



The Department of Energy's Project Reporting and Assessment System (PARS)

PARS Empower Basics, Module 2 PARS User Basic Training

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Welcome to the second of six sessions which comprise an introduction to the Department of Energy's Project Reporting and Assessment System (PARS). The analysis and reporting capabilities of PARS provide decisions makers at all levels with tools to best manage these projects over their lifecycle as well as a repository for data and documents for projects reporting to PARS in accordance with DOE Orders.

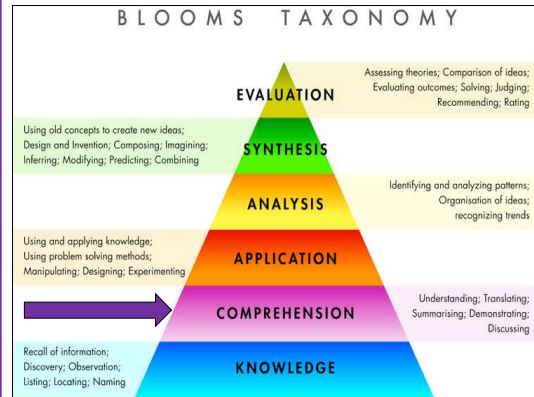


Training Objectives

- Understand the basic organization and operations of the PARS.
- Understand the document management system of PARS
- Understand user roles in PARS
- **Understand Basic Layout and Organization of Encore Analytics Empower as part of PARS**
- Use Empower views, charts, reports and dashboards
- Use Empower Filters and pre-filters to organize data
- Use DOE specific reports
- Customize Encore Analytics Empower for use each month

AT COMPLETION - EARN 6 CEU/PDUS

- Federal Employees – Will be added to your records
- Contractor Employees – Certificate will be emailed



This second session will focus on the fourth training objectives and the user gaining an understanding the basics of Empower in PARS. When you complete all six sessions of the PARS user basic course, you will earn 6 CEUs. Any session may be repeated as a refresher as needed in the future. There will be questions through out the training and the user will need to achieve a passing score being 70% or better to successfully complete this course.

Log on to Empower

Please enter a user name and password.

Data Source:

User Name:

Password:

The purpose of the Data Source is to connect/select different existing Empower databases created by your organization.

Encore Analytics Empower

Please enter a user name and password.

Data Source:

User Name:

Password:

PARS passes your log-in information via government approved SAML 2.0. This passes permissions and help you get to the projects you need to work on without extra steps.

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As several contractors who do business with the Department of Energy also have Encore Analytics Empower, let's take a look at the difference in terms of logging on. Inside PARS, when you select the project in PARS and then mouse click on the Empower icon, PARS passes both logon information and the specific project you are requesting to Empower which opens Empower and the dataset for the project you selected in PARS. The screen above is not used as it would be for Empower outside of PARS. With PARS there are times we will share a test server logon with a user where you would see this logon screen. If this happens, information to support logging in to the test server will also be provided at that time.

Getting into Empower

The screenshot shows the PARS system interface. At the top left, there is a logo for the Department of Energy and the Encore Analytics logo. The main header contains navigation tabs: Projects, Contractors, Reports, Analytics, Environment, and Help. The user is logged in as Amber Young, with links for Admin, Register PIV, Updates, and Sign Out.

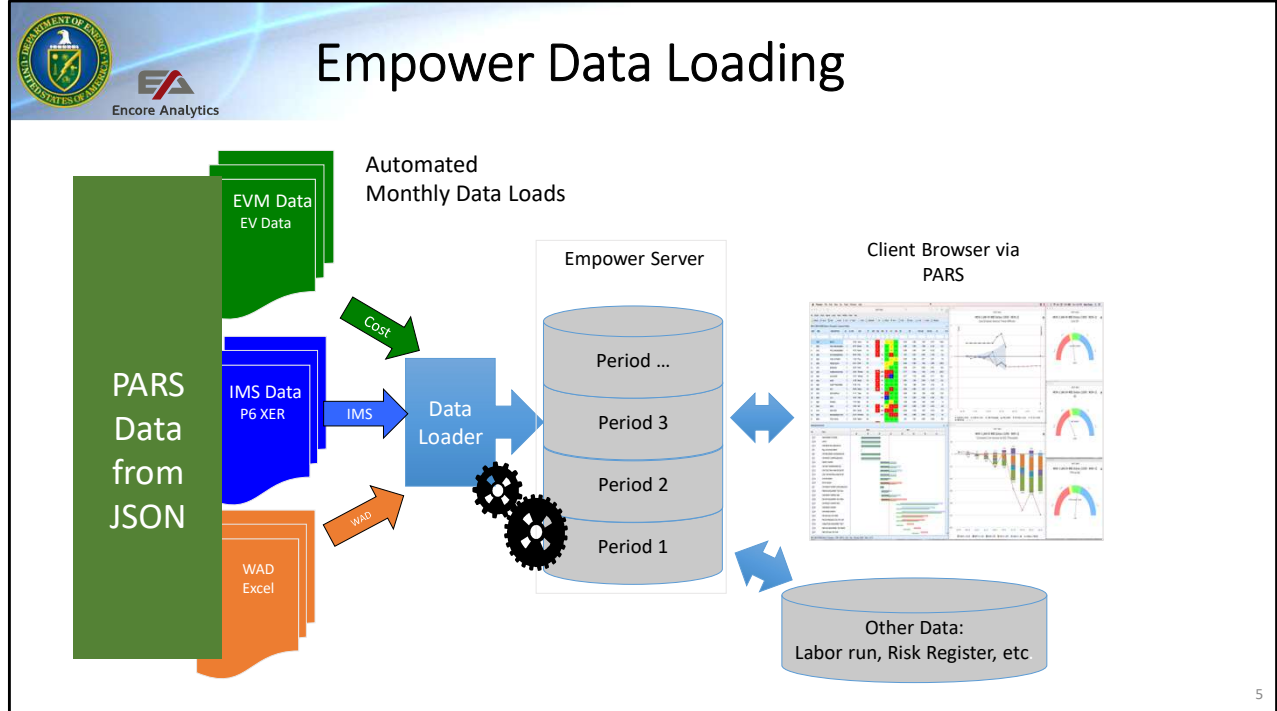
The main content area is titled "1182 - PIP-II Early Conventional Facilities Subproject (PIP-II ECF)". It features a sidebar on the left with a navigation menu. A blue arrow points to the "Empower" option in this menu. The main content area is divided into several sections:

