



A monthly newsletter of the Energy Facility Contractors Group's Project Delivery Working Group

Issue 17

December 2020

A Year to Reflect

Greetings PDWG Team Members. This month's issue of the *Practitioner* finds us in the middle of the holiday season. The tricks and treats of October have come and gone and the turkeys of November have trotted off. As we head in to the December holidays and the New Year, we will have gained significant insight that most could not have imagined possible when 2020 started.

This time of year offers a great opportunity to reflect on where we have been and where we are headed. In the spirit of reflection, this issue provides a look back at our previous editions of the *Practitioner* and includes links to our back issues.

This edition also provides a look at the recently issued "Environmental Management (EM) Program Management Protocol" developed to better define the Department of Energy (DOE) Program Management processes.

Also included this month is a look at the December 2020 edition of the DOE Project Management Newsletter article titled "Authorization to Plan and Budget vs Authorization to Proceed Through the Critical Decision (CD) Gate Life-cycle Process (A Critical Insight into Budgets vs. Funds)," by author David Kester, Office of Project Controls (PM-30).

Happy holidays!

Year in Review

2020 marks the first full year of publication for *The Practitioner*, and there was a lot of information provided in the 11 editions prior to this one. In case you missed anything, or wanted to revisit a topic again, here are the summaries of each month's issue — click on the month to open a link to that particular newsletter. Enjoy this brief trip down memory lane!

January: This month included a look at when and how earned value tailoring and scalability could be applied, and an introduction to the people behind the science of behavior-based project management, and a look at what our industry could look like without regulation.

February: This month included part one of a two-part series on project management statistics, and a look at the role of the scheduler in behavior-based project management.

March: In this issue, we wrapped up the series on project management statistics.

April: In our first COVID-19-era issue, we shared an article from HRchitect about the planning stages of restarting a project.

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May: In this issue, we republished a DOE article titled, “Navigating, Communicating, and Managing Your Project During Uncertain Times,” and compared a computer to your brain in relation to data vs. decisions in behavior-based project management.

June: This month’s issue highlighted Minor Construction/General Plant Project pre-planning at it relates to the “CD Gate” process. We also shared what we learned about audit “independence” and related threats, and took a look at one of the worst construction failures in recent memory — the New Orleans Levee System during Hurricane Katrina.

July: In this month’s issue we provided an article titled “Estimate at Completion (EAC) — Reported Values” authored — By Dave Kester and Zac West, DOE Office of Project Controls (PM-30). We also featured an article from ActiveCollab.com to look at “Project Manager Roles and Responsibilities.” Finally, in the “It’s Not One World” feature section, we checked out a fatal communication tower collapse in Missouri that revealed failures in procedures and processes.

August: In this month’s issue we kicked off a series that revisited “Appendix C” of DOE 413.3B Chg 5 that covers important aspects of Program and Project Management for the Acquisition of Capital Assets. We also provided an introduction to behavior-based project planning, and examined five of history’s most notorious project failures.

September: This month’s *Practitioner* was all about change. We shared an article from PM Times on how to effectively communicate change in uncertain times. We also looked at some examples of major business failures that occurred due to lack of change.

October: In this edition, we looked at the future of how earned value maturity and its environmental factors may be rated. This “study” kicked off in May 2019, and is currently on track for process “training” to begin in September 2021. We also revisited the Concorde supersonic jet crash from a couple decades ago and learned how a series of poor decisions led to the disaster.

November: A month ago, we highlighted the Department of Energy Guidance available to DOE contractors and industry. The “Guidance” menu provided in this DOE Guidance link is extensive and very helpful in understanding DOE’s expectations in each of the areas represented. We also looked at eight considerations for implementing Deltek Cobra as an EVMS tool, and we learned of a “good news” safety story from overseas.

We truly hope that the *Practitioner* has been not only a valuable resource for learning new or updated information related to project management in the DOE arena, but also helpful in gaining knowledge of project management in general.

We are always open to comments and ideas about the content of this newsletter, so if you have suggestions or would like to contribute an article, feel free to contact any of the *Practitioner* staff listed in the panel at left. We’d love to hear from you!

