Naval Facilities Engineering Command
Capital Improvements

CM Handbook

June 2019

CM HANDBOOK
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CM Handbook

I. Introduction to the CM Handbook

Prior to 2007, the ROICC Handbook (NAVFAC P-445) was the guiding document for NAVFAC Construction Management. After NAVFAC's transformation in 2007, the P-445 was replaced by the newly implemented NAVFAC Business Management System (BMS). Operating primarily from BMS processes and procedures since 2007, NAVFAC HQ decided in 2018 that there was a need for a CM Handbook that would be devoted specifically to explaining the roles and responsibilities of the NAVFAC CM. This CM Handbook is not a replacement for BMS; however, it is intended to be an easy-to-use guide covering much of the same information in BMS as well as some additional information useful to the NAVFAC CM when performing construction contract administration and oversight.

A. How to Use this Handbook.....

The Handbook is intended to be used as reference for CMs or anyone else interested in learning more about NAVFAC Construction Management and the role of the CM. The Handbook also includes as an appendix the requirements for CMs to become NAVFAC qualified CMs by satisfying the qualification standards. This handbook is written from the perspective of a performance level 1 or 2 project and is not intended to be completely inclusive of all problems and examples. Some decision will be made at each location based on risk.

B. Construction Management Qualification Standards (CMQS).....

CMQS is a program for CMs to validate their knowledge with construction contract administration and oversight in order to achieve the status of NAVFAC Qualified CM. Appendix I includes the various CMQS tasks and sign-offs that make up the CMQS qualification requirements. Appendix I includes twelve (12) individual task sheets, each one covering a different skillset of which the CM must demonstrate knowledge before being signed-off on by a designated Qualifier. This program is voluntary and could be incorporated into the CM's Individual Development Plan (IDP). Any civilian or military CM in the NAVFAC organization with at least one (1) year of experience working as a CM can seek qualification as a NAVFAC Qualified CM. This CM Handbook provides the basis of the knowledge necessary to achieve certification on the CMQS. While not required, the CMQS will also serve as a refresher and consolidated reference for those more experienced CMs. All candidates may seek certification as a qualified CM. The Capital Improvements, Construction Product Line Coordinator/Manager/Leader (CI5), will confirm this. The FEC CI5 is the authorized certifier and is responsible for issuing the NAVFAC Qualified CM certificate to the candidate, upon completion of the program, or delegating the authority to an alternate. Please note, the CI5 shall not issue a NAVFAC Qualified CM Certificate until the candidate has completed a minimum of 12 months experience (cumulative) as a CM assigned to a NAVFAC field office.

C. ACKNOWLEDGEMENTS

We gratefully acknowledge the assistance of the following personnel in creation of this Handbook.

Addis, Tracy	SW	Bayse, Timothy	HQ
Bolden, Todd	NW	Drake, Richard	WASH
Garcia, Maria	MAR	Kilosky, William	WASH
Mullins, Paul	SE	Pablo, Herman	HQ
Sakomoto, Charisse	PAC	Schindler, Ron	LANT
Seward, Brian	EAS	Shen, Stanley	HI
Suzuki, Clyde	PAC	Trant, Reuben	ML

II. CMs in the NAVFAC Organization

NAVFAC CMs primarily reside at either a Facilities Engineering Acquisition Division (FEAD) or Resident Officer In Charge of Construction (ROICC) office at one of the nine Facility Engineering Commands (FECs). There are a few senior CMs residing at the larger Echelon IV FECs who work in the Capital Improvements Business Line Core where they support the Construction Product Line by ensuring technical authorities, policies, processes, and resources are in place. There are also a few senior CMs at the Echelon III Commands, NAVFAC Atlantic and NAVFAC Pacific, and also at Echelon II NAVFAC HQ.