- Project Attributes:**
 - Key Information:** Project Name: PIP-II Early Conventional Facilities Subproject (PIP-II ECF); Project Acronym: PIP-II ECF; Contract Number: [blank]; DOE Project Number: missing; Site: FNAL.
 - Project Categorization:** Program: SC; Status: Active; Type: Facility Construction; DOE Order: missing; Project of Special Interest: No.
- Project Description:** Cryogenic Plant Building of approximately 25,000SF and associated building systems needed for the installation, commissioning, and operation of the PIP-II cryogenic plant equipment. Site Preparation work to ensure site access, proper drainage, accommodate proper site elevation for the Unac Complex as well as other PIP-II facilities.
- Oversight:**
 - PM Oversight: No
 - CPP Upload: Required
 - EVMS Required: No
 - Report as Parent: No
- Funding:** Funding Type: U-Line Item; Budget: (HEP) High Energy; Program: Physics.
- Admin:** CUI or UONI in EVMS Data: No; DMS Migrated to DocCTN: No.

At the bottom of the sidebar, there is a "Jump to project..." search bar and a "Project Picker" button. A blue arrow points to the "Empower" option in the sidebar menu.


You will be able to select other projects that your permission set allows once you are in Empower or you can go back to PARS Projects screen to go to the next.

This is a reminder that you have two locations in PARS to select Empower. Empower is one of several applications in PARS. It is a commercial tool from Encore Analytics and is designed to provide analysis and reporting for earned value management system data to provide actionable knowledge to project leadership at all levels. As this is a commercial product, there are some cases where labels or terms vary from standard DOE usage. In these cases, this training course will make a point of highlighting the difference.



Here again we will highlight a difference between using Empower a contractor may own as compared to Empower in PARS. In the first module we learned that data from a contractor's cost and schedule tool is provided to DOE as JSON (previously as an MDB or CSV) format upload to go into Empower through a staging database and that when a contractor publishes data, the information is also captured in a SQL database as a permanent record for the project. Empower is designed to capture data from the cost, schedule tools separately along with other data sources which PARS will move towards in the future, such as Work Authorization Documents (WAD). Rather than a contractor loading their data directly to Empower, the data goes to PARS in JSON format (previously MDB or CSV format). This is moved to the SQL staging database, where it also is provided to Empower in the Empower Optimized Format tables that Encore Analytics developed to make Empower operate quickly. This means the contractor does not load to Empower directly, but in the DOE process. During this process, the data from the contract is NOT changed from their submission. There is an auditable path that shows if the contractor stated the Estimate at Complete is \$1,500,000 for a work package in their submission to the government, the same value goes into the staging database, Empower and when published, into the DOE SQL EV database.

Similar to the SQL database, Empower also keeps each periods data from the monthly uploads. This allows both Empower and SQL reports to show the time phase information and trends we will discuss later as well as allows the user to gain knowledge in forecasting to support decision making for the project. Now that we have looked at how data gets into PARS and Empower, lets work on the basics of Empower to support project analysis and reporting.



Empower

Navigating the User Interface

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Empower was designed to have an intuitive user interface. Taking time to gain an understanding of the basics of each part of the screen and the menu items is important to successful use of this tool. After learning the user interface the next session will focus on the using the data in each part of the tool.

Open Dataset by clicking on File then Open Dataset OR click on the Dataset folder in the Toolbar.

Contract = Project by PARS ID

Dataset Selection

- Contract = Project for DOE
- Period
- Structure
- Unit

CTRL + Select for multiple projects (contracts)

Dataset Prefilter

When more than one project is selected the Period changes from a month/year to CUR-X

File - Open Dataset is the first menu item and the Dataset option on the tool bar are the first items to look at in Empower. When you are at a project in PARS and select Empower, you will have that project loaded into the Dataset for Empower. This screen is still important to understand as you have choices to make here that are helpful in analysis, as well will study later.

First, One item to point out is that a DOE project represented by PARS ID is called a contract in Empower. This is the first of a few items where there is a terminology difference. In PARS, DOE tracks a project in its project lifecycle. It is understood that a project may have more than one contractor over its life, but the intent is to make management decision for the project, not just for one contractor's part of a project. Some projects at DOE can take decades and DOE Order 413.3B directs that a contractor plans to complete the project. If a change in contractor occurs during the project lifecycle, there are ways to address within PARS to include a baseline change if needed.

If the user has permission to see more than one project (contract) then the user will see all of their projects under the dataset menu box. If the user wishes to select more than one project, hold the CTRL key and mouse click on the projects you wish



to look at or select the (All Contracts) option in the Open Dataset box to select all projects you have permission to see. You may want to do this if you have several projects that are subordinate in a Parent / Child relationship and you want to look at them in aggregate. When we discuss analysis there will be example of how to do this.

