

DOE FY23 Priorities

Fall 2022 NDIA IPMD



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Office of Project Management

US Department of Energy

September 14, 2022



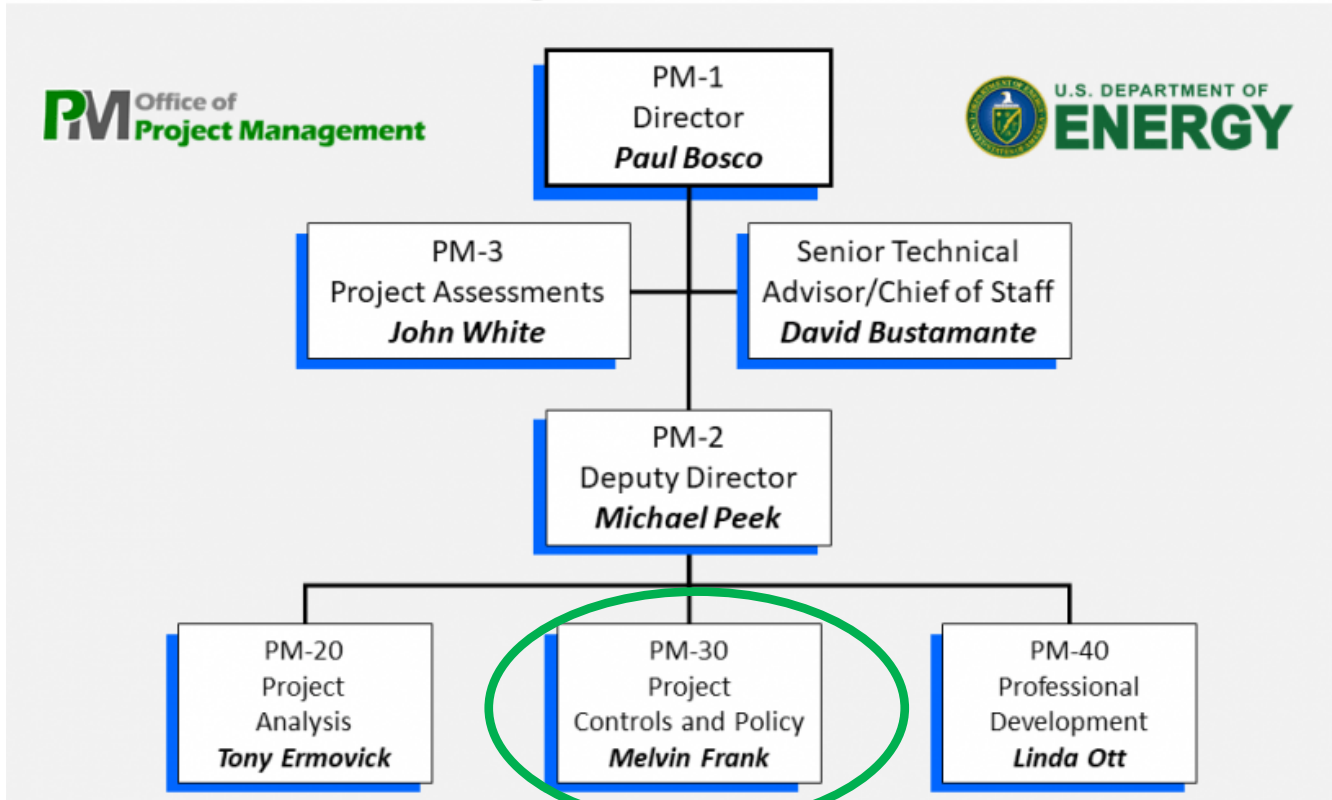
Agenda

- **FY2022 Accomplishments**
- **FY2023 Priorities**
 - **Office of Project Management Priorities**
 - Climate Adaptation, Resilience and Sustainability
 - Carbon-Pollution Free Energy (CFE) Roadmap
 - Sustainable Construction Materials and Reuse
 - Project Tailoring Flexibility
 - Post-COVID “At Risk” project support
 - **Office of Project Controls and Policy Priorities**
 - Compliance Reviews
 - IP2M METRR – continued integration
 - PARS
 - Issuances
 - Other Topics



DOE PM-30 – Who We Are

OFFICE OF PROJECT MANAGEMENT (PM) Organization Chart



Effective: April 7, 2022

Compliance

Carney, Kevin S
 Goldsmith, Daniel
 Loop, Robert
 Taliaferro, Matthew
 Kester, David (CONTR)
 Young, Amber (CONTR)

Performance

West, Matthew
 Kong, Brian
 Amin, Dipali R. (CONTR)
 Nye, Thomas (CONTR)
 Ogrodnik, Robert (CONTR)

Policy

Premaza, Victoria S
 Pulido, Erika (CONTR)

PARS

Richardson, Garrett
 Haseler, Craig (CONTR)
 Mann, Wilson (CONTR)
 Burgess, Adam (CONTR)
 Coty, Christopher (CONTR)
 Jaeger, Julianne (CONTR)
 Mondo, Louisa (CONTR)
 Novicio, Ray (CONTR)



FY2022 Accomplishments

- **413 Policy and Guidance**

- CARP and RCA/CAP Policy Memos
- Risk / Schedule / EVMS / Scope / Change / PDRI / TRA / Funding

- **ASU Study – IP2M METRR**

- Documents / Software

- **EVMS Compliance Protocol**

- Integrate IP2M METRR into ECRSOP / CAG / CRC
- Align EVMS Metrics to IP2M METRR (V4.0)

- **EVMS Compliance/Surveillance Reviews**

- TRIAD



413.3 Policy and Guidance

- **Updated in FY22**

- DOE G 413.3-24, (**New Guide**) Planning and Scheduling (Released April '22)
- DOE G 413.3-7A, Risk Management (Released Nov '21)
- DOE G 413.3-10B, Integrated Project Management Using EVMS (Released April '22)

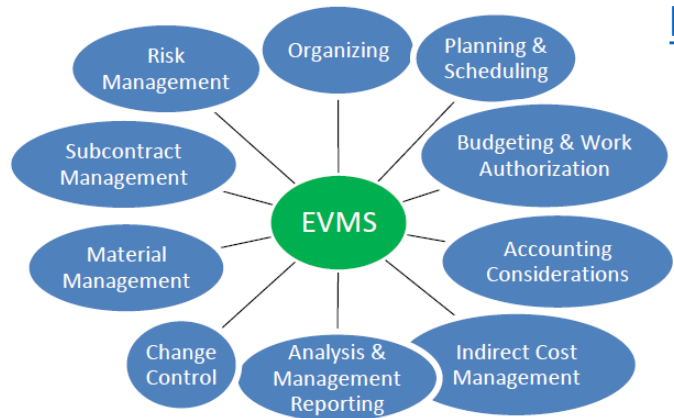
- Policy memorandums

- Climate Adaptation, Resilience and Sustainability, April 5, 2022 – requirements applicable to DOE capital asset projects:
 - Executive Order (E.O.) 14057: Catalyzing Clean Energy Industries and Jobs Through Federal Sustainability;
 - Office of Management and Budget (OMB) Memo M-22-06; and
 - DOE 2021 Climate Adaptation and Resilience Plan
- Performance Baseline Deviation Root Cause Analysis (RCA) and Corrective Action Plans (CAP)
- FY2022 National Defense Authorization Act change to minor construction and construction design thresholds

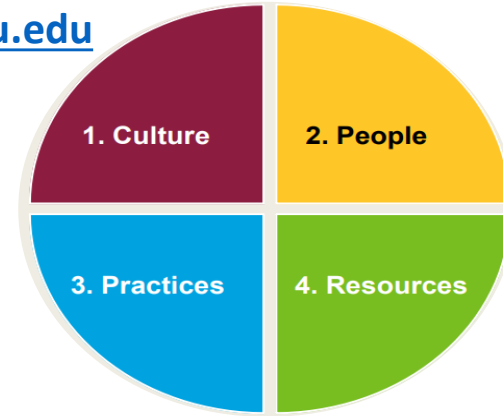
[Directives | Department of Energy](#) or <https://www.energy.gov/projectmanagement/directives>



Roll out of IP2M METRR DOE PM Sponsored ASU EVMS Maturity Study



<https://ip2m.engineering.asu.edu>



Maturity: 10 Sub-Processes, 56 Attributes (derived from 32 EVMS GLs) multiplied by their assessed score (1-5) weighted for their relative importance

- Each attribute has a relative weight associated with it;
- All maturity attribute scores roll up to a 1000-point scale (higher is better);
- The score quantifies the overall level of EVMS maturity for the project/program being assessed.

'traditional' EVMS compliance – but not performed/assessed in a 'traditional' way

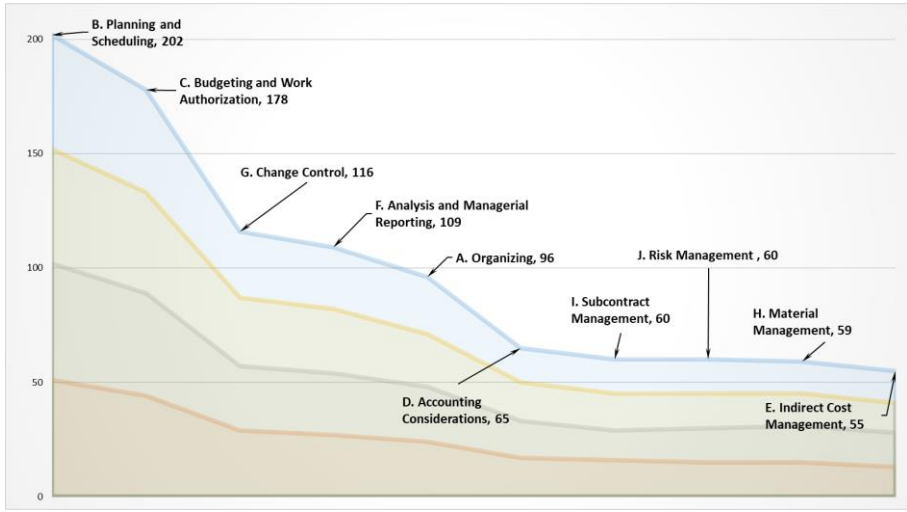
Environment: 4 Categories, 27 Factors (derived from various IPM sources) multiplied by their assessed score (5 values from 'Not Acceptable' to 'High Performing') weighted for their relative importance

- Each factor has a relative weight associated with it for all rating levels;
- All environment factor scores roll up to a 1000-point scale (higher is better);
- The score quantifies the overall level of the project/program environment for the project/program being assessed.