A. Business Management System (BMS).....(NAVFACINST 5200.38A)

The NAVFAC BMS provides a systematic method for the management of business processes, common practices, and process and quality improvement that produce and/or support production of Command products and services. This provides consistent business processes for use by all NAVFAC Commands as well as links to applicable, appropriate, and up-to-date policies, guidance, forms, templates, website links, and other useful information. The intent of BMS is to provide easy access to key information within a workflow (process) context.

The business processes approved for use at NAVFAC Commands are provided such that work will be conducted in a consistent manner among all NAVFAC Commands. There will be local command process variations where law and regulation requires. In summary, the BMS provides a roadmap type service for those wanting to know how best to conduct business activities, but not specific contractual knowledge.

BMS processes are categorized with unique numerical identifiers that associate the process with a particular business line or support line. BMS processes for Capital Improvements use the B-1 identifier. New CMs should review BMS policies to become familiar with the processes that fall under Capital Improvements, which cover many of the tasks performed by the CM. Experienced CMs should periodically refer to BMS policies to ensure they are complying with the most up-to-date processes.

BMS processes are updated through the corrective action request (CAR) process. CARs may be submitted by anyone. The BMS website can be found by searching for BMS at *https://navfac.navy.mil. This link* includes instructions on how to submit a CAR.

- ✓ CMs are expected to follow the procedures defined in the BMS
- ✓ Much of the information in this CM Handbook came from the BMS

B. NAVFAC Concept of Operations (CONOPS).....

The CONOPS serves as the Naval Facilities Engineering Command's authoritative document that describes its operating philosophy and organizational construct. It is intended to educate and guide Command efforts to ensure NAVFAC remains ready to provide critical services and expeditionary support to the Fleet, Marine Corps, and Combatant commanders. New CMs should review the CONOPS to gain an understanding of where the FEAD and ROICC offices fit into the NAVFAC organization.

- ✓ The CONOPS is updated as needed to reflect organizational changes

C. NAVFAC Strategic Design

The NAVFAC Strategic Design is a sharpening of our strategic focus. "Design" signifies a deliberate change in our approach, acknowledging that the inherent uncertainty of dynamic global and national circumstances requires us to anticipate, manage uncertainty, and continuously assess our course and speed. Our Strategic Design is aligned with SECNAV and CNO priorities and organized around three Lines of Efforts: (1) enabling warfighter lethality (2) maximizing naval shore readiness, and (3) strengthening our SYSCOM team. These three (3) Lines of Effort form the foundation of six (6) Focus Areas.

- Distributed Maritime Operations
- Product and Service Performance
- Infrastructure Capability
- Financial Integrity
- Workforce Talent
- Analytical Decision Making

The Strategic Design is updated approximately every 2-3 years to coincide with change of command for the Commander, NAVFAC.

