



DOE PROJECT MANAGEMENT NEWS

Promoting Project Management Excellence

NOVEMBER 2020



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Director's Corner

In this month's newsletter, we discuss performance baseline (PB) deviations. While the Department has significantly improved its ability to successfully deliver capital asset projects over the past decade, the unexpected can still occur. One such example, the coronavirus pandemic and the resulting mitigation actions that impacted many of our projects, will result in some projects requiring additional resources, time and funding. Since the PB represents the Department's commitment to Congress and the American taxpayer, when a PB deviation occurs, the FPD needs to assess and understand the impacts. He/she should move rapidly to notify leadership. See the article on page 2 for some tips and insights in to how a PB deviation should be handled.

As mentioned in last month's newsletter, the Salt Waste Processing Facility (SWPF) received authority to operate (ATO) in August. On October 5, 2020, the facility

successfully commenced nuclear material operations (aka, "hot ops"), a significant achievement. For insight into the lessons learned delivering this \$2.3B hazardous category (HAZCAT) 2 nuclear facility, see the article on page 3. Speaking of lessons learned, in September of this year, the Deputy Secretary established a new process for the collection and sharing of project management lessons learned. Read more about this initiative in the article on page 5.

The Certification and Equivalency Guidelines (CEG) version 5 is now posted to both the PM-MAX website and to Project Management Career Development Program (PMCDP) page in Employee Self Service (ESS). Recent curriculum changes reflected in the CEG and a discussion on FAC-COR experience requirements can be found in the article on page 6.

We're rapidly approaching the mid-point of Fall. The mornings are brisk and the leaves are changing color. As Winston Churchill once said, "To improve is to change; to be perfect is to change often." Keep improving, keep changing, and...Be safe.

Keep charging!

Paul Bosco

Performance Baseline Deviations – A Primer

Joseph Grealish, Office of Project Analysis (PM-20)

During its initial decades of existence, the Department of Energy (DOE) suffered many cost overruns and schedule delays across its capital asset acquisition program. Over the past two decades, DOE made many improvements in its project management program and has, over the past ten years, achieved far greater successes in adhering to performance baselines (PB), i.e., achieving the desired performance outcomes within the approved budget and allotted schedule. However, with the onset of the 2020 coronavirus pandemic, and the various shelter-in-place and quarantine restrictions, many DOE project teams have found, or will soon find, they will not be able to achieve PB targets on cost, schedule, or scope. This article will define PB deviations and the various steps project teams and program offices need to take to notify DOE and congressional leaders of the issues, and the steps the project teams need to take to bring their projects back on track.



It is important to recognize a PB represents DOE's commitment to Congress (and taxpayers) on how it will spend appropriated funds and what benefits will derive from that expenditure. A PB deviation thus infers a need for the federal project director (FPD) to alert DOE leadership and Congress of a modification of this commitment. DOE Order 413.3B Chg 5, *Program and Project Management for the Acquisition of Capital Assets* (DOE O 413.3B), defines PB deviations as any instance in which an approved total project cost (TPC), scheduled completion date, or performance/scope parameter will not be met. Notably, this includes any reduction in the project's scope, or adjustment of a key performance parameter (KPP), in order to keep within TPC or scheduled completion timelines. PB deviations, no matter how seemingly small or trivial, can be construed as a departmental failure to keep its commitments. FPDs and project teams need to fully understand the gravity of the deviation, and move rapidly to notify leadership of the potential shortfalls.

The first step the FPD needs to take is to notify site leadership, the relevant project management support office (PMSO), project owner, and the Office of Project Management (PM) of the potential for a PB deviation. DOE O 413.3B also requires notification of the chief executive for project management (CE), typically the Deputy Secretary. The CE notification generally takes place with the submission of PM's monthly status report.

Once they've been made aware of the PB deviation, the program office must conduct an "independent and objective" root cause analysis (RCA). The RCA will determine the underlying contributing causes to the cost overrun, schedule delay, and/or technical shortcomings. While the knowledge, experience, and expertise of the project team are critical to the RCA's success, it is important the RCA is conducted by experts independent of the program or project to preserve impartiality. The RCA must contain recommendations for dealing with the root causes, and provide an achievable path towards project completion.

