Encore Analytics

Department of Energy
PARS User Training
PARS with Encore Analytics - Empower

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

DOE SQL Reports and Empower Customization, Module 6
PARS User Basic Training

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Welcome to the sixth 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.

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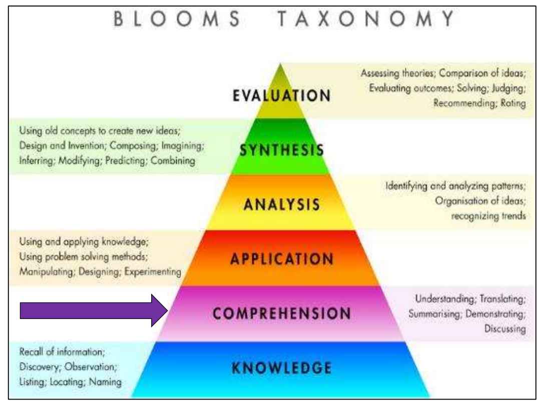
Training Objectives

- 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



2

MW2

This final session will focus the last two training objective with the user gaining an understanding Project and Program reports written from SQL as well as a few more items on Empower. When you complete this course you will have completed 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.

Slide 2

MW2 Need to identify how contractors will get credit?

Matthew West, 7/1/2020

Program and Project Reports

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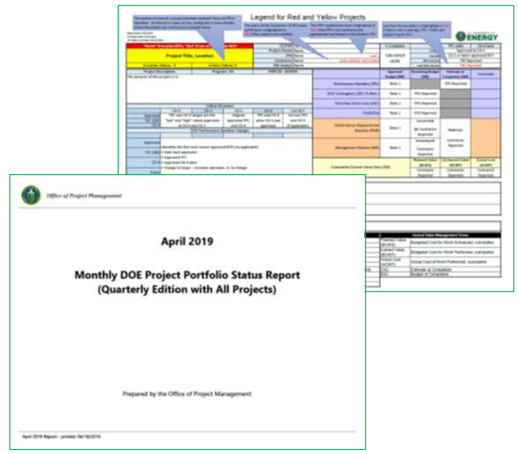
Reports which combine the Overview and Assessment (OA) and EV data from contractor project performance data uploads are built directly from the DOE SQL databases. These include:

- Enterprise reports
- Red/Yellow/Green report for leadership
- Program reports
- History / Level 1 report



Reports update about once an hour.

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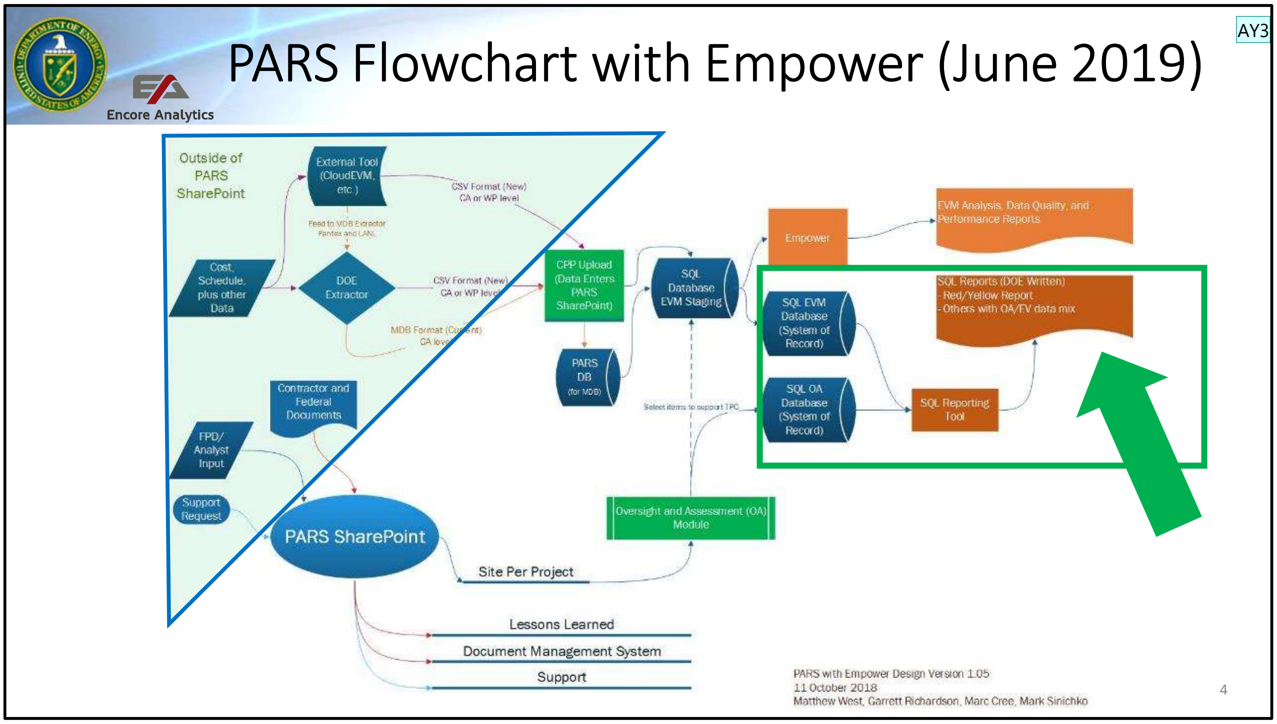
The data going into Empower is primarily data from the Contractors monthly project performance uploads. To have reports that combine this data with data from the OA database, reports are provided in PDF and Excel format from the DOE SQL databases. These reports run in batches, approximately once an hour, so data just entered will show within 60 minutes or less.



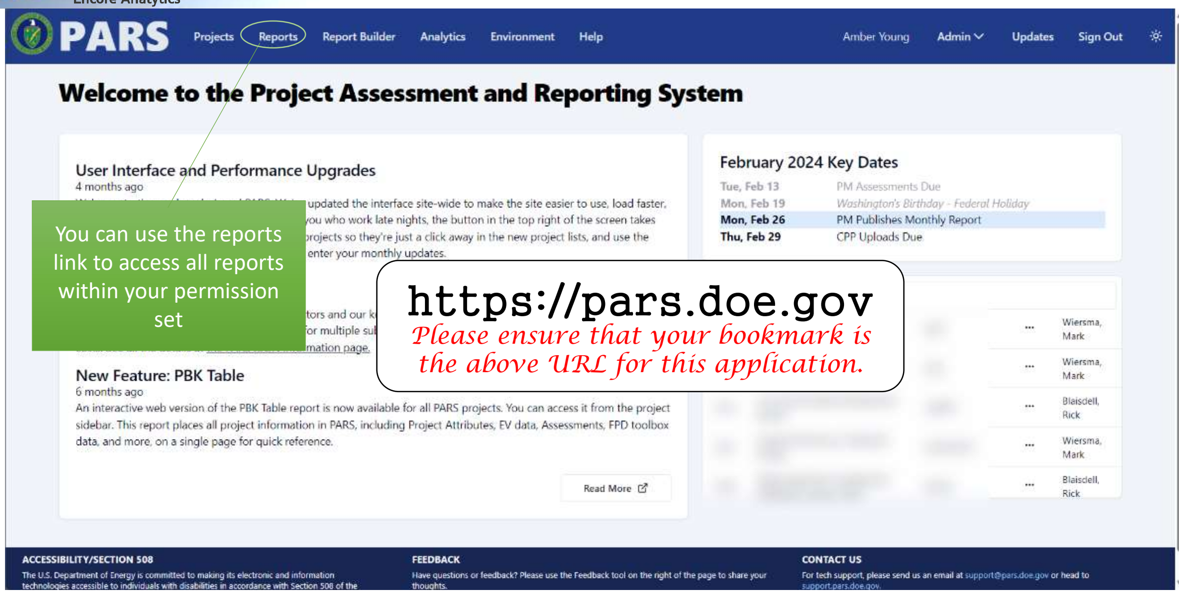
Another way to look at this, is to remember the chart from Session 1. We are talking the reports highlighted on the far right, combining data from both the PARS SQL EVM database and the PARS SQL OA database. You can look at the balance of the flow chart to refresh on what flows to both of these databases.