- ✓ CMs should familiarize themselves with the NAVFAC Strategic Design

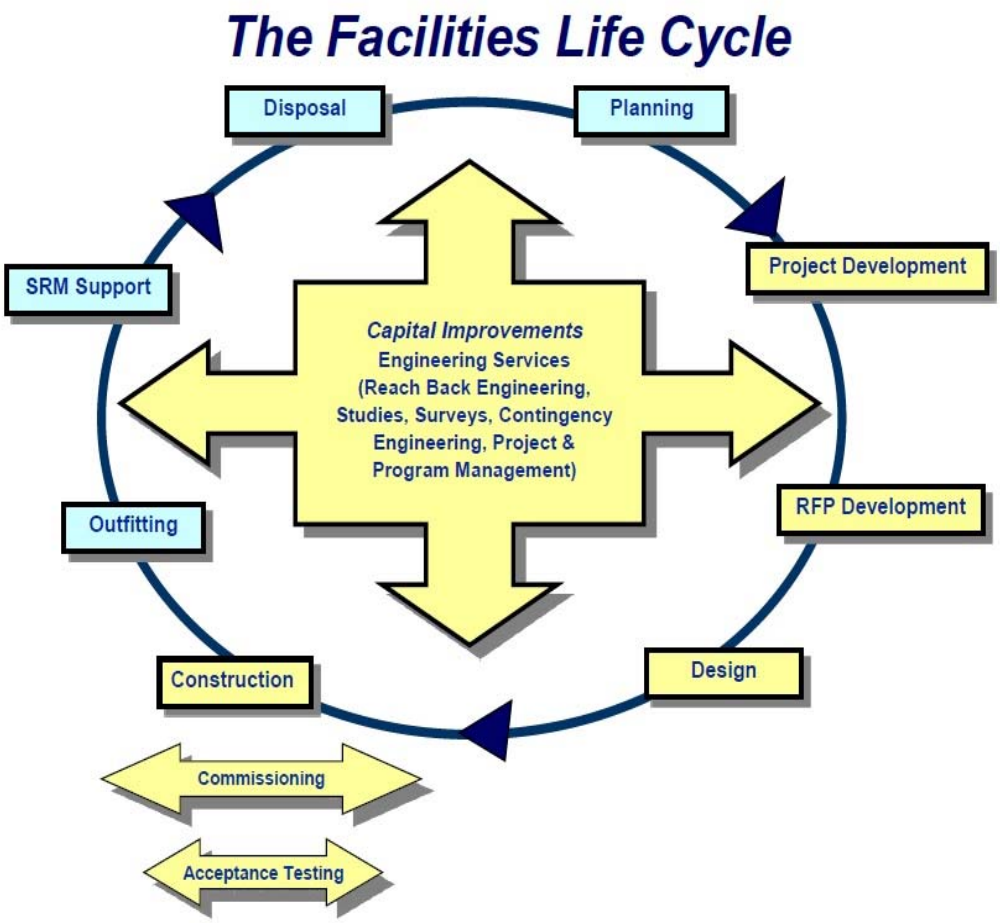
D. NAVFAC's Role as a Navy Systems Command

The Naval Facilities Engineering Command is the oldest of the Navy's System Commands, having been established as the Bureau of Naval Yards and Docks (BuDocks) in August 1842. At its creation, BuDocks supported a shore establishment of seven (7) ship repair yards, four (4) ordnance magazines, and five (5) naval stations. Its officers are commissioned in the Navy Civil Engineer Corps, which came into being in March 1867.

The Navy's Systems Commands, SYSCOMS, are materiel agencies who are responsible for the design, construction, and maintenance of assigned military systems. Systems Commands provide full life-cycle support for a specific category of military hardware or software, including research and development, design, procurement, testing, repair, and in-service engineering and logistics support.

E. The Facilities Life Cycle

The successful growth and performance of the Capital Improvements (CI) Community constitutes an important core competency for NAVFAC. It takes more than one (1) person to get the job done. We must work together with other Business Lines (BLs) and Support Lines (SLs) to accomplish our mission. CI plays an important and essential role in the Facilities Life Cycle (FLC) as shown in the figure below. The yellow highlighted areas represent CI's primary level of involvement in the FLC. CI also provides an essential secondary level of involvement in the areas shown in blue.



F. Capital Improvements (CI) Community Management Plan.....

The CI Community Management Plan provides keys to help you plan a rewarding and successful career. Whether this is your first assignment or you are a seasoned professional, this plan will help you map out your future and be a resource for your supervisor to assist you in career planning and development of your IDP. Required training for CMs is listed in the CI Community Management Plan.

- ✓ Coordinate with your supervisor to map your individual development plan and to schedule classes for the future.

G. Business Operations Plan (BOP).....

The Business Operations Plan is developed each fiscal year to document what NAVFAC will support as an enterprise based on approved Program Objective Memorandum (POM) submissions, command strategic priorities, supported commander priorities, and General Fund (GF) funding levels.