The PRACTITIONER

Published monthly for the
EFCOG’s Project Delivery
Working Group by:

Craig Hewitt

(writer/editor)

(509) 308-2277

Craig_T_Hewitt@rl.gov

Adam Russell

(writer/publisher)

(509) 376-5742

Adam_Russell@rl.gov

Tony Spillman

(managing editor)

(509) 372-9986

Anthony_W_Spillman@rl.gov

For questions, comments,
story ideas or other
correspondence, call or e-
mail Craig Hewitt at the
contact information above



Environmental Management (EM) Program Management Protocol

In November of 2020, William I. White, Senior Advisor for Environmental Management (EM) to the Under Secretary for Science, issued a “Memorandum for Distribution” regarding the “Issuance of the Environmental Management Program Management Protocol.” The memo informs us that a draft of this document was reviewed by the “Field” in October of 2020, then discussed at the EM Corporate Board Meeting in late October. Mr. White goes on to share that there will be supplemental guidance documents to this “Protocol” provided in the coming months.

The guidance is intended to aid sites in areas such as development of the Federal Site Lifecycles Estimates as the Protocol requirements are fully implemented by the end of the next calendar year. The memo goes on to inform the sites that the process to align resources to support the implementation can begin now. The memo request Sites to “Please plan on presenting your implementation plan as part of your upcoming Annual Site Review.” Below are the top 10 “Takeaways” from the Protocol as well as links to the entire document and a presentation slide deck that could be used for staff training.

Takeaways

1. The EM Program Management Protocol was developed “To better define our Program Management processes”
2. “A draft of this document was reviewed by the Field in early October”
3. “The Protocol will be supplemented by additional guidance documents in the coming months”
4. “Sites can begin the process now to align resources to support the implementation effort”
5. “Please plan on presenting your implementation plan as part of your upcoming Annual Site Review”
6. Questions should be directed to Mr. Rodney Lehman, Director, EM Office of Project Management, at (301) 903-6104
7. This protocol incorporates consideration of:
 - Use of the End-State Contracting Model
 - Issuance of the Office of Environmental Management Cleanup Project Management Protocol and Implementation Standard for Demolition Projects, dated July 13, 2020, which defines how project management requirements in DOE Order 413.3B, Program and Project Management for the Acquisition of Capital Assets, are tailored to demolition projects
 - Establishment of management requirements for operations activities
8. EM Program plans will be driven by consistent prioritization principles, be informed by validated life-cycle cost and schedule estimates and risk assessments, incorporate the U.S. Government Accountability Office’s (GAO) best practices for program and project management, and be updated to reflect analyses of strategic alternatives
9. This protocol does not directly apply to contractors, as contractor requirements are specified in the contracts
10. Any requirements contained herein may be passed on to contractors via their contractual documents

You can read the DOE memo [here](#) and view a related Power Point presentation [here](#). (Note: If you experience problems opening these links, try copying and pasting them in to a different web browser.)

*Is your data and info **C**urrent, **A**ccurate, **C**omplete,
Repeatable, **A**uditable and **C**ompliant[®]?*

Authorization to Plan and Budget vs Authorization to Proceed Through the Critical Decision (CD) Gate Life-cycle Process (A Critical Insight into Budgets vs Funds)

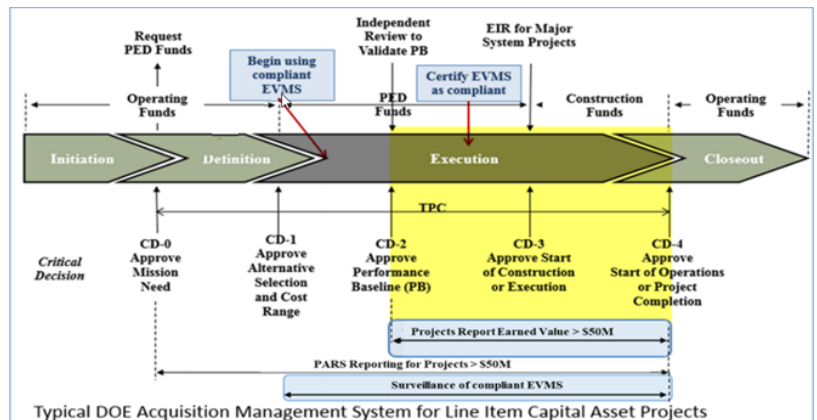
By author David Kester, Office of Project Controls (PM-30).