'NON-TRADITIONAL' IPM assessment – this is a NEW/"AH HAH!" process

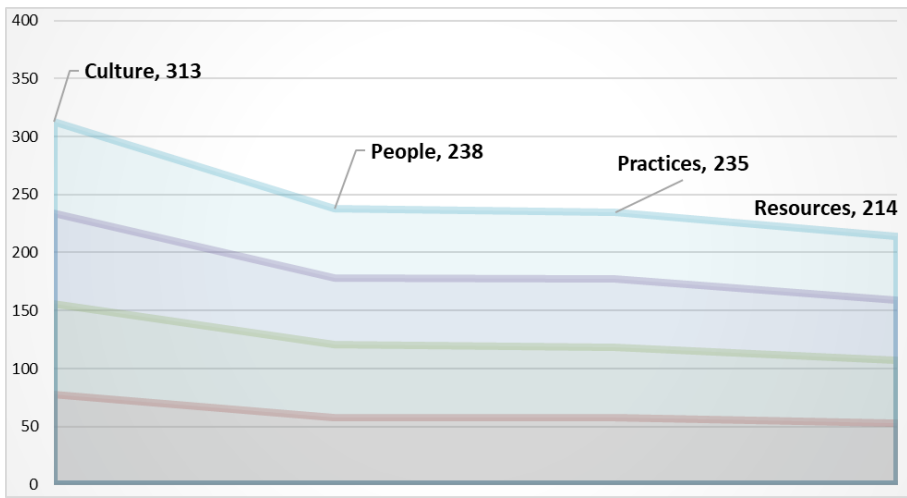
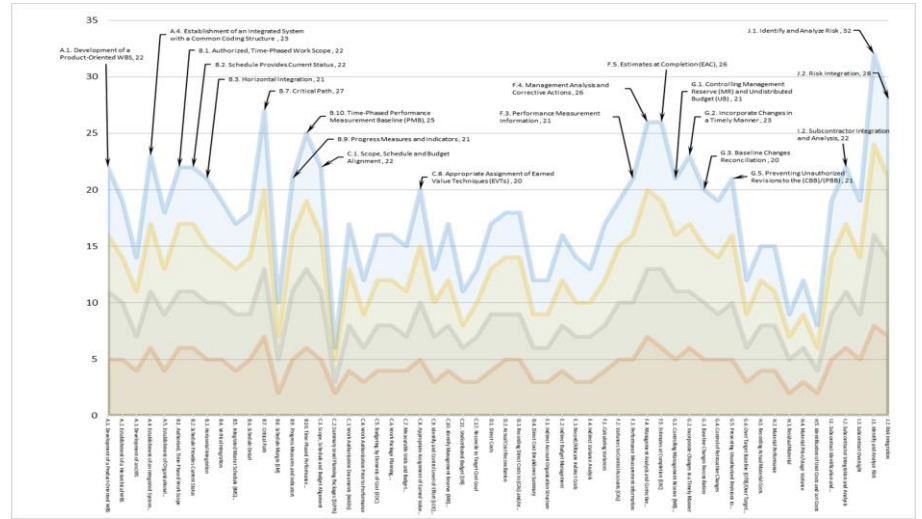


Evaluation of Maturity and Environment



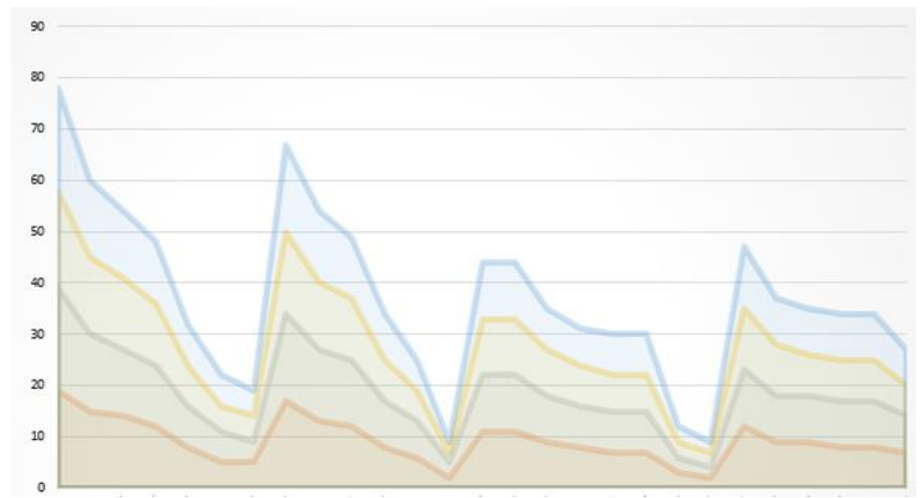
Maturity:

10 Sub-Processes, 56 Attributes multiplied by their assessed score (1-5) and weighted



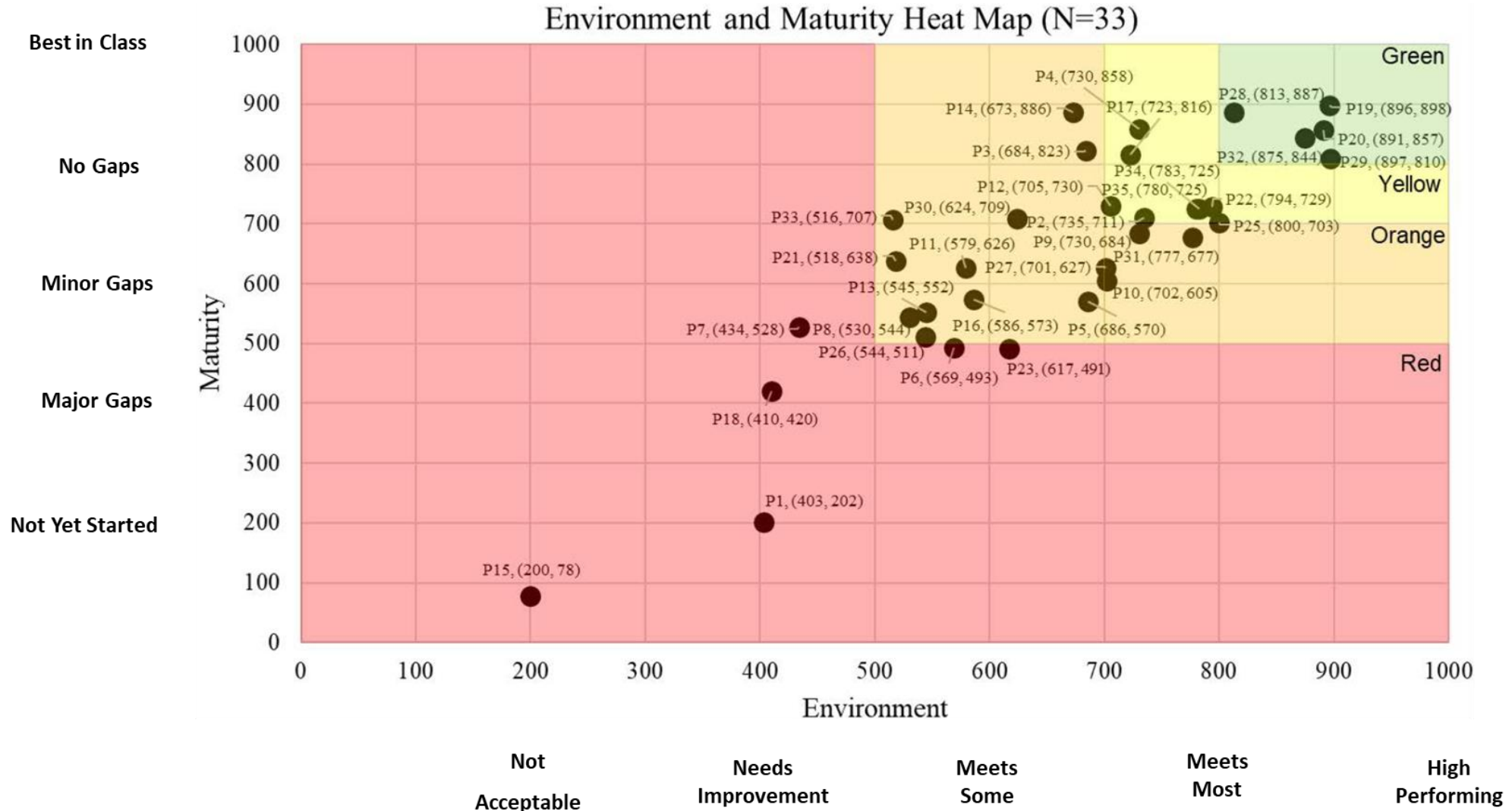
Environment:

4 Categories, 27 Factors multiplied by their assessed score (1-5) and weighted



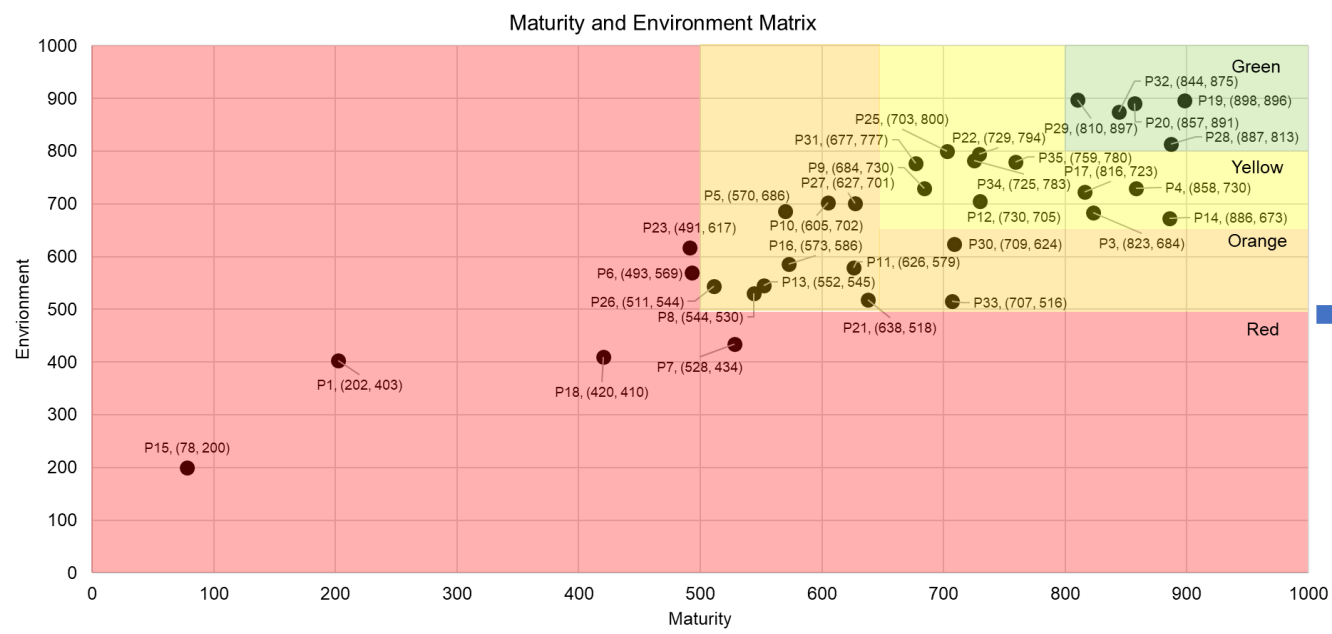


ASU EVMS Research Study - Results





ASU EVMS Research Study - Results



	Coefficient <i>r</i>	
	Positive	Negative
Strong	1 to 0.8	-0.8 to -1
Moderate	0.8 to 0.5	-0.5 to -0.8
Weak	0.5 to 0.3	-0.3 to -0.5
No Correlation	0.3 to 0	0 to -0.3