When you select multiple projects, the period column will change from showing the reported period month and year to a list which shows Current – 0, Current – 1, Current – 2, and so on as each project may have different reporting status. For example project 389 has data reported through May 20 and project 1142 has data through April. To see the specific period, you must select each one at a time. You will also see the status date in views which we will cover in future sessions.

In addition to the Project, you can look at the data in several ways within the Empower tool. For each Project, there are selection for each period, structure, and units. Every period loaded to Empower will be available here. It is possible to have less periods here than in the PARS SQL database. An example of this is a project where the work breakdown structure changed, specifically to remove WBS elements which requires a new WBS structure, then the history in Empower must be removed to allow it to report right. The history, at a top level, will remain in PARS and there will be access to this in project and program SQL reports. We will look at these reports in a later session. Next you can choose to look at the project by work breakdown structure or reported organizational breakdown structure. The last option of the four is units. By default is dollars. The user can look at data by hours, one of the elements of cost, or equivalent personnel. If not reported by element of cost, these options will not be present.

Lastly, in the dataset box, is an option to select a prefilter. A prefilter limits the data loaded to a specific condition, which is helpful in specific analysis as well as working with large data sets. There will be a session dedicated to filters within Empower and prefilters.

Portfolio is only seen by those who have access across programs and is useful to support top level leadership views.

Empower Browser Tips

Browser sizing

- Works with all modern Browsers
- Resizing Empower – Select CTRL + scroll up/down on mouse
- F11 to take the Browser to full screen

Troubleshooting Techniques

- F5 for Refresh – or Browser Refresh
- Clear Cookies – Close and reopen Empower
- Browser Cache – Clear data
- Seek Technical Support through PARS Support

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Before moving further into Empower, lets take a minute to review the browser. Empower and PARS are both provided to a user in an Internet browser. Empower is packaged inside a window within PARS such that the security measure of PARS cover the Empower software at DOE. As these are browser based, it is worthy of a few minutes to discuss browsers.

RECOMMEND A SCREEN CAPTURE TO DEMONSTRATE AS WE DISCUSS

PARS and Empower will work in most browsers. For these browsers, there are some common tips that can help a user. In terms of sizing, there are two pointers. One is that you can resize Empower in the browser with the quickest method being to hold the control key and scroll up or down on the mouse, assuming it has a scrolling wheel. Second is that by selecting the function key, F11 you have the browser enter full screen mode and capture more space for the data to be visible. You can also select F11 again to exit this mode. Depending on which monitors you have, this can help with the use of Empower.

If Empower does seem to act up, which is generally an issue a browser can cause, the most helpful first troubleshooting technique is to select the function key F5 to refresh

the browser. This generally resolves most issues. If you see data not refreshing when you move to another screen or select a different WBS element in the tool, this generally fixes the issue.

If F5 does not seem to fix the issue, clearing cookies is the next option to try. Empower is designed to clear cookies when ever you close it. In this case, close the Empower window and then select the Empower icon again in PARS to reopen in a new window.

Last option before opening a trouble ticket with PARS support team, is to clear the cache in the browser and then close the browser completely, which will also close PARS. After closing the browser, reopen PARS and go back into Empower for the project that you wish to look at.

The PARS Support team can be contacted via pars_support@hq.doe.gov and will work to help troubleshoot further when these options do not resolve the issue.

Tri-Pane View

Menu Bar

Toolbar

Sort Window

Chart

Tri-Pane

Status Bar

Report

HIER	WBS	DESCRIPTION	LL	LVL	% CMP	CAM	ET	EV	DQI	VAR	SV	CV	VAC	SPI	CPI	TCPI-EAC	CPI-EAC	SV	SV %	CV	CV %	VAC
1	1000	MOH-2		1	32.95	Jones									0.942	0.932	1.040	-0.107	-425.6	-5.85	-496.8	-7.25
11	2000	PROJ MANAGEMENT		2	62.79	Brown	CA								0.985	0.934	1.056	-0.122	-13.2	-1.50	-61.2	-7.04
111	2100	PROJ MANAGEMENT	x	3	45.70	Brown	WP	LOE							0.959	0.942	1.044	-0.102	-12.0	-4.07	-17.4	-6.16
112	2200	SYS ENGINEERING	x	3	85.04	Price	WP	P01							1.027	0.901	2.650	-1.749	6.4	2.73	-26.4	-10.95
113	2300	FUNC INTEGRA	x	3	71.62	Price	WP	P50							0.978	0.952	0.911	0.041	-7.6	-2.15	-17.4	-5.03
12	3000	PRIME EQUIP		2	30.31	Smith	CA								0.920	0.924	1.006	-0.082	-382.6	-7.96	-365.4	-8.25
121	3100	SENSORS	x	3	20.87	Smith	WP	M1							0.908	0.971	0.992	-0.021	-36.6	-9.21	-10.6	-2.94
122	3200	COMMUNICATIONS	x	3	34.63	Tideman	WP	LOE							0.777	0.844	1.034	-0.180	-263.2	-22.31	-130.8	-18.46
123	3300	ALK EQUIP	x	3	27.57	Tideman	WP	P01							0.877	1.133	0.962	0.171	-93.2	-12.37	78.2	11.73
124	3400	ADPE	x	3	41.89	Zepka	WP	P50							0.961	1.053	0.978	0.075	-10.2	-3.91	12.6	5.02
125	3500	COMP PROGRAMS	x	3	47.62	Pino	WP	M1							1.023	1.056	0.934	0.132	2.0	2.27	5.6	6.22
134	3600	SPV		2	78.09	Zepka	WP	LOE							0.983	0.850	1.077	-0.177	-11.4	-0.67	-306.3	-17.63