As defined in DOE Order 413.3B, Program and Project Management for the Acquisition of Capital Assets, all projects have a start defined by critical decision-0 (CD-0) and finish defined by CD-4, two chronological boundaries established to define and monitor the work to be accomplished. For projects greater than or equal to \$50M, the development of the performance measurement baseline (PMB) for the selected alternative’s project or multiple subprojects coincides with the development of the preliminary design which begins after CD-1. The implementation of an EIA-748 compliant earned value management system (EVMS) at this same time prior to CD-2 provides specificity to the project’s PMB by defining what “done” looks like and what “done” will cost.

As a project moves through successive CD gates, the specificity of the PMB is better articulated through progressive elaboration of the project’s design and execution planning, and the level of confidence increases that the PMB can achieve mission objectives within defined constraints – schedule, cost, performance, and quality.



The incremental development of a project’s PMB, using a compliant EVMS, is the major component in establishment of the performance baseline (PB) inclusive of total project cost (TPC) at CD-2. Thus, starting after CD-1 and prior to CD-2, the contractor will establish and maintain a summary-level life-cycle integrated master schedule (IMS) with critical path and PMB for the project to CD-4 using the high end of the approved cost range. At CD-2 a detailed IMS with critical path aligns to the ready to execute PMB for the project through CD-4. Throughout this initial process and all the way through CD-3 to CD-4, changes to the project’s plan and budget (IMS and PMB) are made using the EVMS change control process. This is summarized in the diagram at right.



DOE Order 413.3B uses the term “project” holistically for describing a life-cycle endeavor. There is an especially important distinction

about authorization to proceed (ATP) on a project and its authorization to plan and budget (ATP&B) through CD-4 completion. A project’s ATP is granted at each CD gate to expend funds to proceed to the next CD gate. For example, at CD-0 a project’s ATP to CD-1 is granted by the Project Management Executive (PME), and at CD-1 an ATP is granted by the PME to proceed to CD-2, and so on. However, once a project achieves CD-1 approval, it is granted the ATP&B all work scope through CD-4 completion consistent with the project TPC (initially the high end of the approved CD-1 cost range). The ATP&B a project is not limited to the next CD gate, an annual funding limitation, a contract funding limitation, or contract period of performance which may end prior to the CD-4 date. Regardless of the possibility of multiple prime contractors involved in a project whether through joint execution, or hand off from one prime contractor to another based on a separable design/construct strategy, whereas the ATP&B considers the budget and resources for the full period of performance of a project’s life-cycle.

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Authorization to Plan and Budget vs Authorization to Proceed (concluded)

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While a project's annual funding profile constrains the expenditure of costs on the execution of work scope (EIA -748 Guideline 1), the EVMS does not prevent authorizing and establishing a full project life-cycle IMS with critical path (Guideline 6 and 7) and PMB (Guideline 8). A funding profile (or a representation of the project costs over the life of the project) acts to prioritize and constrain spending by informing a project's plans, schedules, and budgets. The goal is to balance estimated budgeted amounts and actual funded and expended amounts. The use of the EVMS work authorization process (Guideline 9) starting at CD-1 plays a crucial role in balancing the two. However, a distinction between funds and budgets (or an estimation of costs over a specified future period of time) must be made. Please refer to Snippet 3-1, [budget vs funds and the Performance Measurement Baseline \(PMB\)](#), for further details on this important and too often misunderstood topic.

