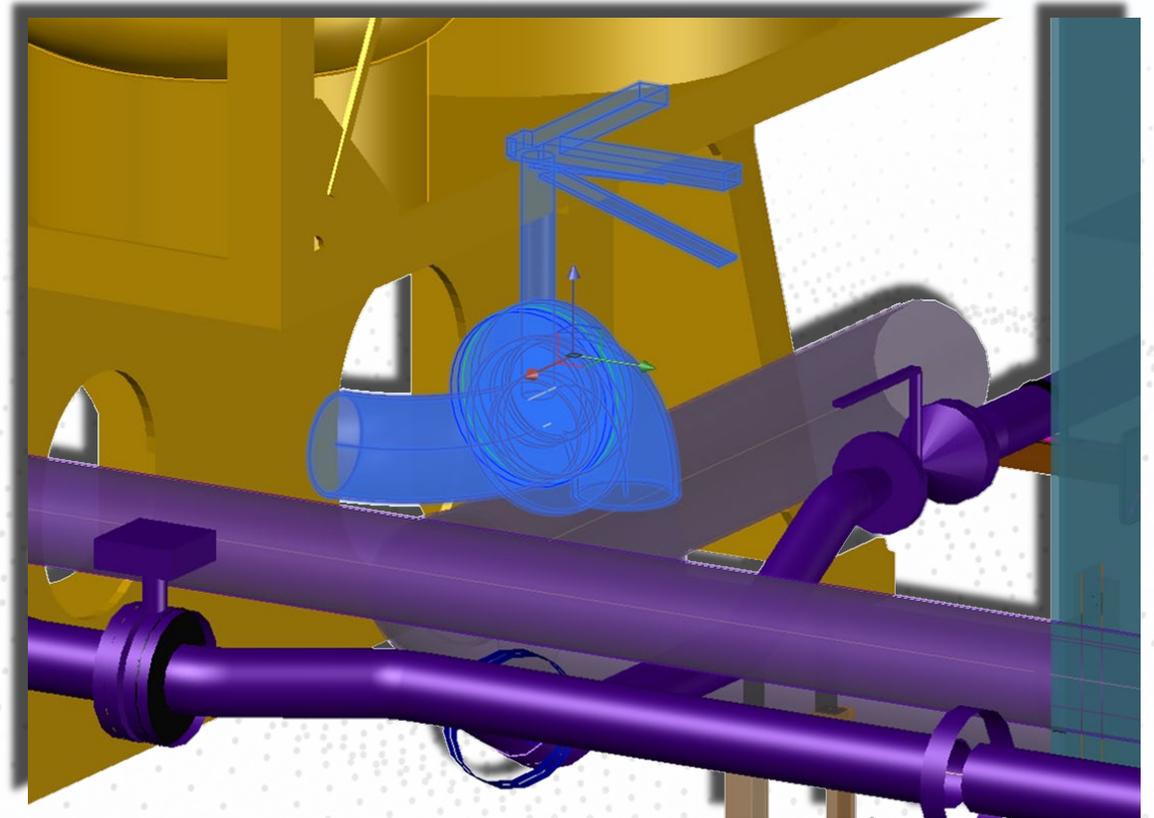
- WorkView boundaries can be adjusted on the fly, as you work, to easily show different regions of space.