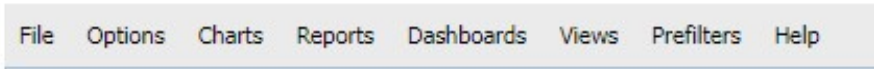
Hours (C000)	\$_c	BCWP_c	ACWP_c	SV_c	CV_c	BCWS	BCWP	ACWP	SV	CV	BAC	EAC
LAB \$	145.0	175.0	170.4	30.0	4.6	690.0	715.0	840.2	25.0	-125.2	3,000.0	3,200.0
MAT \$	132.0	21.0	104.0	-111.0	-83.0	192.0	170.0	225.0	-22.0	-85.0	851.0	954.0
G&A \$	21.0	33.0	24.0	12.0	9.0	99.0	102.0	120.0	3.0	-18.0	450.0	508.0
ODC \$	20.0	59.0	0.0	39.0	59.0	120.0	80.0	71.0	-40.0	9.0	100.0	128.0
OH \$	124.0	150.0	146.0	26.0	4.0	591.0	613.0	720.0	22.0	-107.0	1,400.0	1,200.0
EOC Total	442.0	438.0	444.4	-4.0	-6.4	1,692.0	1,680.0	1,976.2	-12.0	-296.2	5,801.0	5,988.0
Delta to Dollars	830.4	712.2	855.0	-118.2	-142.8	3,117.2	2,748.6	2,815.8	-370.6	-89.2	8,805.4	8,927.4

The tri-pane view is the basic layout for Empower. This user interface includes a menu bar, toolbar and status bar in addition to the sort window on top, a chart area in the lower left and the report area in the lower right. The layout is fixed for these three components of the tool. Having a wider sort window on top seem more important to users than a fourth window. For those with multiple monitors we will show you how to have additional charts and reports open in additional windows later in this session. We will take a look at each of three parts of the tri-pane and the menu, status bar and toolbar in more detail.



Menu Items

- Menu items in PARS are tailored slightly. The menu items are



File Options Charts Reports Dashboards Views Prefilters Help

- This list does not include a few items you might find in a contractor's instance of Empower
- Each of these menu items will be discussed in more detail as we go through the capabilities of Empower with a general discussion here

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The menu bar has eight options. We will look at a high-level overview here but will discuss each in more detail throughout the remaining sessions.

File provides an option to open the dataset tool and export and import data from Empower

Options provides many set up configurations items for Empower. We will go over each option later in this session

Charts provide a link to all available charts in this instance of Empower. These will show up in the lower left of the tri-pane


Reports provides a link to all available reports in this instance of Empower. These will show up in the lower right of the tri-pane

Dashboards provide a way to store a combination of Charts, Reports, Views, Prefilters, and formatting to allow for quick access in the future

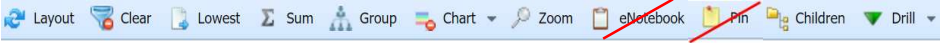
There are two types of **views**, EV data which shows in the Sort Window and Gantt views which show in the chart area

Pre-filters support limiting data to support specific analysis or audience


Help provides access to useful documents to support DOE users. We will go over many of these later in the training




Toolbar Items



- Layout (Reset Layout to Default)
- Clear (Interactive Filter)
- Lowest (Lowest Level)
- Sum (Sum all elements in Sort window)
- Group (Groups by selected value)
- Chart Options (Chart Type & Color Background) ←
- Zoom (Chart)
- ~~eNotebook~~ (External Hyperlink)
- ~~Pin~~ (Variance Input Screen)
- Children (Children of Active Element)
- Drill-Up/Down (Drill-Up/Down WBS)





When a Gantt view is selected these additional toolbar options will be provided.

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The toolbar provides items that you need to remember. We will discuss each one at a time

WE NEED TO DO A SCREEN CAPTURE TO GO ALONG WITH THIS DISUCSSION

Layout – This will reset the tri-pane with each pane balanced. During use, a user likely will shrink and grow a chart or report at the expense of the other. By clicking on Layout, it returns it to the default layout.

Clear – This is used with interactive filters (not Pre-Filters) to clear filters you have set up. Some filters are hard to see, so it is recommended that you always use this to clear filters in the interactive filter area of the Sort Window.

Lowest – This will have the sort window only show the lowest level of reported WBS or OBS elements. You can tell a lowest level as the “LL” column in the sort view will have and “X” in it. Click this again and it will go back to all levels

Sum – This is used to sum by all elements in the sort window. This is useful for select reports and if you are looking at multiple projects. We will discuss this more in future

sessions.

Group – This used to group by any column you have available in the sort window. For example, you could group by CAM. Each group can also be summed using the Sum option after the groups are established.


Chart – While we will discuss this in detail in the next session, this is tool to help change the charts to the format you want and to add additional detail to the charts.

Zoom – This works with select charts to provide a broader view. In many cases the charts are limited to 6 or 12 periods of data. If the chart has this limitation, this Zoom option will expand from start to end of the project. It does not work on all charts and it does not zoom in to data in a chart. This will be demonstrated in a future session.

eNotebook and Pin – These two are not provided in Empower inside PARS as it would be impossible to support this with the large numbers of contractors working with DOE. If you are a contractor with Empower, you may see this in your version.