The RCA provides important information and context to the Project Management Executive (PME) during the next step, which is when the PME must decide whether to continue the project or terminate it. While this decision appears unnecessary ("Of course we must finish what we started!"), the PME must weigh the project's performance benefits (perhaps less than originally conceived) against the potential higher cost (perhaps "halt all activity" becomes the preferred alternative) and longer schedule (perhaps the delayed project delivery voids the expected benefit). While not as formal as a critical decision (CD)-1, *Approve Alternative Selection and Cost Range*, this decision closely parallels a CD-1 approval.

Once the PME decides that the project should proceed, the FPD and project team begin development of a baseline change proposal (BCP), which primarily entails a re-estimation of the work to go. A BCP requires a complete scope review, as some project technical objectives may no longer be achievable or the project team identifies new scope overlooked during the original baselining. A new cost estimate and project schedule are developed, making maximum use of the project's experiences, actual costs, and historical schedule performance to date. The project team will revise the project execution plan (PEP), which will describe the revised approach and funding requirements to bring the project to completion.

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After the project team develops the BCP, identifying any changes to scope, a new TPC, and a new CD-4, *Project Completion*, date, the BCP should be reviewed by the program office (generally through an independent project review (IPR)) and have PM conduct an independent cost review (ICR) or estimate (ICE) if the project's TPC is greater than \$100M. For projects less than \$100M TPC, the relevant PMSO may conduct the ICR or ICE. If the BCP is beneficial to the project, i.e., reduced cost, earlier completion date, or improved performance, neither the IPR nor the ICE/ICR are required. The program office will then present to the PME a thorough package of information (BCP documentation, IPR report, ICE/ICR report, updated PEP, and RCA) to aid in the decision process, typically conducted at an Project Management Risk Committee (PMRC) and Energy Systems Acquisition Advisory Board (ESAAB) for major systems Projects (TPC > \$750M), or ESAAB equivalent (ESAAB-e) for projects for projects with a TPC ≤ \$750M. Similar to how the decision to proceed or terminate the project parallels CD-1, this process parallels the CD-2, *Approve Performance Baseline*, and CD-3, *Approve Start of Construction*, steps. In some cases, the CE *must* be the BCP approval authority. If the TPC increases the lesser of \$100M or 50% over the original CD-2 amount, then the CE *must* be the approval authority.



Further, any technical change in scope and/or performance which affect the project's ability to satisfy the mission need must also receive CE approval. For BCPs below the CE authority, the Under Secretaries are the approval authority, though may delegate to the respective Program Secretarial Officers (PSOs). At no time can the approval authority be delegated below the PSO.

Receiving approval of a BCP is an enormous accomplishment and represents a positive outcome after a significant amount of effort across the enterprise. However, the work isn't over. Once the BCP receives approval, the project team must revise the Work Breakdown Structure (WBS) and Earned Value Management System (EVMS) records to reflect the new schedule, cost, and project scope. Only upon completing these final steps, can the project team move beyond this PB deviation process.

PB deviations and BCPs are rare events, and DOE's project management community can be proud of their track record to date. While not all PB deviations are necessarily negative, they do represent a significant workload for project teams, program offices, and DOE executives. As the coronavirus impacts come in to greater focus, this article and the DOE O 413.3B source material should provide the references you need to navigate your project successfully.

The Salt Waste Processing Facility — Lessons Learned from the Successful Construction and Commissioning of a Large Scale Nuclear Processing Facility

*Pamela Marks, SWPF Federal Project Director
Tony Ermovick, Office of Project Analysis (PM-30)*

The Salt Waste Processing Facility (SWPF) located at the Savannah River Site in Aiken, South Carolina received approval from Deputy Secretary Mark Menezes for critical decision (CD)-4 and authorization to operate on August 17, 2020. On October 5, 2020, the facility successfully commenced nuclear material operations (aka, "hot ops"). The SWPF will significantly increase processing rates for the Site's liquid waste system allowing accelerated closure of the remaining 43 waste tanks. By 2030, it is expected that nearly all of the salt waste inventory at the Savannah River Site (SRS) will be processed.