*Simply delete the PartViews that are not needed.*



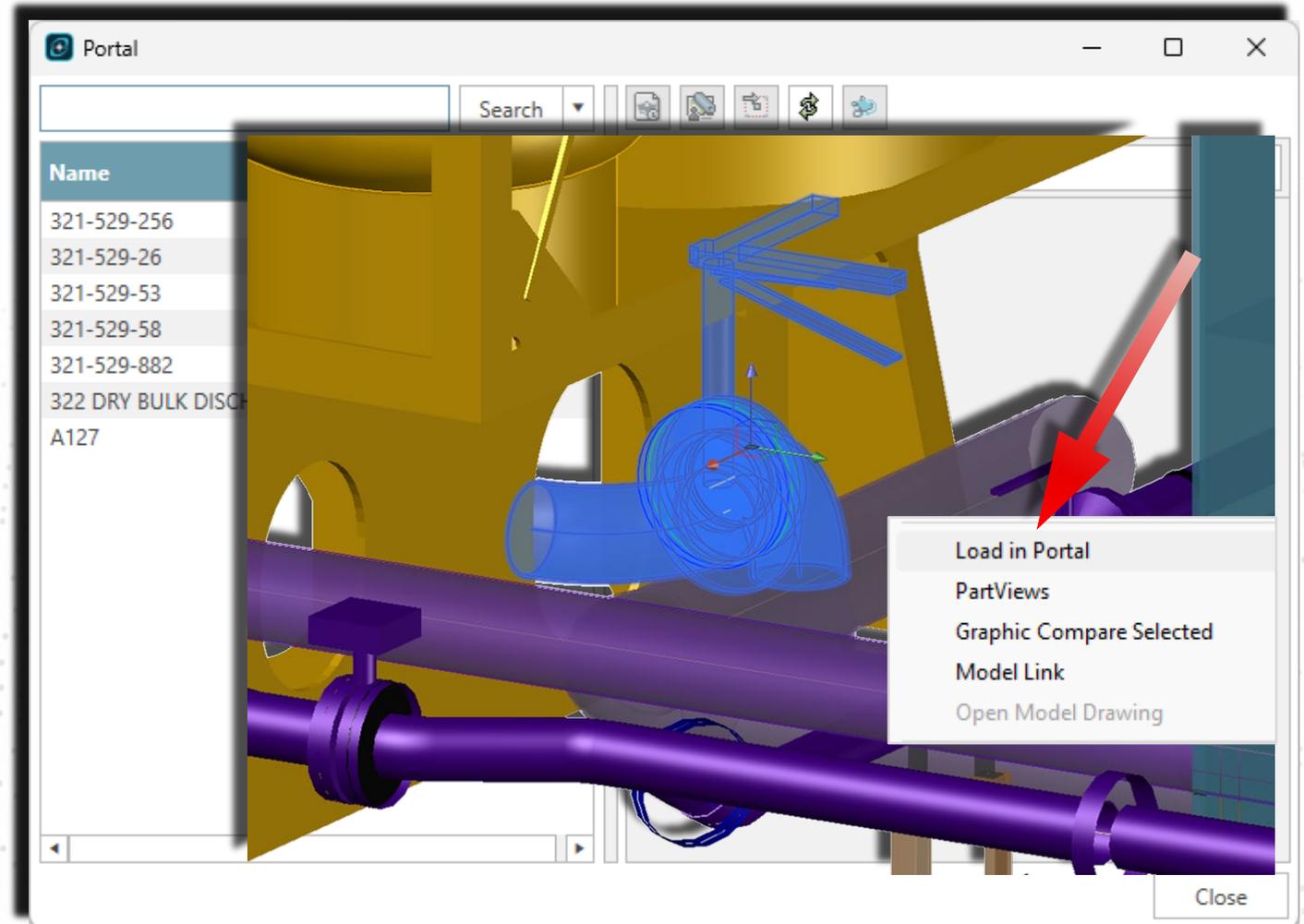
# Using WorkViews to Identify Parts

- With WorkView we discovered a problem with other parts in a different system impacting a foundation that had been missed before.
- What system are they in?
