



U.S. Department of Energy

Project Management (PM) Governance, Systems and Training

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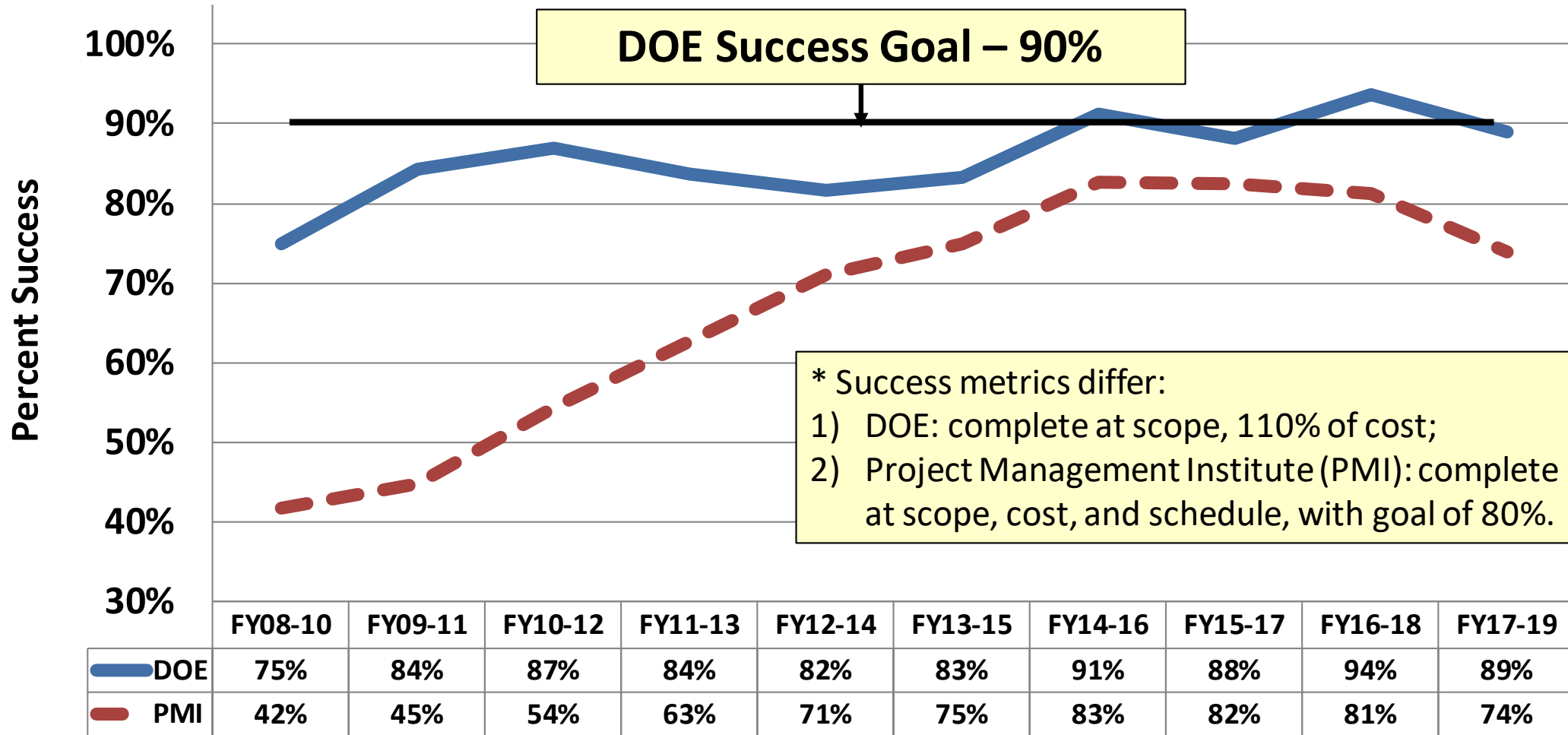
DOE Capital Asset Projects – Enable Mission “Set the Stage”

