Encore Analytics

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

Empower Views and Dashboards, Module 3

PARS User Basic Training

1

Welcome to the third 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.

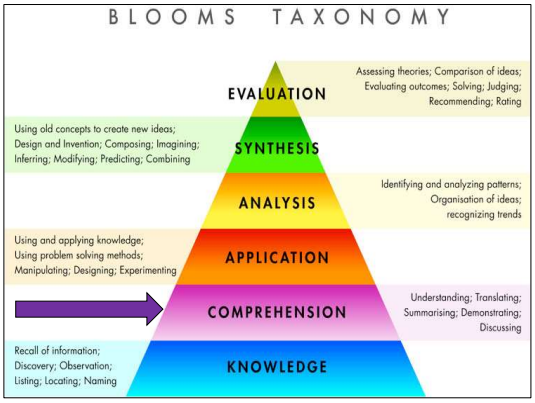
Training Objectives

Encore Analytics

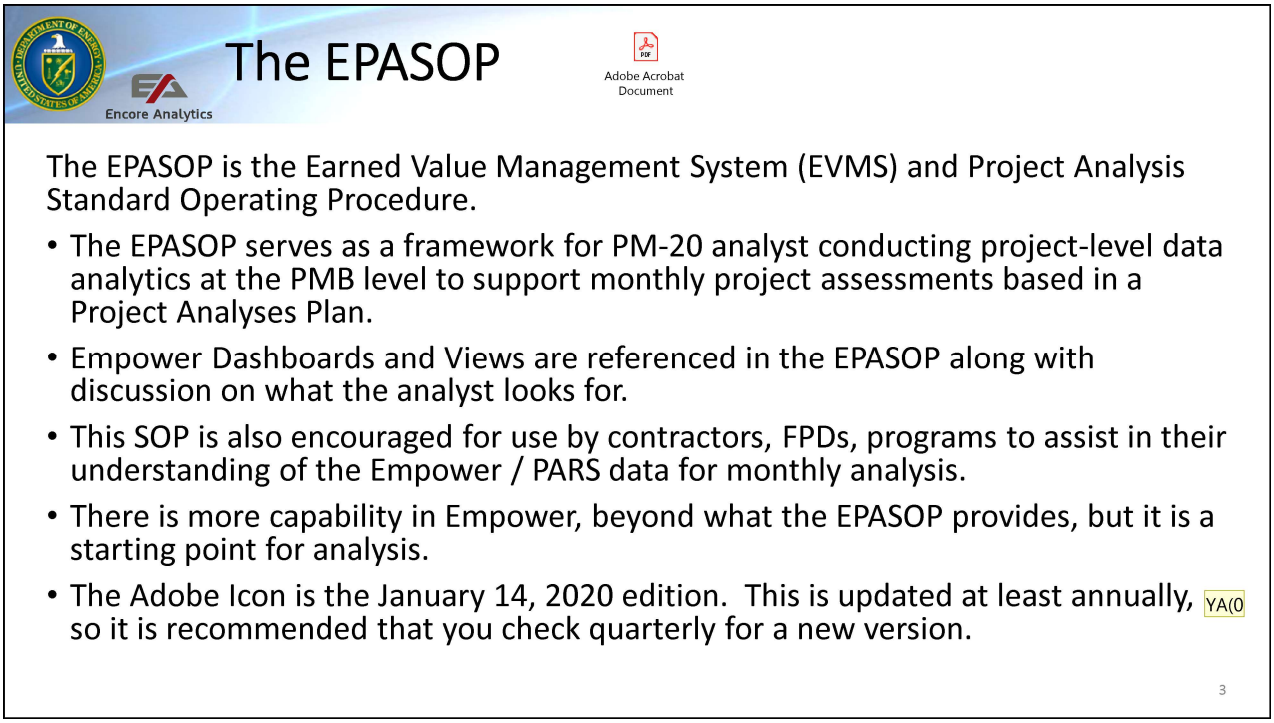
- Understand the basic organization and operations of the PARS.
- Understand the document management system of PARS
- Understand user roles in PARS
- Understand Basic Layout and Organization of Encore Analytics Empower as part of PARS
- **Use Empower views, charts, reports and dashboards**
- Use Empower 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 third session and the next will focus on the fifth training objectives and the user gaining an understanding of views and dashboards in Empower as set up in PARS. The user will understand the design of DOE provided Views and Dashboards in relationship to the Earned Value Management System and project analyst Standard Operating Procedure. The fourth session will focus on charts and reports. 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.



The EPASOP is a DOE-PM produced document to help analysts use the views, charts, and reports in Empower as they analyze data monthly. This document is provided in PM-Connect, the PARS Support area, and the Empower Help Menu. It is a little over 30 pages and is recommended as a reference for all PARS users conducting analysis.

Contractors, FPDs, and Program level analyst are encouraged to use this as it also tells them what the analyst generally check each month. We are providing you with a copy here to follow along with and make notes on. A good amount of this section will follow this document.

In the EPA SOP, there is a project analysis plan defined for an analyst. The framework for analysis outlines sequential steps taken when conducting project-level analysis using the Contractor's data uploaded in PARS in accord with PARS Contractor Project Performance (CPP) Upload Requirements Document. The Performance Measurement Baseline is a time-phased budget plan for accomplishing work, against which project performance is measured. The PMB includes all effort as described in the Statement of Work (SOW) or Project Execution Plan (PEP), from CD-2 through Post CD-4 closeout effort. Post CD-4 activities are comprised of all activities chargeable against project costs including data deliverables, such as PARS

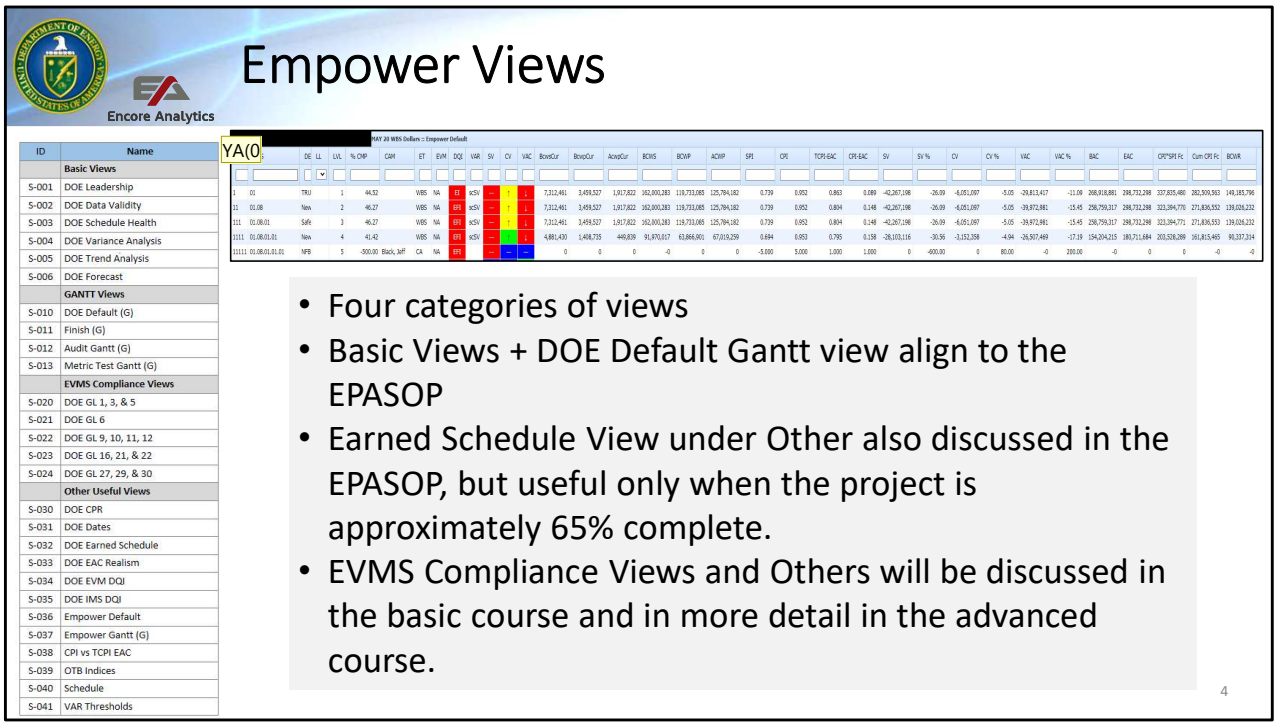
reporting, Lessons Learned, and Initial Closeout Report submittal (ref. DOE O 413.3B, Table 2.4).