SWPF Facility

Since September 2002, Parsons has been the primary contractor to design, build and commission the SWPF.

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The current SWPF baseline CD-4 completion date of January 31, 2021, and total project cost (TPC) of \$2.3B were approved by then Deputy Secretary Dan Poneman in August 2014. SWPF “construction complete” was declared in April 2016 (8 months ahead of the renegotiated schedule and \$60M under budget) and accepted by DOE in May 2016. Testing and commissioning began immediately after construction was complete. The contractor operational readiness review (ORR) was conducted November 2019 and DOE performed its ORR in February 2020. The final DOE ORR report was received February 28, 2020. DOE and Parsons worked collaboratively to address the open items identified by the DOE ORR team. The SWPF Project was completed 5-½ months ahead of the baseline schedule and \$57M under the currently approved baseline budget.



Hot Cell Manipulators

The successful completion of this project culminates the exemplification of numerous lessons learned over the course of the project. As Pamela Marks, the SWPF Federal project director, noted, “The sharing of lessons learned between major line item projects within DOE was imperative to our success.” Several of the key lessons learned Ms. Marks identified from the SWPF project and which should be considered for similar projects include:

- A significant investment in technology development throughout the lifecycle of the SWPF project helped ensure SWPF will operate as designed. SWPF benefited from a technology center located in Aiken, SC, where major full-scale SWPF components were tested before being put into operation.
- The SWPF project benefitted from the operation of a pilot scale facility located at SRS that tested the same technology as that being deployed for SWPF. This pilot facility processed over 1M gallons of salt waste during its lifecycle providing invaluable lessons learned and technology exchange opportunities between the SRS Liquid Waste contractor and SWPF project team.

Promoting Project Management Excellence, November 2020



Alpha Finishing Facility

- As SWPF project team completed design and prepared for the transition to commissioning and testing, a rigorous construction turnover process was deployed. The project ensured no significant construction activities remained unresolved upon starting testing. This allowed the project team to focus solely on the testing process and not be distracted or deterred by lingering and incomplete construction issues.
- The SWPF project team implemented proactive approaches to testing and commissioning. This planning started almost 6 years before testing and commissioning were planned to start. The readiness staff was put in place, plans of action were written and approved, and the federal certification and verification process for certifying readiness for the ORRs was developed. This proactive planning provided the essential roadmap necessary for an effective testing and commissioning process and ensured all stakeholders were appropriately engaged.
- Rigorous risk planning and management was imperative to the success of the SWPF project. When the SWPF project team prepared its revised baseline for commissioning in 2014, the project team implemented a rigorous and detailed risk planning process and conducted its risk evaluation at the 95% confidence level. This rigorous planning ensured sufficient management reserve and contingency was available for successful completion of the project.

“Planning and executing with the end-state in mind through all project phases is a key lessons learned”, says Ms. Marks. “Our overarching goal is to deliver an operating facility that delivers the planned mission and nothing less.”

New PM Lessons Learned Database

Rob Stern, Office of Policy & Program Support (PM-50)

A new process to better learn from both good and bad project management experiences is being established based on the Deputy Secretary's recently signed memorandum (Memo) on project management lessons learned (EXEC-2019-006959, September 18, 2020; available in the [PM library](#) in PM-MAX) which directs the project management community to: (1) broaden the definition of lessons learned appearing in DOE Order 413.3B, *Program and Project Management for the Acquisition of Capital Assets*; (2) revise when and how collection of lessons learned occur; (3) centralize project management lessons learned storage; (4) identify and share lessons learned with Department-wide implications, as appropriate; and (5) assess the effectiveness of certain changes made to DOE directives.

The lessons learned definition in DOE Order 413.3B will be broadened to recognize both positive and negative events thereby aligning with DOE Order 210.2A, *DOE Corporate Operating Experience Program*: "A good work practice or innovative approach that is captured and shared to promote repeat application or an adverse work practice or experience that is captured and shared to prevent recurrence."