For example, while the execution of a project's design and construction work can span multiple years, the authorization to establish control account plans, schedules, and budgets must not be limited to yearly increments for the sole purpose of managing funds. While the importance of managing work and the expenditure of costs within annual funding limitations should not be diminished, at the same time the need to establish a complete and comprehensive lifecycle critical path project schedule and PMB should not be prevented because of this. The delicate balance to perform both activities must be understood and respected in the context of implementing the EVMS.

As a case in point, at CD-3 approval, a project is authorized to commit all resources necessary within the funds provided to complete procurement, construction, acceptance, and turnover activities. However, this is predicated on the establishment and authorization of a complete and comprehensive project IMS with critical path and PMB for the full project life-cycle beyond the current year's funding.

EIA-748 necessitates that the EVMS establish the PMB through a documented work authorization process at the control account level that considers a project's total cost value and full period of performance. Limiting this authorization to the current year's funding confuses the need to manage funds at the expense of establishing complete and comprehensive plans, schedules, and budgets, and precludes control account managers having responsibility for all life-cycle work scope. In so doing, it further limits the ability to identify and mitigate performance variances and risks (Guideline 23), and generate credible cost and schedule estimates at completion (Guideline 27) for the full project life-cycle.

Another set of EVMS snippets that help explain the differences and relationships between budget and funds in the reporting context are Snippet 2.1 [Contract Performance Report \(CPR\) / Integrated Program Management Report \(IPMR\): Purpose & Uses](#), Snippet 2.2 [CPR/IPMR: FPD Quick Check](#), and Snippet 2.4 [Contract Funds Status Report \(CFSR\) Overview & Reconciliation with IPMR/CPR](#). Unfortunately, the CFSR is not a widely required document yet within the DOE.

EVMS snippets can be located at <https://www.energy.gov/projectmanagement/evms-training-snippets>. For further information or questions on this or any EVMS topic, please contact [PM-30](#).

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It is Not One World — What We Do and How We Do it Matters!

I still don't have time to manage requirements: My project is later than ever

*Excerpted from an article by Elizabeth Larson
Principal and CEO, Watermark Learning, Inc.*

Many of us know that poor requirements management is a major source of failed projects. PMI's Pulse of the Profession® (2014) found that 37% of all organizations reported inaccurate requirements as the primary reason for project failure. We know that if we do not get the requirements right, we will not get our projects right. But, how do we tell our sponsors that managing requirements is more than a box on our Work Breakdown Structure (WBS) and a line item on our list of activities? For those of us who have been given imposed deadlines that often seem arbitrary and unreasonable, managing requirements is the last thing on our minds. When the stress of trying to complete projects with tight deadlines seems overwhelming, it is more important than ever to ensure that we deliver a usable product. This paper addresses the need for requirements management, even when we think we do not have time. It explains what requirements management is and why it is essential to project success, provides tips on using time-saving techniques that actually reduce project time, and describes how to influence your business stakeholders about the need for requirements management.

Why We Need to Manage Requirements

According to PMI's Pulse of the Profession® (2014) study, poor requirements management is the second most common reason for project failure. In addition, 87% of organizations surveyed recognized that improvement is needed. Nevertheless, as important as requirements management is, the study also found that:

- Only 49% of organizations have the resources in place to do requirements management properly.
- Only one-third of organizations' leaders value requirements management as a critical competency.
- Only 47% of organizations have a formal process to validate requirements.
- 51% of project and program dollars are wasted due to poor requirements management.
- 47% of unmet project goals were due to poor requirements management.

Please see [this link](#) for the entire article.

Larson, E. (2014). I still don't have time to manage requirements: My project is later than ever. Paper presented at PMI® Global Congress 2014—North America, Phoenix, AZ. Newtown Square, PA: Project Management Institute.



Just for Fun: December's Notable Events and Famous Birthdays

1 — The first moving assembly line went into operation (1913), actor/director Woody Allen (1935), comedian Richard Pryor (1940), and singer Bette Midler (1945) were born, and Rosa Parks began the Montgomery bus boycott (1955).

2 — Napoleon was crowned emperor of France (1804), the Monroe Doctrine was declared (1823), Enrico Fermi produced the first nuclear chain reaction (1942), Archie Griffin won his second Heisman Trophy (1975), singer Britney Spears was born (1981), Enron filed for bankruptcy (2001), and the first hydrogen fuel-cell cars were introduced in the U.S. (2002).