GREEN (>800)		YELLOW (700-799)	
N:	5	N:	7
Mean Cost Growth:	-0.3%	Mean Cost Growth:	+13.7%
Mean Schedule Growth:	-5.9%	Mean Schedule Growth:	+3.8%

ORANGE (500-699)		RED (<500)	
N:	15	N:	6
Mean Cost Growth:	+48.2%	Mean Cost Growth:	+92.3%
Mean Schedule Growth:	+26.9%	Mean Schedule Growth:	+24.3%



EVMS Test Metric update – V4.01

- 183 Metrics
- Empower – added DOE metrics V4.01
- Spec sheet for each of the tests attached on Energy.gov site
- V3 to V4 comparison sheets issued

DOE EVMS Metric Specification			
1. Process Category	2. Metric ID (new, old)	3. Method	4. Frequency
A	A.01.01 (01.01.01) (1)	automated/manual	initially & following implementation of customer changes
5. Attribute			
Product-Oriented Work Breakdown Structure (WBS)			
6. Metric Intent			
This metric confirms that the WBS is product and deliverable oriented depicting the breakdown of contract work scope/federal directed scope documents for work authorization, tracking, and reporting purposes. This metric compares the products and deliverables in the scope documents to the WBS. All elements of the WBS are defined in an accompanying WBS dictionary, as required. Reference is made to the DOE WBS handbook for this assessment.			
7. Metric Short Description			
WBS dictionary unsubstantiated			
8. Metric			
X =			
1. Products and deliverables listed in the contract work scope/federal directed scope documents are not identified in the WBS dictionary.			
2. Product-oriented groupings of project scope elements in the WBS dictionary are not organized and subdivided to the total work scope as defined in the contract work scope/federal directed scope documents.			
3. The WBS dictionary does not define the products and deliverables to be developed or produced.			
4. The WBS dictionary does not relate elements of work to be accomplished to each other and the overall end product.			
Y = Number of WBS identifiers in the WBS index.			
9. Max. Threshold	10. Max. Tolerance	11. Weight	
0		2.2	
12. Needed Artifacts and Data Elements			
<u>Y artifact(s)</u>	<u>X artifact(s)</u>	<u>FF data elements</u>	
FF01_(WBS)	contract work scope/federal directed scope documents	FF01_(WBS)_[C]_WBS FF01_(WBS)_[D]_title FF01_(WBS)_[E]_level FF01_(WBS)_[G]_WBS_type FF01_(WBS)_[J]_WBS_narrative	
13. Assumptions			
FF01_(WBS) identifies all WBS identifiers in the WBS dictionary. Reference DOE WBS handbook for guidance.			
14. Instructions			
<u>Determine Y items based on the following.</u>			
Count FF01_(WBS)_[C]_WBS items and, if identified, with the following characteristics.			
• FF01_(WBS)_[D]_title <listing>			
• FF01_(WBS)_[J]_WBS_narrative <listing>			
• FF01_(WBS)_[E]_level <listing>			
• FF01_(WBS)_[G]_WBS_type <listing>			
<u>Determine X items, a subset of Y, based on the following.</u>			
Manually count flagged items based on the following operation(s).			
• 1. Products and deliverables listed in the contract work scope/federal directed scope documents are not identified in the WBS dictionary.			
• 2. Product-oriented groupings of project scope elements in the WBS dictionary are not organized and subdivided to the total work scope as defined in the contract work scope/federal directed scope documents.			
• 3. The WBS dictionary does not define the products and deliverables to be developed or produced.			
• 4. The WBS dictionary does not relate elements of work to be accomplished to each other and the overall end product.			
<u>Determine if X or X/Y exceeds the threshold.</u>			
15. Reference(s)			



PARS – Metrics aligned to IP2M METRR



The screenshot displays the PARS software interface. At the top, there's a menu bar with options like File, Options, Charts, Reports, Dashboards, Views, Profiles, and Help. Below the menu is a toolbar with various icons for data, layout, and reporting. The main area is divided into several sections:

- Summary Table:** A table with columns for HEER, WBS, DESCRIPTION, LL, LVL, % Complete, % Spent, Complete, Tasks, Incomplete Tasks, Discrete Tasks, BL_Incomp Tasks, CAM, Element Type, EVN, DQI, VAR, No Logic, No Predecessor, No Successor, Out of Sequence Logic, Float<0, High Float, High Duration, AF-Status, Hard Constraint, AS-Status, FF-Status, FF-Status, FS-Status, Lag, Lead, AF-Incomp, NoM+Cmp, Finish-Finish Relationship, and Start-Finish Relationship.
- Schedule Gantt Chart:** A Gantt chart showing project activities from February 2022 to November 2022. Activities include tasks like 'Offsite - Seismic Br.', 'Final Alpha Door As.', 'Roof Equip. Stands', etc.
- Audit Metrics Report:** A table with columns for Attribute, Metric, Test, M, Value, Total, Percent, Goal, and Note. It lists various metrics such as 'WBS failed to be product-oriented and does not align with WBS narrative' and 'Number of CA/SLPP where WBS dictionary scope does not match WAD scope'.

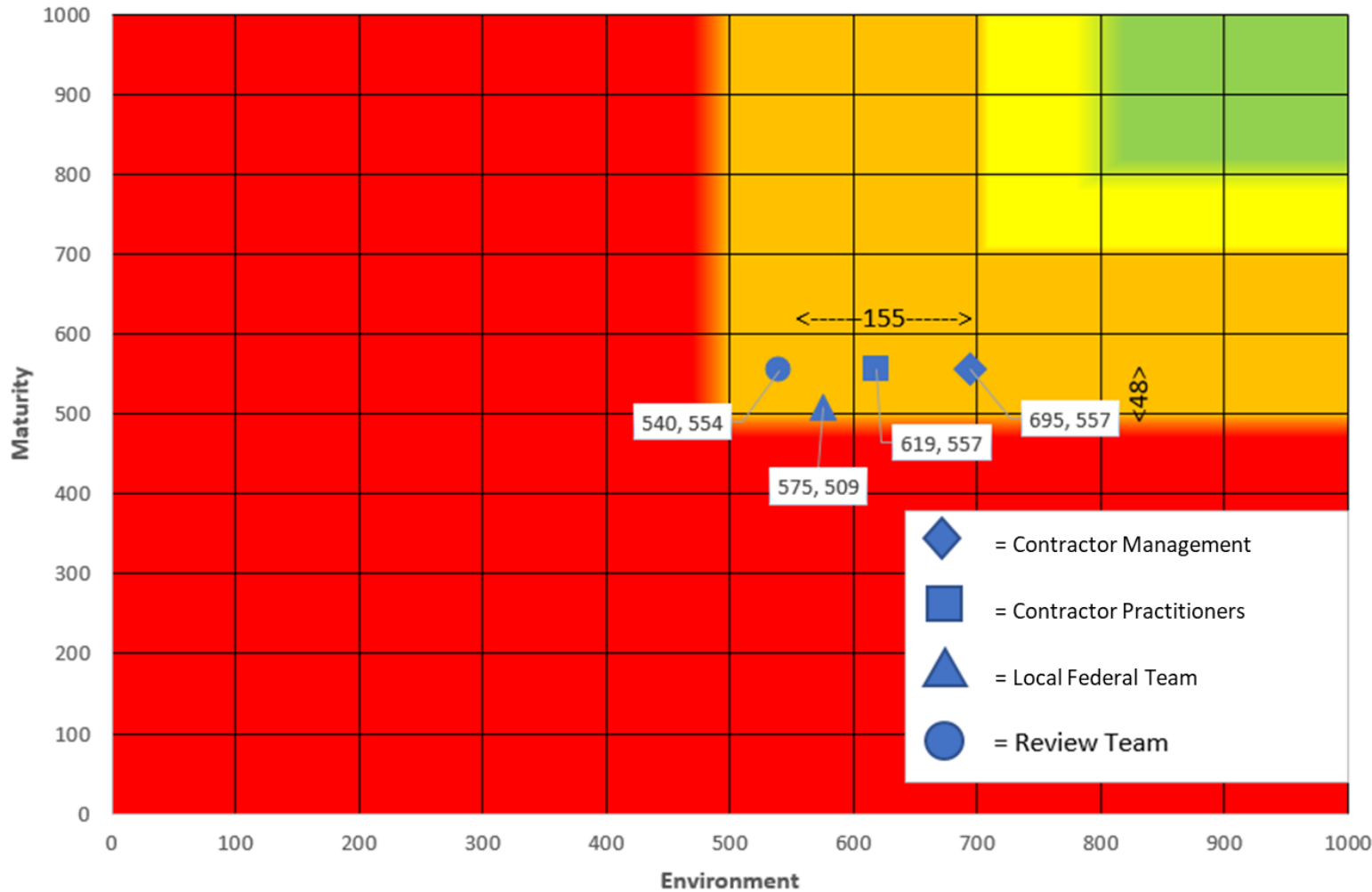
- V4.0 metrics align to IP2M METRR

Attribute	Metric	Test	M	Value	Total	Percent	Goal	Note
A.01.	01	WBS failed to be product-oriented and does not align with WBS narrative	*	*	*	*	=	0%
	02	Number of CA/SLPP where WBS dictionary scope does not match WAD scope	*	*	*	*	=	0%
	04	Number of CAs in the RAM where RAM CA DB <-> IPMR F1 CA BAC DB	*	*	*	*	=	0%
	05	Number of WP/PP/SLPP where WBS code in EVMS <-> BL IMS	*	27	177	15.3%	=	0%
A.02.	01	Number of prior month CA and SLPPs where CA and SLPP WBS or DB in prior month <-> CA WBS or DB in current month	*	*	*	*	=	0%
	02	Number of WBS identifiers where products/deliverables have not been decomposed into logical parent and child relationships	*	*	*	*	=	0%
A.03.	01	Number of CA WBSs in the RAM where RAM CA CAM <-> WBS index CAM or RAM CA DB <-> IPMR F1 DB or RAM OBS DB <-> IPMR F2 DB	*	*	*	*	=	0%
A.04.	01	Number of incomplete WPs in the FC IMS where Labor Hour IMS % complete <-> Labor Hour EVMS % complete	*	18	68	26.5%	<=	5%
	02	Number of incomplete WP/PP where BL IMS start or finish do not align with EVMS BCWS	*	35	96	36.5%	=	0%
	03	Number of incomplete WP/PP where FC IMS start or finish do not align with ACWPCum/ETC (3)	*	38	96	39.6%	=	0%
	04	Number of incomplete CAs where EVMS BL start/finish does not align to WAD start/finish	*	*	*	*	<=	5%
	05	Number of incomplete CAs in EVMS where BL BAC in WAD does not align to CA BAC	*	*	*	*	<=	5%