- Can we quickly and easily get a list of the parts involved?
  - Portal can help with both questions.



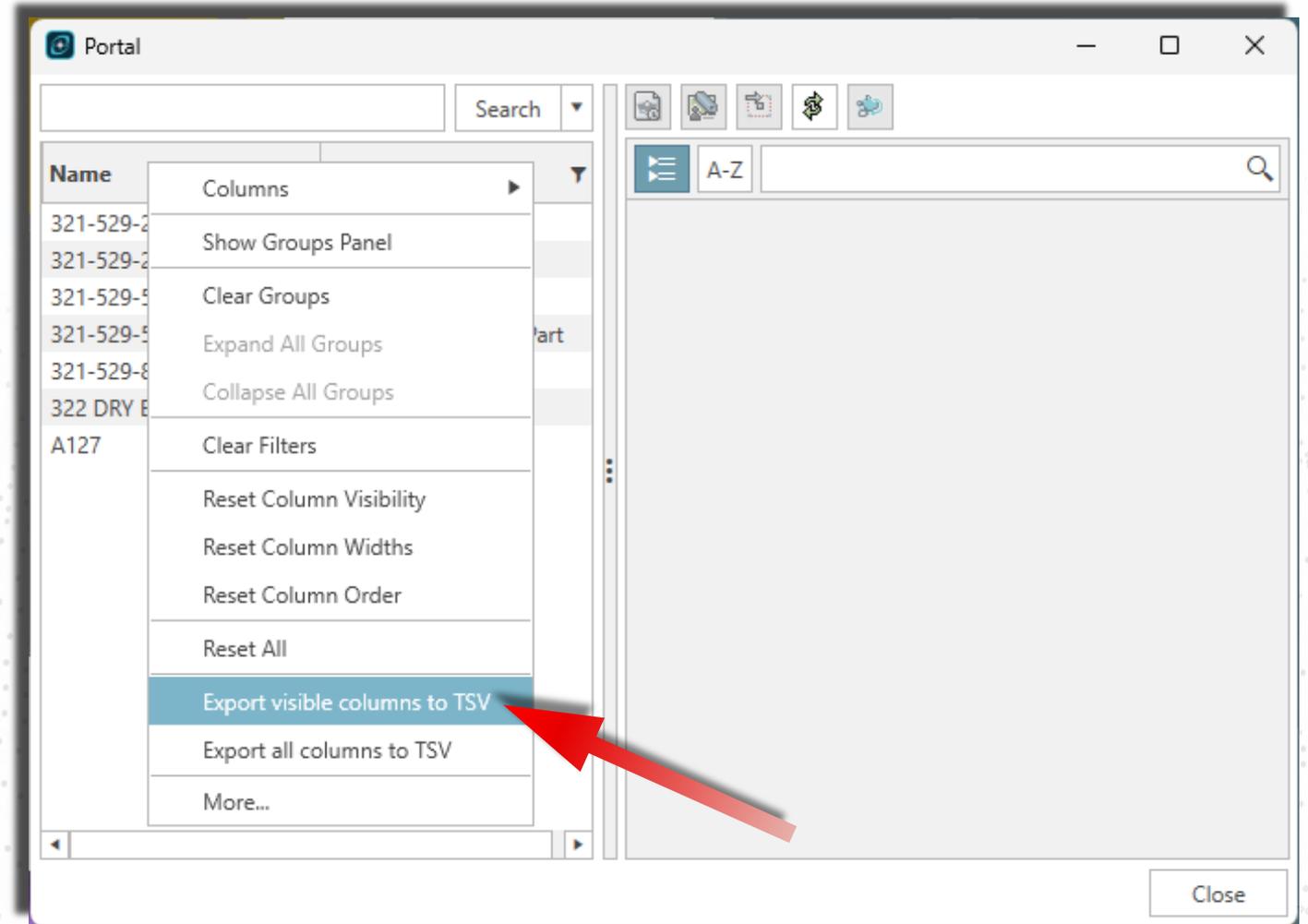
# Generating a Parts List

- Use the Parts and/or PartViews to identify and then select the parts involved in the change.
- Load the selected parts and/or PartViews involved in the change into Portal.