Slide 4

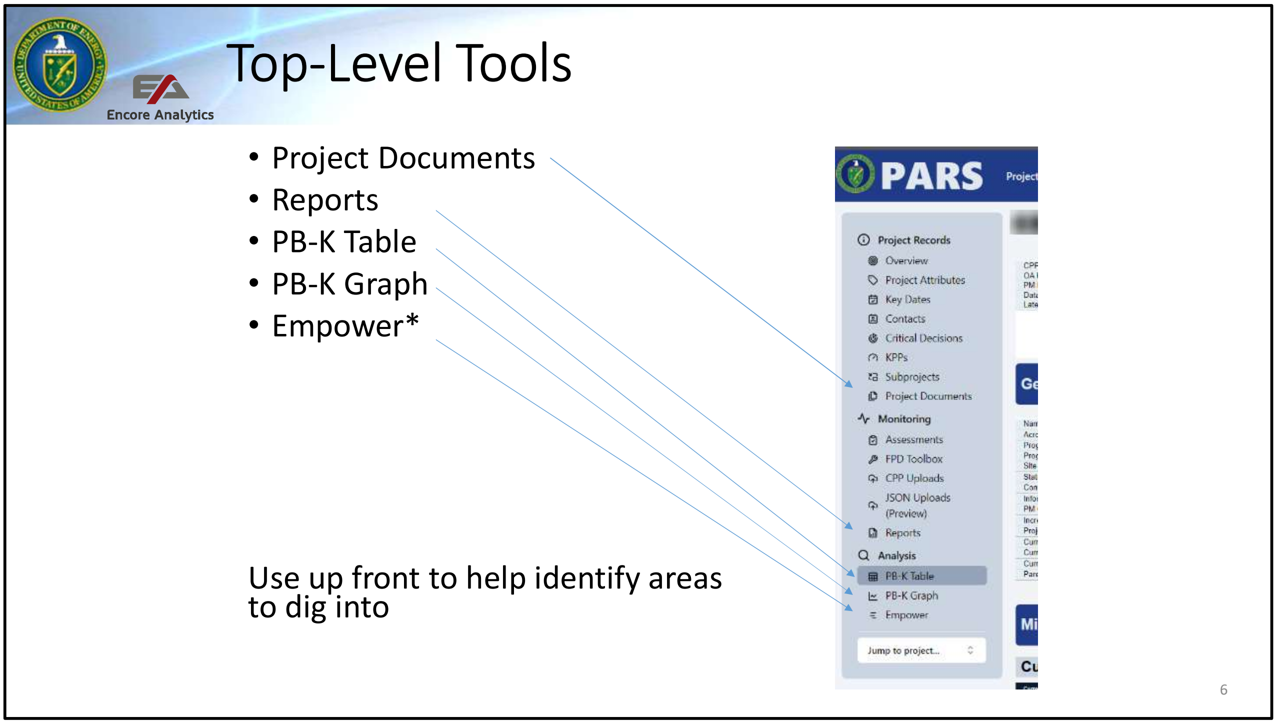
AY3 Delete slide

Young, Amber, 2/21/2024

PARS Home Screen



Within PARS, there are three ways to get to project reports and one way to select Reports from the main screen. Here you will see both project and programs reports your permissions allow.



Empower is a top-level tool that has the ability to drill into lower levels as well.

All final and signed documents related to the project should be placed here.
Discuss examples.

Document Management System (DMS)

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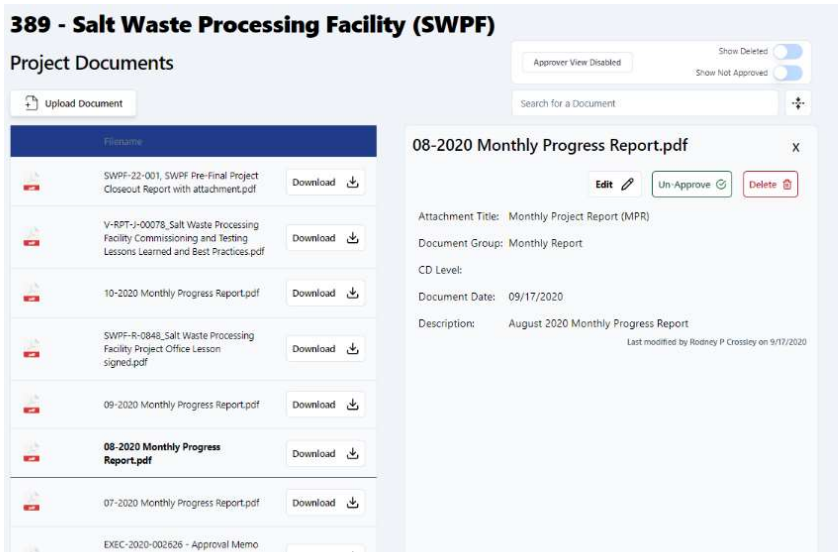

- Audit view coming soon
- All documents submitted are reviewed prior to publishing in DMS

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DMS will have an audit function that shows which documents are missing based on the phase gate a project is in.

PM-30 verifies all the meta data to ensure the documents are correct before approving into DMS.

There are both federal and contractor uploads expected.
Provide examples: critical decision documents from the federal team, format 5 from contractor.

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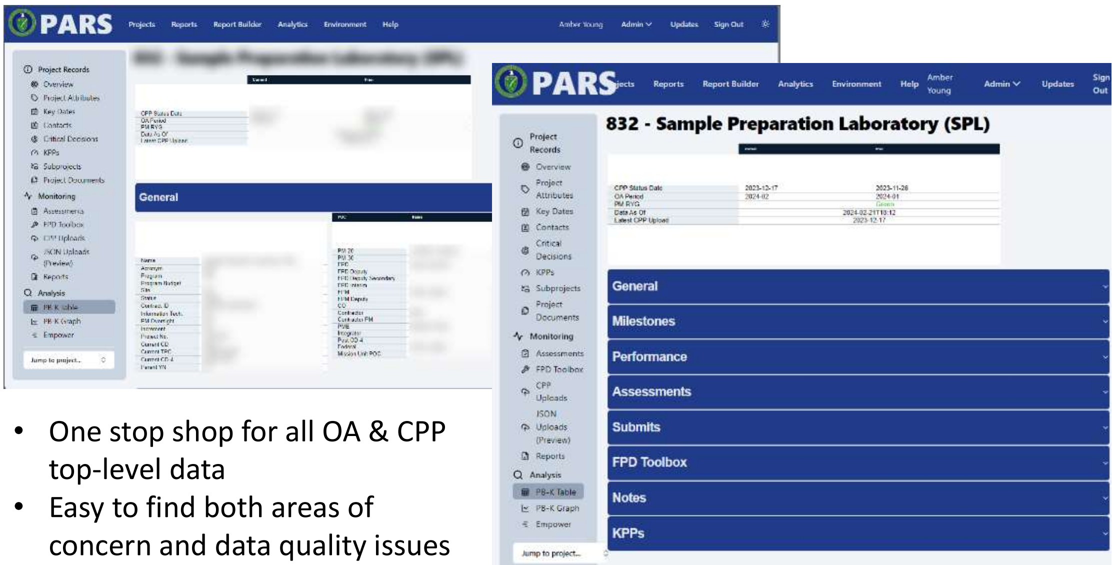
PB-K Table



- One stop shop for all OA & CPP top-level data
- Easy to find both areas of concern and data quality issues