By following this Analysis Plan, the Analyst can assess EVMS data validity, identify sources of current and past performance issues, determine if recent corrective actions were successful in improving performance, and assess baseline stability and reasonableness of the Estimate at Completion. After the analysis is complete, the Analyst can determine, based on issue severity and potential impact to CD-4 and/or Estimate at Completion (EAC), as to which issues warrant being covered in the Monthly Project Assessment.

(PROVIDE COPY FOR STUDENTS IN STUDENT REFERENCE MATERIAL SECTION OR AT THIS SLIDE. DOE IS UPDATING THIS NOW AND WILL PROVIDE NEW BEFORE TRAINING IS TESTED.

Slide 3

YA(0 Need to update when EPA SOP updated
Young, Amber (CONTR), 2024-02-11T02:30:27.698



First we will spend time on Views. The list above provides the views available as of January 2024. As they become a available, additional views may be added, if they would provide value to a majority of users. In the last session of the basic course, we will also show users how to make and save their own views.

DOE has views in four categories, Basic, Gantt, EVMS Compliance, and Other. We will focus on Basic and Gantt and mention the EVMS and Other, but save discussion in detail of these for the advanced users course. The Basic and DOE Default Gantt views will follow along with the EPASOP. Two notable exceptions, are the Empower Default and the Empower Default Gantt views. These are not modified from the out of the box version provided by Encore Analytics and we include them for those who may be used to working with them locally.

The S-0XX indexing system is used to maintain version control for these views by the PARS Administrators.

We will next take a look at each of the Basic Views and what they were designed for.

Slide 4

YA(0 Update with new views, all GL delete, replace with new DOE_x
Young, Amber (CONTR), 2024-02-13T00:12:43.761

YA(0 0 Speaker notes - to use sort view have IMS content, need to hold shift and click
Young, Amber (CONTR), 2024-02-13T00:13:17.944

YA(0 1 Working with Roland on finalizing views removing GLs.
Young, Amber (CONTR), 2024-02-21T20:45:15.566

DOE Leadership View

Encore Analytics

(Multiple Contracts, Portfolio [redacted] CUR-0 WBS Dollars in Thousands :: D-001 DOE Leadership :: S-001 DOE Leadership

HIER	PARS ID - Project Name	WBS	Description	DOE Program	Site	Status Date	Percent Complete	Variance at Completion Trend	Variance at Completion	Budget at Completion	EAC (F1)	EAC (Calc)	Contractor PM Most Likely EAC	Cost Variance	CvCum	TcpiEac	Schedule Variance	SvCum	Baseline (Schedule) Execution Index
111	[redacted]					2020-06-21	99.58	—	-3,929	35,124	39,053	39,053	0	—	-4,056	7.116	↑	1,138	1.059
111						2023-12-29	45.36	—	-7,754	91,000	98,754	98,754	154,230	↓	-12,906	1.116	—	-13,423	0.661
111						2023-12-31	46.26	—	15,223	303,109	287,885	287,885	289,815	↑	-5,292	1.144	↑	-4,149	0.960
111						2019-08-25	99.75	—	-11,923	71,359	83,281	83,281	0	—	-11,944	1.136	↑	-180	0.961
111						2020-07-26	100.00	—	-2,435	14,412	16,847	16,847	0	—	-2,435	1.000	—	0	1.000

- The DOE Leadership View is designed for portfolio overview of one-to-many projects
- Generally used with the Level 1 Only
- Provides high level overview with minimal acronyms
- Provides some trending over the prior period
- Shows three EAC
  - Reported on the contractors F1 report
  - Summed from the contractors ETC, ACWP, and UB
  - The Contractor Project Manager's Most Likely EAC as they enter it each month
- User can drill into a project

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The first view we will consider is purpose built for managers / leaders which are not generally digging into detail below level 1. Project names were obscured, but the data is from the current system as of January 2024. This view can be used for one project or the user can include all of the projects they have permissions to see. The sort window information line lets you know that you selected multiple projects (contracts), and are looking at the WBS structure in dollars. This view is best selected by picking the D-001 DOE Leadership dashboard. We will discuss dashboards later on, but in this case the DOE Leadership dashboard pairs this view with a chart and report geared for leadership, and the level 1 only pre-filter already turned on.

While EAC is used, there is a deliberate intent to minimize acronyms. This supports exporting to Excel for inclusion in reports to senior leaders. We will cover exporting in the final session of the basic user course.

Basic trending of variance at complete, cost variance and schedule variance is added to help leadership see if the project is getting worse, staying the same or improving over the prior period. To look at longer term trending there are reports in Empower to do so which we will discuss later. In a trend there four colors and three symbols. The colors are red, yellow, green and blue with indicator symbols of up (↑), down (↓), or same (–). In the options menu there is a command of show threshold to tell you what triggers a color and

symbol. For DOE these are set at:

Red – Less than or equal to -10%
Yellow – Greater than -10% and less than or equal to -5%
Green – Greater than -5% and less than or equal to 10%
Blue – Greater than 10%
White = no data or divide by zero
Same (–) = Absolute value change less than 10%, otherwise an up or down arrow to signal trending over the past reporting period (month)

These valves can be different on a contractor's version of Empower, so good to know what you are looking at. Also if you can not distinguish between colors – under options, select Text Only Grids and you will get a two letter pair rather than color

RD, RU, RF (Red Down, Red Up, Red Flat)
YD, YU, UF (Yellow Down, Yellow Up, Yellow Flat)
GD, GU, GF (Green Down, Green Up, Green Flat)
BD, BU, BF (Blue Down, Blue Up, Blue Flat)

Also remember that Blue is not always good, If a project is exceeding expectations frequently, the baseline and cost estimate may not have been as rigorous as it should have been to start with.

The View also shows three Estimates at Completion (EAC). There are more, but these three are included to help management/leadership look for issues to investigate further. The first is the contractors reported Format 1 EAC from their cost tool, the EAC listed as EAC (Calc) is the summing of the contractor reported CAM Estimates to Complete (ETC) + Actual Cost of Work Performed (ACWP) + Undistributed Budget (UB). The final is the contractor project manager's most likely EAC. Each month the project manager looks at the CAM EAC's, risks, trends and overall holistic view of the project and identifies the best case, worst case and most likely EAC. Generally this is not the same as the other EACs listed. If they are too far apart, the PM should have a statement in the Format 5 as to why.

Finally, remember the drill command on the tool bar. While in the Level 1 only pre-filter, the user can drill into a project, level by level to see what might be the driving issue for a concern. This is a tool each user should try when they are using level 1 only pre-filtering to help identify the control account(s) or work package(s) that are having the most impact on performance for further analysis.

This view is not in the EPASOP as it is not designed for the analyst, but for leadership. It can still be value added to any and all analysts with more than one project to consider.

DOE Data Validity View

Encore Analytics

MAY 20 WBS Dollars :: D-002 DOE Data Validity :: S-002 DOE Data Validity

HIER	WBS	DI	LL	LVL	% Complete	% Spent	Complete	Tasks	Incomplete Tasks	Discrete Tasks	B/L Incmp Tasks	CAM	Element Type	EVM	DQI	VAR	Negative BCWS Cur	Negative BCWP Cur	Negative ACWP Cur	BCWS Cum > BAC	BCWP Cum > BAC	ACWP Cum > EAC	ACWP Cum with no BAC	ACWP Cur with no BAC	BCWP Cum with no ACWP	Completed Work with ETC	Incomplete Work without ETC
11116	01.08.01.01.08.01	Del	x	6	0.00	0.00	1	8	0	0	0		WP	PERCENT	ES		0	0	0	0	0	0	0	0	0	0	0
11116	01.08.01.01.08.02	Per	x	6	0.00	0.00	1	3	0	0	0		WP	PERCENT	ES		0	0	0	0	0	0	0	0	0	0	0
11117	01.08.01.01.09.01	Pro	x	6	100.00	-100.00	1	6	0	0	0		WP	LOE	EFSI		0	0	0	0	0	0	0	0	0	0	0
11117	01.08.01.01.09.02	Pro	x	6	100.00	0.00	1	7	0	0	0		WP	LOE	ESI		0	0	0	0	0	0	0	0	1	0	0
11117	01.08.01.01.09.03	Pro	x	6	100.00	-100.00	1	3	0	0	0		WP	LOE	EFSI		0	0	0	0	0	0	1	0	0	0	0
11118	01.08.01.01.10.01	Pro	x	6	100.00	0.00	1	4	0	0	0		WP	LOE	ESI		0	0	0	0	0	0	0	0	1	0	0
11118	01.08.01.01.10.02	Pro	x	6	100.00	300.00	1	3	0	0	0		WP	LOE	EFSI		0	0	0	0	0	0	0	0	0	0	0
11118	01.08.01.01.10.03	Pro	x	6	0.00	0.00	1	3	0	0	0		WP	LOE	EFS		0	0	0	0	0	0	0	0	0	0	0
11119	01.08.01.01.12.01	NFI	x	6	100.00	100.00	1	1	0	0	0		WP	PERCENT	ESI		0	0	0	0	0	0	0	0	0	0	0