Within the Business Operations Plan the section titled "Row G - Construction" specifically pertains to FEAD & ROICC offices and the CI5 Construction Product Line. In this section, the budget profile for the next two (2) fiscal years is outlined to include estimated funding for the various individual fund sources established for construction work such as, Supervision Inspection and OverHead (SIOH), Operation & Maintenance (O&M), M3B and others. Each of the fund sources are explained in detail. Some of the risks associated with funding reductions are highlighted. Future G-Line resourcing is discussed based on anticipated Work In Place (WIP) or workload. Resourcing is the personnel required to execute construction contract administration. Lastly, the execution strategy is explained given the available funding for the various Performance Levels. Performance Levels are introduced in this section and are further defined in Appendix A of the BOP.

H. Performance Levels (PL) for contract oversight.....

The BOP defines four performance levels (1 -4) for contract oversight. The performance level is determined by the project fund source and defines how much oversight is to be provided by the CM and ET. " Performance Level 1 is the highest level of effort and Performance Level 4 is the lowest level of performance. Every NAVFAC construction contract or task order regardless of complexity or dollar amount is assigned a performance level. For example, all MILitary Construction (MILCON) funded projects include SIOH and are always PL2. O&M funded projects, which are awarded at the FEAD or ROICC office level, are typically PL3 unless they are less than $150k, then they are PL4. The PL assigned to a project can be found on the Construction Status Report printed from eContracts. It is located In the Fund Source/PL column, we need to ensure this is assigned at turnover.

CMs should know the PL for all projects assigned to them so that they can conduct their oversight in accordance with BOP Appendix A. BOP Appendix A includes many of the individual tasks typically performed by the CM/ET and explains how the effort varies depending on the PL assigned to the project. There has been much discussion within the CI5 community regarding how to handle exceptions when projects demand more effort by the CM/ET than what is permitted by BOP Appendix A. Some of the concerns are addressed in the document BOP Communicator with Q &A.

Finally, NAVFAC Financial Fact Sheet 16-2 states "for the purpose of funds fidelity and integrity, NAVFAC should not rely on another customer's funding source…" For this reason, Job Order Number's (JONs) are provided for work associated with the PL projects listed above. These should be strictly monitored and correctly utilized for those projects to ensure we don't have an Anti-Deficiency Act (ADA) violation while supplying the necessary oversight.

III. PRE-AWARD

The pre-award phase includes the final planning for a project as well as the preparation of the Request For Proposal (RFP) for a design-build contract or plans and specifications for a Design-Bid-Build contract. Pre-award also includes the effort to solicit the contract for award and concludes with the contract award. The Project Manager has the primary responsibility for the project during the pre-award phase with support from Acquisition. The Procuring Contracting Officer (PCO) is responsible for both the solicitation and the award of the contract. It is towards the end of this phase when the CM is assigned in eContracts and the COR letter is issued by the Contracting Officer (KO). The CM does not have a large responsibility during the pre-award phase. This section of the CM Handbook covers the things that the CM should be aware of during the pre-award phase.

A. CONSTRUCTABILITY REVIEWS.....(BMS B-I.5.5.I)

A constructability review is an evaluation of the plans and specifications (for DBB) or the Request for Proposal (for DB) by the CM and/or ET to ensure the project is buildable, biddable, and enforceable. NAVFAC's BMS contains a constructability checklist to guide the review process. Constructability reviews should be conducted by the CM or ET when possible, a risk based decision can be made based on BOP requirements and discussion with leadership. It's better to identify potential deficiencies in the Plans and Specs or RFP before award than after.

If time limitations prevent a thorough constructability review from being a possibility, the review should focus on the Division 1 General Requirement specifications. These specifications will be located in Part 2 of the RFP or at the beginning of the complete specifications package. During the review, verify that the most recent specifications from the Whole Building Design Guide (WBDG) were properly edited to match the complexity of the project paying particular attention to schedule requirements, safety requirements, quality control requirements, eOMSI, eCMS, environmental requirements and Contractor overhead personnel (SSHO, QC, Superintendent). Consult with subject matter experts from any of these fields for assistance and include checklist in project documentation.

B. PRE-BID SITE VISITS.....

The purpose of a pre-bid site visit is for prospective Contractors to acquaint themselves with the project site prior to submitting their bid proposal. Prospective Contractors are encouraged to attend site visits as this will be their only formal opportunity to view the site. The Contract Specialist (CS) will schedule the site visit usually with input from the CM. The CS will contact the Contractors and coordinate their base access.