- Capital Assets: “Land, structures, equipment and intellectual property ... [with] an estimated useful life of two years or more ... include[s] the environmental remediation of land to make it useful.” (DOE Order 413.3B definition; OMB Circular A-11 refers.)
- DOE Order 413.3B, “Program and Project Management for the Acquisition of Capital Assets”:
 - **Applies ONLY to construction projects, major items of equipment (MIE’s) and (currently) environmental cleanup projects – Over \$50 (M) Million Dollars**
 - Does not apply to IT projects, weapons life extension projects (LEP’s), financial assistance projects (Cooperative Agreements and Grants), and other capital assets
- DOE (‘413) Project Portfolio: About (112) Projects, Valued at about \$120 (B) billion
 - (22) Major System Projects, valued at about \$99B; (6) in execution, valued at about \$28B
 - Current “Recorded” Environmental Cleanup Project Portfolio: Estimated at about \$13B (of \$53B)
 - (36) Active Projects, in execution, valued at about \$32B; EM portion, (13) projects at about \$22B
- DOE (Nominal) Annual Budget \$35B; Annual Line-Item Construction Budget - \$3.2B



Project Mgmt Success Metrics* -- DOE vs. PMI

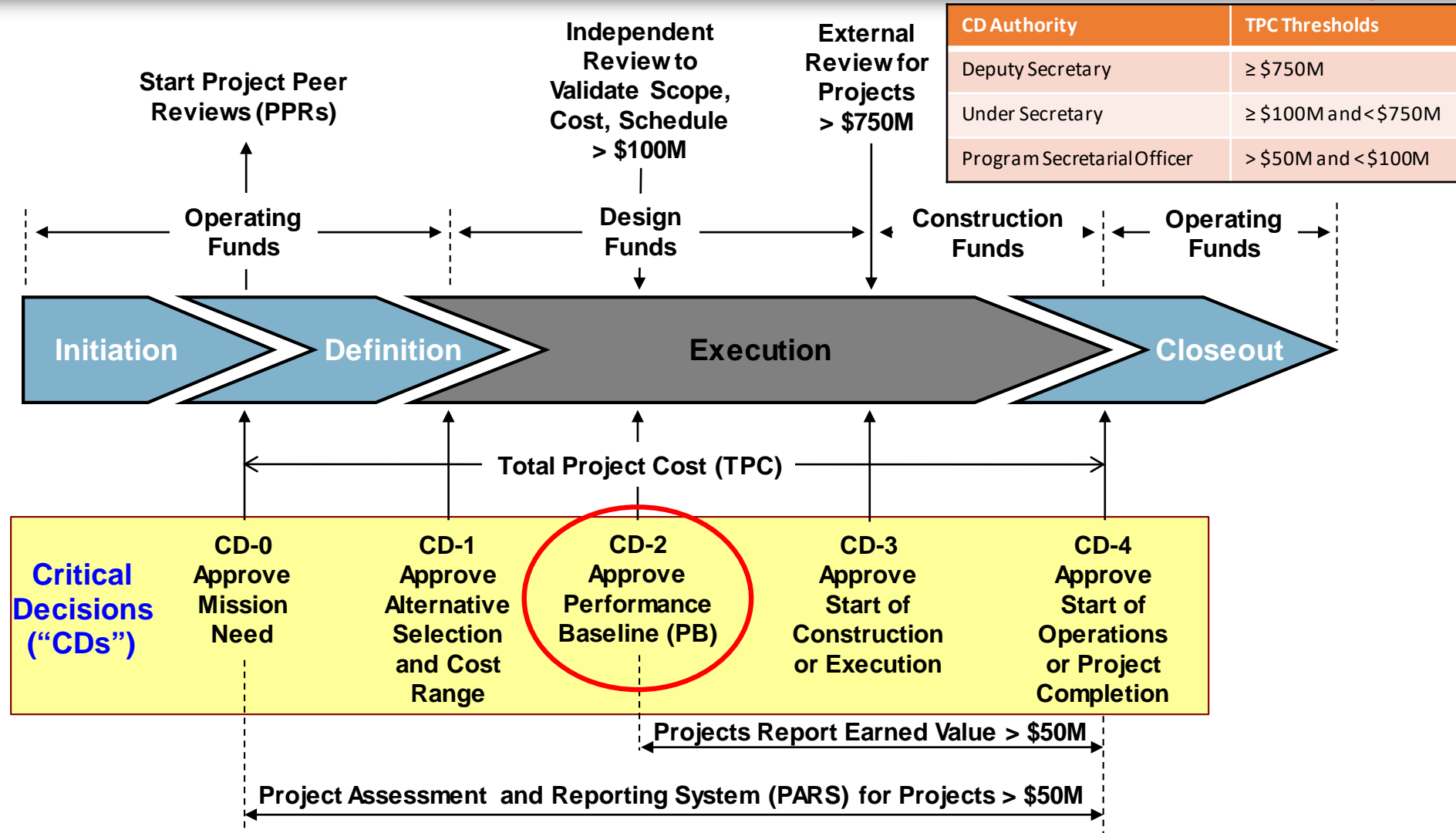
“Construction” Projects (Based on 3-year Rolling Timeline)