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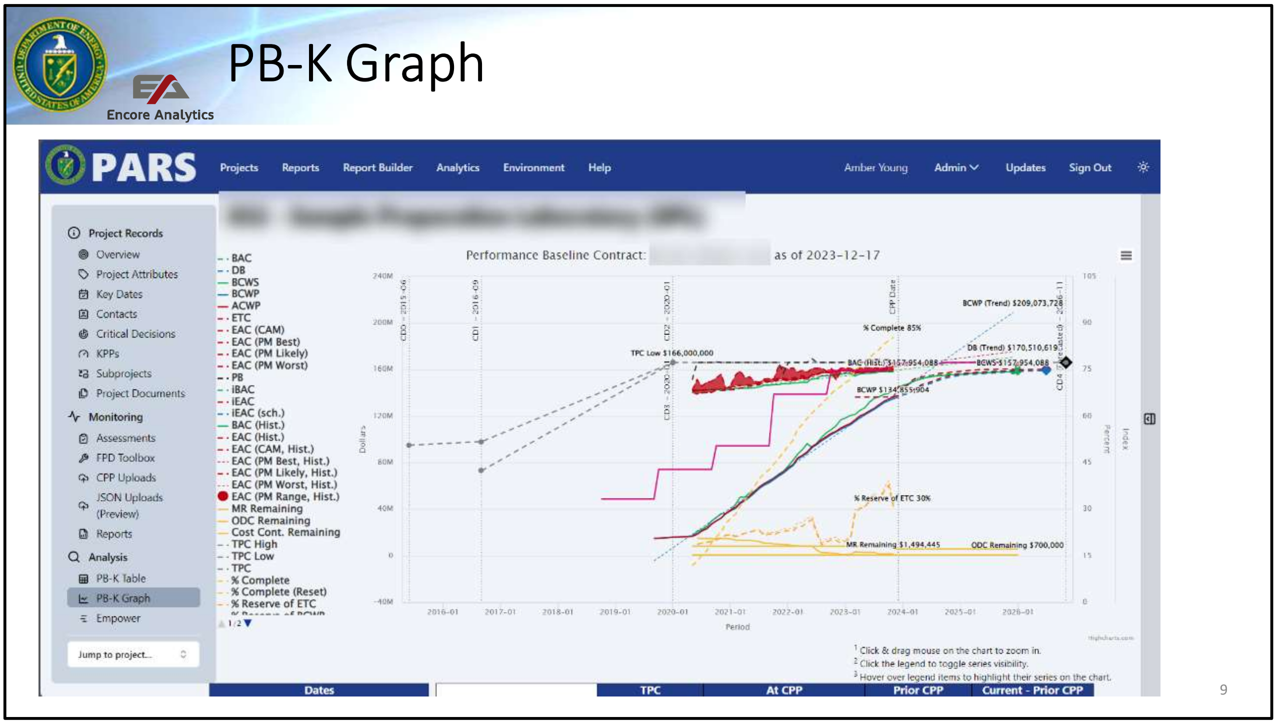
This is a one stop shop for all OA and top-level data. A good place to check for missing data

Trainer Note: In class walk through each of the sections live in the tool.



An interactive graphic is provided to look at many facets of the project from CD-0 to time now and forecasted out to CD-4. This is where you want to start and projects that have concern then drill down in Empower to CA and WP levels.

BAC requirement and funding profile is provided.

Resets – PB-K graph provides a reset point at CD-2 and BCPs to support trending from these points forward. Ex. Design compared to construction, potentially not representing true performance when in a construction phase.

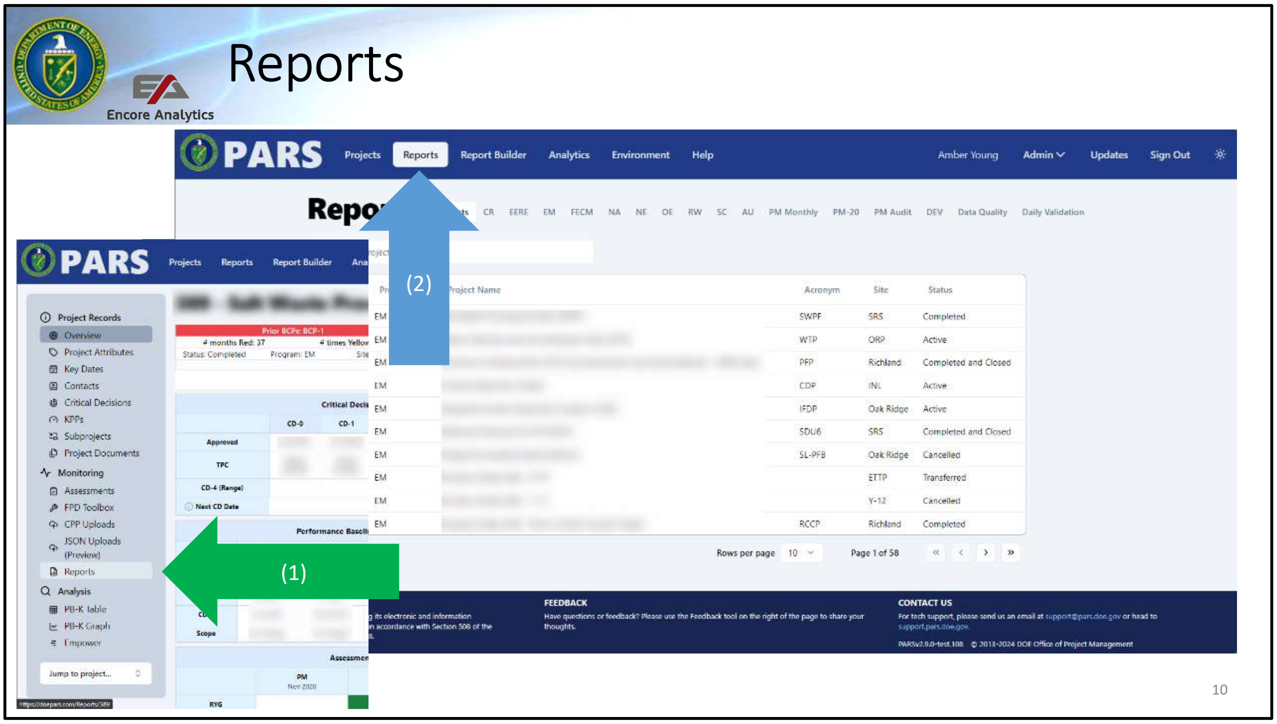
iEAC is both cost and schedule derived.

All legend items can be turned on and off. Turing on and off legend items assists those with color blindness with identifying actual data representation in the graph.