As a best practice, NAVFAC normally conducts an organized site visit, which are typically led by the CM and/or ET who are most familiar with the site, in coordination with the Contract Specialist (CS). The organized site visit helps to minimize disruption to the facility tenants (especially for repair/renovation projects). However, ultimately it is the prospective Contractor's responsibility to visit the site before bidding, and the presence of the CM and/or ET is not required. During site visits, Contractors will naturally be inclined to ask technical questions. However, to preserve the integrity of the

bidding process and to ensure that all bidders receive the same information (which should be provided by the *design manager)*, it is crucial that the CM *refrain from providing a technical response* to any questions during the site visit. The CM may only respond to a question at the site visit by saying, *"Please submit all questions in writing to the Contracting Officer (KO)."*

- ✓ Make sure to "document" the site visit. As needed, draft a short summary of minutes, include the sign in roster of personnel who were in attendance, where the site visit was performed, denote what was seen by the bidders and any unique issues that occurred. This may be useful later to resolve questions or address unforeseen issues.

- ✓ Highlight key parts of the contract that have been issues in the past as lessons learned. Document Proposer identified issues and scoping questions.

C. Technical Evaluation Team (TET)

The Technical Evaluation Team is made up of Government employees selected to evaluate Contractor's proposals in order to award competitive negotiated acquisitions pursuant to Federal Acquisition Regulation (FAR) Part 15, including competitive 8(a) acquisitions under FAR 19.805. The process is designed to foster an impartial and comprehensive evaluation of offerors' proposals, leading to selection of the proposal(s) representing the best value to the Government.

Proposals may contain non-cost/price factors such as description of key personnel, experience, past performance (to include evaluating Contractors with no relevant performance history), and shall provide Contractors an opportunity to identify past or current contracts for efforts similar to the Government requirement they are bidding on.

The KO will formally appoint members in writing and require a non-disclosure agreement to preserve the integrity of the procurement process. It's important to follow the procedures outlined in the source selection and technical evaluation plan.

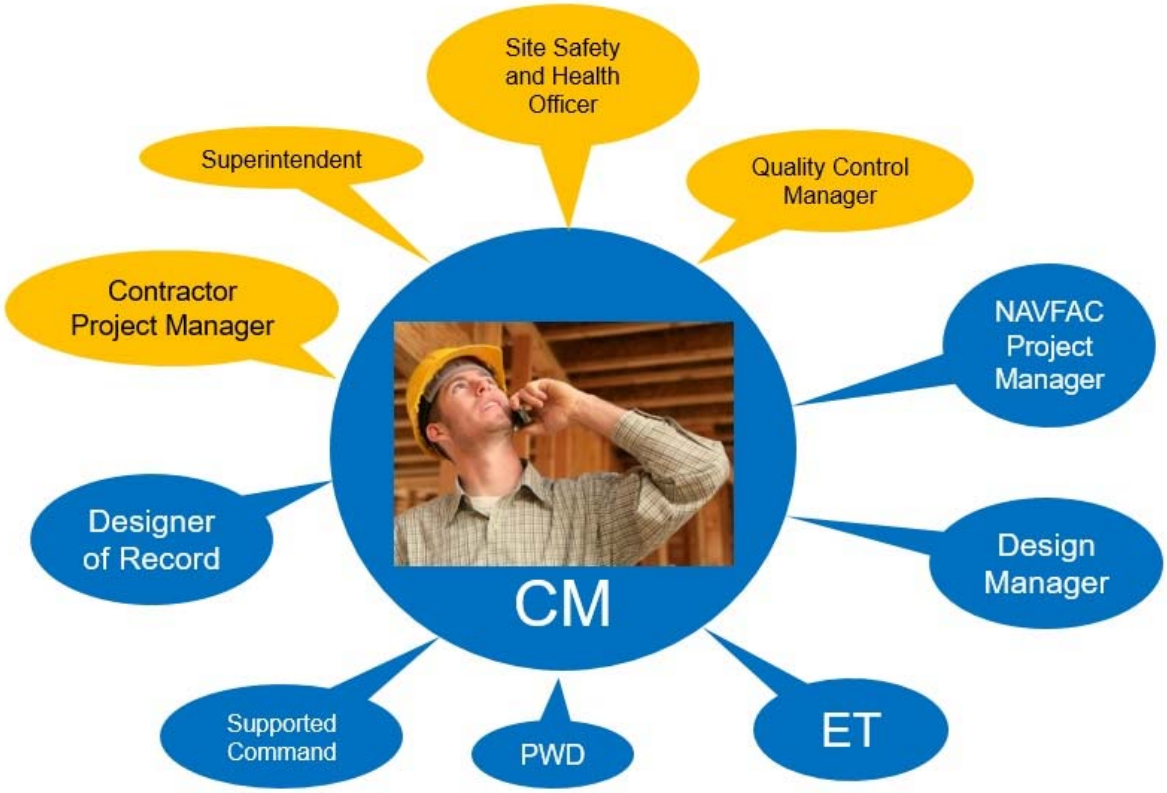
- ✓ When the FEAD/ROICC is the issuing office, the CM should assist the CS to evaluate proposals

