

THE PRACTITIONER

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



FCOG

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Finishing up DOE's Project Management Principles

Greetings Project Delivery Working Group Practitioners. This month we close on our last installment of "413.3B and Your Project." by looking at some remaining select snippets/excerpts of "Appendix C" that were not covered in part 1 or 2. So whether you're new to the project management arena or a longtime, seasoned veteran with many projects under your belt, using the prescribed approach in DOE 413.3B offers your project and stakeholders the greatest opportunity for success.

When the DOE prescribed process for project management is used it facilitates course corrections from known way points. However, when the prescribed process is not used it generally takes considerable investigative effort to determine where and when the project became derailed, which leads to schedule delays, unnecessary cost, and more help than you could possibly imagine with your project.

For the complete 413.3B narrative please go to the current order in the Max.Gov PL-Library at [PM Library - Dept of Energy-External - MAX Federal Community](#) (requires Max.gov access).

DOE G 413.3-10B	Integrated Project Management Using the Earned Value Management System
DOE G 413.3-24	Planning and Scheduling

Please consider adding the Project Management Library to your "Favorites" so you have the information you need at your fingertips.

413.3B and Your Project: Part 3

Welcome back to our detailed look at "413.3B and Your Project". In Part 2, we reminded you of this statement:

"The principles (see Appendix C, Paragraph 1.a.-l.) as set forth in this Order apply to all capital asset projects. They also apply to General Plant Projects (GPPs) for which the approved total estimated cost does not exceed the minor construction threshold, using a tailored approach."

The "Principles" are the thing! The "Project Management Principles" is the Department's framework for successful project execution. When read, understood, implemented, and executed correctly, the process offers the shortest distance to project success.

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While items “a” through “l” (next page) represent a summary of the “framework” headliners, the entire DOE O 413.3B represent the “principles” of *sustainable, repeatable, and successful project management*. Within Appendix C there are 27 Topical Areas. In Part 2, we detailed the first five topics.

6. Design Management.

a. Design Management for Nuclear Facilities.

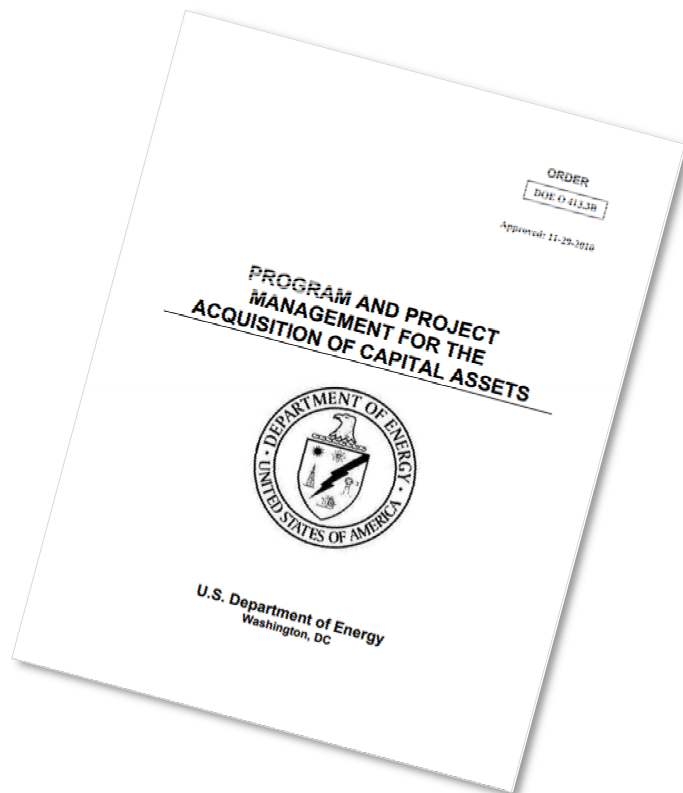
Projects involving construction of new Hazard Category 1, 2, and 3 nuclear facilities intended to manage, store, process or handle nuclear materials shall comply with DOE-STD-1189-2016 and shall achieve at least 90 percent design completion before CD-2.