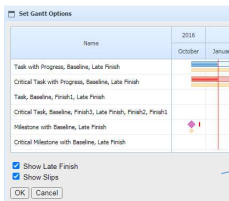
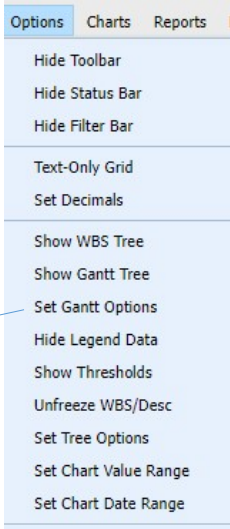
Children and Drill – We will demonstrate this in a future session, but basically, you can look at all children of the active element you are one with Children and you can drill up and down in the WBS, even if you have a pre-filter applied. We will show an example of this where a manager has the pre-filter set to Level 1 only to look at high level of several projects. Without taking this pre-filter off, the manager can drill into a project that may have an issue they want to look at.

When a Gantt view is showing the user gets addition toolbar items to work with schedule. We will go over these in detail when we go through a Gantt view in the next session.



Options Menu

- Option Menu items are designed as a toggle switch (on/off)
- Hide Toolbar, Status Bar and Filter Bar
- Text-Only Grid - toggles color coded fields to text
- Set Decimal – displays the number of digits to the right of the decimal
- WBS Tree – Show or Hide
 - Toggles the Cost data (Sort Window) WBS Tree
 - Toggles the Schedule Gantt data WBS Tree
- Set Gantt Options
- Hide/Show Legend Data – Displays data on the Chart legend
- Show Thresholds
- Unfreeze/Freeze – Freezes the WBS and Description columns
- Set Options

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There are several options in the Options menu which you should learn as well.

SCREEN CAPTURE DEMO WITH DISCUSSION

The top three are available – **Hide Toolbar, Status Bar and Filter Bar** to allow the user to take a screen capture for a report, but it is recommend that you leave this on to work within Empower

Text-Only Grid changes representations in the tool from color (red, yellow, green, blue) to words to assist those who cannot distinguish colors

Set Decimal is a global change to how many decimals are shown in the Empower. Percent Complete is currently set to two decimal points and while DOE would like this at one, doing so in a global manner does not make sense, so recommend you leave this at its default.

WBS Tree for Earned value data in the sort window and Gantt changes the view. Generally the tree view off provides a better environment, especially when sorting data. When the tree view is on, it can help you look at the WBS relationships, but the

sorts are done within tree structure. This has a specific purpose, but generally not as useful as having the tree view off. As a user you should look at it each way to decide what is best for your needs. The next slide show what it looks like with the tree view turned on (kill if demonstrating in Screen Capture.

Set Gantt Options – This has one task that you should do each time you logon. Go to options and check the two boxes – show late finishes and show slips. In a future release of Empower this may be set to be on by default, but until it is, please check these. We will show you the power of these in future sessions.



The **Freeze WBS / Description** is recommends that you leave then frozen. This means the WBS and Description will always be visible on the left of the sort window as you scroll right.

Set Tree Option changes the levels. Recommend you keep this at “-1” which lets you see all levels.

Set Gantt Options allows you to select whether or not to show Late Finish and Slips on the gantt.

Set Chart Value Range changes values within the chart such as the min, max, step and scale.

Set Chart Value Range changes the date range within a chart.

WBS Tree View

Cost WBS Tree View

WBS	DESCRIPTION	LL	LVL	% CMP	CAM	E
1	LAR		1	74.56	P I Smith	
1.1	PRIME VEHICLE		2	89.18	D Bachman	
1.1.1	FRAME	x	3	95.98	D Melton	
1.1.2	SUSPENSION/STR	x	3	100.00	M Board	
1.1.3	POWER PACKAGE		3	94.99	H James	
1.1.3.1	ENGINE	x	4	87.33	H James	
1.1.3.10	COOLING SYS	x	4	100.00	F Valore	
1.1.3.9	EXHAUST SYS	x	4	100.00	J Martin	

Gantt Tree View (G)

WbsNum	UID	S	Name	2003		2004		2005			
				July	October	January	April	July	October	January	April
1	1	T	LAR Vehicle	[Gantt Bar]							
1.1	2	T	Primary Vehicle	[Gantt Bar]							
1.1.1	3	T	Frame	[Gantt Bar]							
1.1.1.1	4	T	Aluminum Panels	[Gantt Bar]							
1.1.1.1.1	159	T	Design	[Gantt Bar]							
1.1.1.1.1.1	427	F	Sub System Trades & Analysis	[Gantt Bar]							
1.1.1.1.1.2	428	F	Preliminary Design	[Gantt Bar]							
1.1.1.1.1.3	429	T	Finalize Design	[Gantt Bar]							
1.1.1.1.1.3.1	431	F	Develop Interface Specs	[Gantt Bar]							
1.1.1.1.1.3.2	430	F	Design Developmental Tests	[Gantt Bar]							

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DELETE IF Demonstrating in Screen Capture – other wise a pop-up view to go with Options Menu

HIER	WBS	DESCRIPTION	LL	LVL	% CMP	CAM	ET	EVM	DQI	VAR	SV	CV	VAC
1	1000			1	95	Jones		EFI	c		↓	↓	↓
11	2000			2			CA	EF			↑	↓	↔
111	2100	PROJ MANAGEMENT	x	3							↑	↔	↔
112	2200	SYS ENGINEERING	x	3	85.04	Price					↔	↓	↔
113	2300		x	3	71.62	Price	WP	P50	E		↓	↓	↔
12	3000	PRIME EQUIP		2	30.31	Smith	CA	EI	c		↓	↓	↑

We will now dig into the Sort Window in more detail. This is the key to analysis in Empower. We will focus on several of the key elements of this part of the tri-pane view.