# Generating a Parts List

- Export the list of parts directly from Portal to a TSV file for future use.



# Generating a Parts List

- Export the list of parts directly from Portal to a TSV file for future use.

The image shows two overlapping windows. The background window is a web application titled 'Portal' with a search bar and a table of parts. The foreground window is an Excel spreadsheet showing the exported data.

Name	Type
321-529-256	Pipe Flange Part
321-529-26	Pipe Elbow Part
321-529-53	Pipe Part
321-529-58	Pipe Butterfly Valve Part
321-529-882	Pipe Flange Part
322 DRY BULK DISCHARGE UNIT NO1&NO2	Equipment Part
A127	Pipe Elbow Part

# Generating a Full Parts Report

Want a full part report listing the parts, the drawings and assemblies they're in that need to be changed and/or visuals instead?

*That's easy as well.*

SSi EnterprisePlatform PublisherLT

Load Manager Load External Drawings Output Directory Export Import

Loaded Project Items

Items Operations

Item Name	Item Type	Operations
Enter Filter Text	Enter Filter Text	Enter Filter Text
<b>Parts</b>		
<input checked="" type="checkbox"/> 321-529-256	Pipe Flange/Connector	Parts to NWD Drawing, Excel Report for Parts
<input checked="" type="checkbox"/> 321-529-26	Pipe Elbow	Parts to NWD Drawing, Excel Report for Parts
<input checked="" type="checkbox"/> 321-529-53	Pipe	Parts to NWD Drawing, Excel Report for Parts
<input checked="" type="checkbox"/> 321-529-58	Valve	Parts to NWD Drawing, Excel Report for Parts
<input checked="" type="checkbox"/> 321-529-882	Pipe Flange/Connector	Parts to NWD Drawing, Excel Report for Parts
<input checked="" type="checkbox"/> 322 DRY BULK DISC...	Equipment	Parts to NWD Drawing, Excel Report for Parts

PartPropertiesSheetDemo... Search Ken San

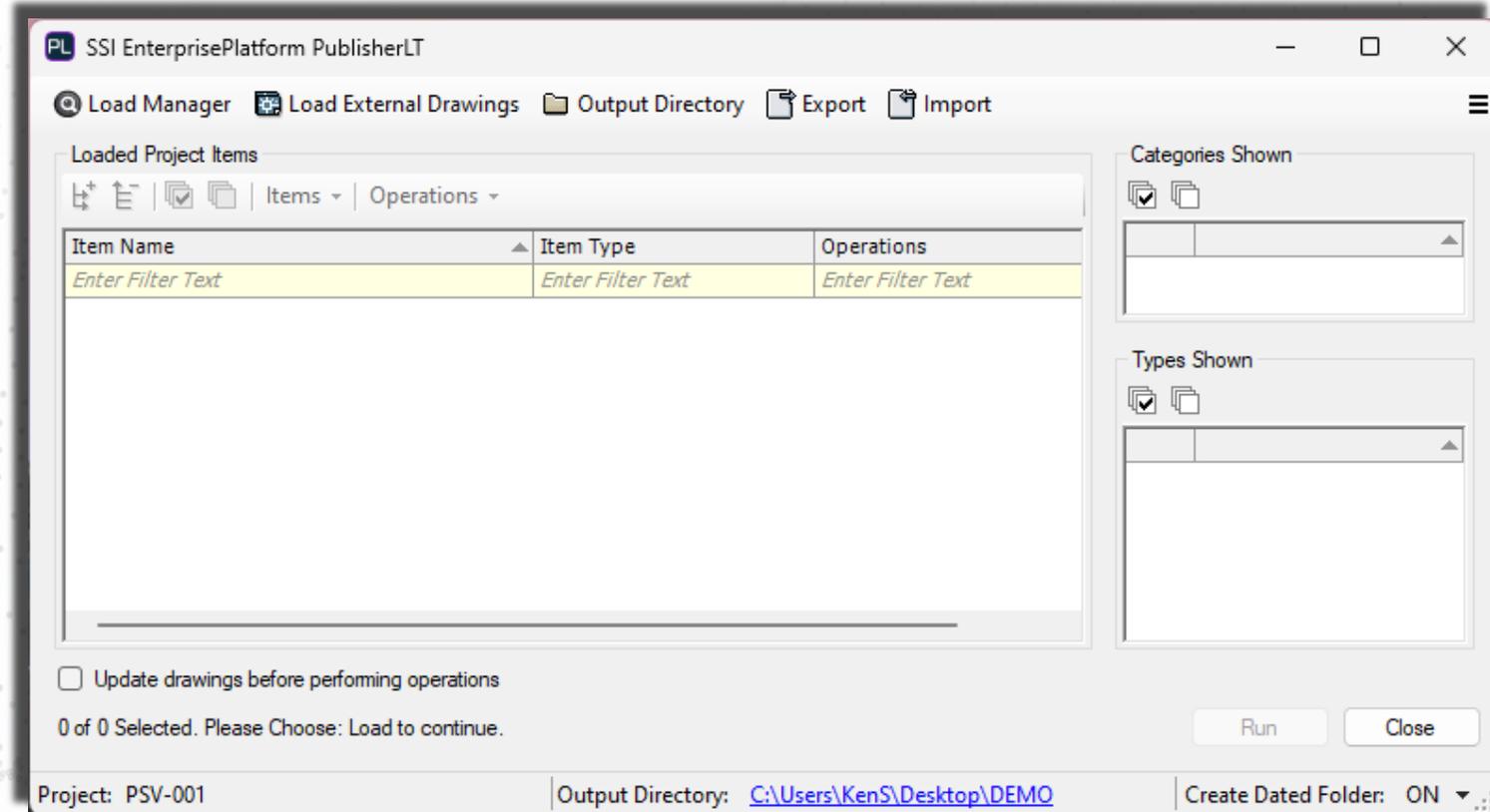
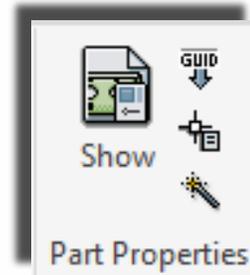
File Home Insert Page Layout Formulas Data Review View Automate Help Acrobat