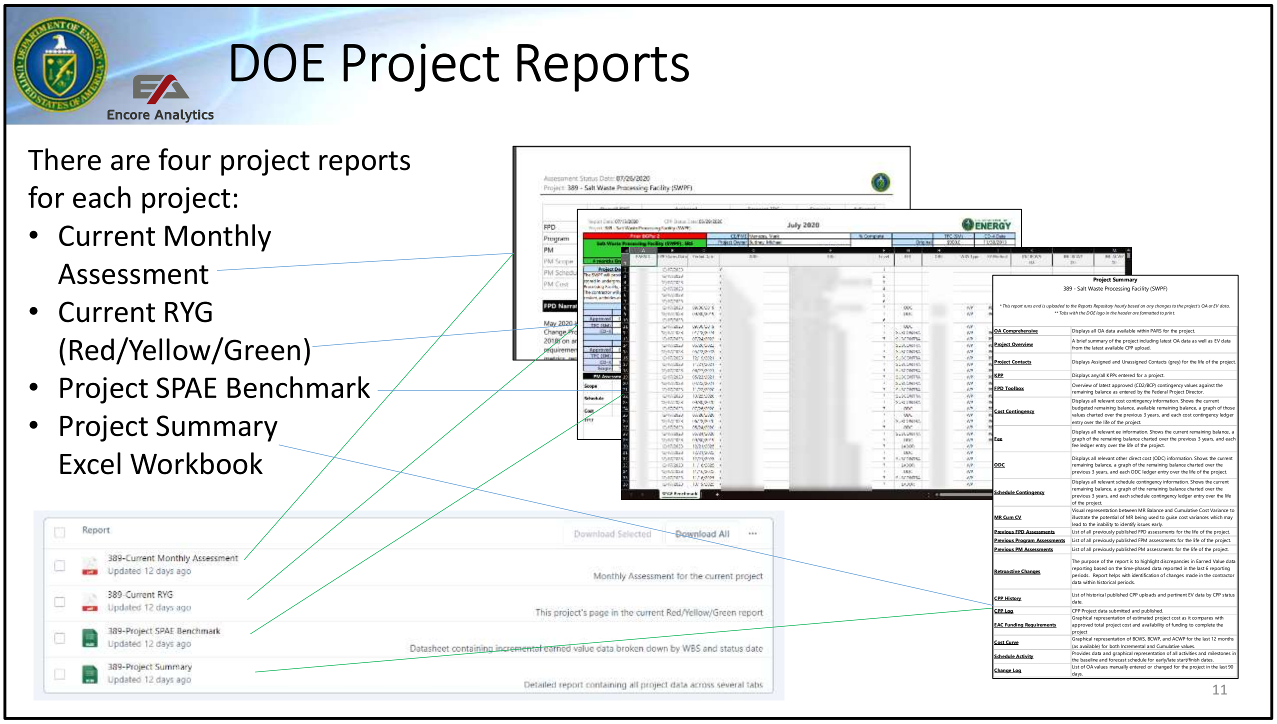
Hovering over any aspect of the graph provides a label.

Zooming and copying of graphic is similar to Empower.

Note: Explore live in tool.



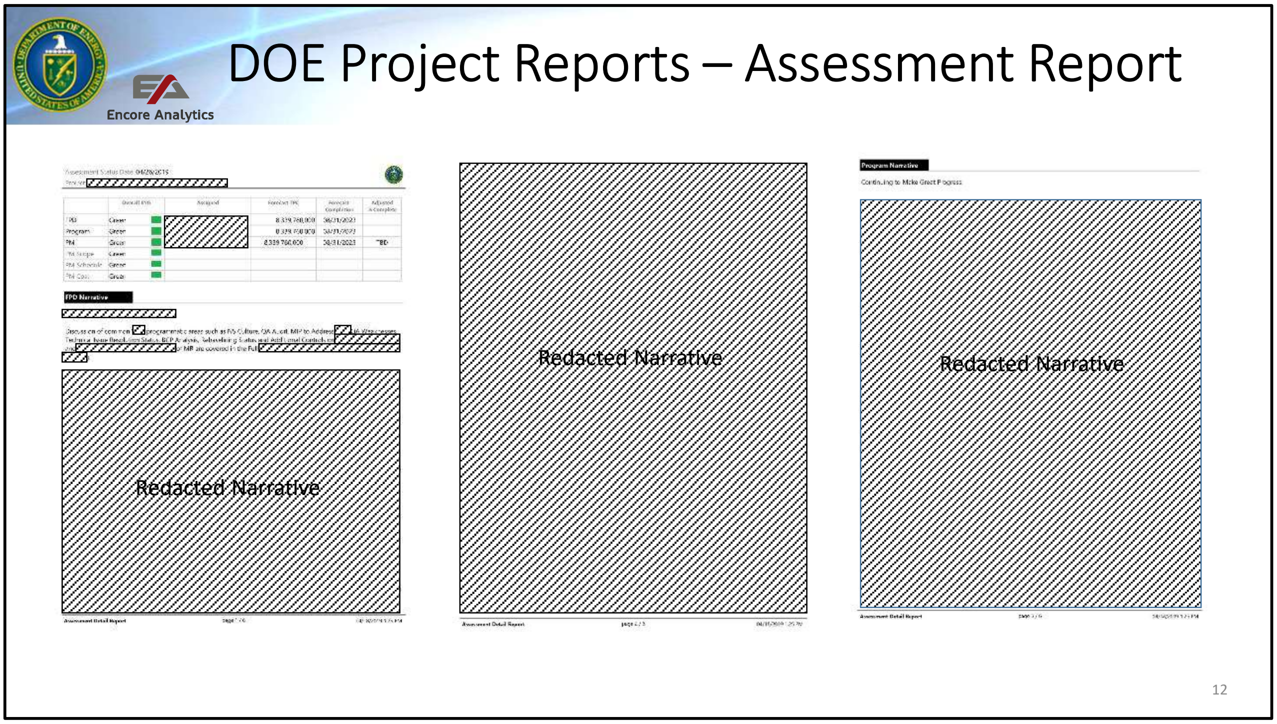
There are links to the project reports - (1) within a specific project page and (2) on the project selection page.



We will look at the Project Reports first. There are three,

1. A current monthly assessment which helps a user have access to the FPD, Program, and Headquarters DOE PM narratives each month.
2. The monthly Red, Yellow, Green report designed for senior DOE leadership
3. The monthly Project SPAE report designed to support benchmarking analysis by programs and PM, all cost time-phased data in each upload and changes over time.
4. A project summary workbook which as of July 2020 has 20 worksheets of project information.

We will take a look at each in more depth and then move on to program reports. To select a project report the link into the report is the report name. In this example, it is 389-Current Monthly Assessment.

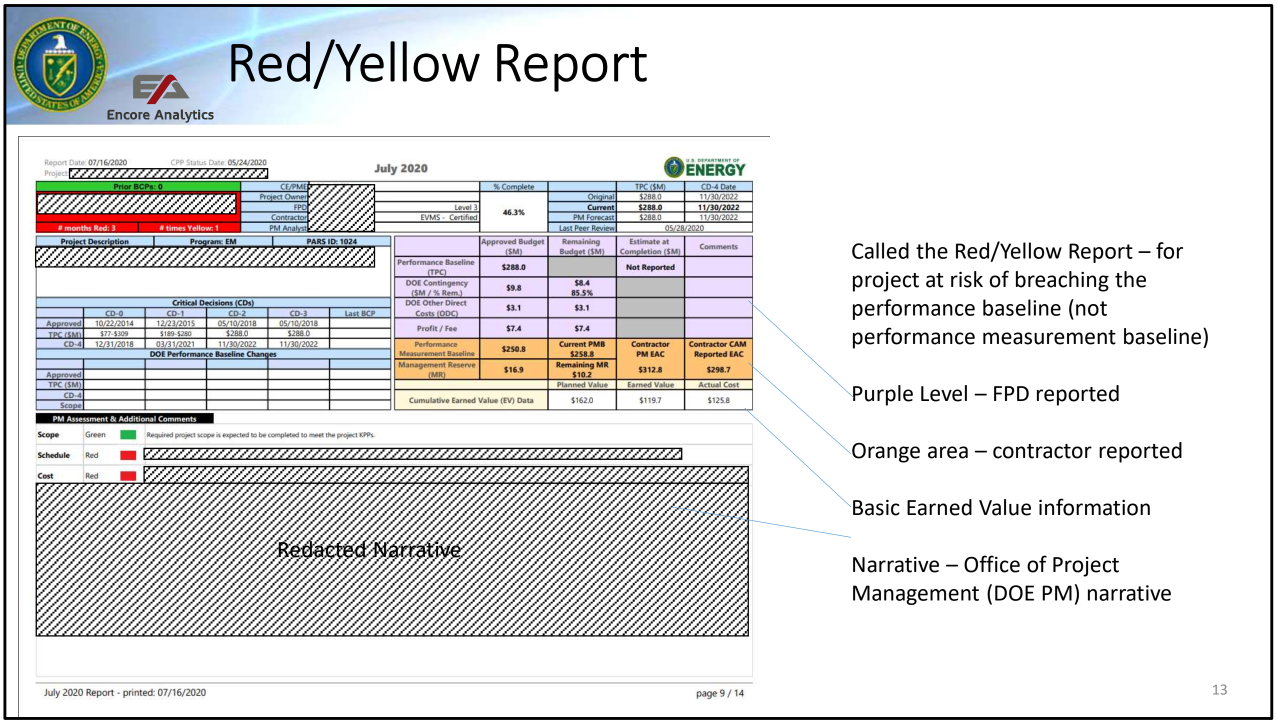


Each month, there FPD and Program write up a narrative and identify what they believe the Forecast Total Project Cost (TPC) and Forecast completion date will be. It can agree or disagree with the contractors forecasts. The FPD and Program do not have to agree. In addition, for projects over the reporting threshold in DOE Order 413.3B, currently $50 million, Headquarters DOE, Office of Project Management (DOE PM) will also conduct an independent assessment of the data and provide a narrative. If the DOE PM analyst believes that for either scope, schedule or cost the project is going to exceed the established performance baseline they will make it yellow or red and provide overall and scope, schedule, and cost specific reasons as to what made them reach this conclusion.