- This is the first view identified for use in the EPASOP and EPASOP Step 1
- Data Validity focused on cost data
- Provides an indication of the validity and accuracy of the data provided by the contractor in their earned value management system
- Concerns in this view apply to both evaluating project performance and to whether there are systematic concerns with a contractor's EVMS
- In addition to this view – looking for contractor retroactive changes

6

This view is the first to support the framework identified in the EPASOP. The analysis framework includes the following processes:

- Assess data validity
- Assess schedule health
- Analyze variances
- Analyze trends
- Forecast performance

For the first view, as the name 'Data Validity' suggests, these metrics provide an indication of the validity and accuracy of EVM data produced by the contractor for management decision making. ***Concerns in this area not only apply to Project performance but also to systemic concerns with the contractor's EVMS.***

Earned value data is ultimately used to manage the project and make informed decisions and projections. Data Quality and Integrity indicators are metrics designed to provide confidence in the data being provided from the contractor's EVM System. If a contractor's data has one or more of the conditions flagged by these metrics, the analyst should investigate further and confer as needed with

subject matter experts to understand what the flag mean, For headquarters personnel, this means discussing with the Office of Project Controls (PM-30). One point to make clear is that a flag is just that, a flag, not a failed metric or failed data quality indicator. For a specific project, a flagged item may be appropriate. In the advanced course we will go into more if the specifics in the science and art of analysis, but for the basic course we want the user to realize these flags are here and that the EPASOP has guidance for each of the columns in this view. In this example, there is ACWP Cum with no BAC for the work package about midway down. In the EPA SOP the section on this data quality check states the following.

2.1.5 $ACWP_{CUM}$, $ACWP_{CUR}$, or EAC WITH NO BAC (PDF Page 8 – Document Page 4)

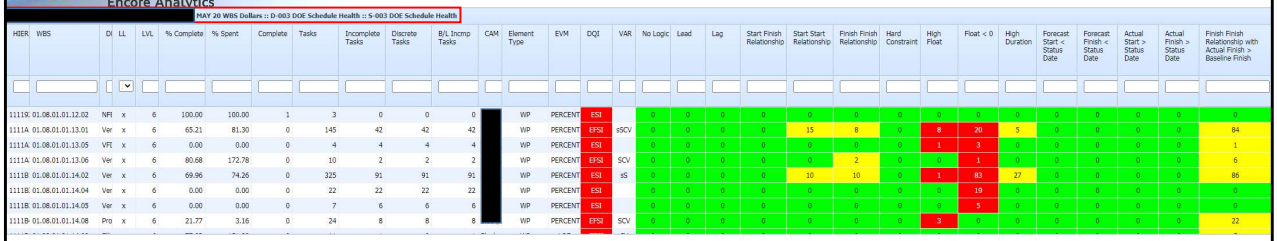
"The actual cost of work performed (ACWP) is the total dollars spent on labor, material, subcontracts, and other direct costs in the performance of the contract statement of work. These costs are controlled by the accounting general ledger and must reconcile between the accounting system and EVMS. Work should only be performed if there is a clear contractual requirement. **If there are Work Breakdown Structure (WBS) elements that contain EAC or ACWP but no BAC, consider this an issue that needs to be investigated."** Said another way – there are charges against work that does not have budget, which is not good.

There are also two yellow – caution flags for BCWP cum with no BAC. In the EPA SOP in paragraph 2.1.6 on Page 8 (PDF Page 8 – Document Page 4). Take a look at the EPA SOP and read this paragraph.

We will discuss SQL reports in a future session. But at this point, there is a report which helps identify if retroactive changes were made in PARS. As DOE collects uploads each month, with history included, it is possible to compare to past submissions to see if changes have been made. Again we will cover this in the Project Reports section later, but it is described in the EPA SOP paragraph 2.1.10 on PDF pages 9-10 / document pages 5-6.

Next we will look at the Schedule Health.

DOE Schedule Health View



- This is the second view identified for use in the EPASOP and EPASOP Step 2
- Provides an indication of the schedule health for the integrated master schedule (IMS) data provided by the contractor
- Schedule health focuses on schedule data
- A good schedule is key to having a healthy EVMS

7

The project schedule and budget are an integrated time-oriented plan for accomplishment of work scope requirements on a project. Schedule planning and control, budget planning and control, work scope definition, and project risk handling are all necessary prerequisites for basic and effective project management and control. The second step of the analysis plan is to assess the health of the schedule. This step should be done in preparation for review, before major schedule restructure, and whenever schedule health is a concern. An analyst, should look at this monthly to see if there are additional flags to consider.

In Empower, the Sort View is based on cost data, but in this case the Data Quality Indicators are flags based on Schedule. The numbers are a count of the times it is seen in each element, in the case of the example above, the work package level. Again – a flag is a flag. In this example the second Work Package (01.08.01.01.13.01) from the top has 145 total activities, with 42 that are discrete and incomplete. Looking at this example for the IMS activities for this work package there are 15 of the 145 with start to start relationships. This may be fine or there may be logic concerns the analyst should look at. Are 8 with high float, is this a problem?, something to check. In looking at it each month, you will not have to run all these down after you identify which are concerns and which are not, only manage the changes that occur from month to month.

The EPA SOP provides discussion for many of the IMS Data Quality Indicators and in most

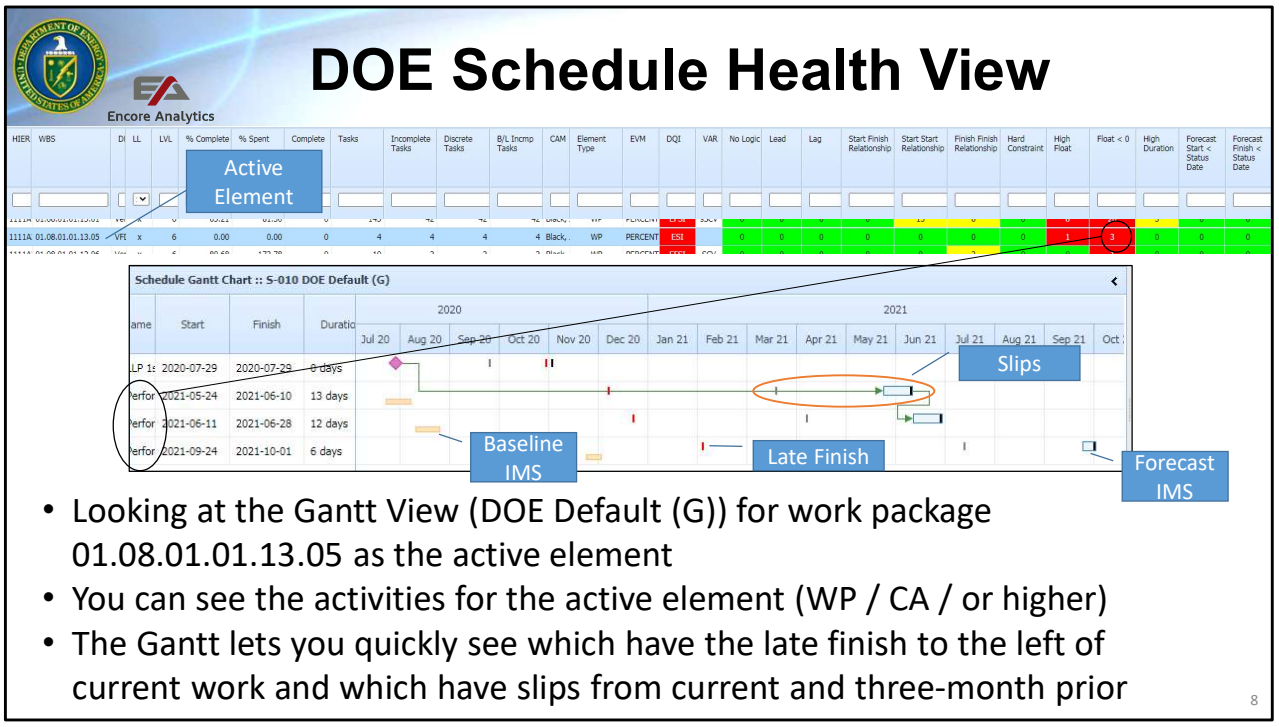
cases provides the math used to generate a condition to compare to a standard, which trigger the flag. There are reports and charts which go with these flags to help understand the magnitude of these. We will discuss these under charts and reports in more detail but now that for charts, there are both line charts and Gantt charts which can be displayed. In the advanced course we will work with these in more detail.