Most Recent DOE EVMS Compliance Review Results (preliminary)

Maturity and Environment Snapshot August 2022



Maturity

- Very precise assessments across the different assessing groups (range is less than 50)

Environment

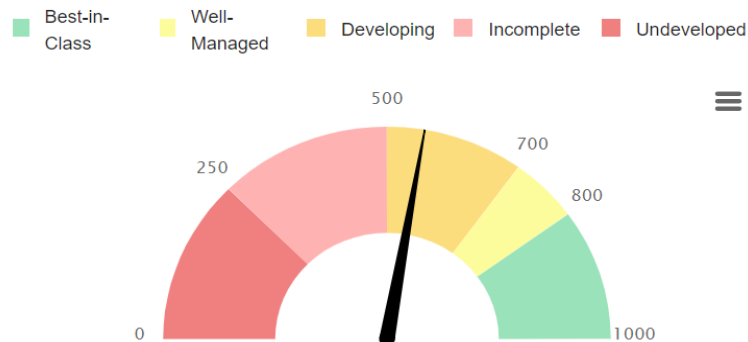
- Utilized facilitated assessment approach
- Wider spread (range of 155)
- Order of rankings for different assessment groups



Most Recent DOE EVMS Compliance Review Maturity Results (preliminary)

Attribute	Min	Score	Max	Score Percent
A. Organizing	0	51	96	53%
B. Planning and Scheduling	0	120	202	59%
C. Budgeting and Work Authorization	0	98	178	55%
D. Accounting Considerations	0	32	65	49%
E. Indirect Budget and Cost Management	0	41	55	75%
F. Analysis and Management Reporting	0	51	109	47%
G. Change Control	0	71	116	61%
H. Material Management	0	25	51	49%
I. Subcontract Management	0	39	60	65%
J. Risk Management	0	22	60	37%
OVERALL		550	992	
NORMALIZED		554		Fully Compliant = 800

Maturity Assessment Overview



Developing

The organization is developing an integrated project/program management system, but it is not yet functioning efficiently and/or effectively. The organization is aware of the gaps in their approach to complying with EVMS standards and guidelines for ten core subprocesses: organizing, planning and scheduling, budgeting and work authorization, accounting considerations, indirect budget and cost management, analysis and management reporting, change control, material management, subcontract management, and risk management. Projects/programs where the maturity score is between 500-700, and the environment allows issues to remain unaddressed, are at risk of completing with an average schedule growth of 25% to the original completion date and average cost growth of about 50% compared to the original performance measurement baseline.

[View Score Descriptions](#)



FY2023 DOE PM/PM-30 Priorities



Carbon-Pollution Free Energy Roadmap

- **Carbon-Pollution Free Energy (CFE) Roadmap**
 - Establishes Departmental goals and objectives, implementation strategies, and specific near and longer-term actions to achieve the CFE goals in Executive Order (EO) 14057
 - Signed by Secretary Granholm on July 26, 2022
 - Implementing Guidance signed by Deputy Secretary Turk on August 2, 2022
- **Three key strategies to increase CFE generation and consumption ...**
 - Improved energy efficiency and electricity demand response
 - Greater deployment of onsite CFE generation and storage
 - Increased CFE procurement
- **Departmental elements responsible for sites, field operations, or facilities**
 - Develop and implement plans to meet CFE goals at their respective sites, field operations, or facilities
 - Program-Specific CFE Implementation Plans due by September 26, 2022



Sustainable Construction Materials and Reuse

- **The global rate of consumption of materials was 100 billion tons in 2019; projected to reach 175 billion tons by 2050**
- **Construction sector accounts for ~ 36% of final energy demand globally**
 - Represents ~ 39% of energy and process related emissions
- **Largest volume of waste comes from the demolition of buildings**
 - Currently, ~ 33% of construction waste is reused (recycled/upcycled)
- **Need to shift to new, more carbon friendly construction materials**
 - **Inflation Reduction Act (2022) includes \$100 million for the EPA to develop a program to identify and label low-embodied carbon construction materials**
 - **Some materials already available ...**
 - Portland Limestone Cement (Type 1L cement)
 - Blended cement containing between 5% - 15% limestone
 - Approximately 10% reduction in carbon footprint



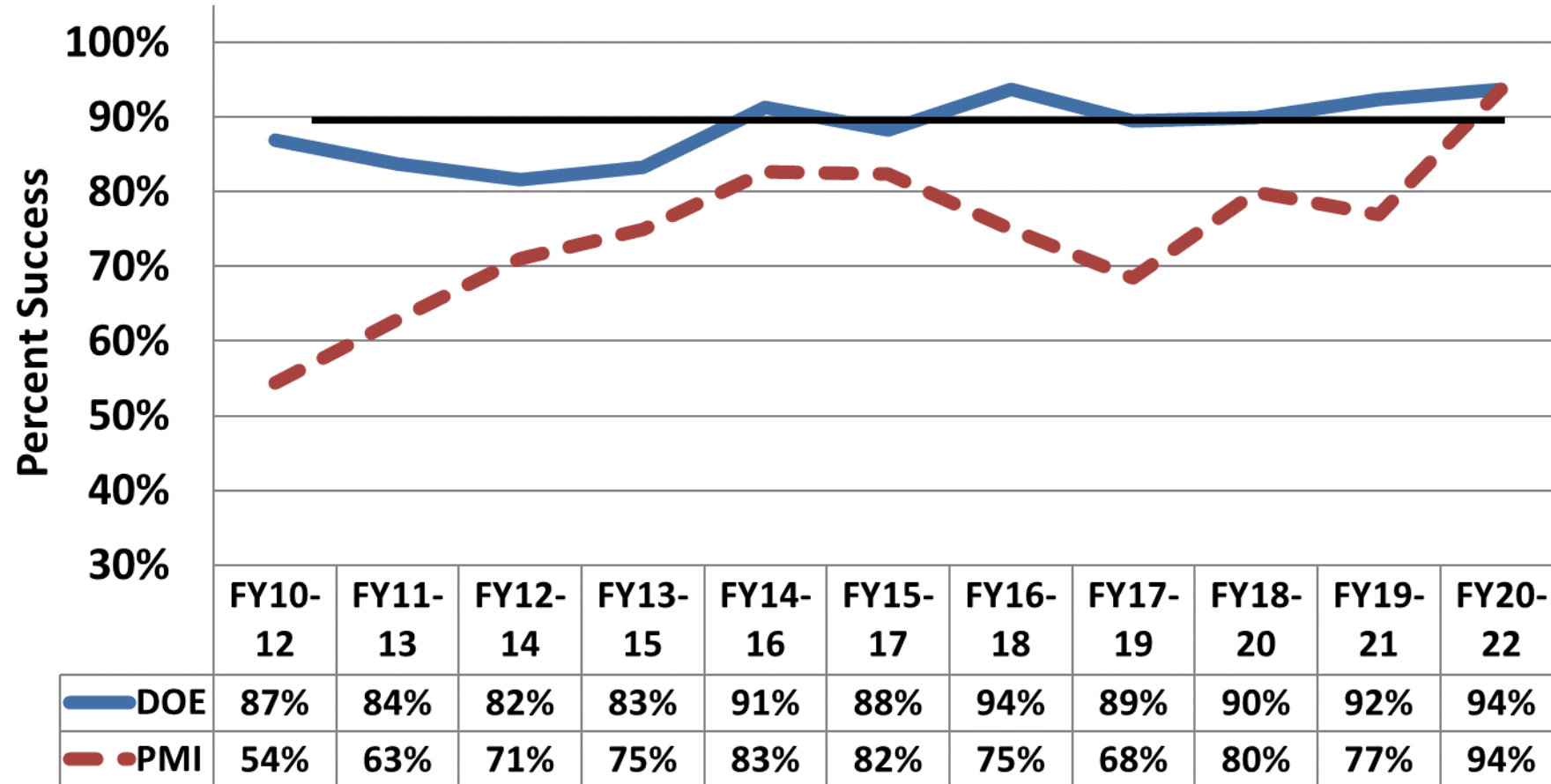
DOE O 413.3B Appendix E, STREAMLINING OF NON-COMPLEX, NON-NUCLEAR PROJECTS

- **Efficient delivery of projects (i.e. commercial) projects based on the consideration of project size, complexity, cost, and risks**
 - Intent is to provide additional guidance on streamlining for projects between \$50M - \$100M
 - Establishes tailored project management requirements that would present substantial benefit of a streamlined approach of the application of Department of Energy (DOE) Order (O) 413.3B without increasing risk to the Department.
 - Applicable projects' risks differ from the technically challenging population of most DOE capital asset projects and are non-nuclear, non-complex projects found external to the government, routinely commercially executed.
- **Examples of streamlining efforts being considered include:**
 - combined Critical Decisions (0/1, 2/3);
 - consolidation of required documentation; and
 - abbreviated reporting into PARS at CD-2/3 approval with the requisite documentation versus Contractor Project Performance uploads.