First – a key aspect of the sort window is that the data is from the cost side of the earned value data.

The figure shows some of the key features of the sort window. It is displayed in the tree mode, which maintains the parent to child relationships when sorting and filtering. Again, most work is done with the tree mode off, and item you select under the options menu.

At the top, the three menu items that impact the sort window are Dashboards, Views and Prefilters. Views provides the list of views available to use We will go over them in more detail in the next session. Empower has a potential to provide more than 600 columns of data. The PARS team has established a little over 20 views in the global list (available to all users and managed by PARS administration) with about 15 to 30 columns each to help keep focus for the specific reason you select a view. Some of these views are Gantt views and they effect the chart pane of the tri-pane

rather than the sort window. Prefilters limit data sets to support specific analysis, and Dashboards, combine a view with a chart, report, pre-filter, as well as format. For DOE the global dashboards are paired with the Earned Value Management System Project Analyst Standard Operating Procedure (EPASOP). A copy is available in the support area of PARS and in the help menu of Empower in the PARS system. This SOP is updated as changes are made to Empower and it would be good to check for updates on a periodic basis. As a user you will be able to create and use your own views. The final session of the basic user training will address how to create user views, as well as dashboards, charts, reports and filters.



Sort window information lets you know what dataset you are looking at. In the case of this example, **the project is MOH-2 with data from January 2, 2017**, showing the WBS structure in dollars. The :: following the dollars, Gantt in this case says you are in the Gantt dashboard followed by :: with the name of the sort window view you are in; this example being Empower Default. In PARS we have configured Empower to only show dollars in whole numbers in the sort window, but some reports and charts will be in thousands or millions of dollars. These will be labeled. Learning this shorthand helps you when you use Empower for analysis.

NEED A SCREEN CAPTURE DEMO TO GO WITH rest of DISCUSSION.

Interactive filtering is done by typing in the white boxes above each column. For example, typing “P” in the white box under “Description” would return all elements that start with “P”. In this case “Prime Equipment”, “PCC”. and “PROJ MANAGEMENT”. Typing “<.95” in the white box below SPI would return all elements with a SPI < .95. We will have a full session on filters and pre-filters towards the end of the PARS basic user course.

For each column, if you hover the mouse cursor over the abbreviated heading, EVM in this example, it will provide an expanded name – Earned Value Method for EVM.

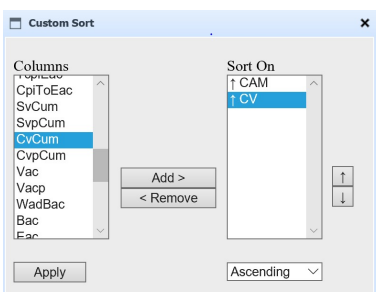
Next Slide – continue demo with example on sorting.

Sorting

- **Sort** any field by clicking the Title box
 - Empower defaults to Sorting by ascending order
 - Click on the title box to Sort by Descending order

- Multi Sort:
 - **Views | Custom Sort**
 - Select the Column(s)
 - Add to Sort On
 - Adjust the Order



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CONTINUE DEMO –

To sort you click on the title box of a column. Like many programs, if you click once, it sort ascending and click again to sort descending.

There is also the ability to sort on multiple columns. Under the Views menu – select “Custom Sort”. Use the Columns box on the left to select the columns you want to sort on and add them. Select if ascending or descending for each column and then adjust the order. The example above say to sort by CAM and then by Cost Variance. This will result in each CAM being set up alphabetically and their highest cost variance at the top

To get out of the sorts you have set up, click on the far-left column, which will always be labeled HEIR. This is hierarchy and is in place as some do not use a WBS structure that always reflects a hierarchy. This will return the sort to the default when you first entered the sort window.



Sort Window with Schedule

The screenshot displays a software interface with a table of tasks and a Gantt chart view. The table has columns for task ID, activity, priority, start/finish dates, and duration. The Gantt chart shows a timeline from October to January with task bars. A 'Task Detail Report' is also visible on the right side of the interface.

HER	Actv	Lnkval	Pty %	BLFinish	Finish	Slip	TFloat	Crit	Finish1	Slip1	TFloat1	Crit1	Finish2	Slip2	TFloat	Crit2	Finish3
1111111	C EF S		0	2022-07-20	2024-01-01	0d	0d	F	2023-11-27	0d	0d	F	2023-10-04	0d	F		2023-10-01
1111111	C EF S		0	2022-07-21	2024-01-01	0d	0d	F	2023-11-27	0d	0d	F	2023-10-04	0d	F		2023-10-01
1111111	C EF Ph		0	2022-07-28	2024-01-01	0d	0d	F	2023-11-27	0d	0d	F	2023-10-04	0d	F		2023-10-01
1111111	C EF S		0	2022-08-01	2024-01-01	0d	0d	F	2023-11-27	0d	0d	F	2023-10-04	0d	F		2023-10-01
1111111	C EF D		0	2022-08-04	2024-01-01	0d	0d	F	2023-11-27	0d	0d	F	2023-10-04	0d	F		2023-10-01
1111111	C EF S		0	2022-08-04		0d	0d	F			0d	F			0d	F	
1111111	C EF S		0	2022-08-17	2024-01-01	0d	0d	F	2023-11-27	0d	0d	F	2023-10-04	0d	F		2023-10-01