The objective of this requirement is to ensure

systems, structures, and components, the overall design, are sufficiently mature to meet project requirements and outcomes and thus fulfilling the mission need. Design maturity at 90 percent completion will ensure that a performance baseline is based on a credible cost estimate and achievable schedule for project completion.

As a minimum, 90 percent design complete includes:

- Complete final drawings and specifications that may be released for bid and/or construction
- A current and detailed cost estimate
- A current construction schedule
- Clearly defined testing requirements and acceptance criteria for the safety and functionality of all subsystems
- Independent technical, construction, operation and environmental reviews of the final drawings and specifications
- A quality control review that evaluates both technical accuracy and discipline coordination
- A final design that meets all the requirements stipulated in the Code of Record
- A final design review that should be a final validation of comment resolution from previous reviews and a review of any additional developments since the last review
- The checking and verification of any required waivers or exemptions



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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.

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8. Earned Value Management System.

The Department will adopt project management control best practices equivalent to those implemented by the Department of Defense (DoD). This includes a DOE version of the DoD Integrated Program Management Report (IPMR) on projects not associated with a firm fixed-price contract.

An EVMS is required for all projects with a TPC greater than \$50M. In accordance with FAR Subpart 52.234-4, a contractor's EVMS will be reviewed for compliance with EIA-748C, or as required by the contract. (Further details on establishing, employing, and maintaining a compliant EVMS are found in DOE G 413.3-10A, EIA-748C, and DOE Integrated Program Management Report (IPMR) Data Item Description (DID)).

For projects with a TPC less than \$100M, the contractor may request an exemption from the PMSO from using EVMS. For firm fixed-price contracts, a contractor EVMS is not required. For projects with a TPC between \$50M and \$100M, if an EIA-748C compliant EVMS is not used, an alternative project control method must be approved by the PMSO.

The alternate system requirement must be described in the PEP and provided to the contracting officer to be included as a contract requirement. Alternative project control methods to be used must include at a minimum a(n) work breakdown structure, integrated master schedule showing critical path, schedule of values, account of planned versus actual work and cost, and EAC.

Only the facility construction and facility improvement activities of High Performance Computing (HPC) projects will be subject to the Earned Value Management (EVM) requirements of this Order. "Non-construction activities," which are programmatic elements of HPC activities including research and development, leases, and software development, will be subjected to the following components:

- EVM Compliance – Non-construction activities will be tracked with level of effort activities and milestone achievement and EVM compliance should be eliminated.
- PARS II Reporting – Non-construction activities will be entered with narrative information only.

Project control information will be provided monthly, including upload of the baseline and status schedules, and data from the schedule of values and planned versus actual work and cost accounts, into the Department's PARS II system in accordance with the PARS II Contractor Project Performance (CPP) Upload Requirements document.

For projects using EVMS and reporting EVMS data, the contracting officer, or the Contracting Officers' Representative (COR), normally the FPD, will ensure that contractors upload in PARS II the required project performance data at the lowest element of cost level in the specified format.

- a. EVMS Certification. This is the initial determination by PM that a Contractor's EVMS is in full compliance with EIA-748C, or as required by the contract, on all applicable projects. Documentation of the certification shall be provided to the Contracting Officer and the PMSO. The Contracting Officer must provide copies of transmittal memoranda or related documents to PM. All relevant documentation shall be maintained in PARS II.
 - For contractors where there are applicable projects with a TPC between \$50M and \$100M, the contractor shall maintain EVMS compliant with EIA-748C.
 - For contractors where there are applicable projects having a TPC of \$100M or greater, PM must conduct the certification review process and certify the contractor's EVMS compliance with EIA-748C, or as required by the contract.