After a contractor uploads and publishes data by the last day of the month, the workflow with 9 working days starts with the FPD providing their narrative and numbers, followed by the program, and lastly HQ DOE PM. As these contributions are made, this report will have holes in it. After all have contributed, you have one document with all three narratives in one place generated as a PDF. This report is deleted at closeout as you can get this information in the Project Summary Report as well, which includes all assessments made in the past.

All contributors are limited in the size of their narrative, with the FPD and Program are limited to 10,000 characters and HQ DOE PM limited to 2,500 characters for red and yellow projects and 1000 characters for green or pre-critical decision two (CD2) projects.

GET PERMISSION TO SHOW A REPORT



The Red/Yellow report is a one pager for Senior Leaders at DOE. It is provided each month to senior leadership for projects at risk of breaching the performance baseline (not PMB) or yellow projects as well as red projects, ones that it is clear will breach the performance baseline, no matter what leadership action is taken. The Green, Yellow, and Red is independently marked by FPD, Program and DOE PM each month.

This chart, contains top level cost and schedule information each month as well as basic information from the OA module on where it sits in the phase gate process and what values recorded at each phase gate. The Orange rows on the right provides contractor provided data and four purple above are federal dollars managed by the FPD. This is where it is critical for FPD to also updated their FPD Toolbox to make sure the four categories they have in PARS are accurate. The FPD toolbox lets them record federal contingency transactions, fee, Federal ODCs, and schedule contingency.

DOE Project Report – Project Summary

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OA Comprehensive	Displays all OA data available within PARS for the project.
Project Overview	A brief summary of the project including latest OA data as well as EV data from the latest available CPP upload.
Project Contacts	Displays Assigned and Unassigned Contacts (grey) for the life of the project.
KPP	Displays any/all KPPs entered for a project.
FPD Toolbox	Overview of latest approved (CD2/BCP) contingency values against the remaining balance as entered by the Federal Project Director.
Cost Contingency	Displays all relevant cost contingency information. Shows the current budgeted remaining balance, available remaining balance, a graph of those values charted over the previous 3 years, and each cost contingency ledger entry over the life of the project.
Fee	Displays all relevant fee information. Shows the current remaining balance, a graph of the remaining balance charted over the previous 3 years, and each fee ledger entry over the life of the project.
ODC	Displays all relevant other direct cost (ODC) information. Shows the current remaining balance, a graph of the remaining balance charted over the previous 3 years, and each ODC ledger entry over the life of the project.
Schedule Contingency	Displays all relevant schedule contingency information. Shows the current remaining balance, a graph of the remaining balance charted over the previous 3 years, and each schedule contingency ledger entry over the life of the project.
MR Cum CV	Visual representation between MR Balance and Cumulative Cost Variance to illustrate the potential of MR being used to guise cost variances which may lead to the inability to identify issues early.

Previous FPD Assessments	List of all previously published FPD assessments for the life of the project.
Previous Program Assessments	List of all previously published FPM assessments for the life of the project.
Previous PM Assessments	List of all previously published PM assessments for the life of the project.
Retroactive Changes	The purpose of the report is to highlight discrepancies in Earned Value data reporting based on the time-phased data reported in the last 6 reporting periods. Report helps with identification of changes made in the contractor data within historical periods.
CPP History	List of historical published CPP uploads and pertinent EV data by CPP status date.
CPP Log	CPP Project data submitted and published.
EAC Funding Requirements	Graphical representation of estimated project cost as it compares with approved total project cost and availability of funding to complete the project
Cost Curve	Graphical representation of BCWS, BCWP, and ACWP for the last 12 months (as available) for both Incremental and Cumulative values.
EVMS Snaphot	Graphical representation of core EVMS values for the prior 2 years (as available).
KPIs	Key Performance Indicators. Graphical representation and data table of 4 KPIs, Earned Value Analysis, Variances, Performance Index and Completion Analysis show the project status at a glance.
Schedule Activity	Provides data table of all activities and milestones in the baseline and forecast schedule for early/late start/finish dates.
Schedule Activity Graphs	Provides graphical representation of all activities and milestones in the baseline and forecast schedule for early/late start/finish dates.
Change Log	List of OA values manually entered or changed for the project in the last 90 days.

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Will need to open a workbook and discuss each sheet – likely a 5-7 minute screen capture (ATTACHED). A quick visual of each with narrative as to what it is trying to provide
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The Project Summary Excel Workbook is updated each hour like the other project reports. Prior versions are not kept of the project reports and at monthly close out the three reports start over. This report, the Project Summary, does provide history from month to month as the data in many of the worksheets provides top level data from the start of the project to current. We will show this in a minute.

The OA Comprehensive is a single row with all of the OA Data provided for this period. Some use this to populate their own system or local database.

The Project Overview is a one page report, designed to print on an 8.5 by 11 inch piece of paper. This is denoted by having the DOE Seal in the upper right corner. If there is not a seal, it was not sized for printing on standard letter sized paper. The overview provides basic attributes, points of contact, current assessment (Green/Yellow/Red), CD information, Performance Baseline, EV Snapshot, Federal Balance, Contractor EAC information (Best, Worst, Most Likely)

Project Contact – Provides current and past contacts

Key Performance Parameters as set at CD-2 and used as part of the equation to measure success at CD-4

FPD Toolbox provides look at overview of current balances

Cost Contingency – curve and transactions by FPD

Fee – curve and transactions by FPD

ODC - curve and transactions by FPD

Schedule contingency - curve and transactions by FPD

MR Cum CV – Charts MR vs Cum Cost Variance for past three years

• Continual decrease in Management Reserve balance coupled with steady or improving cumulative cost variance may be an indicator that MR is being used to effectively guise cost performance issues.

• Increases in Management Reserve balance coupled with steady or improving cost variance may be an indicator of MR Harvesting - a technique of removing budget from well-performing Control Accounts in order to have it available to apply to poor-performing Control Accounts, thus effectively negating the purpose of performance measurements.