3 — Illinois became a state (1818), **rocker Ozzy Osbourne was born** (1948), the first human heart transplant was performed (1967), and 2,000 people were killed in an explosion at a pesticide plant in India (1984).



4 — President Woodrow Wilson became the first U.S. president to travel to Europe (1918), actresses Marisa Tomei (1964) and Tyra Banks (1973) were born, and American exchange student Amanda Knox was convicted of murdering her roommate in Italy (2009).

5 — President Martin Van Buren (1872), General George Custer (1839) and animator Walt Disney (1901) were born, Prohibition ended (1933), and anti-apartheid activist Nelson Mandela (2013) died.

6 — The Washington Monument was completed (1884), the worst U.S. mining disaster occurred when 361 coal miners were killed in an explosion in West Virginia (1907), the largest manmade pre-atomic explosion — nearly 8 million tons of TNT — occurred at Halifax Harbor when two ships collided (1917), and Jerry Rice broke the NFL's all-time touchdown reception record with his 101st (1992).

7 — Delaware became the first state (1787), Japan attacked Pearl Harbor (1941), baseball Hall of Famer Johnny Bench (1947) and basketball Hall of Famer Larry Bird (1956) were born, the first execution by lethal injection took place in Texas (1982), and two earthquakes killed 60,000 people in Armenia (1988).

8 — Entertainer Sammy Davis Jr was born (1925), the biggest defeat in NFL history occurred when Chicago beat Washington 73-0 in the championship game (1940), the U.S. declared war on Japan (1941), singer Jim Morrison was born (1943), John Lennon was shot and killed (1980), **the first nuclear arms reduction treaty between the U.S. and Soviet Union was signed** (1987), and NAFTA was signed into law (1993).



9 — Actors Kirk Douglas (1916) and John Malkovich (1953), and singer Donny Osmond (1957) were born, and U.S. Marines landed in Somalia (1992).

10 — Wyoming became the first state to allow women to vote (1869), the Spanish-American war ended (1898), the first Nobel Prizes were awarded (1901), singer Otis Redding was killed in a plane crash (1967), and LaDarian Tomlinson broke the NFL single-season touchdown record with his 29th (2006).

11 — Germany declared war on the U.S. (1941), UNICEF was founded (1946), singer Sam Cooke was shot to death (1964), and **Russia invaded Chechnya** (1994).



12 — The first trans-Atlantic radio transmission was conducted (1901), entertainer Frank Sinatra (1915) and TV game show host Bob Barker (1923) were born, Gayle Sayers scored an NFL record-tying six touchdowns in one game (1965), one of Leonardo da Vinci's notebooks sold for \$5.1M (1980), and GM announced its phase-out of Oldsmobile (2000).

13 — New Zealand was discovered (1642), actor Dick Van Dyke (1925) and rocker Ted Nugent (1947) were born, the highest scoring NBA game was played when Detroit beat Denver 186-184 (1983), and Iraqi dictator Saddam Hussein was captured (2003).

14 — Prognosticator Nostradamus was born (1503), George Washington died (1799), Gen. James Doolittle was born (1896), the first study of quantum theory was published (1900), Roald Amundsen reached the South Pole (1911), and the Sandy Hook school shooting occurred (2012).

15 — The Bill of Rights was ratified (1791), Sioux chief Sitting Bull was killed (1890), the rotary engine was patented (1896), funnyman Tim Conway was born (1933), bandleader Glenn Miller's airplane disappeared (1944), and actor Don Johnson was born (1949).

16 — Composer Ludwig van Beethoven was born (1770), the Boston Tea Party took place (1773), the greatest series of earthquakes in U.S. history occurred in Missouri (1811), the Battle of the Bulge began (1944), and OJ Simpson became the first NFL player to rush for over 2,000 yards in one season (1973).