S18

	A	B	D	E	G	H	J	L	M
1	Part Guid	Part Name	Full Assembly Name	Drawing	Stock Name	Material	Finishes	Nominal Size	Weight
2	0988c0e7-25	321-529-256	PSV-001/321	321 BW	10150 GB2506-89	STEEL Q235-A	Galvanized	150 mm	6.5
3	7b37192b-58	322 DRY BULK DISCH	PSV-001/321/321 EQUIPMENT ASSEMBLY/DRY	321 DRY BULK DISCH	322 DRY BULK DISCHARGE UN	N/A		N/A	4466
4	907ec239-82	321-529-26	PSV-001/321	321 BW	L90-168x5III-GB12459-90	STEEL 20 III	Galvanized, Galvanized	150 mm	7.19
5	9495039c-7f3	321-529-53	PSV-001/321	321 BW	ST20III168x5	STEEL 20 III	Galvanized, Galvanized	150 mm	0.764
6	a52f239a-357	A127	PSV-001/321	321 BW	L90-168x9III-GB12459-90	STEEL 20 III	Galvanized	150 mm	12.6

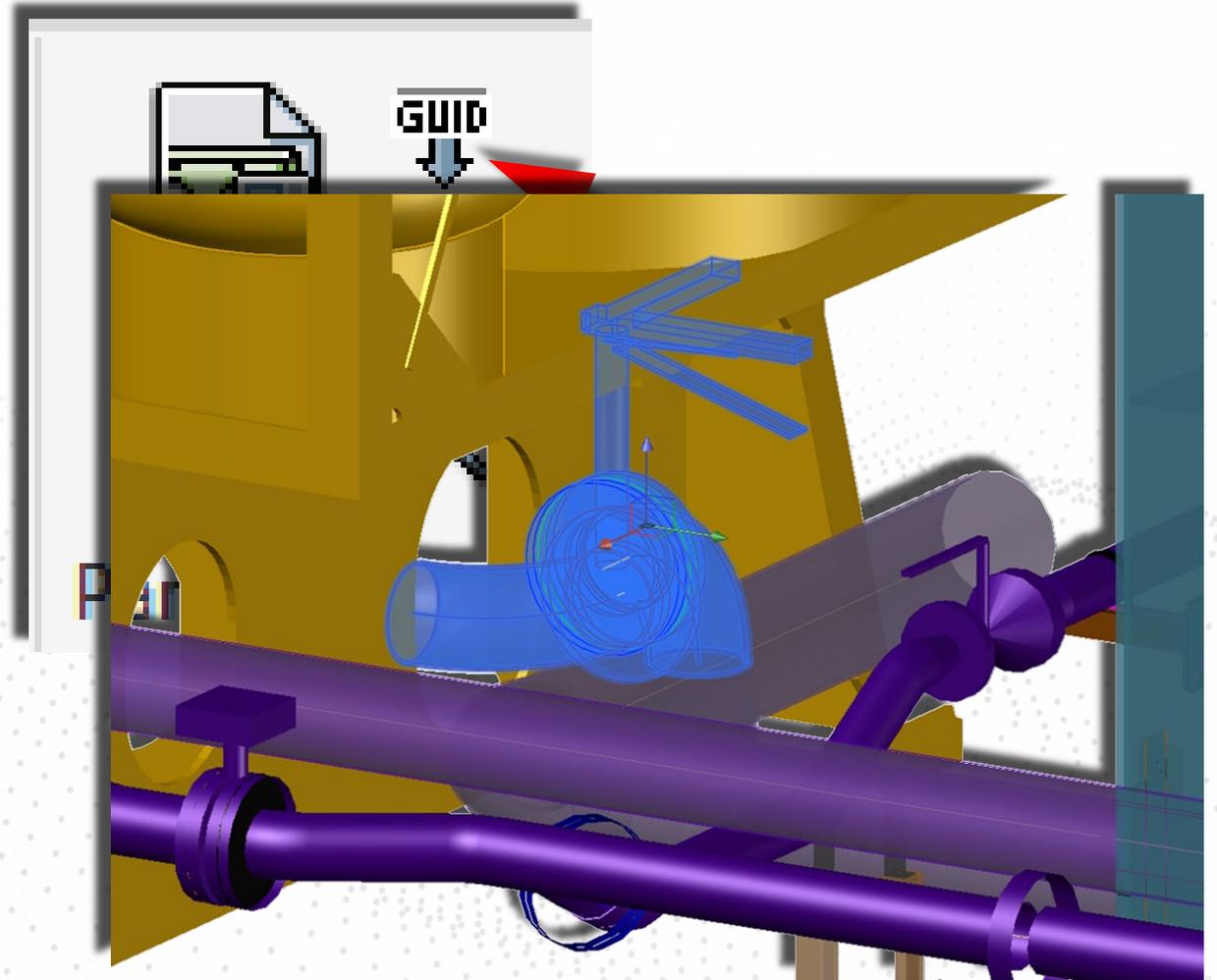
# Generating a Full Parts Report

- Use the GET GUIDs command with the effected Parts and/or PartViews to get the list GUIDs for the parts involved in the change.
- Paste this list of GUIDs into PublisherLT and run a full report.



# Generating a Full Parts Report

- Select the parts and/or PartViews that you want a report for.
- Use the GET GUIDs command with the selected Parts and/or PartViews to get the list GUIDs for the parts.
- The GUIDs are collected and automatically copied to the clipboard.



# Generating a Full Parts Report

- Go to PublisherLT and load the desired Parts.

The screenshot displays the 'Load Manager' dialog box in the SSI Enterprise software. The dialog has a title bar 'Load Manager' and a close button. Below the title bar is the text 'Select what to load:'. A list of options is shown, each with an icon and a label: 'Parts' (gear icon), 'Units' (cup icon), 'Assemblies' (two squares icon), 'Drawings' (document icon), 'Spools' (two connected circles icon), 'Systems' (three connected circles icon), 'Profile Nests' (grid icon), 'Space Allocations' (cube icon), 'Welds' (book icon), 'Tasks' (list icon), and 'Task Items' (list icon). At the bottom of the list are 'Project' and 'XML' options. A red arrow points to the 'Parts' option. In the background, the main application window is visible, showing a table with columns 'Type' and 'Operations', and a search filter. The table has a yellow header row and a yellow row below it. To the right of the table are sections for 'Categories Shown' and 'Types Shown', each with a list of items and checkboxes. At the bottom of the application window, there are 'Run' and 'Close' buttons, and a status bar showing the output directory as 'C:\Users\KenS\Desktop\DEMO' and 'Create Dated Folder: ON'.