Next three are previous assessments, color rating, and TPC costs/CD-4 date by FPD, Program and DOE PM. These are in small Excel boxes and are intended to be copied to a document to read. Some are up to 5 pages long

Retroactive Changes – shows if a retroactive change was made over the past 6 months. *Only past reporting periods and the field where a change was made will be listed on this report. If there is no listing below the current reporting period data for each of the last 6 months, that means there were no historical changes.*

CPP History – Top level EV Data since reporting stated

CPP Log – upload and publish log for this project

EAC Funding Requirements – Depicts funding requirements

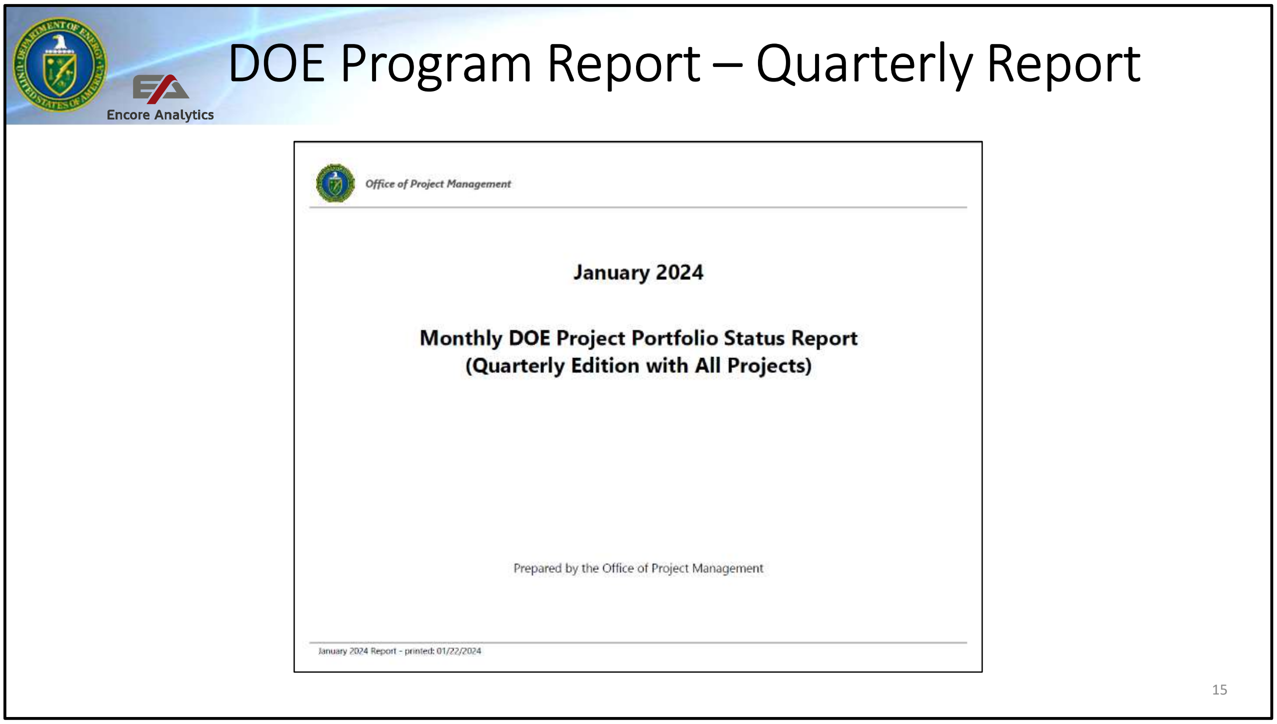
Cost Curves – last 12 months of Inc and Cum BCWS, BCWP, and ACWP

EVMS Snapshot – Graph of core EVMS values for past 2 years

Schedule Activity – date and graphics of activities and milestones in baseline and forecast schedule for early start and early finish

Change log – last 90 days of who changed what

Remember all of this is kept based on the contractor data placed in PARS, lets you see both OA and EVMS data and remains, even if Empower data has to be restarted.

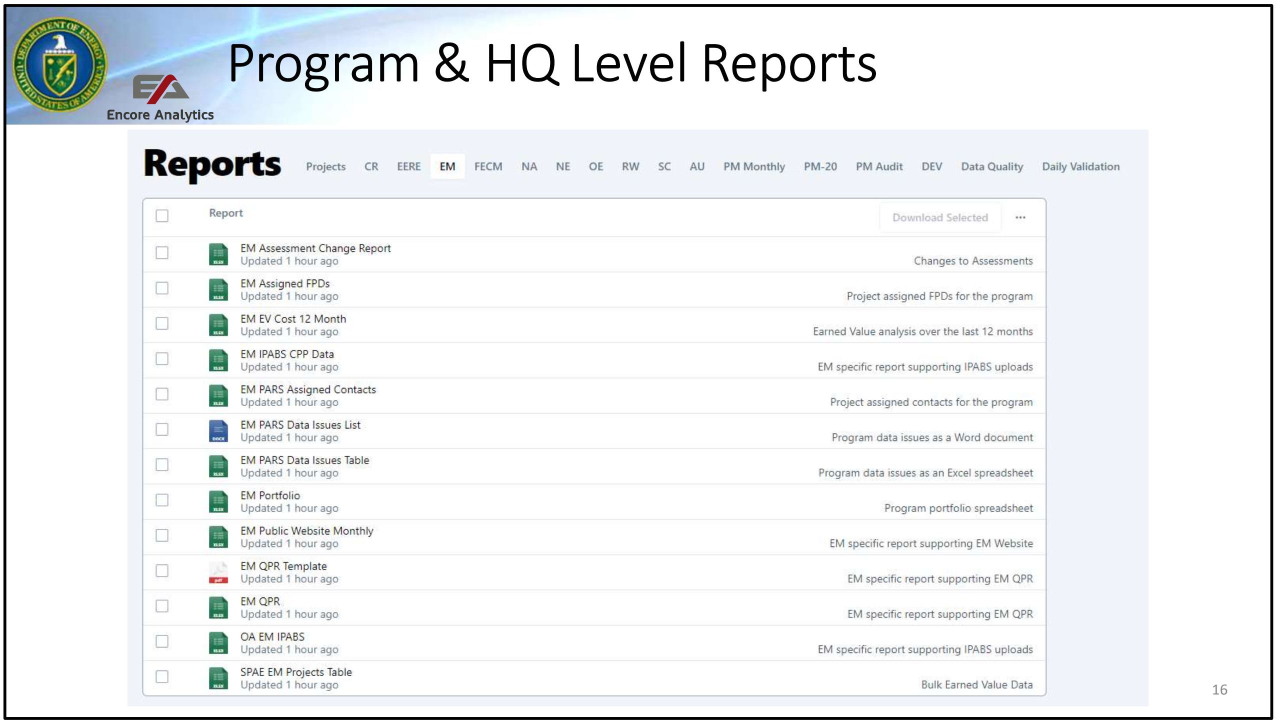


Moving from project reports we have program reports. The first we will look at is the quarterly report.

Add new report to material next quarter in September – Report changes will be in place.

Apr added here for context only.

Demo – about 5 minutes to highlight front maters, one R/Y, 2 green, 2 pre-CD 2



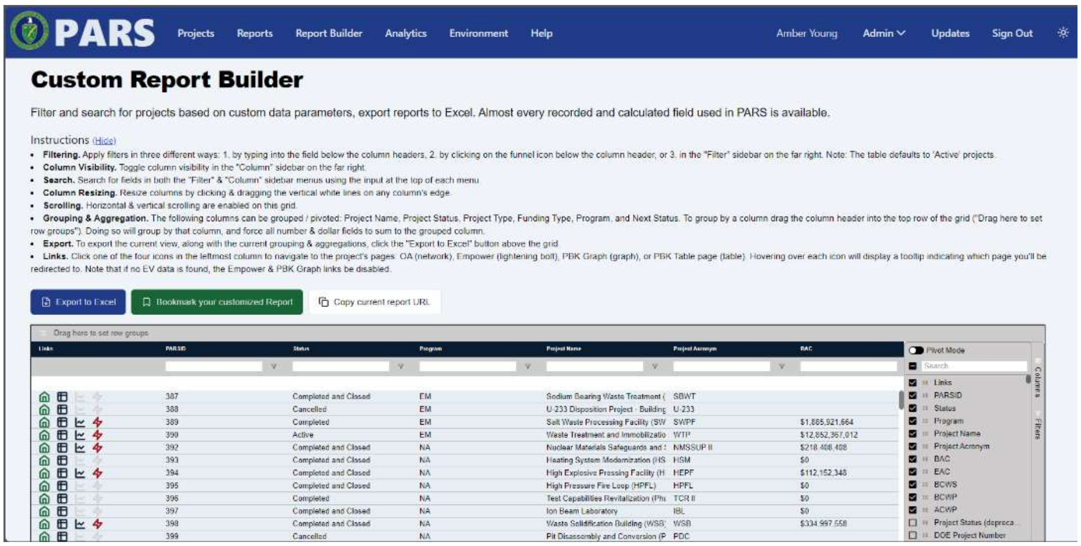
With out demonstrating, there are several other reports at this level.