DOE Project Management Process (DOE O 413.3B)

“Authorize Work” – Delegable



Note: For projects greater than \$100M: Independent Cost Estimate (ICE) or an Independent Cost Review (ICR) is required at CD-1, as appropriate; an ICE is required, by statute, at CD-2 and CD-3.



Project Management Governance

Order, Guides & SOPs

DOE Order 413.3B: Program and Project Management for the Acquisition of Capital Assets

4/12/2018

DOE O 413.3B

413 Series Guides: (21 Guides)

1. Systems Engineering	10/22/2015	DOE G 413.3-1
2. Quality Assurance	10/22/2015	DOE G 413.3-2
3. Safeguards and Security	10/22/2015	DOE G 413.3-3A
4. Technology Readiness Assessment	10/22/2015	DOE G 413.3-4A
5. Performance Baseline	10/22/2015	DOE G 413.3-5A
6. Sustainability	04/05/2020	DOE G 413.3-6B
7. Risk Management	10/22/2015	DOE G 413.3-7A
8. Reviews	9/14/2018	DOE G 413.3-9A
9. Earned Value Management Systems	10/22/2015	DOE G 413.3-10A

Implement best practices within the DOE/NNSA operating environment



Project Management Governance

Order, Guides & SOPs (continued)

413 Series Guides (continued): (21 Guides)

10. Acquisition Strategy (AS)	10/22/2015	DOE G 413.3-13
11. Project Definition Rating Index (PDRI)	10/22/2015	DOE G 413.3-12
12. Project Execution Plans (PEP)	9/14/2018	DOE G 413.3-15A
13. Transition/Closeout	10/22/2015	DOE G 413.3-16A
14. Mission Need Statement (MNS)	10/22/2015	DOE G 413.3-17
15. Integrated Project Teams (IPT)	10/22/2015	DOE G 413.3-18A
16. Staffing	10/22/2015	DOE G 413.3-19
17. Change Control	10/22/2015	DOE G 413.3-20
18. Cost Estimating	6/6/2018	DOE G 413.3-21A
19. Analysis of Alternatives (AoA)	6/6/2018	DOE G 413.3-22
20. Nuclear Facilities Commissioning	8/30/2019	DOE G 413.3-23
21. Cost Estimating (Archived Guide, 430.1-1)	3/28/1997	DOE G 430.1-1

**Implement best practices within the DOE/NNSA
operating environment**



Project Management Governance Order, Guides & SOPs

PM Standard Operating Procedures: (10) SOP's

1. Energy Systems Acquisition Advisory Board (ESAAB)	7/1/2014	DOE-PM-SOP-01
2. External Independent Review (EIR)	11/1/2019	DOE-PM-SOP-02
3. Independent Cost Review and Estimate (ICR/ICE)	8/27/2018	DOE-PM-SOP-03
4. Earned Value Management System (EVMS) Compliance Review	11/28/2018	DOE-PM-SOP-04
5. Earned Value Management System (EVMS) and Project Analysis	1/14/2020	DOE-PM-SOP-05
6. Project Management Risk Committee (PMRC)	8/15/2018	DOE-PM-SOP-07
7. Project Peer Review (PPR)	5/2/2016	DOE-PM-SOP-08
8. Project Management Guide Format, Style, and Structure	9/25/2019	DOE-PM-SOP-14
9. Project Assessment and Reporting System Configuration Control	11/19/2018	DOE-PM-SOP-16
10. On-Hold Projects	3/11/2019	DOE-PM-SOP-17