The Memo goes on to state "Individuals leading project peer reviews, or other reviews intended to meet the project peer review requirements in DOE Order 413.3B, will elicit lessons learned with potential Department-wide implications. Thereafter, they will enter elicited lessons learned into the lessons learned repository prior to completing their review reports. federal project directors (FPDs) will submit additional lessons learned recognized since the last project peer review within 90 days of their projects attaining critical decision (CD)-4, *Approve Start of Operations or Project Completion*."

The memo notes "All department employees and contractors may gain access to the lessons learned repository. The Office of Project Management will identify lessons learned with Department-wide implications and, in collaboration with those that submitted the lessons learned, propose policy changes so future projects benefit from those lessons. The lessons learned database will alert project management stakeholders, and others who elect to receive notices, of new lessons learned."




EXEC-2019-006959

The Deputy Secretary of Energy
Washington, DC 20585

September 18, 2020

MEMORANDUM FOR HEADS OF DEPARTMENTAL ELEMENTS

FROM: MARK W. MENEZES 
SUBJECT: Project Management Lessons Learned

This memorandum on project management lessons learned applies to capital asset projects subject to Department of Energy (Department or DOE) Order 413.3B with an anticipated or baselined total project cost of \$100 million or more.

The Department has long valued collecting and sharing lessons learned from planning and executing capital asset projects. The Department can improve its collection and sharing of project management lessons learned by:

- (1) Broadening the definition of lessons learned appearing in DOE Order 413.3B, *Program and Project Management for the Acquisition of Capital Assets*;
- (2) Revising when and how collection of lessons learned occurs;
- (3) Centralizing project management lessons learned storage;
- (4) Identifying and sharing lessons learned with Department-wide implications, as appropriate; and
- (5) Assessing the effectiveness of certain changes made to DOE directives.

Projects gain lessons learned from negative events and outcomes and also from positive approaches. For that reason, the current definition for a lesson learned in DOE Order 413.3B will be updated to align with the definition in DOE Order 210.2A, *DOE Corporate Operating Experience Program*: "A good work practice or innovative approach that is captured and shared to promote repeat application or an adverse work practice or experience that is captured and shared to prevent recurrence."

Individuals leading project peer reviews, or other reviews intended to meet the project peer review requirements in DOE Order 413.3B, will elicit lessons learned with potential Department-wide implications. Thereafter, they will enter elicited lessons learned into the lessons learned repository prior to completing their review reports. Federal Project Directors (FPDs) will submit additional lessons learned recognized since the last project peer review within 90 days of their projects attaining Critical Decision (CD)-4, *Approve Start of Operations or Project Completion*. Use of an Office of Project Management template will simplify both the recording and reviewing of those lessons learned.

In November 2020, the Office of Management will start to establish the OPEX Share program in the Office of Environment, Health, Safety and Security lessons learned database as the formal repository for project management lessons learned. Once complete, the lessons learned link in PARS will forward users to this site. Please visit the [DOE Corporate Lessons Learned Database](#) homepage for the simple process to obtain access.

If you have more questions regarding the secretarial memo please contact Rob Stern in PM's Office of Policy (PM-50) robert.stern@hq.doe.gov. Any questions regarding the DOE corporate lessons learned database should be directed to Ross Natoli of the Office of Environment, Safety and Health Reporting and Analysis (AU-23) at ross.natoli@hq.doe.gov.

CEG Version 5 and FPD Application Updates

Linda Ott, Professional Development Division (PM-40)

The Certification and Equivalency Guidelines (CEG) version 5 is now posted to both the PM-MAX site and to the Project Management Career Development Program (PMCDP) page in Employee Self Service (ESS). The Federal Project Director (FPD) application has seen changes and will be updated further to align with the Federal Acquisition Certification (FAC) for Contracting Officer Representative (COR) requirements in CEG version 5. This article outlines the changes to the PMCDP curriculum and clarifications to the FAC-COR experience requirements for FPDs.