There are many tailor made reports, where a program has a need we will build them. For example under Environmental Management (EM) in screenshot.

- The ESAAB is similar to the Red/Yellow, but focus on major events and congressional actions in the narrative area
- Pipeline provides information on projects in the pipeline between critical decision gates
- EM – report support EM tools to manage costing at the program level
- NNSA – Reports asked for by the NNSA team
- SC – similar – a science templated report

- There are other specialty reports for programs and headquarters.

Report Builder



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TBD – what can do, circle on RB

Customizations by User

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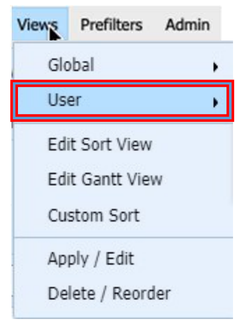
- All customizations are saved by individual User ID
- These customizations are saved in the Empower database (i.e., not workstation dependent)
- When customization is added, a “User” submenu item will display on the following menus as applicable: Charts, Reports, Dashboards, Views, and Prefilters
- To share customizations with other users, use the “Import/Export User Items” from the Empower File menu



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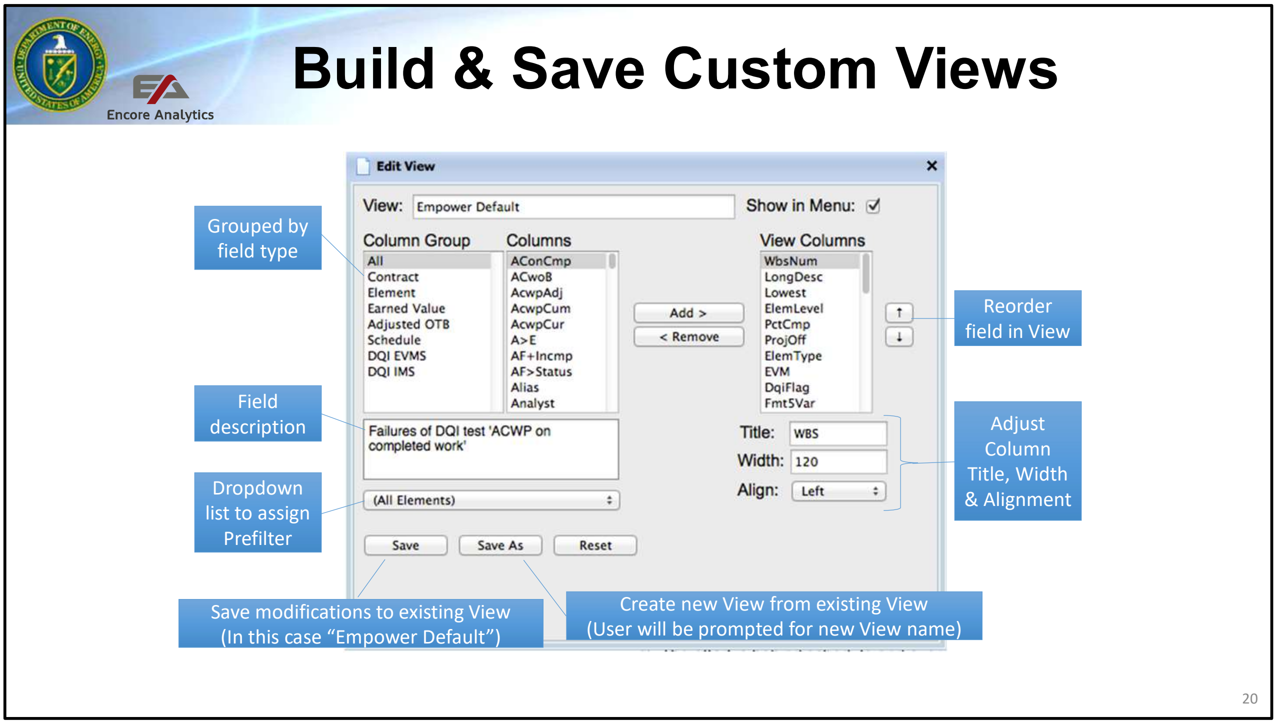
Moving back to Empower and away from SQL reports. First we will first look at customizing. We have discussed Dashboards and Prefilters in this area. We will now look at Views. We will also show how you can export your items and share them with co-workers as well as have them as a back up.

Common Menu/Dialog Box Functions

- Save – Saves modifications to current item (e.g, the open View, Filter, Chart, etc.)
- Save As – Saves customizations to a new item which the user will be prompted to name
- Reset – Restores item to last saved state
- Apply/Edit is used to select or revise existing items
- Reorder/Delete is used to reorder items in dialog boxes/menus or to delete existing items
- Views and Prefilters can be created using interactive features using the “Save As” button in the appropriate dialog box

As we continue to make custom views or charts, there are common menu items.

Discuss each quickly with a menu open.



Build custom views with extensive formatting controls. Any field from the database can be displayed in a view.   Remember you will not be able to update global views, but you can start with one and save it to your user menu. The edit view box provides access to all of the fields in Empower. To build your own, you must understand what each column represents. Historically, about 10% of the users make their own custom views. If you do, take time to make sure that the field is the one you want – there are multiple which are similar, and that you do not mix Earned Schedule fields where you were looking for Earn Value.

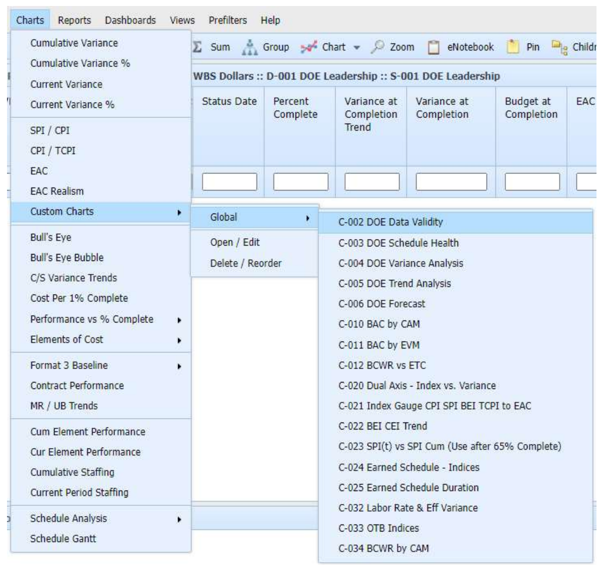
In theory the user could add every column in Empower with data, but why – to big and hard to use.

Demonstrate two custom builds.