*Non-complex, Non-nuclear,
Commercial-like projects*



Project Management Success Metrics – DOE vs. PMI Construction (Based on 3-Year Rolling Timeline)





Pre-COVID vs Post-COVID Projects “At Risk” Snapshot

Report Date: 08/29/2022
OA Status Date: 08/26/2022

August 2022



Portfolio Summary by Program

Program	Total Project Portfolio		Total On Hold Projects Pre CD-2		Total Active Projects Pre CD-2		Total Active Projects Post CD-2		Total Projects Post CD-2 Green		Total Projects Post CD-2 Yellow		Total Projects Post CD-2 Red		% of Post CD-2 Projects with Acceptable (Green/Yellow) Status	
	#	(\$M)	#	(\$M)	#	(\$M)	#	(\$M)	#	(\$M)	#	(\$M)	#	(\$M)	#	(\$M)
EERE	1	\$165.0			1	\$165.0										
EM	30	\$39,981.0	6	\$2,116.0	15	\$18,622.0	9	\$19,243.0	5	\$1,803.0	2	\$430.0	3*	\$17,010.0	78%	12%
FECM	4	\$1,420.0			1	\$293.0	3	\$1,127.0			3	\$1,127.0			100%	100%
NA	34	\$49,365.8	1	\$714.0	21	\$40,413.0	12	\$8,238.8	6	\$1,927.9	2	\$190.3	4	\$6,120.6	67%	26%
NE	3	\$6,063.0			2	\$5,897.0	1	\$166.0	1	\$166.0					100%	100%
OE	1	\$77.0					1	\$77.0	1	\$77.0					100%	100%
SC	47	\$19,756.7			30	\$14,553.4	17	\$5,203.3	16	\$4,929.7			1	\$273.7	94%	95%
Total	120	\$116,828.5	7	\$2,830.0	70	\$79,943.4	43	\$34,055.1	29	\$8,903.6	7	\$1,747.3	8*	\$23,404.3	84%	31%

Overall Project Assessment

Project is expected to meet its Performance Baseline

Project is at-risk of breaching its Performance Baseline

Project is expected to breach its Performance Baseline

EVM Indicators

- CPI
- SPI
- EACs
- Trends
- Variances
- % Complete
- etc.

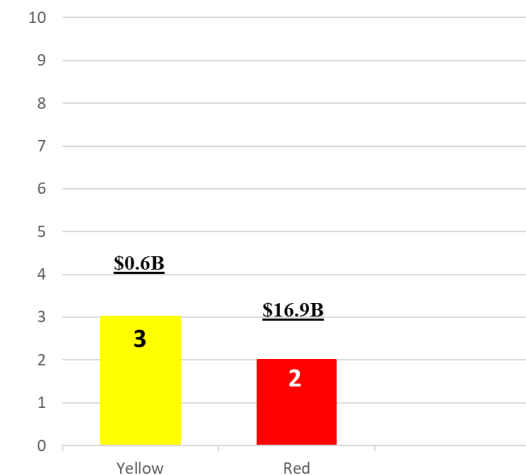
PM Assessment

- Data validity, availability,...
- MR & Contingency Usage
- Reports (ie, monthly, quarterly, ...)
- Reviews (ie, EIR, IPR, ...)
- Communication with the project
- Other Information (ie, DNFSB, ...)

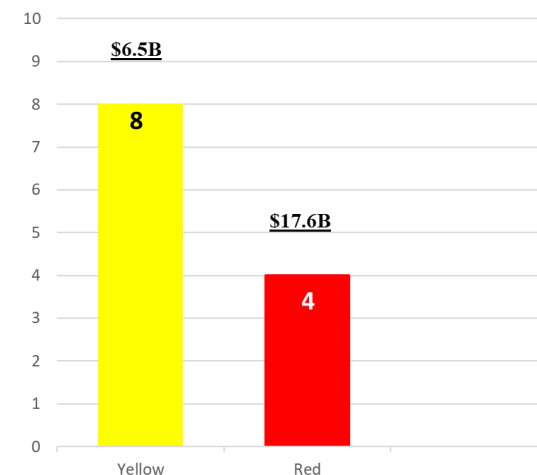
The Performance Baseline (PB) is the collective key performance, scope, schedule, and cost parameters, which are defined for all projects at CD-2 or BCP for a specified funding profile. The PB includes the entire project budget (TPC including fee, other direct costs, and contingency) and represents DOE's commitment to Congress to complete the project within the PB.

* WTP LBL Direct-Feed Low-Activity Waste (#1071) is now assessed as Red. Budget for this project is not added here as it is already included in the total cost of the WTP large project (#390), currently assessed as a Red project.

February 2020



February 2022





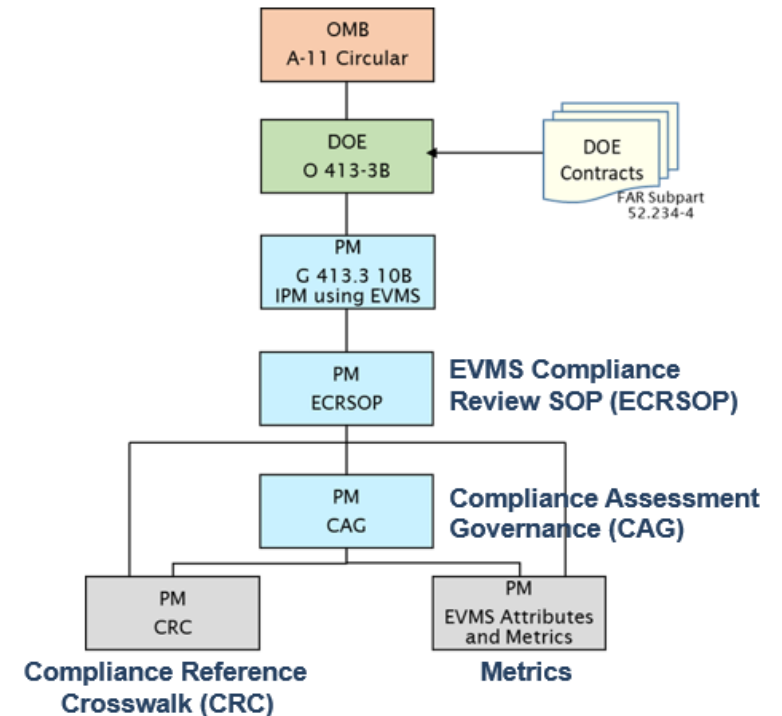
FY2023 Planned Compliance Reviews

- **Consolidated Nuclear Security (CNS), LLC**
 - Pantex, 1st Qtr FY2023EVMS Implementation Review
- **Idaho Environmental Coalition (IEC), LLC**
 - Idaho National Laboratory 3rd Qtr FY2023EVMS Compliance Review
- **Savannah River Mission Completion (SRMC) –**
 - Savannah River Site (SRS) 3rd Qtr FY2023EVMS Implementation Review
- **ASD (Advanced Sensor Detection), Triad**
 - Los Alamos Nuclear Lab (LANL) 3rd Qtr FY2023EVMS Implementation Review
- **New M&O Contractor**
 - Waste Isolation Pilot Plant (WIPP) late FY2023EVMS Implementation Review
- **Savannah River Nuclear Solutions (SRNS)**
 - Savannah River Site (SRS) late FY2023EVMS Certification Review



DOE PM EVMS Guidance - Tools

- DOE O 413.3B *Program and Project Management for the Acquisition of Capital Assets*
 - DOE G 413.3-10B Integrated Project Management Using the Earned Value Management System
- PM EVMS Compliance Review Documents:
 - ECRSOP (EVMS Compliance Review SOP)
 - CAG (Compliance Assessment Governance)
 - CRC (Compliance Reference Crosswalk)
 - EVMS Metric List & Specification
- PM EVMS / Performance Tools
 - IP2M METRR
 - Project Assessment and Reporting System (PARS)
 - DIQ, PB-K, Empower, SQL Reports → Power BI
 - Flat Files



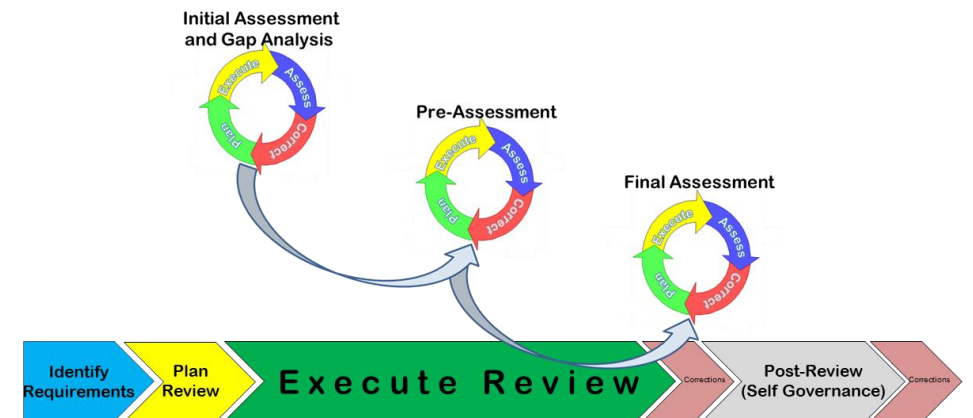
<https://www.energy.gov/projectmanagement/evms-implementation-guidance>



Utilize New Compliance Review SOP to streamline review process

Each review has a Charter; iterative approaches may include:

- Leveraging the contractor's self-governance results to streamline the review process
 - Data Integrity and Quality pre-assessment
 - Joint reviews of contractor surveillance results
 - Corrective Action Management Plan
- Initial collaborative review of the contractor's data through automated metrics to identify gaps;
- A pre-assessment, to identify high and low-risk attributes/metrics; and
- A final assessment with any documented non-compliances.