We will look at a couple more. What do you think of the idea of Finish to Finish relationships with actual finish > than baseline finish? First Finish to Finish means that for an activity to finish, the predecessor (Activity A) must finish before the successor (Activity B) can finish. If you plan this in our baseline and the actual finish of A slips to the right, then Activity B is effected. This is in yellow, but as an analyst you want to check which activities and how many have this to understand the impact. If you have the schedule Gantt up in the lower left window and you select the active element, say 01.08.01.01.13.01 you will see the 145 activities under this work package to help you assess the impact. You can also look at the dates in the Gantt view.

The work packages in this schedule have no hard constraints. Take a look at paragraph 2.2.5 in the EPA SOP to get an appreciate for what this mean. (QUESTION TO GO WITH THIS LESSON)

Overall, we check the health of the schedule for if the schedule is not healthy, it passes data to the cost tool / earned value engine to make the earned value management system work. When the plan is bad or the schedule is hard to measure, then the cost side will be in question as well. This is are area to spend some time each month.

In the EPA SOP, you will see notes about looking at the Gantt to gain an appreciation of the status – discussed under Negative Float. Do DOE schedules have negative float – Yes several do. You can see the Float < 0 column above. If you select the active element with numbers here and have the Gantt chart up below with the two items we discussed in session two under Set Gantt Options – turn on Show Late Finish and Show Slips you can quickly see which activities are the one that are behind and continue to struggle as well as if they are going to become part of the critical path. If the Finish date moves to the right of the late finish date, it will impact the project overall as there is no float remaining. Take a look at figure on the next slide to see this for



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DOE Variance Analysis View

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832 - Sample Preparation Laboratory (SPL) FEB 24 WBS Dollars :: D-002 DOE Data Validity :: S-004 DOE Variance Analysis

HIEK	WBS	DESCRIPTION	LL	LVL	% Complete	% Spent	Complete	Tasks	Incomplete Tasks	Discrete Tasks	B/L Incmp Tasks	CAM	Element Type	EVM	DQI	VAR	SV Cur Trend	SvCur % of Parent	SV Cur	SV Cur Percent	CV Cur Trend	CvCur % of Parent
11116	C.2.20.10.40.60	LAB Environment		6	83.43	83.80	0	35	8	8	8	Gannon Reese	CA	NA	ESI	sS	↑	9.60	77,048	638.96	↑	-234.33
11116	C.2.20.10.40.60.10	Sample Preparation Line (	x	7	86.24	86.90	0	24	6	6	6	Gannon Reese	WP	PCT	ESI	sS	↑	21.43	16,514	136.95	—	-0.03
11116	C.2.20.10.40.60.15	Glovebox Install	x	7	33.00	29.70	0	2	0	0	0	Gannon Reese	WP	PCT	EPSI	cSC		62.40	48,079	0.00		100.03
11116	C.2.20.10.40.60.20	Mechanical Properties Tes	x	7	5.40	-40.01	0	3	2	2	2	Gannon Reese	WP	PCT	EPSI	SC		1.98	1,525	0.00	↑	0.00
11116	C.2.20.10.40.60.30	Instrument Enclosures	x	7	96.64	105.59	0	6	0	0	0	Gannon Reese	WP	PCT	ESI			14.19	10,931	0.00	↓	-0.00
11116	C.2.20.10.40.60.40	Cask Cart Installation and	x	7	0.00	0.00	1	0	0	0	0	Gannon Reese	WP	NA	E			0.00	0	0.00		0.00
11116	C.2.20.10.40.60.ZZ	C.2.20.10.40.60 Suspense	x	7	0.00	0.00	1	0	0	0	0	Gannon Reese	WP	NA	E			0.00	0	0.00		0.00

- This is the third view identified for use in the EPASOP and EPASOP Step 3
- The variance view provides the analyst the ability to see project status compared to the approved baseline plan
- Supports looking at root cause vs symptoms (5 Whys Technique Discussion)
- The VAR column identifies if the analyst should expect a to find a variance narrative to read in the Format 5 report
- Percent of Parent

9

The next view targets variance analysis. This is the 3rd step in conducting data analysis. This is the point where all the effort put in to develop an approved baseline plan and determining the status against that plan serves its purpose, i.e. to identify significant variances and analyze causes so corrective actions can be determined and implemented. Variance Analysis is the identification and explanation of the top cost and schedule drivers and typically involves cumulative information. Variance analysis employing current data may also be useful in identifying emerging trends that may signal concern. The WBS elements that significantly contribute to the project cost and schedule variance should be considered in the monthly assessment.

Using active element – you can look at variance analysis at any level by bringing in reports and charts to assist. It is important for the Analyst/user to recognize schedule and/or cost variances at the project level; however, it is just as important to monitor performance at lower levels. The reason is that sometimes poor performance on one WBS element may be offset by good performance on another when the WBS elements are rolled up to the project level. Take the time to look at all levels which you can do using the view. The interactive filters will be discussed in

Session 5 and they can really help find the elements you want to look at, such as looking as well as the trend columns.

For the analyst – user - sort the WBS elements by CV% from smallest to largest. If there are WBS elements with negative (unfavorable) CV% they will be displayed at the top of the list. If there are WBS elements with positive (favorable) CV% they will be displayed at the bottom of the list. Select the largest favorable and unfavorable cost drivers and investigate to determine if the contractor has taken steps to identify and correct the root cause behind the unfavorable cost drivers. Likewise, sort the list by SV% and select the largest favorable and unfavorable schedule drivers.

This supports the five whys technique described in the EPASOP on PDF Page 18 / Document Page 14.

Using the VAR column, there are up to six characters you will find.
S, s – Schedule Variance report needed – capital S – cumulative, lower case s – current period
C,c – Cost Variance report needed – capital C – cumulative, lower case – current period
V,v – Variance report needed – capital V – cumulative, lower case – current period

The threshold set in PARS for the Variance report / narrative are global and may not align with the contractors requirements, so use this as an indicator that a variance report from the CAM is likely required to help all understand what is going on and how the CAM recommend to address it.

Discuss Percent of Parent five fields, shows the percent of the parent current & cumulative SV or CV and VAC, ex. For a CA shows that % SV or CV for each WP within that CA.

Slide 9

YA(0 Consider adding updated image with PP fields: ex. CVcumPP.