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b. EVMS Surveillance. This is meant to ensure that a contractor's certified EVMS remains in full compliance with EIA-748C, or as required by the contract, on all applicable projects. A surveillance review may include an assessment against some or all of the EIA-748C requirements. The extent of the surveillance review will be tailored based on current conditions.

For contractors where there are applicable projects having a TPC of \$100M or greater, PM will conduct a risk-based, data driven surveillance during the tenure of the contract, during contract extensions, or as requested by the FPD, the Program, or the PME). Documentation of the surveillance will be provided to the Contracting Officer documenting the compliance status of the contractor's EVMS with EIA-748C, or as required by the contract.

- 1) Notification of Non-Compliance. If following a PM surveillance review, the contractor has not fully corrected the noted deficiencies despite offers of assistance from PM, has ignored contractual direction to take corrective action, or the results of the surveillance review indicate non-compliance with EIA-748C, PM may issue a Notice of Non-Compliance with EIA-748C, or as required by the contract, to the Contracting Officer and will note whether the contractor's EVMS certification has been withdrawn.
- 2) Implementation Review. An implementation review is a special type of surveillance performed at PM's discretion in lieu of a certification review when EVMS compliance is a requirement. This type of review extends the certification of a contractor's previously certified system. The implementation review must be conducted prior to CD-3 or at the latest within three months of construction mobilization. A contractor's certified system may be extended in the following situations:
 - When a contractor adopts one of their existing certified EVMS for application under a new contract at the same or different site (sometimes referred to as Corporate Certification).
 - From one project to another project after a period of system non-use.
 - A previously certified system description to a significantly revised system description.
 - From one certifying entity to another (meaning other Civilian Federal Agency or DoD to DOE) provided the contracting entity remains the same.
 - When a new contractor adopts the previous contractor's existing certified system with minimal to no change in the system description, processes, or tools.

10. Integrated Project Team.

The FPD shall organize and lead the IPT. The IPT is an essential element in DOE's acquisition process and is involved in all phases of a project. This team consists of professionals representing diverse disciplines with the specific knowledge, skills and abilities to support the FPD in successfully executing a project. The team size and membership may change as a project progresses from CD-0 to CD-4 to ensure that the necessary skills are always represented to meet project needs. Team membership may be full or part time, depending upon the scope and complexity of a project and the activities underway. However, the identified personnel must be available to dedicate an amount of time sufficient to contribute to the IPT's success. Refer to DOE G 413.3-18A for further clarification.

Qualified staff (including contractors) must be available in sufficient numbers to accomplish all contract

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and project management functions. Project staffing requirements should be based on a variety of factors, including project size and complexity, as well as the management experience and expertise of the project staff. Programs must use a methodology to determine the appropriate project team size and required skill sets. One such algorithm is detailed in DOE G 413.3-19. Regardless of the methodology used, once the appropriate staff size has been determined, programs should plan and budget accordingly.

The FPD and the team will prepare and maintain an IPT Charter that describes:

- Membership (must include the Contracting Officer);
- Responsibilities and authority;
- Leads (as appropriate);
- Meetings;
- Reporting; and
- Operating guidance.

Nuclear safety experts on a nuclear facility project should include personnel in functional areas which relate to nuclear safety aspects of the facility. Disciplines within these functional areas can include: design disciplines (civil, structural, mechanical, electrical, instrumentation); health physics and radiological protection; safety, accident, hazard, or risk analysis; criticality safety; process chemistry; fire protection; configuration management; startup testing; conduct of operations; maintenance; operational readiness; commissioning; quality assurance. This does not preclude personnel from other disciplines providing that they have relevant and appropriate nuclear safety experience for the functional area for which they are responsible.

13. Lessons Learned Process.

Lessons Learned and best practices should be captured throughout the continuum of a project. Within 90 days of CD-3 approval, up-front project planning and design lessons learned shall be submitted to PM. Likewise, project execution and facility start-up lessons learned shall be submitted within 90 days of CD-4 approval. Lessons learned reporting allows the exchange of information among DOE users in the context of project management.