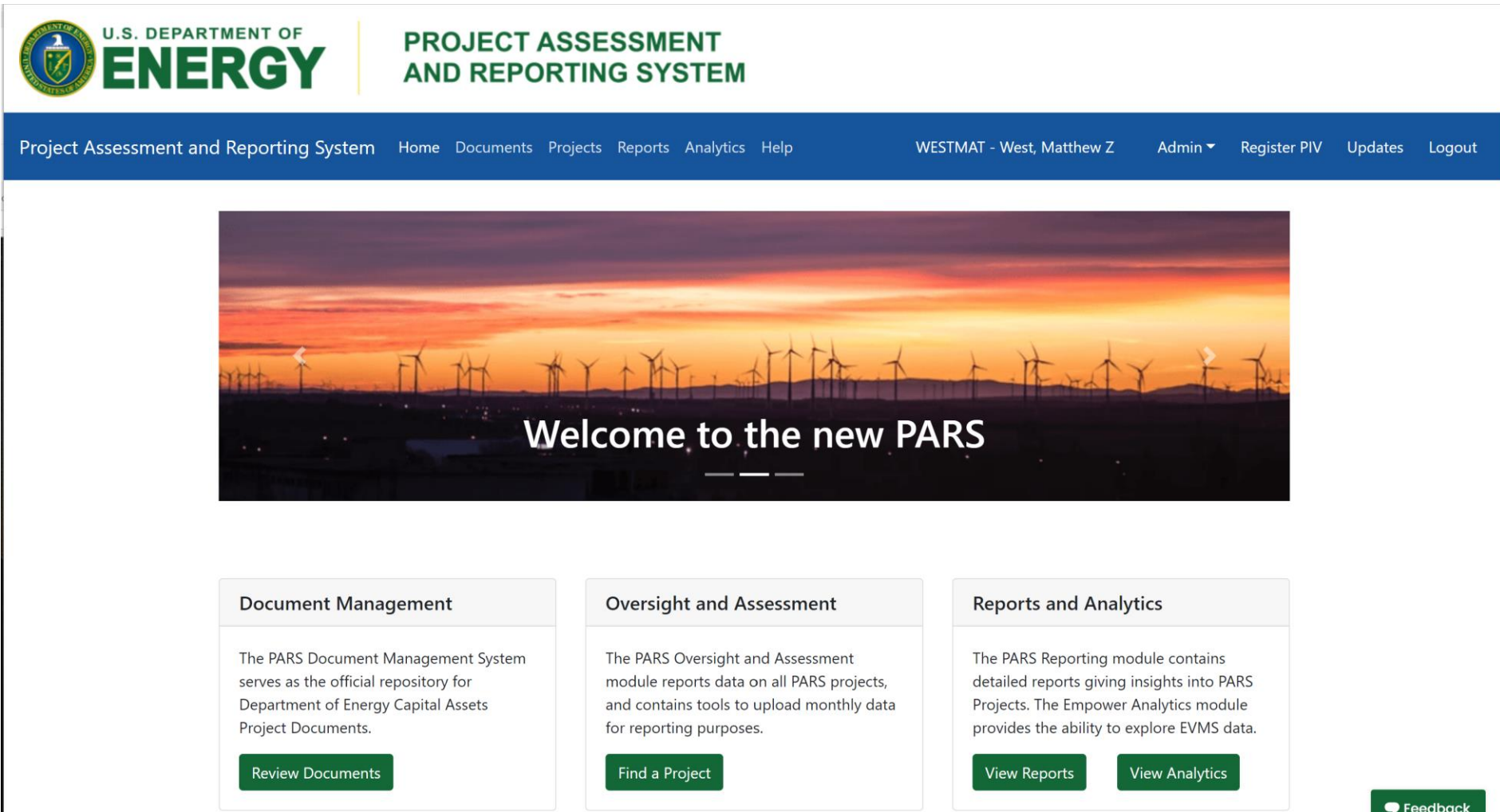
Further integrate IP2M METRR maturity/environment assessments into Compliance Reviews

IP2M METRR Process - Environment

- The Environment and Maturity portions of the review are coordinated to minimize impact on project teams
- For best results, separate facilitated environment assessments are performed using input from
 - the customer team;
 - the contractor team; and
 - the government review team
- Pre-populated templates with drop-down menus are utilized to score each environment factor
- Each participant simultaneously provides individual scores (autonomously) using an electronic device within an allotted time
- The facilitated environment assessment is a three-step process expected to last two hours in duration covering all 27 environment factors
 - Step 1: **Listen** to descriptive criteria and ask clarifying questions
 - Step 2: **Score** each environment factor autonomously using the IP2M METRR tool
 - Step 3: **Explain** “Meets Some”, “Needs Improvement”, and “Not Acceptable” scores



Project Assessment and Reporting System (PARS) Updates



The screenshot displays the PARS website interface. At the top left is the U.S. Department of Energy logo. The main header features the text "U.S. DEPARTMENT OF ENERGY" and "PROJECT ASSESSMENT AND REPORTING SYSTEM". A dark blue navigation bar contains the following links: "Project Assessment and Reporting System", "Home", "Documents", "Projects", "Reports", "Analytics", "Help", "WESTMAT - West, Matthew Z", "Admin", "Register PIV", "Updates", and "Logout". The main content area features a large banner image of a wind farm at sunset with the text "Welcome to the new PARS". Below the banner are three feature cards: "Document Management" (with a "Review Documents" button), "Oversight and Assessment" (with a "Find a Project" button), and "Reports and Analytics" (with "View Reports" and "View Analytics" buttons). A "Feedback" button is located in the bottom right corner.



Project Assessment and Reporting System (PARS)

- Project Records – Initiation to Closeout – Current Count = 524 Projects
- Document Management System (Azure)
- Analysis – Empower and DOE Top Level Tools
- Reports – Empower and DOE Top Level Reports
- IP2M METRR – Added in 2023

The screenshot shows the PARS website interface. At the top left is the U.S. Department of Energy logo and the text "U.S. DEPARTMENT OF ENERGY PROJECT ASSESSMENT AND REPORTING SYSTEM". Below this is a navigation bar with links for "Project Assessment and Reporting System", "Home", "Documents", "Projects", "Reports", "Analytics", and "Help". On the right side of the navigation bar, there is a user profile "WESTMAT - West, Matthew Z" and links for "Admin", "Register PIV", "Updates", and "Logout". The main content area features a large banner for "Empower" with the tagline "Actionable insight for complex projects". Below the banner are three columns of content: "Document Management" (with a "Review Documents" button), "Oversight and Assessment" (with a "Find a Project" button), and "Reports and Analytics" (with "View Reports" and "View Analytics" buttons). At the bottom of the page, there are sections for "ACCESSIBILITY/SECTION 508", "FEEDBACK", and "CONTACT US".

All PARS Process Flows are documented in User Guide and EVMS and Project Analyst SOP



PARS Process Flow



Global

- D-001 DOE Leadership
- D-002 DOE Data Validity
- D-003 DOE Schedule Health
- D-004 DOE Variance Analysis
- D-005 DOE Trend Analysis
- D-006 DOE Forecast
- D-007 DOE EVMS Tests for System Surveillance
- D-008 Earned Schedule
- D-009 Over Target Baseline (OTB)

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	BowsCur	BowsCum	BcwpCur	BcwpCum	AcwpCur	AcwpCum	EAC (F1)
s	0.998	0.989	0.983	1.008	↓	0	1	1.101	1.016	24	-1,041,787	5,138,504	160,344,758	-3,302,352	92,971,238	4,520,900	92,751,441	4,560,307	93,793,229	155,000
s	0.998	0.989	0.983	1.008	↓	0	0	0.968	1.018	24	-1,041,787	-3,013,509	152,192,745	-3,302,352	92,971,238	4,520,900	92,751,441	4,560,307	93,793,229	155,000
s	0.998	0.989	0.983	1.008	↓	0	0	0.968	1.018	24	-1,041,787	-3,013,509	152,192,745	-3,302,352	92,971,238	4,520,900	92,751,441	4,560,307	93,793,229	155,000
s	0.998	0.989	0.983	1.008	↓	0	0	0.968	1.018	24	-1,041,787	-3,013,509	152,192,745	-3,302,352	92,971,238	4,520,900	92,751,441	4,560,307	93,793,229	155,000
	1.000	0.941	0.867	0.993	↓	0	0	1.009	1.141	4	-1,154,117	-1,072,723	27,651,312	529,860	18,329,396	529,860	18,321,633	577,562	19,475,750	28,000
	1.000	1.000	1.000	1.000		0	0	1.000	1.000	0	0	0	839,625	0	839,625	0	839,625	0	839,625	0
	1.000	1.000	1.000	1.000		0	0	1.000	1.000	0	0	0	819,891	0	819,891	0	819,891	0	819,891	0
	1.000	1.000	1.000	1.000		0	0	1.000	1.000	0	0	0	19,735	0	19,735	0	19,735	0	19,735	0

Audit Metrics Report

832 [REDACTED] JUN 22 WBS Dollars [REDACTED]

Attribute	Metric	Test	M	Value	Total	Percent	Goal	Note
A.01.	01	WBS failed to be product-oriented and does not align with WBS narrative	*	*	*	*	= 0%	
	02	Number of CA/SLPP where WBS dictionary scope does not match WAD scope	*	*	*	*	= 0%	
	04	Number of CAs in the RAM where RAM CA DB <- IPMR F1 CA BAC DB	*	*	*	*	= 0%	
A.02.	05	Number of W/PP/SLPP where WBS code in EVMS <- BL IMS	*	*	27	177	15.3 %	= 0%
	01	Number of prior month CA and SLPPs where CA and SLPP WBS or DB in prior month <- CA WBS or DB in current month	*	*	*	*	= 0%	
A.03.	02	Number of WBS identifiers where products/deliverables have not been decomposed into logical parent and child relationships	*	*	*	*	= 0%	
	01	Number of CA WBSs in the RAM where RAM CA CAM <- WBS index CAM or RAM CA DB <- IPMR F1 DB or RAM OBS DB <- IPMR F1 DB	*	*	*	*	= 0%	



PARS – Document Contractor Self-Governance (Surveillance) Results

- **Document Surveillance:** In addition to documenting Automated Metric results, DOE is developing method for contractor to fill out/upload Audit form
- Need to develop method to track ‘resolved flags’

B.05.	03	Number of incomplete milestone, SM, SVT and ZBA BL IMS activities with resources	50	0.0	=	0	G				
B.05.	04	Number of incomplete milestone, SM, SVT and ZBA FC IMS activities with resources	50	0.0	=	0	G				
B.05.	06	Number of incomplete activities in the FC IMS that are SVT activities with resources or unsi	777	0.0	=	20	G	0	G		
B.06.	01	Number of incomplete non-LOE BL IMS activities (excludes milestones, summ	65	514	12.6	<	10	R	0	G	
B.07.	03	Number of incomplete activities (excluding LOE) that are on the BL IMS critic	68	731	9.3	<	40	Y	0	G	0
B.07.	04	Number of incomplete activities (excluding LOE) that are on the FC IMS critic	60	731	8.2	<	40	Y	0	G	0
B.07.	05	Number of incomplete LOE BL IMS activities on the critical path	0	46	0.0	=	0	G	5	G	20
B.07.	06	Number of incomplete LOE FC IMS activities on the critical path	0	46	0.0	=	0	G	5	R	10
B.07.	07	Number of incomplete BL IMS discrete activities (excludes summaries, SMs, S	5	699	0.7	<	5	Y	0	G	40
B.07.	08	Number of incomplete FC IMS discrete activities (excludes summaries, SMs, S	5	699	0.7	<	5	Y	0	R	40
B.07.	09	Number of activities on the BL IMS longest (critical) path that does not follow a logical seq	71	0.0	=	0	G	0	G	0	0
B.07.	10	Number of activities on the FC IMS longest (critical) path that does not follow a logical seq	754	0.0	=	0	G	0	G	0	0
B.07.	13	Number of incomplete BL IMS activities and milestones with negative total float	777	0.0	=	0	G	0	G	5	Y
B.08.	03	Number of SM activities in FC IMS where remaining SM duration < 10% of project's remain	5	0.0	=	0	G	5	R	5	Y
B.09.	01	Number of incomplete milestones/deliverables and control point dates that are not repres	18	0.0	=	0	G	0	?	0	0
C.05.	01	Number of WPs, PPs and SLPPs with BAC <= 0 (3)	0	68	0.0	=	0	G	0	G	0
C.07.	01	Number of PP activities in BL IMS where CAM cannot substantiate reasonable work, sched	28	0.0	=	0	G	0	G	0	0
C.07.	02a	Number of PPs in the FC IMS with actual start date (9)	0	28	0.0	=	0	G	1	R	0
C.07.	02b	Number of PPs where ACWPcum or BCWPcum < 0 (9)	0	28	0.0	=	0	G	1	G	0
C.07.	04a	Number of incomplete WP or PP on the BL critical path	18	0.0	=	0	G	1	G	0	0
C.07.	04b	Manually sample 5 WP and 3 PP on the BL critical path to determine where CAM cannot su	8	0.0	=	0	G	1	S	0	0
C.07.	04b	Manually sample 5 WP and 3 PP on the BL critical path to determine where CAM cannot su	8	0.0	=	0	G	1	?	0	0
C.07.	04a	Number of incomplete WP or PP on the BL critical path	18	0.0	=	0	G	0	G	0	0
C.07.	04b	Manually sample 5 WP and 3 PP on the BL critical path to determine where CAM cannot su	8	0.0	=	0	G	0	G	0	0