Also new: Absolute value, to identify top drivers, regardless if positive or negative.
Young, Amber (CONTR), 2024-02-22T22:57:40.747

DOE Trend Analysis View

Encore Analytics

[redacted] DEC 23 WBS Dollars :: D-001 DOE Leadership :: S-005 DOE Trend Analysis

YA(0

HIER	WBS	DESCRIPTION	LL	LVL	% Complete	% Spent	Complete	Tasks	Incompl Tasks	Discrete Tasks	B/L Incmp Tasks	CAM	Element Type	EVM	DQI	VAR	SPI Cur	SPI Cum Trend	SPI Cum	SPI Cum3	SPI Cum6	CPI Cur	CPI Cum Trend	CPI Cum	CPI Cum3	CPI Cum6	BEI	CEI	CI
11113	[redacted]			6	21.00	16.02	0	88	75	75	72	[redacted]	CA	NA	EFSI	scCV	1.573	↑	1.001	0.761	1.371	1.437	↑	1.311	1.129	1.323	1.444	0.000	0.333
11113			x	7	76.44	94.97	0	182	88	88	55		WP	PCT	ESI	scCV	0.110	↓	1.005	0.246	1.767	-0.459	—	0.805	1.071	1.155	1.071	0.054	0.400
11113				6	76.44	94.97	0	182	88	88	55		CA	NA	ESI	scCV	0.110	↓	1.005	0.246	1.767	-0.459	—	0.805	1.071	1.155	1.071	0.054	0.400
11113			x	7	31.25	34.00	0	142	58	58	57		WP	PCT	EFSI		1.000	—	1.000	1.000	1.000	0.000	—	0.919	0.000	0.000	1.014	0.000	0.392
11113			x	7	95.08	85.83	0	83	11	11	8		WP	PCT	EFSI		1.000	—	1.000	1.000	-0.632	0.000	—	1.108	0.000	0.645	1.029	0.000	0.353
11113				6	55.55	53.73	0	225	69	69	65		CA	NA	ESI		1.000	—	1.000	1.000	-0.632	0.000	—	1.034	0.000	0.618	1.021	0.000	0.373
11113			x	7	42.13	46.71	0	261	82	82	79		WP	PCT	EFSI	scSC	0.243	↓	0.549	0.369	0.561	0.816	↓	0.902	0.826	0.873	0.797	0.062	0.212

- This is the fourth view identified for use in the EPASOP and EPASOP Step 4
- The trend analysis view provides the analyst the ability to look at the contractor's performance over time
- Trend analysis focus on performance indices SPI, CPI, BEI, CEI
- SPI and CPI Cum trends are based on comparison of these metrics for this reporting period to the same metric in prior periods
- BEI and CEI are useful with SPI to gain a better appreciation of efficiency of activity accomplishment

10

The next view targets trend analysis. This is the 4th step in conducting data analysis. After analyzing major variances to ensure corrective actions have been identified to prevent reoccurrence, trend identification helps to see not only if corrective action has been effective (e.g. improvement trends), but also provides visibility into emerging problem areas where variances may not yet be significant.

The types of questions to consider once trends have been identified may include:

What do the contractor's performance trends indicate over time?
Is the current level of contractor performance projected to continue and why?
What performance changes are expected and what are the drivers?
Are MR and Contingency burn rates and use acceptable or are they used to mask/hide cost overruns?

The Trend Analysis metrics focus on performance indices SPI, CPI, BEI, CEI which are explained in the EPA SOP in section 2.4, in addition to others. This is key in analysis to helping the analyst/user consider if the project can maintain performance, improve or decline. The Cost and Schedule performance indices tell part of the

story in terms whether a contractor is improving over time, staying the same or declining. BEI helps the user see if the contractor is efficient in activity accomplishment, measuring how many tasks a contractor completes compared to planned. CEI compares forecast dates from one status period to the next to determine how well the near-term schedule represents what happens; it represents the fidelity of the forecast schedule and the project's or contractor's ability to execute tasks as projected each month. While the BEI is a baseline comparison, the CEI is an actual to forecast comparison. It serves as an indicator of the quality of schedule forecasts ("did we do what we said we would do"?).

These trends are a key part of understanding if the project is improving, staying steady or on the decline in terms of performance and provides a piece of the puzzle in terms of considering the forecasts on the next view.

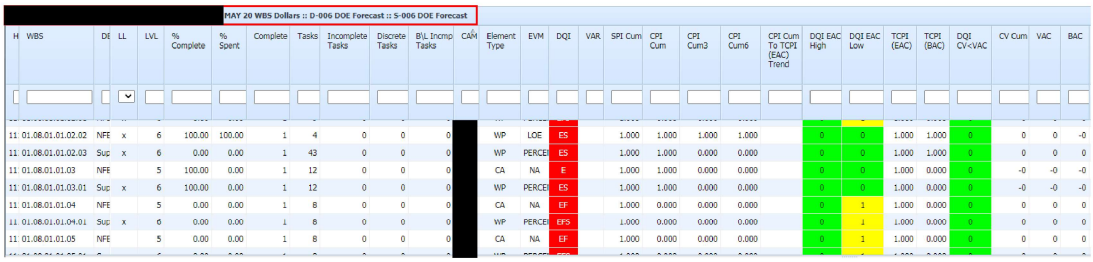
Slide 10

YA(0 Update when available: 3,6 trends in global view
Young, Amber (CONTR), 2024-02-22T23:38:40.726

YA(0 0 Consider CPIcum12
Young, Amber (CONTR), 2024-02-23T00:07:55.431

DOE Forecast View

Encore Analytics



H	WBS	DE	LL	LVL	% Complete	% Spent	Complete	Tasks	Incomplete Tasks	Discrete Tasks	B\L Incmp Tasks	CAM	Element Type	EVM	DQI	VAR	SPI Cum	CPI Cum	CPI Cum3	CPI Cum6	CPI Cum To TCPI (EAC) Trend	DQI EAC High	DQI EAC Low	TCPI (EAC)	TCPI (BAC)	DQI CV<VAC	CV Cum	VAC	BAC
11	01.08.01.01.02.02	NFE	x	6	100.00	100.00	1	4	0	0	0		WP	LOE	ES			1.000	1.000	1.000		0	0	1.000	1.000	0	0	0	-0
11	01.08.01.01.02.03	Sup	x	6	0.00	0.00	1	43	0	0	0		WP	PERCE	ES			1.000	1.000	0.000		0	0	1.000	1.000	0	0	0	0
11	01.08.01.01.03	NFE		5	100.00	0.00	1	12	0	0	0		CA	NA	E			1.000	1.000	0.000		0	0	1.000	0.000	0	-0	-0	-0
11	01.08.01.01.03.01	Sup	x	6	100.00	0.00	1	12	0	0	0		WP	PERCE	ES			1.000	1.000	0.000		0	0	1.000	0.000	0	-0	-0	-0
11	01.08.01.01.04	NFE		5	0.00	0.00	1	8	0	0	0		CA	NA	EF			1.000	0.000	0.000		0	1	1.000	0.000	0	0	0	0
11	01.08.01.01.04.01	Sup	x	6	0.00	0.00	1	8	0	0	0		WP	PERCE	EFS			1.000	0.000	0.000		0	1	1.000	0.000	0	0	0	0
11	01.08.01.01.05	NFE		5	0.00	0.00	1	8	0	0	0		CA	NA	EF			1.000	0.000	0.000		0	1	1.000	0.000	0	0	0	0

- This is the fifth view identified for use in the EPASOP and the end of the basic views established by DOE. This is EPASOP Steps 5 and 6.
- The contractor provides 5 EACs
- CPI_{cum}, $TCPI_{BAC}$ and $TCPI_{EAC}$ are compared to assess if contractor is on track to achieve completion within the budget
- Contractor EAC are compared to Government Independent EACs. DOE uses four IEAC (there are more)

Microsoft Word Document

11

The contractor is required to provide an Estimate at Completion (EAC). The formula is based on actual cost of work performed to date plus the estimate of the costs to complete. An accurate EAC is vital to DOE as it provides a dynamic estimate of the projected funding required to cover the contractor's costs to perform the work in the PMB. ***Concerns in this area not only apply to Project performance but also to systemic concerns with the contractor's EVMS.***

The Forecast Dashboard compares the CPI_{CUM} to both the $TCPI_{BAC}$ and to the $TCPI_{EAC}$. The CPI_{CUM} and the $TCPI_{BAC}$ are compared to assess whether the contractor is on track to achieving completion within the BAC. The CPI_{CUM} and the $TCPI_{EAC}$ are compared to evaluate the realism of the contractor's EAC and to evaluate the reasonableness of using past efficiencies to predict future efficiencies. While the report flags information +/-.05; it also provides the total calculated answers. A larger difference of greater than or equal to +/- .1, i.e. 10%, indicates the EAC is not achievable based on current performance.

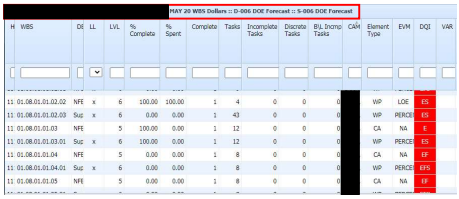
The next step in the Analysis is to provide the insights gained by the analysis in the form of an Independent Estimate at Completion (IEAC) and a narrative assessment.