HER	Actv	Lnkval	Pty %	BLFinish	Finish	Slip	TFloat	Crit	October	January
12222	FND	[Unlinked Tasks]	0.0 %	2021-12-28	2024-02-21	0 days	427 days	F		
12222	FND	[Unlinked Tasks]	0.0 %	2022-03-02	2025-04-24	0 days	395 days	F		
12222	C2O	[Unlinked Tasks]	0.0 %		2025-05-27	0 days	178 days	F		
12222	C2O	[Unlinked Tasks]	0.0 %		2025-04-16	0 days	198 days	F		
12222	C2O	[Unlinked Tasks]	0.0 %		2024-04-22	0 days	238 days	F		
12222	C2O	[Unlinked Tasks]	0.0 %		2024-12-03	0 days	173 days	F		
12222	C2O	[Unlinked Tasks]	0.0 %	2026-01-08	2025-12-15	0 days	646 days	F		
12222	C2O	[Unlinked Tasks]	0.0 %	2024-09-30	2024-09-30	0 days	1087 days	F		
12222	C2O	[Unlinked Tasks]	0.0 %	2024-03-31	2024-03-31	0 days	1270 days	F		
12222	C2O	[Unlinked Tasks]	0.0 %	2025-09-30	2025-09-30	0 days	722 days	F		

General Information			
Item	Value	Item	Value
Unique ID	C201CCR0015	Summary Task	F
WBS		Milestone	F
OBS		BCWS	0.00000
CA		BCWP	24.84000
WP		ACWP	0.00000
EVM	PCT	BAC	28.54000
Contract Milestone		EAC	0.00000
		PlanLevelCode	A
		HDV	N
		Baseline Only	No
		Forecast Only	No
		Resource Mitigation Task	

- Hold shift key down and select a Gantt view. Allows you to sort based on schedule.
- Recommend use with Task Description Report

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New feature in Empower is the ability to add schedule to support window to support filtering.



Keys to Analysis

- **Views** - Establishes the Columns from which to sort
 - Oriented by Data Fields (EVM, DQI, Variance, EAC)
 - Selectable Views from the Menu
- **Sorts** - Conditions data by Columns
 - Reorders columns by bringing highest/lowest or alphabetized sort to the top (single click in column header)
- **Filters** — Conditions data by Rows
 - Narrows the Dataset by hiding non-pertinent elements from view
 - Interactive Filter – on demand filter
 - Default Filters – preset conditions

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As was stated the sort window is the key to conducting analysis. The key lies in the presentation of columns, ability to sort and filters.

Empower views are organized by DOE to support analysis and are indexed in the tool and are as follows. There are currently 30 total. We also have the Empower Default and Default Gantt views, which is provided out of the box.

S-001 to S-009 Basic DOE Views to accompany the EPA SOP

S-010 to S-019 Gantt Views

S-020 to S-029 EVMS Compliance Views

S-030 to S-043 Other use views



In the next session we will spend a lot of time in each view.

Sorting is important to help find the items you want to know. Which elements have the greatest cost or schedule variance. This is key to help focus your attention on what is driving the issues which need most attention.

Filtering helps narrow the dataset to the pertinent elements. An example is to filter

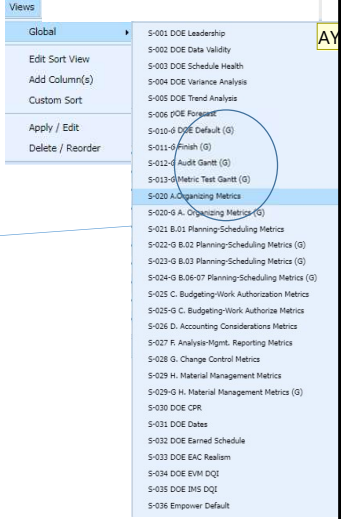
for all work packages with a cost variance indices below 0.9 and a schedule variance indices below 0.9. This would tell you the work packages that are behind schedule and over cost for further analysis. We will spend an entire session on filters to reinforce this capability.

Can now do this with your Gantt views.

Views (Columns)

- Go to **Views | Global or User**
- **Cost Data View**
 - User can add new Sort Views (last session)
 - Views are displayed and can be selected
 - Typically, the description denotes what fields are included in the View
- **Schedule Data View**
 - User can add new Schedule specific Views (Advanced Topic)
 - Best practice is to note Schedule Gantt Views with a “(G)” at the end of the description
- **EVMS Compliance Views**
 - Specific Guidelines grouped (S-020 to S-024)



Hint: Can't remember what all the Acronyms mean? Go to **Help | DOE 'Gold Card' in the Help Menu.**

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Under the Views menu, you can see the views that DOE provides users. Again, Users will be able to make their own as well. In the next session will dig into many of these views.

The views with a (G) at the end are Gantt views and impact the chart area of the tri-pane view.

Each of the views can be edited using the edit sort view and saved as a user view. Users with out admin rights cannot edit global views, but as a user you can start an edit from a global and save it as a user view after you have made your edits.

The Add Columns link under the Views menu lets you make a temporary change, for that session only. If you add three columns to DOE Schedule Health, when you go out of that view, they will not remain part of that view.



For those conducting EVMS system surveillance, the S-020 to S-029 views target specific EIA-748 Guidelines and provide a significant capability to take a look at what element or elements are causing the flags in terms of compliance.

There are additional views for specific cases to include Earned Schedule and more in-depth data quality indicators.

Slide 18

AYO Work with Roland, to finalize new views removing GL.