15. Performance Baseline.

The PB, as established in the PEP, defines the TPC, CD-4 completion date, performance and scope commitment to which the Department must execute a project and is based on an approved funding profile. The PB includes the entire project budget (total cost of the project that includes contingency) and represents DOE's commitment to Congress and the OMB. The approved PB must be controlled, tracked and reported from the beginning to the end of a project to ensure consistency between the PEP, the PDS, and the Business Case (a requirement of OMB Circular A-11).

16. Planning and Scheduling.

Projects shall develop and maintain an Integrated Master Schedule (IMS). The IMS shall be developed, maintained, and documented in a manner consistent with methods and the best practices identified in the Planning and Scheduling Excellence Guide, published by the National Defense Industrial Association, and the GAO's Schedule Assessment Guide (GAO-16-89C).

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17. Project Definition Rating Index.

The project team will perform comprehensive front-end project planning to an appropriate level before establishing a PB at CD-2. The PDRI model assists the IPT in identifying key engineering and design elements critical to project scope definition. PDRI is to be implemented and used for projects with a TPC of \$100M or greater, as appropriate. This will be accomplished by the FPD. While not mandated, it is strongly encouraged for use by Programs for projects with a TPC less than \$100M. See DOE G 413.3-12 for additional information.

18. Project Execution Plan.

The PEP is the core document for the management of a project. The FPD is responsible for the preparation of this document. It establishes the policies and procedures to be followed in order to manage and control project planning, initiation, definition, execution and transition/closeout, and uses the outcomes and outputs from all project planning processes, integrating them into a formally approved document. It includes an accurate reflection of how the project is to be accomplished, the minimum KPPs for CD-4, resource requirements, technical considerations, risk management, configuration management, and roles and responsibilities. A preliminary PEP is required to support CD-1. This document continues to be refined throughout the duration of a project and revisions are documented through the configuration management process. Key elements of a PEP are provided in DOE G 413.3-15.

21. Project Scope.

Capital asset project scope determinations shall adhere to Federal statutes, regulations, policy, and guidance. Specifically, determinations shall comply with the Office of Management and Budget's Circular A-11 and associated Capital Programming Guide. Capital asset project decisions shall be made based on clearly defined scope and the nature and type of work to be completed and shall include all the project-specific work scope needed to achieve a complete and usable asset and accomplish the defined mission need using proper project segmentation or project phasing. The cost of operational activities that occur solely to support accomplishment of the capital asset project between CD-0 and CD-4 are to be included in the project's TPC. Refer to DOE WBS Handbook.

23. Reviews.

Reviews are an important project activity and must be planned as an integral part of the project and tailored appropriately to project risk, complexity, duration and CD or phase. Refer to DOE G 413.3-9 for more information. The following is a summary of key reviews organized by CD.

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a. Prior to CD-0.

- 1) Mission Validation Independent Review.
- 2) Mission Need Statement Document Review.
- 3) Independent Cost Review.

b. Prior to CD-1.

- 1) Acquisition Strategy Review.
- 2) Independent Project Review.
- 3) Conceptual Design Review.
- 4) Technology Readiness Assessment.
- 5) Independent Cost Estimate and/or Independent Cost Review.

c. Prior to CD-2.

- 1) DOE Review of Preliminary Safety and Design Results.
- 2) Technical Independent Project Review.
- 3) Performance Baseline Validation Review.
- 4) Project Definition Rating Index Analysis.
- 5) Technology Readiness Assessment.
- 6) Preliminary Design Review.
- 7) Final Design Review.

d. Prior to CD-3.

- 1) Construction or Execution Readiness Review.
- 2) Independent Cost Estimate.
- 3) EVMS Certification Review.
- 4) Technology Readiness Assessment.
- 5) Final Design Review.

e. Prior to CD-4.

- 1) Operational Readiness Review or Readiness Assessment.
- 2) Readiness to Operate Assessment

f. Project Peer Reviews.