Curriculum Changes

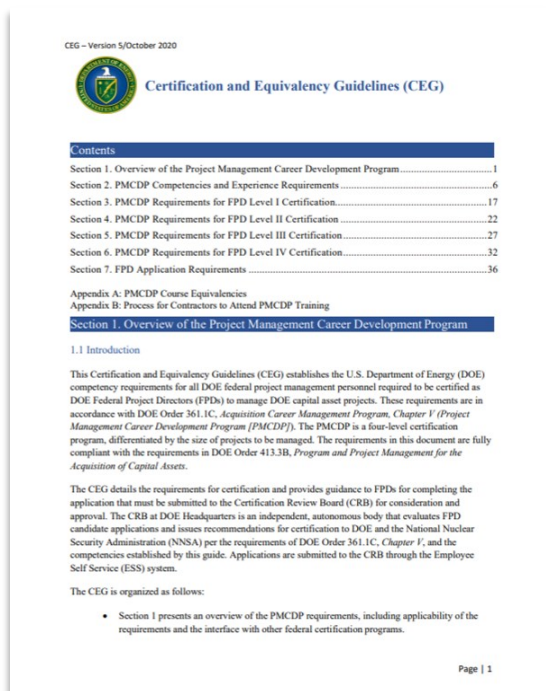
Version 5 of the CEG includes two significant changes to the curriculum. The PMCDP courses *Advanced Concepts in Project Management* and the elective *Project Execution and Operational Readiness Review* have been retired from the curriculum and will no longer be offered. The competencies associated with these two courses are now mapped to the required Level 2 *Monitoring and Controlling during Project Execution* and *Front-End Planning* courses, and to the *CD-4 Project Closeout* course, a new course that will be developed and piloted later this year. If you have already completed either or both of the two retired courses, you will get credit for these courses by entering the completion information as equivalent training on the FPD application.

The FPD application in ESS PMCDP has seen changes as well. The autofill element of the application is improved. When an FPD's application pulls the training history from the Learning Nucleus (LN), the application will now show all of the competencies that have not been fulfilled by completing PMCDP courses. This will make it easier for the candidate to document how any unfilled competencies have been met either through experience or other training. FAC-COR changes required clarification to the experience requirements in the FPD application. The FAC-COR experience requirements in the FPD application will appear in the ESS November scheduled software release. In the meantime, if you are working on your FPD application, enter the FAC-COR experience discussed in this article.

Experience requirements related to FAC-COR

Contract management is a key competency for an FPD to be successful. The FPD assigned to lead a capital asset project is the Department of Energy (DOE) primary contact with the contractor executing the work. To be eligible for the Level I FPD certification, candidates must successfully complete at least three contract management courses. To advance beyond FPD Level I certification and be eligible to manage larger capital asset projects, an FPD candidate must have contract management experience. Version 5 of the CEG has been updated to make explicit the documentation that is required in the FPD application process to demonstrate this contracting experience.

As specified in the Acquisition Certification Program (ACP) Handbook, FAC-COR certification is required for anyone delegated COR duties by the contracting officer (CO). The October edition of Project Management News summarized the FAC-COR memorandum issued by the Office of Management and Budget (OMB) in September 2011 that established three FAC-COR levels and that COR experience includes Contracting Officer Representative, Technical Contract Monitor (TCM) and Contracting Officer Technical Representative (COTR) duties when delegated by the Contracting Officer. Chapter 5 of the ACP Handbook, recently updated to Version 8.3 on October 1, 2020, outlines the requirements for FAC-COR and establishes reciprocity between the FPD and FAC-COR certifications. As described in the ACP Handbook, an FPD level I is eligible for level 2 FAC-COR, an FPD level II is eligible for level 2 FAC-COR and FPD levels III and IV are eligible for level 3 FAC-COR.