**Ensure consistency and predictability across the
DOE/NNSA complex**



Project Management Risk Committee (PMRC) – Advancing PM Excellence

- Gateway to the Energy Systems Acquisition Advisory Board (ESAAB); PMRC chaired by political senior advisor to the Deputy Secretary (CE – Chief Executive for Project Management) – PM-1 Serves as Executive Secretariat.
- Provides DOE project management risk assessment and expert advice to the Secretary, Deputy Secretary (CE), ESAAB members and other Project Management Executives (PME's), and Programs, on cost, schedule and technical issues regarding capital asset projects with a (TPC) \geq \$750M, and on other high risk/high visibility projects, as needed.
- Project implementation and execution responsibility remains with the PME, project owner, program and Federal Project Director (FPD).

Membership: Leverage existing project management expertise from across the DOE/NNSA complex



Energy Systems Acquisition Advisory Board (ESAAB) -- Overseeing PM Excellence

- Advises the Deputy Secretary, as ESAAB Chair and Chief Executive for Project Management (CE), on DOE project management policy and issues, and assists the CE on each project Critical Decision (CD) milestone for Major System Projects with a Total Project Cost (TPC) \geq \$750M.
- Membership Includes: All Under Secretaries; CFO; GC-1; CIO; Executive Director, Loan Program Office; PMRC Chair; Senior Procurement Executive; PM-1 (Member and Executive Secretariat); Others (as needed).

Provides the Deputy Secretary, as ESAAB Chair and Chief Executive for Project Management (CE), with advice and a cross-functional perspective



Project Assessment and Reporting System (PARS) – Providing Monthly Project Status




- DOE System of Record: DOE's project management information system; central repository for project documentation and performance data; upgraded in 2010 to "up-load" data from contractors' systems
- All projects with estimated total project cost greater than \$50M report progress and provide documentation in accordance with DOE O 413.3B
 - At Critical Decision (CD)-0, Approve Mission Need: Start Narrative assessments/document upload
 - At CD-2, Approve Performance Baseline, to CD-4 (Completion): Start cost and schedule data reporting
- Active portfolio (April 2020): 112 projects / ~ \$120 Billion
 - Post CD-2 projects (active): ~ \$32.5 billion
 - 36 projects upload cost & schedule data from contractor's corporate systems each month
- June 2019 Update – Deployment of EMPOWER, a commercial off-the-shelf analysis and reporting tool to enable informed decision making – Advance forward using "Artificial Intelligence"
 - Monthly performance analysis focuses on (1) Data Validity, (2) Schedule Health, (3) Variance Analysis, (4) Trend Analysis, and (5) Forecasting
 - Includes DOE compliance metric tests and data quality indicators to help assess health of contractor EVMS and quality of data provided to government

Prior BCPs: 0		CE/PME	White, William	% Complete		TPC (\$M)	CD-4 Date
Safety Significant Confinement Ventilation System, Carlsbad		Project Owner	Sosson, Gregory	42.8%		Original	11/30/2022
		FPD	Farrell, Shayne S.			Current	11/30/2022
		Contractor	Nuclear Waste		Level 4	PM Forecast	11/30/2022
		PM Analyst	Petty, George		EVMS - Certified	Last Peer Review	03/01/2019
# months Yellow: 5	# times Yellow: 1						

Project Description		Program: EM		PARS ID: 1024	
The purpose of this project is to replace the Waste Isolation Pilot Plant's existing Underground Ventilation System (UVS) with a new a safety significant confinement ventilation system and associated exhaust shaft.					
Critical Decisions (CDs)					
	CD-0	CD-1	CD-2	CD-3	Last BCP
Approved	10/22/2014	12/23/2015	05/10/2018	05/10/2018	
TPC (\$M)	\$77-\$309	\$189-\$280	\$288.0	\$288.0	
CD-4	12/31/2018	03/31/2021	11/30/2022	11/30/2022	
DOE Performance Baseline Changes					
Approved					
TPC (\$M)					
CD-4					
Scope					