These focused, in-depth reviews are conducted by non-advocates (Federal and M&O or other contractor experts) and support the design and development of a project.

24. Risk Management.

Risk Management is an essential element of every project and must be analytical, forward looking, structured and continuous. Risk assessments are started as early in the project life-cycle as possible and should identify critical technical, performance, schedule and cost risks. Once risks are identified and prioritized, sound risk mitigation strategies and actions are developed and documented in the Risk Register. Post CD-1, the risk register (including new risks) should be evaluated at least quarterly.

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27. Tailoring.

a. General.

Tailoring is an element of the acquisition process and must be appropriate considering the risk, complexity, visibility, cost, safety, security and schedule of the project. Tailoring must be identified as early as possible prior to the impacted CD and must be approved by the PME. In the Tailoring Strategy or the PEP, the FPD will identify those areas in which a project is planned to be tailored as well as an explanation and discussion of each tailored area. Tailoring does not imply the omission of requirements in the acquisition process or other processes that are appropriate to a specific project's requirements or conditions.

Tailoring may involve consolidation or phasing of CDs, substituting equivalent documents, graded approach to document development and content, concurrency of processes, or creating a portfolio of projects to facilitate a single CD or AS for an entire group of projects. Tailoring may also include adjusting the scope of IPRs and EIRs, delegation of acquisition authority and other elements. Major tailored elements such as consolidating or phasing CDs or delegation of PMEs should be specified in the PEP or the Tailoring Strategy.

Tailoring does not apply to nuclear safety requirements, which use a "graded approach" as prescribed in 10 CFR Part 830, Nuclear Safety Management. Details on developing a tailoring approach that could be applied are provided in DOE G 413.3-15.

b. Phasing.

Generally, a CD would not be split and CD-2 is never split. For some projects, it may be appropriate to phase the work (into smaller, related, complete and useable projects) and split or phase the CD. In those instances, it may be appropriate to garner CD-0 and CD-1 approvals for all the smaller projects collectively and simultaneously. Subsequently, each smaller project must have its own distinct performance baseline (CD-2) with clearly defined and documented technical scope, cost, schedule and funding profile including consideration for all applicable contingencies.

c. Environmental Management Cleanup Projects.

EM Cleanup Projects are frequently the antithesis of construction projects in that EM is deactivating, decommissioning, remediating, stabilizing and disposing (also known as Environmental Restoration) versus constructing. These projects are conducted under a variety of regulatory processes and site-specific cleanup agreements which are legally binding and specify the process, end states, decision points and approvals required. The TRAs plays an important role in determining the solution. For these projects, the performance and scope parameters and start/end dates are based on negotiated terms with Federal and/or State regulatory agencies. As a result of this variability, it is not possible to draw a single crosswalk to the traditional construction project that would be applicable to all EM Cleanup Projects. Hence, a tailored approach is necessary for each project. As such, the FPD will submit a Tailoring Strategy, which may be included in the PEP, to the PME for approval. For demolition projects performed by the EM, Appendix D replaces Appendix A and modifies applicable elements in Appendices B and C. See DOE G 413.3-15 for additional guidance.

See the complete DOE 413.3B Appendix C for the full narrative.

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

1 — Apple Computers was founded (1976), and **NCAA men's basketball champions were crowned** in 1985 (Villanova), 1991 (Duke), 1996 (Kentucky), 2002 (Maryland), and 2007 (Florida).



2 — Singer Marvin Gaye (1939), and actor Dana Carvey (1955) were born.

3 — Actors Marlon Brando (1924) and Alec Baldwin (1958), comedian Eddie Murphy (1961), and Olympic champion skier Picabo Street (1971) were born.

4 — The North Atlantic Treaty Organization (NATO) was signed (1949), actor Robert Downey Jr. was born (1965), and Martin Luther King Jr. was assassinated (1968).