Young, Amber, 2024-02-21T20:42:46.768

Active Element Discussion

- Active Element is the row that you single click in the Sort window
- The Active Element drives the following:
 - The Chart element data to display
 - The Report element data to display
 - The Gantt Chart schedule data to display
- Active Element is displayed in the Status bar
- Can only select one element as the Active Element, if you need multiple, use the Sum feature in the Toolbar

HIER	WBS	LL	LVL	% Complete	% Spent	Complete	Tasks	Inc Tas
1	01	TI	1	38.21	41.01	0	1650	
11	01.08	N	2	39.72	42.63	0	1621	
111	01.08.01	S	3	39.72	42.63	0	1602	
1111	01.08.01.01	N	4	35.24	38.90	0	1018	
11111	01.08.01.01.01	N	5	-500.00	-100.00	1	39	
111111	01.08.01.01.01.01	N x	6	300.00	100.00	1	11	
111112	01.08.01.01.01.02	N x	6	100.00	100.00	1	3	
111113	01.08.01.01.01.03	Pi x	6	-100.00	100.00	1	23	
111114	01.08.01.01.01.XX	Vi x	6	0.00	0.00	1	2	
11112	01.08.01.01.02	N	5	100.00	200.00	1	56	
111121	01.08.01.01.02.01	N x	6	0.00	0.00	1	9	

Status Bar → PARS\WEST: [REDACTED] DEC 19 WBS Dollars: [01.08.01.01.01.01 : [REDACTED] 6]:Sort: ↑ Hier::Elements: 192/192

The last key to Empower as an analysis tool is the concept of Active Element. This means that which ever element you select in the sort window, whether top level (Level 1), control account, or work package the charts and reports, with few exceptions, will change to focus on that element. You get to pick a single line. In the case of the example, 01.08.01.01.01 was selected. The description of this work package was minimized for this example, but you can see it is the lowest level which happens to be a work package. It is marked 300% complete and 100% spent. This likely needs further investigation.

When this work package was selected, the chart that I had selected in the tri-pane and the report will provide information on just this work package to support deeper analysis. If I had a Gantt chart in the lower left, then the Gantt will only reflect the activities associated with this work package.

The status bar that sits at the bottom of the screen provide information as to what Active Element you are on. It has many other bits of information and we will look at this in future sessions. Note that the date of the data, that it is in dollars, how it is sorted, and how many total elements there are with none filtered out (192/192)

We will now move into the next sessions which start to take this basics from the overview, and dig into the view, charts, and reports build into Empower



Checks on Learning

- PARS will log the user into Empower if they select the Empower Icon without using the Empower logon page
 - A. True
 - B. False
- Empower as a commercial tool has some items in which the words used differ from DOE. What Empower calls a contract, DOE call a project.
 - A. True
 - B. False
- PARS collects data from which systems to enter into Empower
 - A. Contractors Cost processor Data
 - B. Empower
 - C. The Contractors Integrated Master Schedule (IMS)
 - D. **Timesheets**
- What options can the user select in the Open Dataset Window?
 - A. Project (Contract)
 - B. Period
 - C. Structure (WBS or OBS)
 - D. Units (Dollars, Hours, etc)
 - E. All of the above

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THESE ARE PLACED HERE AT THE END – BUT CAN BE MIXED INTO THE TRAINING AT THE APPROPRIATE SPOTS.



Checks on Learning

- In the Open Dataset Window, a user can select multiple projects.
 - A. True
 - B. False
- The following are tips to assist with your Internet browser. Select all that are true.
 - A. Function Key F11 will place the browser in full screen mode to provide additional space on the screen for Empower
 - B. Function Key F5 will refresh the browser if it is hanging up
 - C. Function Key F1 will open up Empower Help
 - D. Closing Empower and reopening will clear the cookies
- The Tri-pane contains which items
 - A. Sort window
 - B. Help screen
 - C. Reports
 - D. IPMR Format 1
 - E. Charts
- Identify which are key items of the Tri-pane View?
 - A. Menu Bar
 - B. Tool Bar
 - C. Status Bar
 - D. Sort Window
 - E. Chart
 - F. Reports

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THESE ARE PLACED HERE AT THE END – BUT CAN BE MIXED INTO THE TRAINING AT THE APPROPRIATE SPOTS.



Checks on Learning

- The PARS version of Empower is set up to support eNotebooks.
 - A. True
 - B. False
- In Set Gantt Options, which two items should user turn on when they enter Empower?
 - A. Show Late Finish
 - B. Show Duration
 - C. Show Predecessors
 - D. Show Slips
- Which menu items impact selection of the sort window?
 - A. File
 - B. Views
 - C. Reports
 - D. Prefilters
 - E. Charts
 - F. Dashboards
- What items on the Sort Window are keys to analysis?
 - A. Which columns are selected by picking a view
 - B. Sorting
 - C. Filtering
 - D. Reporting

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THESE ARE PLACED HERE AT THE END – BUT CAN BE MIXED INTO THE TRAINING AT THE APPROPRIATE SPOTS.



Checks on Learning

- In Empower you can only select one column to sort on.
 - A. True
 - B. False
- Which statements are identified with Active Element, a powerful tool in analysis ?
 - A. It is the row that single click in the sort window
 - B. Only works for control accounts
 - C. Drives the report element data to display
 - D. Drives most chart date elements to display
 - E. Drives the Gantt chart schedule to display
 - F. Is displayed in the status bar
 - G. You can select more than one element at a time without using the sum feature

THESE ARE PLACED HERE AT THE END – BUT CAN BE MIXED INTO THE TRAINING AT THE APPROPRIATE SPOTS.



BACKUP