An IEAC is the Government's forecast of the final total cost of the project. The Forecast Dashboard in Figure 15 above has IEACs to the far right. These IEACs allow the Analyst to compare the contractor's EAC to industry standard calculations of cost estimate based on contractor-reported data and variety of performance factors to establish reasonableness range for at-complete cost of the project. - **ATTACHED NEWSLETTER ARTICLE FOR EACS SHOULD BE PROVIDED AS A POP UP OR IN THE RESOURCE SITE. IT IS BEING PUBLISHED BY DOE PM EARLY AUGUST 2020.**

DOE uses four IEAC:
IEAC CPI
IEAC Composite (CPI X SPI)
IEAC CPI 3 month
IEAC CPI 6 month

Often the EAC_{CPI} formula provides the most optimistic result, the $EAC_{COMPOSITE}$ provides the most pessimistic, and the EAC_{CPI3} provides the most likely based on studies of hundreds of completed projects. This assumption is based on CPI_{CUM} and SPI_{CUM} being less than 1. If both metrics are greater than 1, then the reverse will be true; meaning EAC_{CPI} will become the most pessimistic IEAC. **These formulas are most accurate when the project is between 15% complete and 95% complete. Outside of these ranges the formulas may not provide accurate bounds.**

DOE Views



- The first 17 columns of most views are the same:
  - Hierarchy
  - WBS
  - Description
  - Level
  - % Complete
  - % Spent
  - Complete (1 = Yes / 0 =No)
  - Count of activities (tasks) in the element (total, incomplete, discrete, baseline incomplete)
  - CAM
  - Element Type (WBS, CA, WP, PP, SLPP)
  - EVM (LOE, % Complete, Unit Complete, etc)
  - DQI and VAR

12

You likely noticed that most of the DOE views have the same 17 columns on the left to use for sorting and filtering. The list above provides the 17. We will discuss a few of these and many are self-explanatory

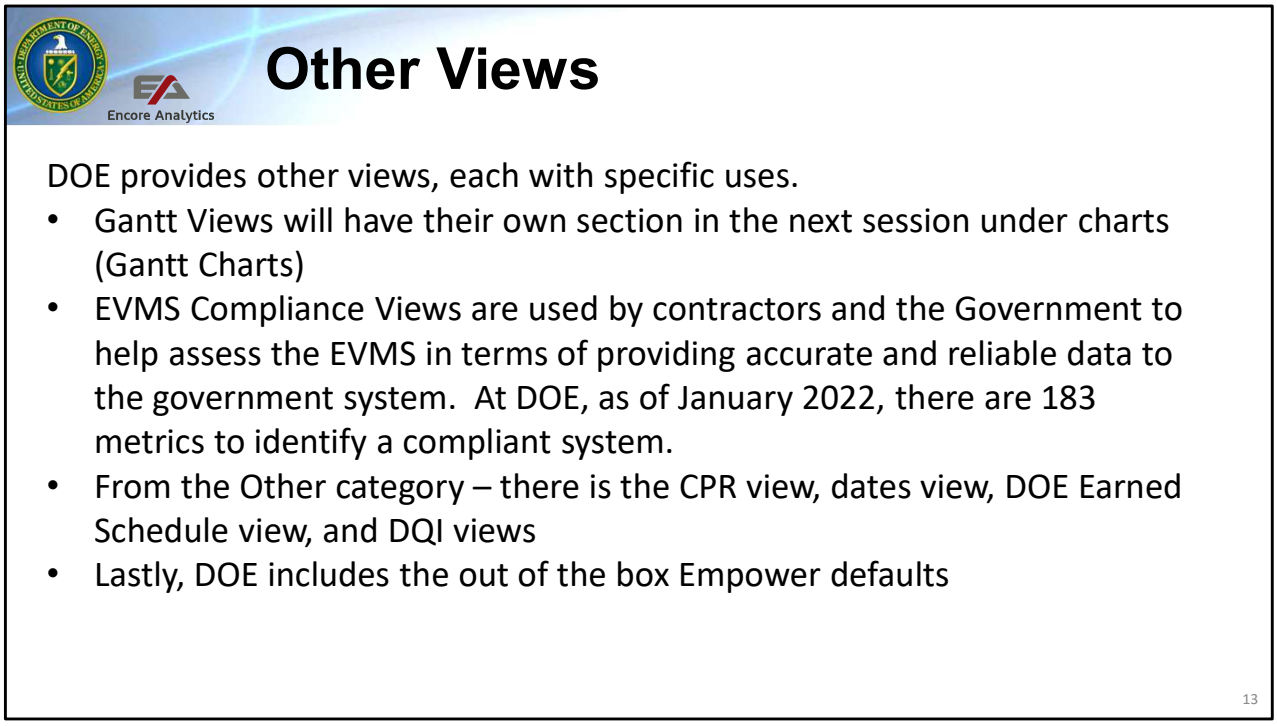
Why % Complete and Complete. - In some cases % complete is 99.8% and rounds to 100 and will not show a complete work package. To avoid this when the user wants to only look at incomplete work packages or control accounts, you should use the complete with a "0" entered to only display the incompletes. Again we will discuss filtering in a later session.

The count of activities (tasks) are helpful in looking at what is in the cost system compared to the schedule Gantt charts and whether the activities are complete, discrete or not as well as what is in the baseline schedule as well.

The DQI is a data quality indication of which there are four options E, S, I, and F. Each one indicates if there is a concern based on:
E = EV (Cost)
S = Schedule
I = Integration (cost and schedule)
F= Forecast

We will look at this in more detail in the next two sessions.

The VAR column was discussed in the Variance Analysis View.



We will address Gantt views in more detail in the next section. You have already seen how this view can be used with a sort window view to look at activities (tasks) compared to the work packages in the cost tool. We highlight that activities and task are used interchangeably. DOE primarily uses Primavera P6 as a scheduling tool and DOD has many on Microsoft Project. Primavera references items as activities while Project calls them tasks. This again is where a commercial tool built with a DOD focus originally uses tasks vice the DOE common use of activities.

EVMS Compliance views are EIA-748 guideline specific to help those checking on the health of the EVMS through this tool. These will be addresses in the advanced course.

Under other there are a few additional views with the first being the CPR view. This is 8 columns of data after the 17 common columns. It focuses on BCWS, BCWP, SV, CV, BAC, EAC from the Format 1 and VAC. It is used generally when comparing to a CPR/IPMR Format 1 report.

The next is the Dates View. This view pulls dates from both cost and schedule to support a quick review of the dates between the two systems. Helpful in checking integration of cost and schedule.

DOE Earned Schedule is discussed in the next slide

The Data Quality Views look a bit more in-depth that the DOE Data Validity and Schedule Health Views. There are over 150 data quality checks in Empower and while all have a purpose, some are not needed for all analysts. These two views provide for many of the same checks as Data Validity and Schedule Health as well as additional checks.

Lastly, as many contractors have Empower outside of PARS, we have kept the Empower Default and Empower Default Gantt views in the as well. These will always be as they are provided by Encore Analytics.

YA(0

:: S-031 DOE Dates

omplete	% Spent	Complete	Tasks	Incomplete Tasks	Discrete Tasks	B/L Incmp Tasks	C	Element Type	EVM	DQI	VAR	Sch BLStart	First BCWS	Sch BLFinish	Last BCWS	Sch FC Start	First Act Etc	Sch FC Finish	Last Act Etc
64.03	69.35	0	3052	1715	1671	1658	Cn	WBS	NA	ESI	scS	2018-10-01	2020-07-26	2023-06-15	2023-06-25	2020-08-24	2020-07-26	2023-08-01	2023-08-27
67.16	72.74	0	3023	1699	1655	1642	Cn	WBS	NA	EPSI	scSV	2018-10-01	2020-07-26	2023-06-15	2023-06-25	2020-08-24	2020-07-26	2023-08-01	2023-08-27
67.16	72.74	0	3023	1699	1655	1642	Cn	WBS	NA	EPSI	scSV	2018-10-01	2020-07-26	2023-06-15	2023-06-25	2020-08-24	2020-07-26	2023-08-01	2023-08-27
67.16	72.74	0	3023	1699	1655	1642	Cn	WBS	NA	EPSI	scSV	2018-10-01	2020-07-26	2023-06-15	2023-06-25	2020-08-24	2020-07-26	2023-08-01	2023-08-27
67.16	72.74	0	3023	1699	1655	1642	Cn	WBS	NA	EPSI	scSV	2018-10-01	2020-07-26	2023-06-15	2023-06-25	2020-08-24	2020-07-26	2023-08-01	2023-08-27
71.70	77.82	0	1657	512	477	457	Cn	WBS	NA	ESI	scSV	2018-10-01	2020-07-26	2022-05-19	2022-05-22	2020-08-24	2020-07-26	2022-08-08	2022-08-21
85.42	91.52	0	97	17	1	15	Cn	CA	NA	EPSI	V	2018-10-01	2020-07-26	2021-10-28	2021-11-21	2020-08-24	2020-07-26	2022-03-14	2022-03-27
100.00	104.29	1	9	0	0	0	Cn	WP	LOE	EI		2018-10-01	2020-07-26	2019-08-22	2020-07-26	2020-08-24	2020-07-26	2020-08-24	2020-07-26
60.37	77.18	0	16	13	1	12	Cn	WP	OTHER	ESI	CV	2019-08-26	2020-07-26	2021-10-28	2021-11-21	2020-08-24	2020-07-26	2022-03-14	2022-03-27