Please note, the PARS Support team is not staffed to help make custom views for the field. If you have a question, send it to PM-30, PARS owner – matthew.west@hq.doe.gov

Custom Charts

- Open/Edit is used to open an existing chart, edit an existing chart or create a new chart
- Delete/Reorder is used to delete or reorder charts



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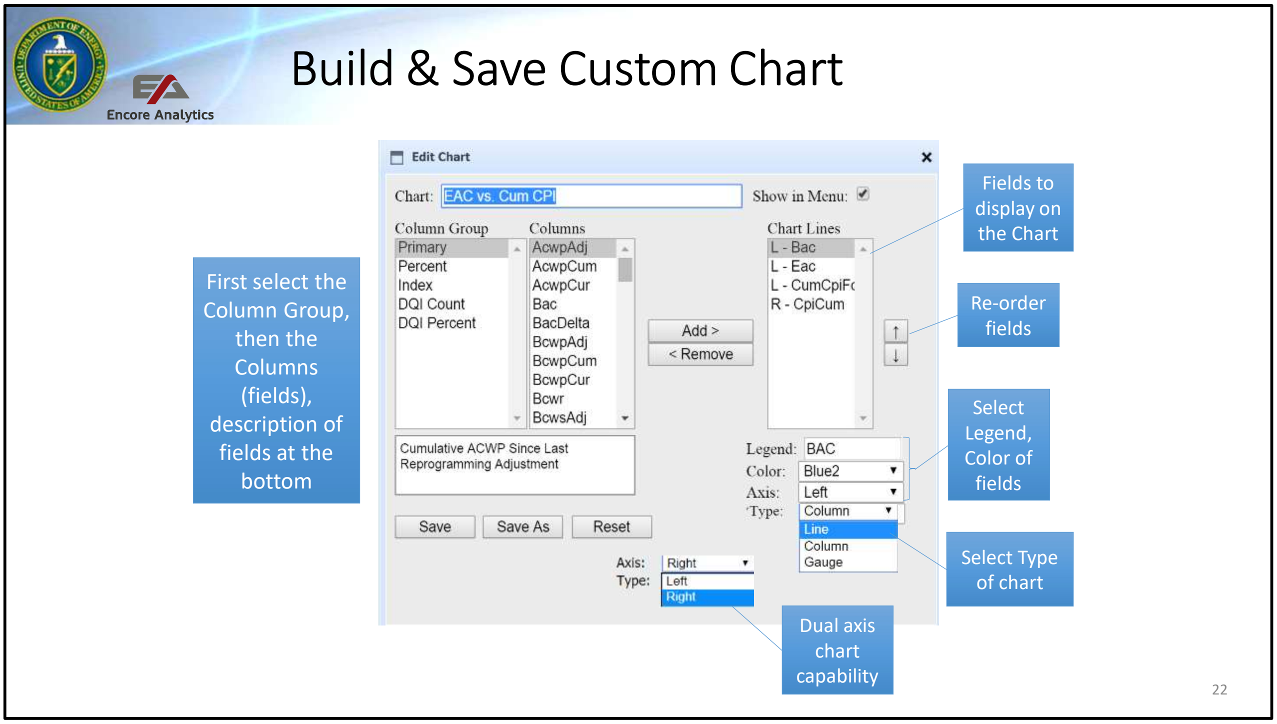
Similar for Custom Charts



Build custom filters with extensive parameters. Any field or combination of fields can be filtered from the database including compound filters. In this case, the column items are placed against axis and chart type.

Users cannot build charts with future period data – only EA can do this. If you have a recommendation for a future period chart – draft it up and place it in the DOE Change request system and it will be evaluated for submission to Encore Analytics to add to the program.

Create a Chart that displays Primary Units

BCWR vs ETC

Create a multi Axis Chart

SPI, CPI to SV, CV

Create a DQI Count Chart

Slips, CEI, BEI, HitActCmp, LinkedIncomplete

Create an EVMS Test Chart

Export Data from File Menu

- Microsoft Excel:
  - Sort Window - WYSIWYG
  - DQI Matrix - Sort Window plus the DQIs
  - DQI Trends - DQI Trend for selected element and a tab for the Sum of Lowest-level Descendants
  - DQI IMS - UID by DQI (single period)
  - Chart Data
    - Standard Chart - data to plot the chart
    - Gantt Chart - data grid items for each task
  - Audit Matrix – automated test results
- HTML:
  - Reports – open with Microsoft Excel, Microsoft Word, or any HTML editor

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Under the File menu are the exports for Empower. The sort window, chart area and report area all can be exported.

The Sort window exports to Excel with all formats – WYSIWYG

The Chart area exports data as mentioned prior – not the chart. You save the images for Charts at the Chart view.

Reports are exported in HTML so you can use in multiple tools with formatting.

The matrix and DQI reports will be discussed more in the Advanced course in terms of their use and function.

Export User Items

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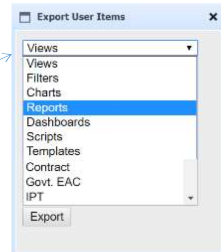
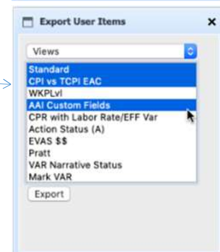
- Go to File | Export User Items
- Exports Views, Filters, Charts, Reports and other items
- Export User Items
  - Drop down list of User items
  - Select all the items, Empower will retain the selections
  - Select multiple items by **(Ctrl+Select)**
  - When finished, click the Export button, Empower Saves to zip file
- Share the file with other users





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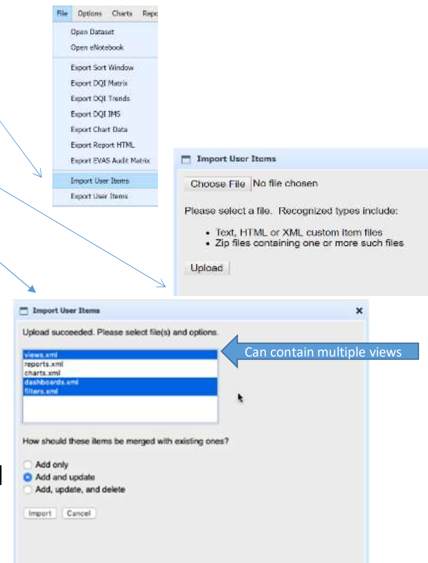
Exporting user items is straight forward following these steps.

We are setting up a PM Max site to place custom items users build – along with a short paragraph on what they do to share amongst DOE users

Next importing

Import User Items

- Go to File | Import User Items
- Chose the file to Upload
- Select items
- Merging existing user items on workstation with import:
  - Add = Add items with new names
  - Update = Replace existing items when names match
  - Delete = Delete any items without a match in the upload file (e.g., if CPR view is stored under current user, but not contained in the Import File, then the CPR view will be deleted)



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Use these steps to import custom items to your user folders under the menu items.

End of course

- This completes the basic user course. It was intended to make the user understand the basic layout and function of PARS and Empower in PARS.
- Next is the PARS User Advanced Course. This course will focus two areas, a couple more items on Empower, complex prefilters, DQI, and Compliance Metrics and then use cases based on projects at DOE.
- To take the Advanced course, the user should have a firm understanding EVMS, at least taking the EVMS 24-7 course.
- The Advance course helps the user go from comprehension to evaluation. Look forward to seeing you in this course soon.

Checks on Learning

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- Reports
  A. Provide reports which combine the OA and EV database data
  B. Provide Program level reports
  C. Are described in the Empower User Guide
  D. Provide 3 project level reports
  E. Update each hour
  F. All of the above
  G. A, B, D, and E

- The project summary report:
  A. Is an Excel Workbook
  B. Has around 20 worksheets
  C. Includes the retroactive change report
  D. Provides the ability to drill into data at all levels

- Reports Are retained, even if the Empower history is deleted in PARS
  A. Can be tailored to program specific needs
  B. Can be saved as user reports
  C. Include data from Empower

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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 Empower user menu is available for which items
  A. Views
  B. Charts
  C. Reports
  D. Prefilters
  E. All of the above
  F. None of the above

- Building custom views: Require the user to understand the Empower column fields
  A. Are generally done by more advanced users
  B. Can be exported and shared once built
  C. Can be placed under the global menu by users
  D. Could include every filled column

- Custom Charts Are built in Excel and imported in
  A. Can include future period data
  B. Can have two Y-axis
  C. Can be a dial chart

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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

- Exporting Sort Windows is WYSIWYG
  A. True
  B. False
- A user cannot import views, charts, reports, and prefilters to Empower:
  A. True
  B. False
- Add End of course survey.

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