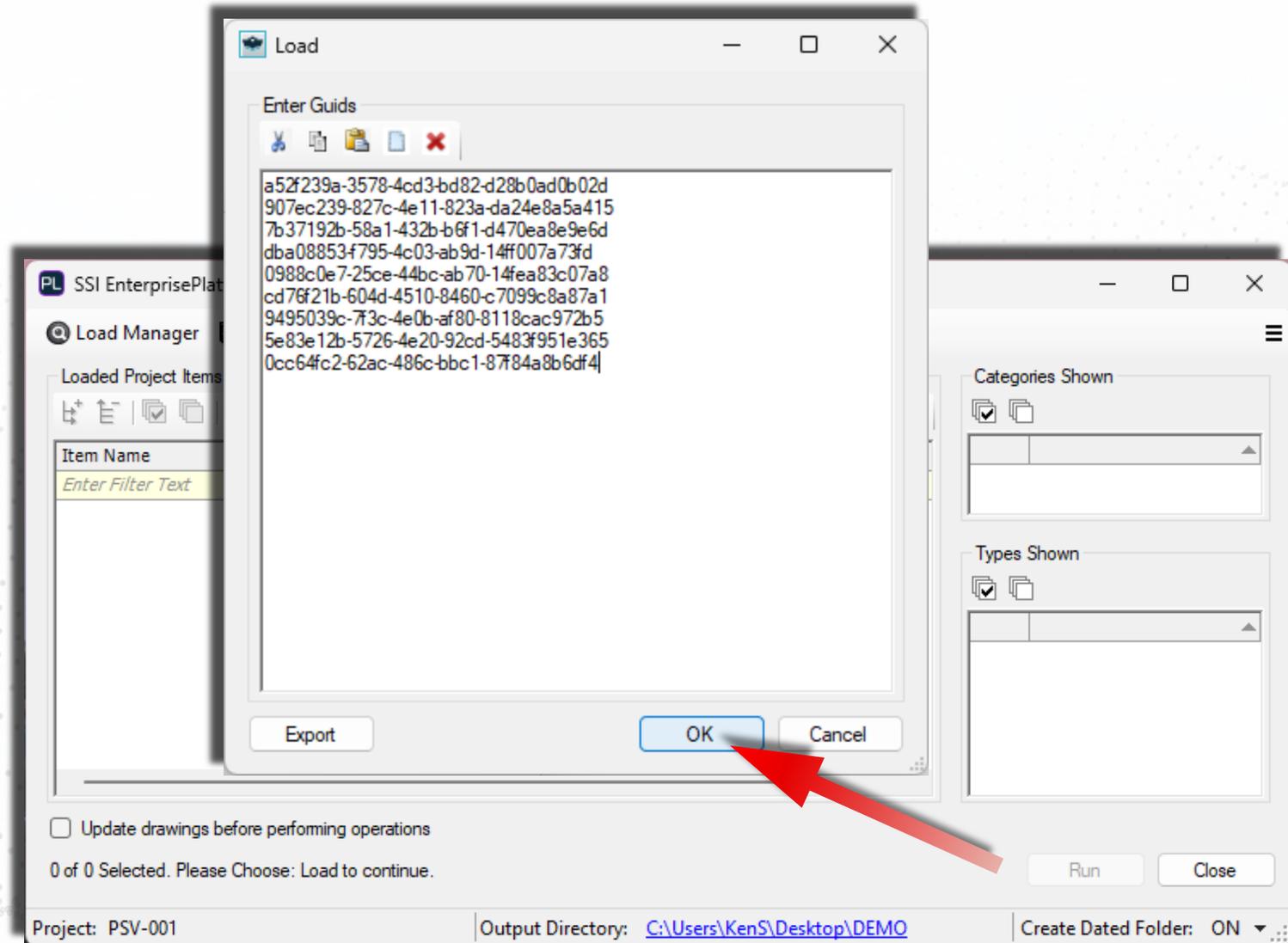
# Generating a Full Parts Report

Load the Parts by GUIDs.

The screenshot displays two overlapping software windows. The 'Load Manager' window is in the foreground, showing a list of categories under the heading 'Parts'. A red arrow points to the 'By GUIDs' option at the bottom of this list. The 'Builder' window is partially visible behind it, showing a table with columns for 'Item Name' and 'Enter Filter Text'. The 'Builder' window also has a 'Load Manager' button. The 'Builder' window's main area contains a table with columns 'Item Type' and 'Operations', both with 'Enter Filter Text' as placeholder text. To the right of the table are sections for 'Categories Shown' and 'Types Shown', each with a list of items and a checkmark icon. At the bottom of the 'Builder' window, there are 'Run' and 'Close' buttons, and a status bar showing 'Output Directory: C:\Users\KenS\Desktop\DEMO' and 'Create Dated Folder: ON'.

# Generating a Full Parts Report

- Paste the list of GUIDs into PublisherLT.



# Generating a Full Parts Report

Generate the full parts report, export drawings, Navisworks files or anything else needed.

	B	C
1	Part Name	Assembly
2	321-529-256	321
3	322 DRY BULK DISCHARGE	DRY BULK DISC
4	321-529-26	321
5	321-529-53	321
6	A127	321
7	321-529-882	321
8	321-529-58	Unassigned P
9		

SSi EnterprisePlatform PublisherLT

Load Manager Load External Drawings Output Directory Export Import

Loaded Project Items

Item Name	Item Type	Operations
Enter Filter Text	Enter Filter Text	Enter Filter Text
<b>Parts</b>		
<input checked="" type="checkbox"/> 321-529-256	Pipe Flange/Connector	Part Properties, Parts to NWD Draw
<input checked="" type="checkbox"/> 321-529-26	Pipe Elbow	Part Properties, Parts to NWD Draw
<input checked="" type="checkbox"/> 321-529-53	Pipe	Part Properties, Parts to NWD Draw
<input checked="" type="checkbox"/> 321-529-58	Valve	Part Properties, Parts to NWD Draw
<input checked="" type="checkbox"/> 321-529-882	Pipe Flange/Connector	Part Properties, Parts to NWD Draw
<input checked="" type="checkbox"/> 322 DRY BULK DISCHARGE UNIT...	Equipment	Part Properties, Parts to NWD Draw
<input checked="" type="checkbox"/> A127	Pipe Elbow	Part Properties, Parts to NWD Draw

Update drawings before performing operations

7 of 7 Selected.