:: S-030 DOE CPR

omplete	% Spent	Complete	Tasks	Incomplete Tasks	Discrete Tasks	B\L Incmp Tasks		Element Type	EVM	DQI	VAR	BCWS	BCWP	ACWP	SV	CV	BAC	EAC	VAC
64.03	69.35	0	3052	1715	1671	1658	C	WBS	NA	ESI	scS	67,462,986	56,271,479	60,949,760	-11,191,506	-4,678,280	87,888,778	94,464,828	-6,576,050
67.16	72.74	0	3023	1699	1655	1642	C	WBS	NA	EPSI	scSV	67,462,986	56,271,479	60,949,760	-11,191,506	-4,678,280	83,792,121	94,464,828	-10,672,707
67.16	72.74	0	3023	1699	1655	1642	C	WBS	NA	EPSI	scSV	67,462,986	56,271,479	60,949,760	-11,191,506	-4,678,280	83,792,121	94,464,828	-10,672,707
67.16	72.74	0	3023	1699	1655	1642	C	WBS	NA	EPSI	scSV	67,462,986	56,271,479	60,949,760	-11,191,506	-4,678,280	83,792,121	94,464,828	-10,672,707
67.16	72.74	0	3023	1699	1655	1642	C	WBS	NA	EPSI	scSV	67,462,986	56,271,479	60,949,760	-11,191,506	-4,678,280	83,792,121	94,464,828	-10,672,707
71.70	77.82	0	1657	512	477	457	C	WBS	NA	ESI	scSV	61,770,111	51,298,252	55,673,866	-10,471,859	-4,375,614	71,545,086	80,018,854	-8,473,768
85.42	91.52	0	97	17	1	15	C	CA	NA	EPSI	V	5,551,120	5,551,120	5,947,377	-0	-396,257	6,498,632	7,246,616	-747,985
100.00	104.29	1	9	0	0	0	C	WP	LOE	EI		3,826,779	3,826,779	3,990,817	0	-164,038	3,826,779	3,990,817	-164,038
60.37	77.18	0	16	13	1	12	C	WP	OTHER	ESI	CV	1,336,721	1,336,721	1,709,024	0	-372,303	2,214,328	2,828,597	-614,270

Slide 14

YA(0 Update to include new DOE_x views

Young, Amber (CONTR), 2024-02-13T00:16:25.564

DOE Earned Schedule View

Encore Analytics

[redacted] DEC 23 WBS Dollars :: D-003 DOE Schedule Health :: S-032 DOE Earned Schedule

Hil	WBS	LL	LVL	% Complete	% Spent	Complete	Tasks	Incomplete Tasks	Discrete Tasks	B/L Incmp Tasks		Element Type	EVM	DQI	VAR	Actual Time	Earned Schedule	Planned Duration	PDWR	Estimated Duration	EDWR	SV Time	SPI Time	IEAC Time
111	C.2.20.10.40.10.	x	7	100.00	100.00	1	21	0	0	0	G	WP	PCT	ESI		55	55.000	55	0.000	53	-2.000	0.000	1.000	55.
111	C.2.20.10.40.10.	x	7	98.85	98.63	0	206	30	30	30	G	WP	PCT	FSI		53	43.260	53	9.740	0	-53.000	-9.740	0.816	62.
111	C.2.20.10.40.10.	x	7	16.48	16.48	0	6	2	2	2	G	WP	PCT	SI	S	24	15.000	24	9.000	0	-24.000	-9.000	0.625	33.
111	C.2.20.10.40.10.	x	7	47.72	61.84	0	11	8	8	8	G	WP	PCT	EPSI	SC	18	8.706	18	9.294	0	-18.000	-9.294	0.484	27.
111	C.2.20.10.40.10.	x	7	100.00	100.00	1	9	0	0	0	G	WP	PCT	ESI		57	57.000	57	0.000	44	-13.000	0.000	1.000	57.
111	C.2.20.10.40.10.	x	7	31.01	31.01	0	8	4	4	4	G	WP	PCT	ESI	S	56	49.000	59	10.000	37	-19.000	-7.000	0.875	66.
111	C.2.20.10.40.10.	x	7	82.67	82.93	0	361	39	39	39	G	WP	PCT	ESI	s	27	21.000	31	10.000	30	3.000	-6.000	0.778	37.
111	C.2.20.10.40.10.	x	7	85.42	85.42	0	7	2	2	2	G	WP	PCT	SI	S	24	11.000	24	13.000	0	-24.000	-13.000	0.458	37.

- Earned Schedule View is under the other useful views and in the EPASOP
- Useful when the project is around 65% or more
- Provides a better look at schedule progress in terms of time
- Be careful – SPI Time is different than SPI based on cost
- In this example time is in months – i.e. Planned Duration of 3 = 3 periods which is months for DOE
- Some cost based columns added to help with analysis (BCWS, BCWP)

15

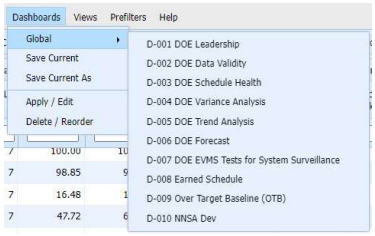
Earned schedule is another tool that works because you have earned value data. Earned Schedule is best used after a project has reached 65% complete or more. It is time based rather than cost and is discussed in the EPASOP section 2.4.1.1. DOE's Idaho National Lab asked Encore Analytics to add Earned schedule to the Empower tool and it helps provide information on actual schedule performance. We will cover it in more depth in the advanced course, working examples, but understand that it is used in addition to cost based schedule items such as SV, SPI, etc.

The Earned Schedule term for SPI is SPI(t). SPI(t) is the result of dividing the earned schedule by the actual duration. Earned schedule is the amount of time that was originally planned (based on BCWS duration) to reach the current period BCWP. Actual duration is the amount of time that has elapsed on the project to date. The result of SPI(t) is in units of time rather than SPI which is in units of dollars. Using time units more clearly shows the impact to the planned schedule.

Like the SPI, an SPI(t) less than 1.0 indicates the effort, on average, is being accomplished at a slower rate than planned. An SPI(t) greater than 1.0 means that the effort, on average, is being accomplished at a faster rate than planned.

The cautions when using SPI(t) are the same as when using the SPI. Both indices can be manipulated and skewed when non-critical future tasks are completed early. LOE effort can also skew the predictive value so they should be calculated for discrete effort only. Statistics have shown that despite the anomalies, earned schedule calculated at the total project level has shown good predictability of schedule performance and is a useful metric to consider.

Dashboards Overview



- Dashboard stores the state of Empower panes
- Recall on demand the **Stored** state, such as:
  - Sort window Views with Sort and Filter
  - Chart options and settings (line style, colors)
  - Reports (internal/external)
- Retains location and size of Charts and Reports, useful in multi or large monitors screens
- Export as User Items to share with other users

16

In the previous section on views and in prior sessions, the idea of dashboards was raised. They are found under the menu item Dashboards. Under the Global option, there are 7 DOE Dashboards in place. The key to a dashboard is it stores the state of the Empower panes. This means that if you set up a view, a chart, a report, pre-filters, interactive filters, and format you can save it and easily get back to it by selecting that dashboard. For example, when we started the discussion on views, the first view we looked at was the DOE Leadership View. D-001 DOE Leadership provides you with the following, S-001 DOE Leadership View, the Contractor Performance Chart, the AI Narrative Report, and a pre-filter of Level 1 Only. The status bar at the bottom of the screen along with the what is in each pane is obtained by selecting the dashboard. As a user you can create your own dashboards after you have decided which views, charts, reports, and filters you like to help you do your analysis.