17 — The Wright brothers successfully flew the first airplane (1903), **Stan Barrett became the first person to break the sound barrier on land** (1979), and Terrell Owens caught an NFL-record 20 passes in one game (2000).



18 — The *Mayflower* arrived at Plymouth (1620), the first national day of thanksgiving was celebrated (1777), the 13th Amendment abolishing slavery was formally adopted into the Constitution (1865), baseball legend Ty Cobb was born (1886), and director Steven Spielberg (1946), actor Brad Pitt (1964) and singer Christina Aguilera (1980) were born.

19 — Charles Dickens' "A Christmas Carol" was published (1843), the NHL began its first season (1917), late football Hall of Famer Reggie White was born (1961), the last Apollo lunar-landing mission ended (1972), **the blockbuster movie Titanic premiered** (1997), and President Bill Clinton was impeached (1998).



20 — The French surrendered Orleans to the U.S. (1803), Elvis Presley was drafted into the Army (1957), actor Kiefer Sutherland was born (1966), hockey star Guy Lafleur scored his 500th goal (1983), and the U.S. invaded Panama (1989).

21 — Soviet dictator Joseph Stalin (1879), TV talk show host Phil Donahue (1935), actress Jane Fonda (1937) and rocker Frank Zappa (1940) were born, Gen. George Patton died in a car accident (1945), funnyman Ray Romano (1957) and Olympic champion sprinter Florence Griffith Joyner (1959) were born, Apollo 8 launched as the first manned mission to the moon (1968), and a jetliner exploded over Scotland, killing all 243 passengers (1988).

22 — Beethoven's Fifth Symphony premiered (1808), the first Mercedes was sold (1900), and the L.A. Lakers broke the pro sports winning streak record with its 27th consecutive win (1971).

23 — Mormon Church founder Joseph Smith was born (1805), **Franco Harris caught the Immaculate Reception in the AFC championship game** (1972), and Philadelphia, the first major Hollywood movie about AIDS, was released (1993).



24 — The War of 1812 ended (1814), the KKK was founded (1865), rich guy Howard Hughes was born (1905), President Coolidge lit up the first national Christmas tree at the White House (1923), TV host Ryan Seacrest was born (1974), and the Soviet Union invaded Afghanistan (1979).

25 — Scientist Sir Isaac Newton (1642) and actor Humphrey Bogart (1899) were born, Bing Crosby first sang "White Christmas" (1941), singer Jimmy Buffett and football Hall of Famer Larry Csonka (1946) were born, Soviet president Mikhail Gorbachev resigned (1991), young beauty queen JonBenet Ramsey was murdered (1996), and New Mexico kicker Katie Hnida became the first female to play in a Division I college football game (2002).

26 — Jack Johnson became the first black heavyweight boxing champ (1908), Kwanzaa was first celebrated (1966), President Harry Truman died (1972), and an estimated 230,000 people died from a tsunami in Southeast Asia (2004).

27 — Radio City Music Hall opened in New York City (1932), and Peyton Manning broke the NFL's single-season touchdown passing record with his 49th (2004).

28 — President Woodrow Wilson was born (1856), the first Labor Day in the U.S. was observed (1869), the first commercial movie was screened in Paris (1895), the worst-ever earthquake in Europe killed an estimated 100,000 people (1908), and **actor Denzel Washington was born** (1954).



29 — President Andrew Johnson was born (1808), Texas became a state (1845), the massacre at Wounded Knee took place (1890), actress Mary Tyler Moore (1937) and actor Ted Danson (1947) were born.

30 — The border between the U.S. and Mexico was established (1853), more than 600 people were killed in a fire at a Chicago theater (1903), the USSR was established (1922), and baseball Hall of Famer Sandy Koufax (1935) and golfer Tiger Woods (1975) were born.

31 — Thomas Edison demonstrated the first incandescent light (1879), actor Anthony Hopkins (1937), singers John Denver (1943) and Donna Summer (1948), and actor Val Kilmer (1959) were born, baseball star Roberto Clemente (1972) and singer Rick Nelson (1985) were killed in plane crashes, and Panama took possession of the Panama Canal from the U.S. (1999).