EVMS Test Metric planned update – Version 5.0

- In PM-MAX – provide recommendations now
- CCB – quarterly to semi-annual board meeting
- V5.0 - start Spring 2023 at earliest
 - Capture and manage the 80 recommendations currently in queue
 - Establish Primary / Secondary / Tertiary metrics and how to use them
 - Coordinated change/allow management as we move to next versions
 - Verify data DID supports

DOE EVMS Metric Specification			
1. Process Category	2. Metric ID (new, old)	3. Method	4. Frequency
A	A.01.01 (01.01.01) (1)	automated/manual	initially & following implementation of customer changes
5. Attribute			
Product-Oriented Work Breakdown Structure (WBS)			
6. Metric Intent			
This metric confirms that the WBS is product and deliverable oriented depicting the breakdown of contract work scope/federal directed scope documents for work authorization, tracking, and reporting purposes. This metric compares the products and deliverables in the scope documents to the WBS. All elements of the WBS are defined in an accompanying WBS dictionary, as required. Reference is made to the DOE WBS handbook for this assessment.			
7. Metric Short Description			
WBS dictionary unsubstantiated			
8. Metric			
X =			
1. Products and deliverables listed in the contract work scope/federal directed scope documents are not identified in the WBS dictionary.			
2. Product-oriented groupings of project scope elements in the WBS dictionary are not organized and subdivided to the total work scope as defined in the contract work scope/federal directed scope documents.			
3. The WBS dictionary does not define the products and deliverables to be developed or produced.			
4. The WBS dictionary does not relate elements of work to be accomplished to each other and the overall end product.			
Y = Number of WBS identifiers in the WBS index.			
9. Max. Threshold	10. Max. Tolerance	11. Weight	
0		2.2	
12. Needed Artifacts and Data Elements			
<u>Y artifact(s)</u>	<u>X artifact(s)</u>	<u>FF data elements</u>	
FF01_(WBS)	contract work scope/federal directed scope documents	FF01_(WBS)_[C]_WBS FF01_(WBS)_[D]_title FF01_(WBS)_[E]_level FF01_(WBS)_[G]_WBS_type FF01_(WBS)_[J]_WBS_narrative	
13. Assumptions			
FF01_(WBS) identifies all WBS identifiers in the WBS dictionary. Reference DOE WBS handbook for guidance.			
14. Instructions			
<u>Determine Y items based on the following.</u>			
Count FF01_(WBS)_[C]_WBS items and, if identified, with the following characteristics.			
	• FF01_(WBS)_[D]_title <listing>		qualifier other 1
	• FF01_(WBS)_[J]_WBS_narrative <listing>		other 2
	• FF01_(WBS)_[E]_level <listing>		other 3
	• FF01_(WBS)_[G]_WBS_type <listing>		other 4
<u>Determine X items, a subset of Y, based on the following.</u>			
Manually count flagged items based on the following operation(s).			
	• 1. Products and deliverables listed in the contract work scope/federal directed scope documents are not identified in the WBS dictionary.		operation X
	2. Product-oriented groupings of project scope elements in the WBS dictionary are not organized and subdivided to the total work scope as defined in the contract work scope/federal directed scope documents.		qualifier
	3. The WBS dictionary does not define the products and deliverables to be developed or produced.		
	4. The WBS dictionary does not relate elements of work to be accomplished to each other and the overall end product.		
<u>Determine if X or X/Y exceeds the threshold.</u>			
15. Reference(s)			



PARS Process Flow



- Contractor
- Federal Project Director – Local/On-site Federal Team
- Federal Program Manager
- PM-20 (Independent Analysis for Performance on Projects over \$50 Million)
- PM-30 (Data Analytics, EVMS Compliance)
- Senior Leadership – Track Projects and status
- External Stakeholders – GAO, OMB, Congress



PARS Process Flow

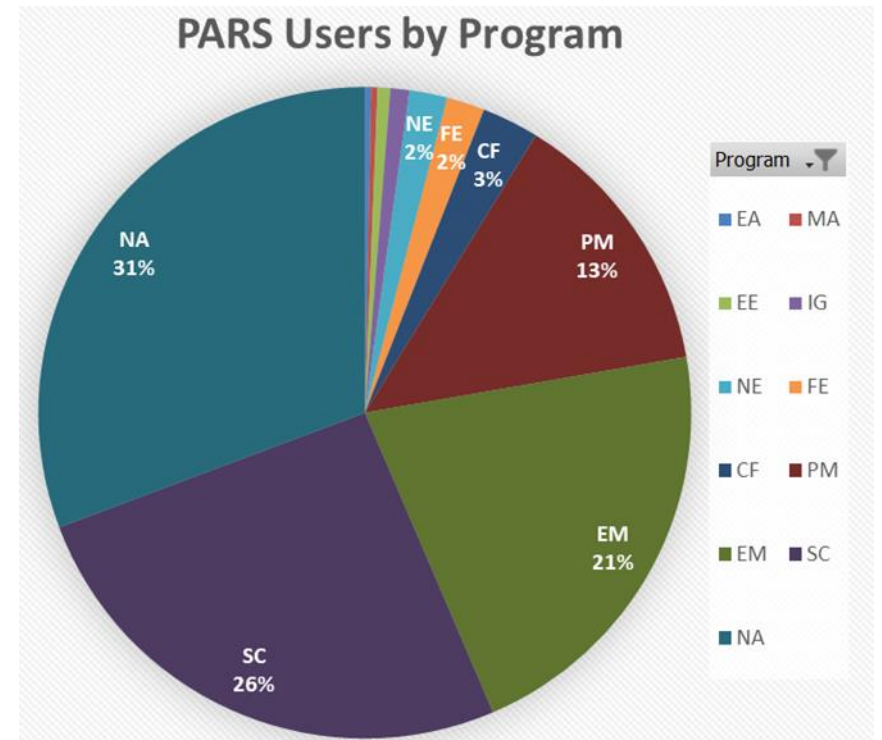


- OTB/OTS
- Replanning
- De-Scope
- Cancel Project (Hard to do)
- *Leveraging PARS for Ongoing Maturity Evaluation*
- Work to catch issues early and correct before they become major project challenges – catch when less costly to correct...



PARS – Support

- Current user base ... 319 users with an active account
 - 262 users support offices within DOE programs: NA, EM, SC, EE, FE, NE, and OE
 - 57 users support offices within HQ and oversight: PM, CF, GAO, AU, IG, MA, and EA
- Training ...
 - Basic Course (Learning Nucleus ID: 83618)
 - 6 hours in one-hour sessions; on demand e-learning
 - Advanced Course (Learning Nucleus ID: 83619)
 - 12 hours in eight sessions; on demand e-learning
 - Recommended that user should take the EVMS 24/7 course in addition to the PARS basic training course or have equivalent training before taking the Advanced Course





413.3 Directive and Guides

- **Updates In Progress**

- DOE O 413.3B Chg 7 (expect release 12/2022)
- DOE G 413.3-20, Change Control Management (expect release 3/2023)
- DOE G 413.3-12, Front-End Planning & Project Definition Rating Index (PDRI) (expect release 12/2022)
- DOE G 413.3-4B, Technology Readiness Assessments (expect release 3/2023)
- DOE G 413.3-2X, Project Management Funding (**New Guide**) (expect release 3/2023)
- DOE G 413.3-2X, Project Scope (**New Guide**) (expect release 3/2023)

- **Other Planned Updates**

- DOE G 413.3-21B, Cost Estimating Guide (comprehensive update 2023)
- DOE G 413.3-7B, Risk Management (comprehensive update 2023)
- DOE G 413.3-5B, Performance Baseline (comprehensive update 2023)
- DOE G 413.3-6C, High Performance Sustainable Building (comprehensive update 2023)

[Directives | Department of Energy](#) or <https://www.energy.gov/projectmanagement/directives>



DOE O 413.3B – Program and Project Management for the Acquisition of Capital Assets

DOE O 413.3B Change 7:

- PM has proposed to follow the Fast Track revision path as defined in DOE Order 251.ID. Preparing draft for PM leadership review. Draft submittal for DRB review by end of September 2022.
- **Purpose**
 - Update requirements for corrective action plans tied to root cause analyses when a project's performance baseline is breached as noted in the August 18, 2022, memo.
 - Update the thresholds for construction design and minor construction for general plant projects.
 - Incorporate sustainability design requirements noted in an April 5, 2022, memo from the Deputy Secretary on Climate Adaptation, Resilience and Sustainability in Project Management
 - Incorporate requirements defined in the Deputy Secretary memo of September 18, 2020, which directed that project management lessons learned be entered into the OPEX-SHARE repository, and for collection of any lessons learned following each annual project peer review.



Update – DOE G 413.3-20, Change Control Management

- First draft submittal to DRB for approval beginning of October 2022. Expect to publish in Q1 2023.
- Purpose
 - Best practices for root-cause analysis in the event of performance baseline breach as required by O 413.3B. Root Cause Analysis for Performance Baseline deviations integrated.
 - OTB/OTS section reflecting additions contained within DOD's OTB/OTS Handbook and Over Target Baseline/Over Target Schedule Policy Office of Environmental Management.
- Collaborative development
 - IPT members include NA, SC, EM, and MA.