Categories Shown

- Parts

Types Shown

- Equipment
- Pipe
- Pipe Elbow
- Pipe Flange/Connector
- Valve

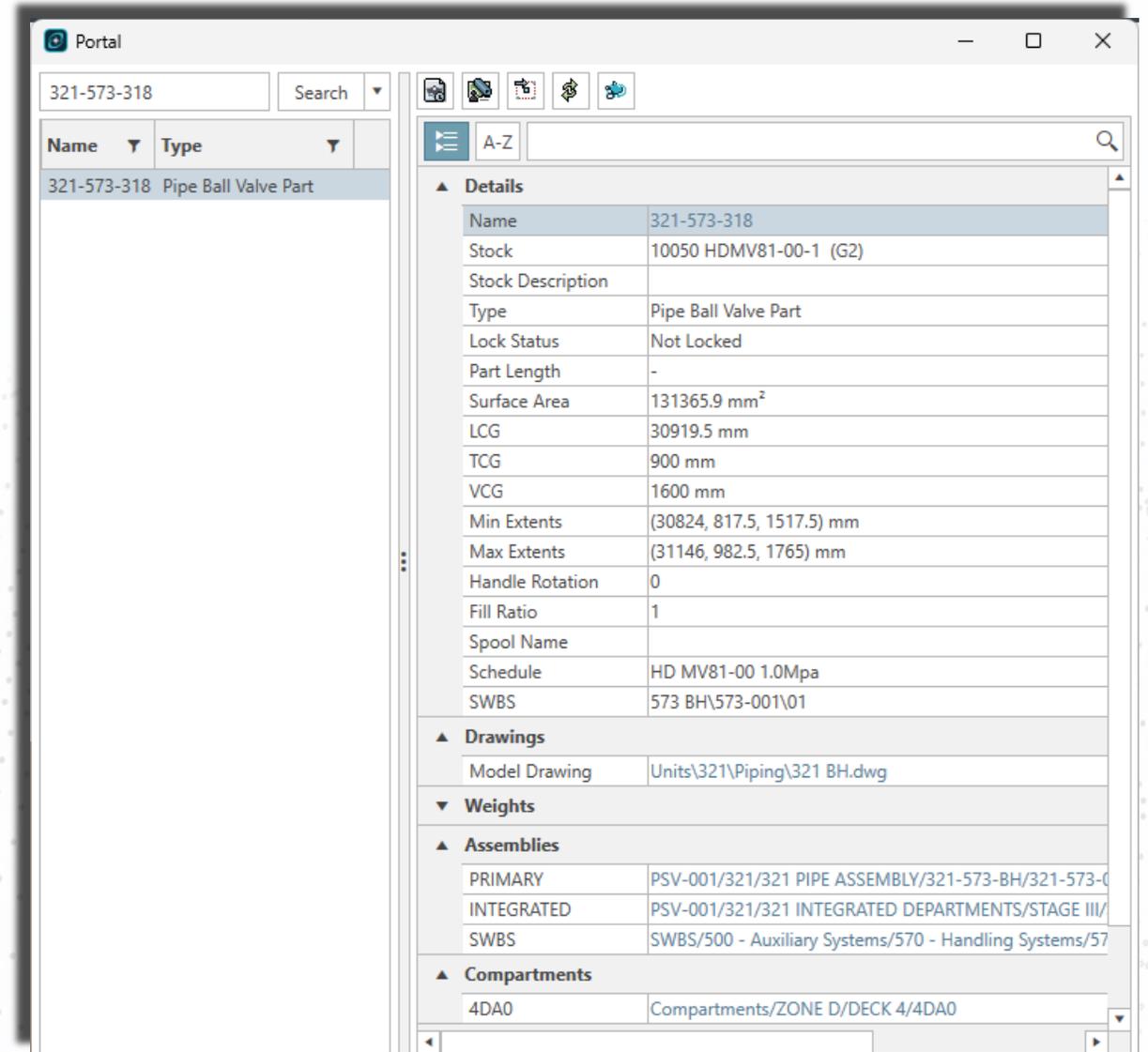
Run Close

Project: PSV-001 Output Directory: C:\Users\KenS\Desktop\DEMO Create Dated Folder: ON

# Summary

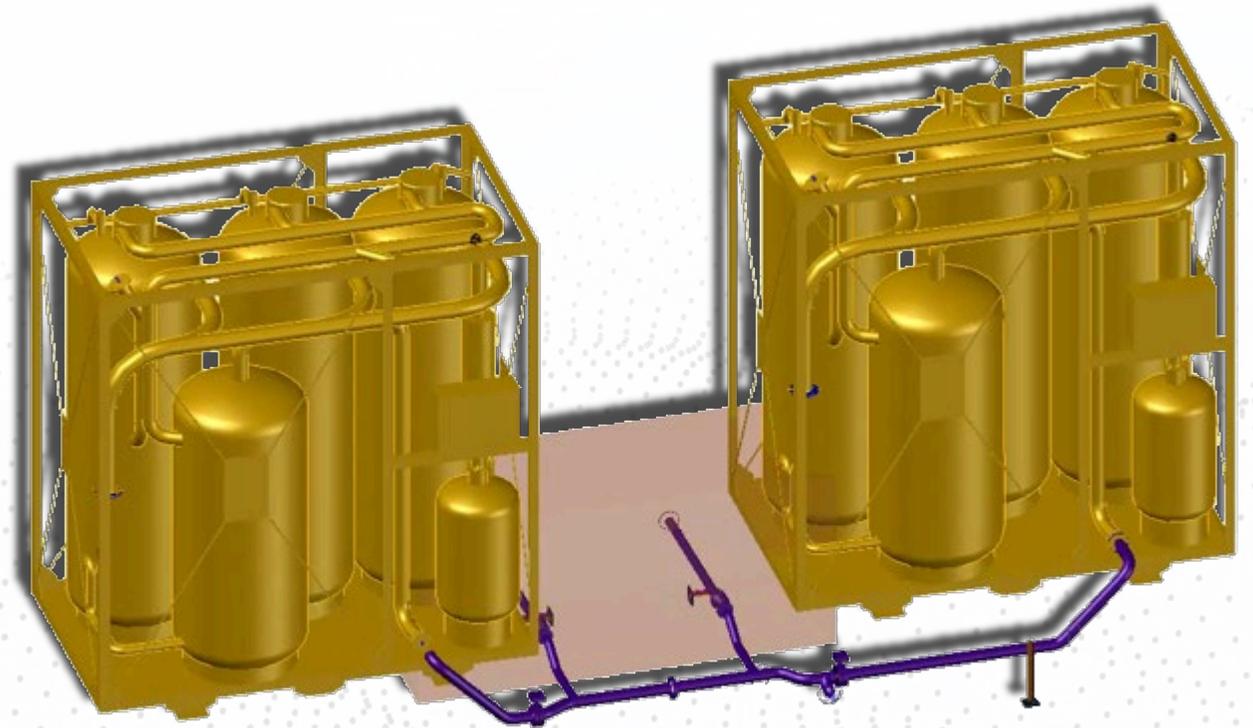
We efficiently scoped a valve change by:

- Using Portal to find the valves to be changed and review their information, saving time.