We will not go through each dashboard, but in the EPA SOP you will note that D-002 to D-006 are described in each section. Over time DOE will add a few additional Global dashboards.

Under the statement that a dashboard retains location and size of Charts and Reports, useful in multi or large monitor screens, this means when you create our own dashboards and you have more than one monitor, it will save the additional reports and charts that you have set up external to the tri-pane view. Again we will go over this more in the last session of the users basic course.

Dashboards you create can be exported and imported. This likely will be the first user system you will use. It can be a great time saver as you analyze projects monthly.

D-010 NNSA Dev – If you have a dashboard you think will benefit the complex, we will work with you to make available to all under global.

Dashboard Settings

- Views – Saves the current settings in the view such as:
  - Sort order
  - View selected and size & location on the screen
- Filters –
  - Interactive filters
  - Invokes any Prefilters selected on Sort and Gantt chart
- Charts –
  - Saves the Chart
  - Chart settings: Color, size for internal or external
- Reports-
  - Saves the Report: Size for internal or external

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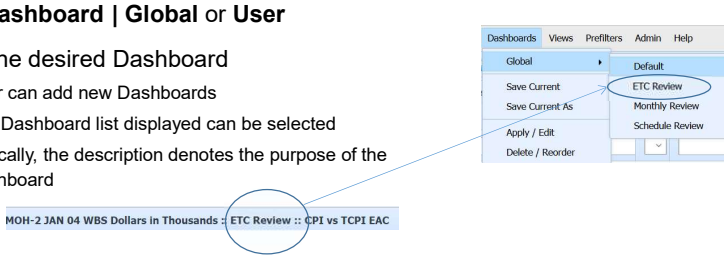
Note for each of the items listed, you retain setting to include the sort order used and filters used at the time you create. For Charts and Reports you also save settings. As there are many charts, views , and reports, this generally provides a quick link to the basics from which you start. For example, Using the DOE Leadership Dashboard, after viewing the contractor performance chart, I likely would change the chart to the DOE Gantt view leaving the other panes as is to support drilling down into a project that needs more attention.

Select a Dashboard

Encore Analytics

- Go to **Dashboard | Global** or **User**
- Select the desired Dashboard
  - User can add new Dashboards
  - Any Dashboard list displayed can be selected
  - Typically, the description denotes the purpose of the Dashboard



- Dashboard in use will be shown in the title of the Sort Window
- **Save Current** feature will make it the Default Dashboard moving forward unless you select a different Dashboard.

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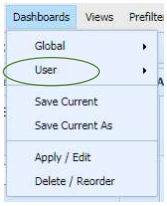
When you select a dashboard, the name of the dashboard will show in the sort window information line

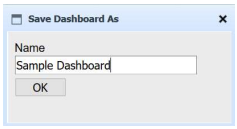
When you select Save Current, it will add the current dashboard to your user section and it will be the default that opens when you start Empower.

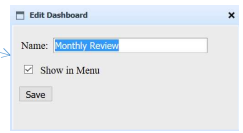
Create a Dashboard

Encore Analytics

- Arrange the desired user interface, choose the:
  - View, set the Sort order and apply a Prefilter and Sum Button
  - Chart, set Chart Options and position (Tri-Pane)
  - Report (Tri-Pane)
  - Select as many External Charts and Reports as necessary – Adjust size and location
- Go to **Dashboard | Save Current** or **Save Current As**
  - **Save Current** feature will save the current arranged interface as the active Dashboard
  - **Save Current As** feature will save the active arranged interface as a new selectable Dashboard
- **Apply/Edit** feature provides the ability to (1) select a Dashboard, (2) mark it to display in the Dashboard menu, and (3) edit the name of the Dashboard
- **Delete/Reorder** feature provides the ability to delete or reorder an existing Dashboard







Global or User List will be updated based on the logged-in user

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When you hit save current with a global dashboard, it will place it under user with the same name that it had when you started. You can modify and rename a user dashboard, but not a global. It is recommended that you provide a logical name using the Save Current As. Using names like dashboard 1 rather than CPR Review Dashboard can lead to confusion later on. Also consider limiting to about 25 or less as the list can get hard to manage over this number.

The Apply / Edit option lets you decide if you want to display it in your list and if a user dashboard, rename it. You will not be able to rename a global dashboard name.

Delete and Reorder provide you a way to show the most used dashboards at the top. You can delete dashboards under the user section, but not global.

We will cover exporting and importing of dashboards in the last session of the user basic course.

Checks on Learning

Encore Analytics

- The EPASOP includes the following
  - A. A Project Analysis Plan
  - B. Discussion on Empower Dashboards set up by DOE
  - C. Discussion on Earned Schedule and its use (THIS WOULD NEED TO BE AFTER THE EARNED SCHEDULE SLIDE TO USE THIS STATEMENT)
  - D. How DOE conducts an EVMS Compliance Review
- DOE has set up Sort and Gantt Views in Empower. Which view is not in the DOE version of Empower?
  - A. DOE Leadership
  - B. Empower Default
  - C. DOE Forecast
  - D. DOE Schedule Health
  - E. DOE Monthly Review
  - F. Empower Gantt (G)
- The DOE Leadership View in Empower is designed to be
  - A. a portfolio view with one to many project
  - B. used with a Level 1 pre-filter
  - C. used to provide the user with all five contractor estimates at complete (EAC)
  - D. able to let the user drill into a lower level of a project

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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

Encore Analytics

- The six project analyst steps in order per the EPASOP are
  - Analyze Trends –
  - Assess Schedule Health Analyses –
  - Check on Data Validity –
  - Analyze Variances –
  - Predict future performance and an IEAC -
  - Analyze Realism of Contractor's EAC -
- The DOE Dashboards support the EPASOP Project Analysis Plan
  - A. True
  - B. False
- In the Data Validity View – there are work packages which flag for BCWP without ACWP. The analysts should
  - A. Consult the EPASOP if they do not know what this means or how much of a problem this might be
  - B. Understand that since work or material must be paid for, you cannot have BCWP without ACWP
  - C. Work with the project or program to identify what the root cause of this flag is
  - D. Discuss with project if estimated actuals are being used for material which have not yet been billed to the contractor to avoid false variances.
  - E. Ignore if it from Level of Effort Work packages.

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Checks on Learning

Encore Analytics

- The Schedule Health Assessment looks to
  A. provide an indication of the schedule health for the integrated master schedule (IMS) data
  B. focus on schedule data
  C. Let you see the activities (tasks) under a work package when pairing the DOE Schedule Health View with the DOE Default (G) view
  D. Show which data quality indicators flagged which indicates a failure
- The variance view provides the analyst/user the ability to see project status compared to the approved baseline plan
  A. True
  B. False
- The trend view provides the analyst/user the ability to see project status compared to the approved baseline plan
  A. True
  B. False
- Trend analysis focuses on the use of
  A. SPI
  B. CPI
  C. CEI
  D. BEI
  E. EAC
  F. TCPI

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Checks on Learning

Encore Analytics

- The Forecast view includes
  A. Five EAC's provided by the contract
  B. Independent EAC based on historical analysis and math to check the realism of the contractor EACs
  C. Compares CPI_{CUM} to $TCPI_{BAC}$ to see if the project is on track to complete within budget
  D. Compares CPI_{CUM} to $TCPI_{EAC}$ to see if past efficiencies are reasonable to predict future efficiencies
  E. Support to analyze if there are systematic concerns with a contractors EVMS
- DOE provides four independent EACs for comparison to the contractor provided EACs.
  A. True
  B. False
- DOE uses the following independent EACs to compare to the contractor provided EACs.
  A. IEAC CPI
  B. IEAC Composit (CPI X SPI)
  C. IEAC CPI3 (three month average)
  D. IEAC CPI6 (six month average
  E. MICOM Fcst
  F. Perf Factor Fcst
- Earned Schedule View is used when the project is between 10% to 60%.
  A. True
  B. False

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Checks on Learning

Encore Analytics

- Dashboards
  A. stores the state of Empower panes
  B. Recall on demand the Stored state
  C. Retains location and size of Charts and Reports
  D. All of the Above
  E. None of the Above
- Users can edit and save global dashboards
  A. True
  B. False
- Users can edit and save user level dashboards.
  A. True
  B. False
- Users can rename user dashboards
  A. True
  B. False
- Users can export and import user dashboards
  A. True
  B. False

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