Update – DOE G 413.3-12, Front-End Planning & Project Definition Rating Index (PDRI)

- Comment resolution submittal to DRB by end of September 2022. Expect to publish by end of year 2022.
- **Purpose**
 - Assists individuals and teams involved in conducting assessments of project definition (i.e., how well has front-end planning (FEP) been conducted to define the project scope) using commercially available, numerical project management tools developed by the Construction Industry Institute (CII) and those added by DOE Programs.
 - Aids fulfillment of the requirement in DOE Order (O) 413.3B Change 6 Appendix A – 4. Section c. CD-2, Approve Performance Baseline which requires that the Federal Project Director, prior to CD-2, “conduct a Project Definition Rating Index (PDRI) Analysis, as appropriate, for projects with a TPC \geq \$100M.



Update - DOE G 413.3-4B, Technology Readiness Assessment

- First draft complete with internal review initiated. Expect to publish in Q1 2023.
- **Purpose**
 - Update streamline content on how a project can most efficiently and effectively complete the technology readiness assessments (TRA) and associated planning and analysis required by the Department of Energy (DOE) Order 413.3B. The guide also incorporates GAO-20-48G (January 2020) 29 best practices for evaluating the readiness of technology.



New - DOE G 413.3-2X, Project Management Funding

- First draft complete with internal review initiated for IPT recommendations. Expect to publish in Q1 2023.
- Purpose
 - Provides best practices for project funding profiles and integration with annual project data sheet.
 - Incorporate content in Chapter 6 of DOE Guide 430.1-1, Cost Estimating, related to categorizing planned project expenditures thereby allowing the Department to cancel DOE Guide 430.1-1. The latter content review will likely lead to an additional section on operations funding as applied to capital asset projects.



New - DOE 413.3-2X, Project Scope

- **The Scope Guide will be a new DOE 413.3-series guide (DOE G 413.3-2X)**
- First draft submittal to DRB for approval into RevCom early October 2022. Expect to publish in Q1 2023.
- Structure and flow of the Guide will align with DOE O 413.3B requirements and the project lifecycle (CD-0 through CD-4)
 - Identify/Analyze/Organize/Refine Project Requirements
 - Baseline Development and Work Breakdown Structure
 - Controlling Scope in Project Execution
- Guide will replace the Statement of Work (SOW) and Key Performance Parameter's (KPP) Handbook (2014) and the WBS Handbook (2012), both published by the Office of Project Management (PM).
- Collaborative development
 - IPT members include PM, NA, SRS, NE, EM, MA, CF, NA-MB, and SC. Additional collaboration with PM, EFCOG.



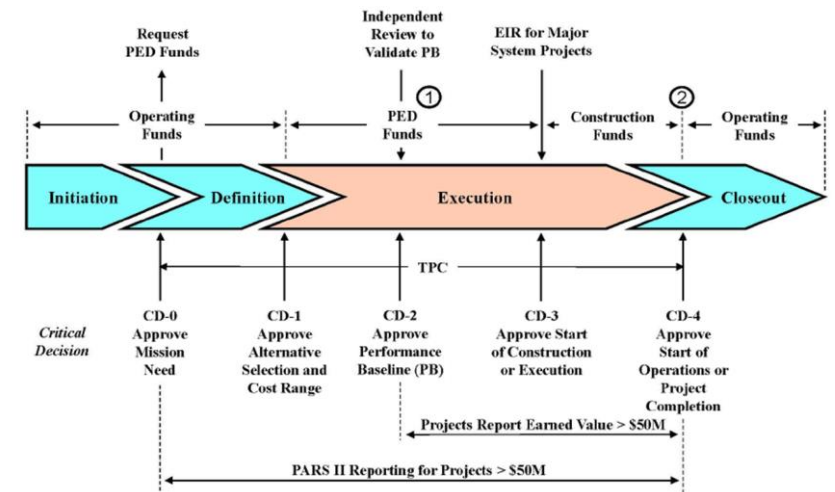
Update DOE G 413.3-5A, Performance Baseline Guide

- **Key update planned for Fiscal Year 2023**
- **Purpose** - This guide identifies key Performance Baseline (PB) elements, development processes, and practices; describes the context in which DOE PB development occurs; and suggests ways of addressing the critical elements in PB development.
 - Will tie the new and updated guides emphasizing integrated Project Management processes in overarching development/management of PB.
 - Will adapt a new frame of reference for PB development based upon IP2M – METRR research which reveals the most influential element of project success is effective overall program and project management culture and environment.



New - DOE Office of Project Management (PM) Integrated Review Schedule Analysis (IRSA) Standard Operating Procedure (SOP)

- **The IRSA SOP is newly developed and deployed.**
 - Serves as a primary (schedule analysis) reference, collating resources and detailing schedule analysis procedures internal to PM.
 - Complements other DOE guidance by detailing how PM implements DOE O 413.3B requirements
 - Clarification/Standardization for routine review activities include:
 - Use quantitative and qualitative analysis for schedule assessment in sufficiency reviews.
 - Consistently capture schedule assessments with a **“*schedule notebook*”**.
 - Utilize ACEI Schedule Classifications per Recommended Practice (RP) 27R-03, Schedule Classification System.
 - Integrate evaluation methodology:
 - meet GAO Schedule Assessment Guide Best Practices (GAO-16-89G) and EIA-748 assessed through maturity metrics (per the DOE PM EVMS Compliance Review Standard Operation Procedure (ECRSOP) Appendix A.





Integrated Master Schedule (IMS)

- **EFCOG Project Controls Working Group 4 current effort**
 - Project / Subproject setup and IMS organization (inclusive of scope, WBS and PARS upload)
- **High Total Float**
 - Limit or Manage?
- **Discrete Activities masquerading as Other Than**
 - LOE
 - Indirect
 - SVT
 - ZBA



High Total Float (HTF)

- **Identified, documented, reported, managed**
- **Routine schedule walkdowns**
- **Ties to risk management**
 - Integration across all project management processes should lead to avoidable planning, scheduling, and budgeting issues caused when there is a divergence in the planned progression
- **Documented justifications**
 - Provide examples as to what constitutes acceptable justification
 - Address why added activities are not reasonable or of value
- **Self-governance role**
- **Alternate metrics and controls to verify the process is still in control and risk is managed**
 - Demonstrate the activities with total float more than the threshold are being managed and not overlooked



Discrete Activities as Other Than

- **Conflicts between Certified Business Systems**
 - CAS Disclosure Statement (Accounting/Indirect) and EVMS Compliance with EIA-748
- **Majority LOE minimizes EVMS value proposition**
- **Cost and Schedule Disintegration**
- **Non-Credible PMB and EACs**
- **Limits management understanding of issues/risks and ability to make informed decisions**
- **REMEDY:**
 1. Discrete
 2. Discrete
 3. Discrete
- **Or are there other optimal compliance options to define?**



Integrated Baseline Reviews (IBR)

- **Facilitated IBR Process**

- Not a compliance review
- Thorough PMB evaluation
- Verify technical content and realism of performance budgets, resources, and schedules
- Provide mutual understanding of inherent risks in PMB, management control systems, and plan to handle risks.
- Confirm EVMS used to organize, plan, schedule, budget, manage, control
- Determine if additional issuance (guide/SOP) is needed



Locations of Items

- <https://www.energy.gov/projectmanagement/ecrsop-appendices-materials>

Earned Value Management

Office of Project Management

Office of Project Management » Services » Earned Value Management

ABOUT EVM

Earned Value Management (EVM) is a systematic approach to the integration and measurement of cost, schedule, and technical (scope) accomplishments on a project or task. It provides both the government and contractors the ability to examine detailed schedule information, critical program and technical milestones, and cost data.

- Integrates scope, cost, and schedule, with risk management
- Allows objective assessment and quantification of current project performance
- Helps predict future performance based on trends

EVMS RESOURCES

- [EVMS Implementation Guidance](#)
- [EVM SMEs](#)
- [EVM Training](#)
- [IP2M METRR \(ASU EVMS Study\)](#)

Materials to support the EVMS Compliance Review Standard Operating Procedure (ECRSOP)

Appendix A: EVMS Compliance Assessment Guidance

ATTACHMENT	FILE TYPE	REVISION DATE	DESCRIPTION
Compliance Assessment Governance (CAG)	PDF	6/1/2022	The PM CAG provides the information needed to better understand the principles and elements of the Electronic Industries Alliance (EIA)-748 EVMS standard. It conforms to the Integrated Program Project Management (IP2M) Maturity and Environment Total Risk Rating (METRR) stemming from the Arizona State University study which identified and assessed a spectrum of EVMS operating environment and implementation maturity factors.
Compliance Reference Crosswalk (CRC)	XLSX	7/12/2022	The EVMS Compliance Reference Crosswalk (CRC) Excel file is used to document the review of the contractor's EVM system description and supporting procedures under configuration control.
Metric Crosswalk*	ZIP	1/24/2022	This ZIP file contains a comparison breakdown of all the differences between the metrics version 3.0 and 4.0. Each Metric Specification sheet shows the versions side by side and comments the changes.
Metric List	PDF	1/21/2022	This file contains the entire listing of all DOE EVMS Metrics organized by Process Area and Attribute.
Metric Specification	PDF	1/21/2022	This file contains all of the DOE EVMS Metric specifications.
Metric Specification Legend	PDF	1/21/2022	This file is the legend for all metric specification sheets. It explains what each block on the sheets contain for easy reference.

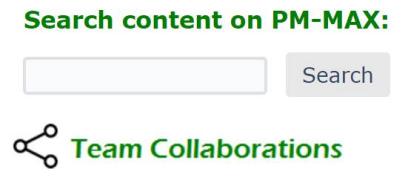
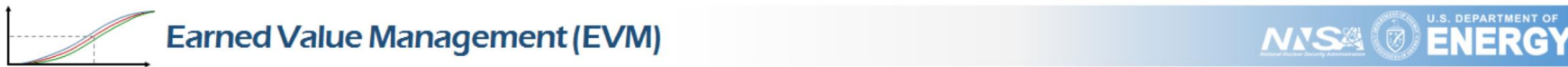
*Due to file size, please contact your DOE PM-30 analyst to get a copy of this document.

Appendix D: EVMS Compliance Review Team Toolkit

ATTACHMENT	FILE TYPE	REVISION DATE	DESCRIPTION



Locations of Items



- PM Max = <https://community.max.gov/x/poptQw>
- Energy.gov = <https://www.energy.gov/projectmanagement/earned-value-management>
- PARS = <https://pars.doe.gov>
- IP2M METRR = <http://ip2m.pars.doe.gov>



Closing Thoughts...

- **Continued Integration of the IP2M METRR**
- **Recovery Plans**
- **April 2023 Project Management Workshop**

“In 2023, DOE will continue to work collaboratively and collectively while traveling off the beaten path as we rethink how to implement and view an EVMS that will benefit everyone.”