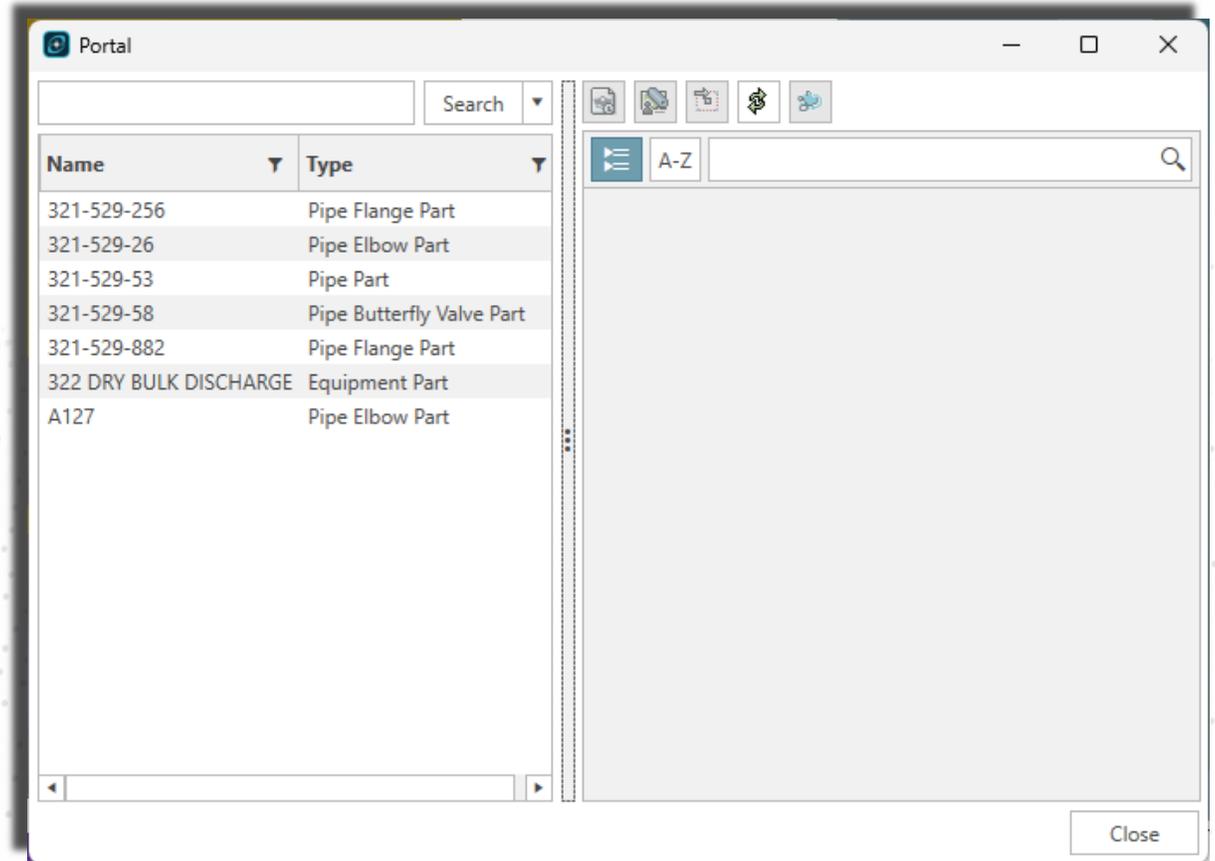
# Summary

- Using a WorkView to ensure we know everything involved in the change, saving time and improving accuracy.



# Summary

- Loading PartViews from the WorkView back into Portal, saving time and improving accuracy.



# Summary

- Exporting the parts list:
  - From Portal to Excel.
  - From the model to PublisherLT.

By using these tools, the change is quickly, easily & clearly communicated.

The image shows two overlapping windows. The background window is Microsoft Excel, displaying a spreadsheet with the following data:

	Name
1	321-529-256
2	321-529-26
3	321-529-53
4	321-529-58
5	321-529-882
6	322 DRY BULK DISCHARGE UNIT NO1...
7	A127
8	
9	

The foreground window is SSI EnterprisePlatform PublisherLT. It shows a 'Loaded Project Items' table with the following data:

Item Name	Item Type	Operations
Enter Filter Text	Enter Filter Text	Enter Filter Text
Parts		
321-529-256	Pipe Flange/Connector	
321-529-26	Pipe Elbow	
321-529-53	Pipe	
321-529-58	Valve	
321-529-882	Pipe Flange/Connector	
322 DRY BULK DISCHARGE UNIT NO1...	Equipment	
A127	Pipe Elbow	

At the bottom of the PublisherLT window, it displays 'Project: PSV-001' and 'Output Directory: C:\Users\KenS\Desktop\DE...'. A message at the bottom of the window reads: '7 of 7 Selected. Please Choose: Operation(s) to continue.'

# Thank you!

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## Q&A

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