	Approved Budget (\$M)	Remaining Budget (\$M)	Estimate at Completion (\$M)	Comments
Performance Baseline (TPC)	\$288.0		\$288.0	
DOE Contingency (\$M / % Rem.)	\$9.8	\$8.4 85.5%		
DOE Other Direct Costs (ODC)	\$3.1	\$3.1		
Profit / Fee	\$7.4	\$7.4		
Performance Measurement Baseline	\$250.8	Current PMB \$257.5	Contractor EAC \$288.1	
Management Reserve (MR)	\$16.9	Remaining MR \$10.2		
		Planned Value	Earned Value	Actual Cost
Cumulative Earned Value (EV) Data		\$139.7	\$110.2	\$119.4

PM Assessment & Additional Comments

Scope	Green		Required project scope is expected to be completed to meet the project KPPs.
Schedule	Yellow		The IPT's forecasted CD-4, excluding schedule reserves and contingency, is April 2022. Given the performance to date, the considerable amount of work pending, and the remaining risks, the project is at risk of not being completed by the approved Critical Decision (CD)-4, Approve Project Completion, date of November 2022.
Cost	Yellow		Given the costs associated with the ongoing schedule delays and the uncertainty associated with the potential costs of the recently identified design and constructability issues, the project is at risk of exceeding its approved Total Project Cost (TPC) of \$288 million.

In response to the coronavirus pandemic, the site shifted operations to minimum mission-critical activities and maximum telework. Specific impacts will be assessed in future reporting once they are better understood and quantified.

This project is assessed YELLOW and is potentially at risk of not meeting elements of the approved Performance Baseline. The Staffing/resourcing and personnel turnover (both federal and contractor) have been ongoing challenges and are adversely impacting project performance. The previously detailed FPD departed in mid-January 2020. Another FPD has been detailed, however, he is not expected to be on-site until the summer due to current travel restrictions. The selection of a permanent FPD is expected to occur within the next one to two months. During the last several months, the project has experienced multiple delays and is now approximately one year behind schedule. There is also significant cost uncertainty associated with recently identified design and constructability issues; these issues are under review with the Integrated Project Team (IPT) assessment of the potential impact expected by early May 2020. A March 2019 Project Peer Review identified 18 issues that should be addressed to maximize the opportunity to successfully deliver the project; one item has been confirmed closed while the balance of items are still pending resolution. It is noted for this reporting period the contractor's Estimate at Completion (\$288.1M) exceeds the approved Total Project Cost (\$288M) and is under review. The site has contracted with the US Army Corps of Engineers to perform an independent Constructability Cost Review which will provide factual data for future assessments. Additionally, an Office of Project Management (PM)-led PPR was scheduled for late March 2020 to assess project performance, but has been postponed due to the coronavirus pandemic travel restrictions.