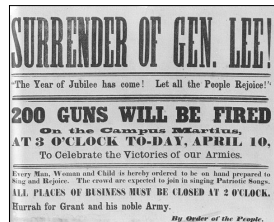
5 — Actors Spencer Tracy (1900), Bette Davis (1908), and Gregory Peck (1916) were born.



6 — The first modern Olympic games opened (1896), **explorers Matthew A. Henson and Robert E. Perry reached the North Pole** (1909), Twinkies were introduced (1930), and country singer Merle Haggard (1937) was born.

7 — Jazz singer Billie Holiday (1915) was born, the World Health Organization was founded (1948), actors Jackie Chan (1954) and Russell Crowe (1964) were born.

8 — Siddhartha Gautama, founder of Buddhism (563 BC), and former First Lady Betty Ford (1918) were born, and Hank Aaron broke Babe Ruth's home run record (1974).



9 — **The Civil War ended with the Confederate surrender to the Union** (1865), and publisher Hugh Hefner was born (1926).

10 — The American Society for the Prevention of Cruelty to Animals was established (1866), the PGA was formed (1916), and sportscaster John Madden was born (1936).

12 — Author Tom Clancy and TV personality David Letterman were born (1947), and Russian cosmonaut Yuri Gagarin became the first person in space (1961).

13 — 3rd U.S. president Thomas Jefferson (1743), and wild west outlaw Butch Cassidy (1866) were born.

14 — President Abraham Lincoln was assassinated (1865), baseball star Pete Rose (1941), and actors Brad Garrett (1960) and Sarah Michelle Gellar (1977) were born.

15 — Artist/inventor Leonardo da Vinci was born (1452), and the Titanic sank (1912).

16 — Aviator Wilbur Wright (1867), actor Charlie Chaplin (1889), and **basketball Hall of Famer Kareem Abdul-Jabbar** (1947) were born.



17 — Actress Jennifer Garner was born (1972).

18 — The Great San Francisco earthquake struck (1906), and baseball Hall of Famer Catfish Hunter (1946), actor Rick Moranis (1953), and TV talk host Conan O'Brien (1963) were born.

19 — The Revolutionary War began (1775), actors Dudley Moore (1935), Ashley Judd (1968) and Kate Hudson (1979) were born, the Branch Dividian siege ended (1993); and **the Federal Building in Oklahoma City was bombed** (1995).



20 — Nazi leader Adolf Hitler (1889) and singer Luther Vandross (1951) were born, and the mass shooting at Columbine High school in Littleton, Colorado, took place (1999).

21 — Queen Elizabeth II of England was born (1926).

22 — Rock star Peter Frampton was born (1950).

23 — Playwright William Shakespeare (1564), 15th U.S. president James Buchanan (1791), actress Shirley Temple (1928), and singer Roy Orbison (1936) were born.

24 — Singer/actress Barbara Streisand (1942) and singer Kelly Clarkson (1982) were born.

25 — Jazz singer Ella Fitzgerald (1918) and actor Al Pacino (1940) were born, the United Nations was organized (1945), and actress Renee Zellweger was born (1969).

26 — Naturalist John James Audubon (1785) and entertainer Carol Burnett (1933) were born.

27 — Telegraph inventor Samuel Morse (1791), and Civil War general and 18th U.S. president Ulysses S. Grant (1822) were born, and **the first Social Security checks were distributed** (1937).



28 — 5th U.S. president James Monroe (1758), former Iraqi president Saddam Hussein (1937), and TV personality Jay Leno (1950) were born.

29 — Jazz bandleader Duke Ellington (1899) was born, the zipper was patented (1913), and race car legend Dale Earnhardt (1951), comedian Jerry Seinfeld (1954), and actresses Michelle Pfeiffer (1957) and Uma Thurman (1970) were born.

30 — **Country singer Willie Nelson** (1933) and basketball Hall of Famer Isiah Thomas (1961) were born, the Vietnam War ended with the fall of Saigon (1975), and actress Kirsten Dunst was born (1982).



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