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To demonstrate contract management experience, an FPD candidate must have been given formal delegation of COR duties by the CO. This delegation must be documented in an appointment letter signed by the CO and the FPD. A candidate seeking level I FPD certification is eligible for level 2 FAC-COR and must provide an appointment letter from the CO stating that the candidate has been assigned the duties of a COR, TCM, or COTR. A copy of the appointment letter must be uploaded to the PM-MAX folder with the rest of the FPD application information. After the candidate receives FPD level I certification, he or she is now eligible for level 2

FAC-COR per the reciprocity agreement laid out in the ACP Handbook and should apply for the level 2 FAC-COR certification in FAITAS. As an FPD advances in his or her career, documentation of COR experience is required. To obtain an FPD level II certification, a candidate must have one year of experience as a COR, TCM, or COTR as documented by a level 2 FAC-COR certificate. For level III FPD, a candidate needs to document the two years of contracting experience requirement in the CEG with a level 3 FAC-COR certificate. The certificate must be uploaded to the PM-MAX folder with the rest of the FPD application information.



PMCDP FY20 Training Schedule

The training schedule is posted on PM MAX. Save the direct link to the Project Management Career Development Program PMCDP Training Schedule to your favorites: <https://community.max.gov/x/BgZcQw>

PMCDP is looking at a different and better training schedule for FY2021. In March 2020, PMCDP quickly shifted all courses to virtual delivery in response to COVID-19. Guiding the training schedule and delivery of classes in FY 2021 are the following:

- Understanding it is difficult to predict when air travel and gathering in groups of more than ten will be considered safe, PMCDP will continue to design and develop courses to support the DOE dispersed program and project management workforce.
- Every new and converted course will be delivered online (self-paced), or via an instructor-led distance learning format.
- Course materials, the learning equipment, the visual aids, the audience engagement, and even the time zones will be given careful consideration. For example, audience engagement will go far beyond polling questions and asking participants to agree or disagree by a show of hands (raise your hand icon).
- The courses delivered in webinar format will leverage subject matter experts and master practitioners who will parachute into the delivery to lecture and offer expert knowledge and experience about topics. You can look for this concept to be piloted in the updated Advanced Risk Management course.

Class Name	LN Code	Days	CLPs	Dates	Delivery Method
FY21/Q1					
Value Management	001037	4	24	November 2-5, 2020 10:30-4:30 daily	Daily/Webinar Adobe Connect
Managing Performance Based Contracts	001951	3	24	November 17-19, 2020 10:30-4:30 daily	Daily/Webinar Adobe Connect
Front End Planning	003176		20	Dec 1-17, 2020 Tuesday/Thurs 2-4pm (3 weeks)	Desktop Adobe Connect

Find up-to-date information and resources anytime! PM axi

All PMCDP Course Descriptions and Course Materials can be found in the Course Catalog on PM-MAX. Save the direct link to your favorites: <https://community.max.gov/x/UAT3Rw>



Or download the Interactive Curriculum Map: <https://community.max.gov/x/sQd1Qw>

Have a question, found a bug or glitch in a PMCDP online course, or want to provide feedback? Submit your questions through PMCDPOnlineCourseSupport@hq.doe.gov.

Contact Us!

The Office of Project Management welcomes your comments on the Department's policies related to DOE Order 413.3B. Please send citations of errors, omissions, ambiguities, and contradictions to PMpolicy@hq.doe.gov. Propose improvements to policies at <https://hq.ideascale.com>.

If you have technical questions about PARS, such as how to reset your password, please contact the PARS Help Desk at PARS_Support@Hq.Doe.Gov. And as always, PARS documentation, Frequently Asked Questions (FAQs) and other helpful information can be found at <https://pars2oa.doe.gov/support/Shared%20Documents/Forms/AllItems.aspx>.

The current PARS reporting schedule is located in PM-MAX at the following link <https://community.max.gov/x/m4lIY>.

Need information to apply for FPD certification? The Certification and Equivalency Guidelines (CEG) can be found here <https://community.max.gov/x/IQd1Qw>.

Can't put your finger on a document or information you were told is available on PM-MAX? Looking for information on DOE Project Management? Submit your questions and queries to PMWebmaster@doe.gov. Check out the links below for information related to FPD Certification and Certification and Equivalency Guidelines.

To reach the Professional Development Division team:



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If you would like to contribute an article to the Newsletter or have feedback, contact the Editor at Linda.Ott@hq.doe.gov.