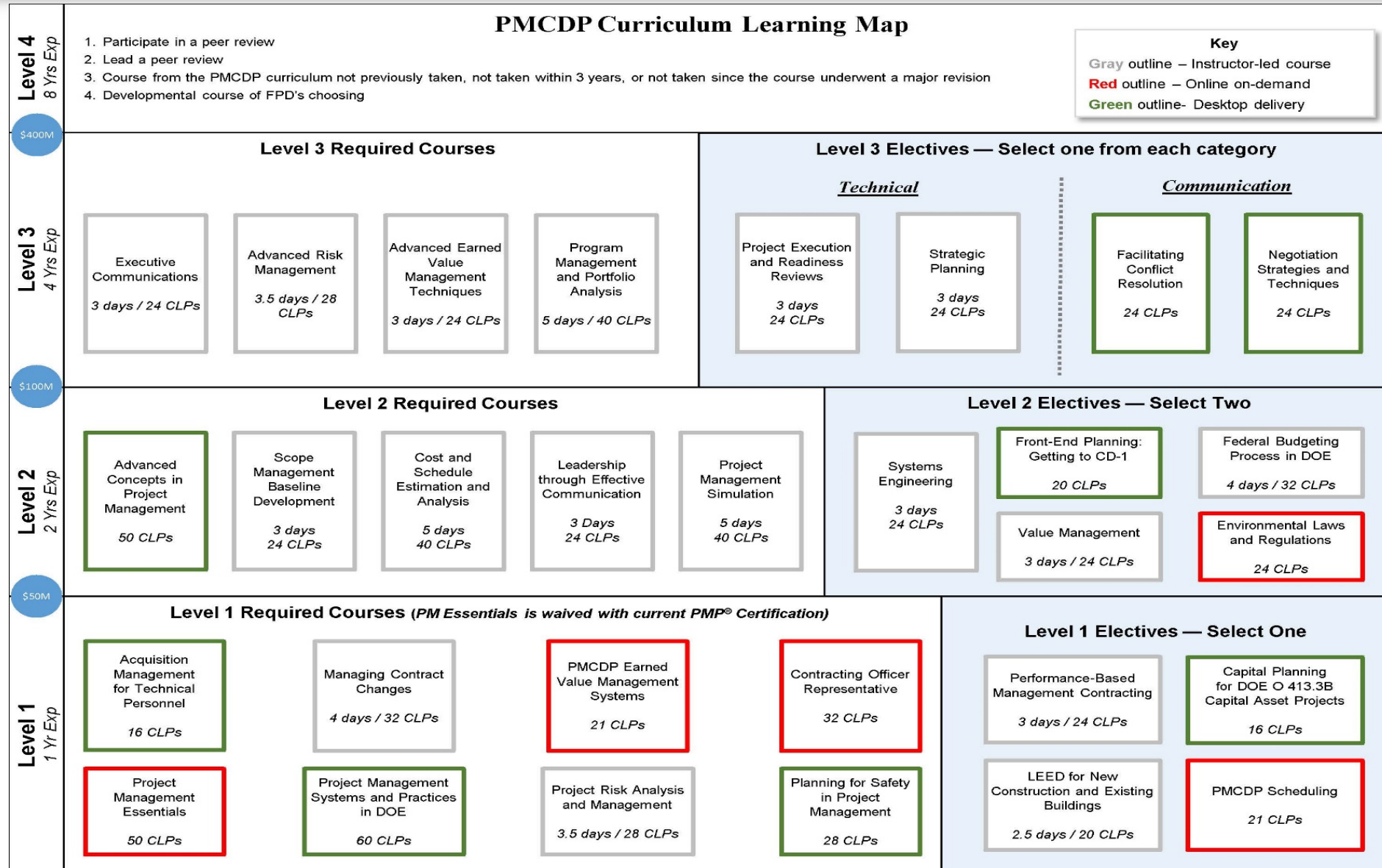


Earned Value Management System (EVMS) Project Control System – Monitor Plan vs. Actual

- PM establishes, maintains and executes the DOE EVMS Certification and Surveillance Review Program per Federal Acquisition Regulations (FAR) and OMB requirements
 - Generally Applicable on Cost Reimbursable Projects - > \$50M
 - PM certifies contractors' "systems" where projects > \$100M are to be executed
 - Focus is "on the money", and on risk and performance – Tiered Surveillance, HQ/Programs/Sites
- A compliant EVMS should provide all users confidence that the EVMS as implemented is an effective system where resultant schedule, cost, and technical performance data can be used for informed decision making
- Data should be: 1) Current, 2) Accurate, 3) Complete, 4) Repeatable, 5) Auditable
- PM is optimizing its oversight mission through the development of an automated, data driven EVMS compliance solution, working in collaborations with industry



Project Management Career Development Program (PMCDP) Training Federal Project Directors (FPD's): Curriculum Map





DOE Office of Project Management Websites of Interest (“as appropriate”)

- DOE Orders and Guides: <https://www.energy.gov/projectmanagement/directives>
- DOE Standard Operating Procedures (SOP’s): <https://community.max.gov/x/d5loRQ>
- DOE Office of Project Management Website, to include: (Limited Access)
 - Earned Value Management System Program: <https://community.max.gov/x/poptQw>
 - Project Management Career Development Program (PMCDP): <https://community.max.gov/x/eAV1Qw>
 - Energy Systems Acquisition Advisory Board (ESAAB): <https://community.max.gov/x/DIAUQQ>
 - Project Management Risk Committee (PMRC): <https://community.max.gov/x/kAIdQ>
 - PMCDP Certification Review Board (CRB): <https://community.max.gov/x/eollRg>
- EVMS Training Snippets: <https://www.energy.gov/projectmanagement/evms-training-snippets>

QUESTIONS?