- ✓ Suggested training for any registered CM should include CTC 415 – Source Selection. This will improve knowledge, process understanding and ability to participate in source selection panels.

D. Communication

The importance of communication between team members cannot be overstated. During all phases of the project the CM will need to ensure dialogue with various people. As shown in the graphic, the CM is the central point of contact for much of the project life. During the planning of the project, the CM will be included in conversation with the project manager or the design manager. Those individuals

will stay involved during construction for their own project tracking and for submittal review or modification planning. During construction, the CM represents the Government with the Quality Control



Manager, the Contractor Project Manager and others. During this time a constant dialogue with the ET is necessary to assist with validation of invoices, verification of QA activities and more. Communication cannot be over-emphasized. Don't be afraid to ask questions, utilize your subject matter experts, and include all the components of the NAVFAC organization throughout the lifecycle for completeness.

- ✓ *Communicate with parties that need to be involved.*
- ✓ *Facilitate the solution.*
- ✓ *Resolve in a timely manner.*
- ✓ *Raise to higher level those issues that cannot be easily or quickly solved.*

E. Contract Delivery Method - Design-Build or Design-Bid-Build.....

During the planning for a project, a collaborative effort is needed between CI, Acquisition (AQ), Operations (OPS), and the Office of Small Business Programs (OSBP), to determine the best acquisition method to use. An analysis of the projected workload requirements is needed to determine the best approach to accomplish the work. The resulting analysis shall include a matching of workload projections/projects to existing contracts and a determination if additional contract vehicles are required to support the workload. During this discussion, consideration of NAVFAC's corporate goals for small

business, Design-Build (DB) vs Design-Bid-Build (DBB), technical competency, and other factors will factor into the decision. These decisions can manifest themselves into many categories including the following:

- ✓ *>$50M: Single Contract Awards;*
- ✓ *$4M-$50M: Task Orders on MACCs;*
- ✓ *<$22M: 8(a) Sole Source to Indian tribe or an Alaska Native Corporation*
- ✓ *<$20M: Small Business Program MACCs;*
- ✓ *<$4M: 8(a) Business Development Program sole source; and*
- ✓ *<$250K: Simplified Acquisition Procedures.*

Within the acquisition strategy, NAVFAC still has to determine who will be responsible for the final design, thus the discussion of design-build versus Design-Bid-Build.

~ Design-Bid-Build ..... (BMS B-I.4)

In a Design-Bid-Build (DBB) contract, the Government is responsible for the final design. The project specifications are based on the Unified Facilities Guide Specifications (UFGS) that are organized with the front end Division 1 specs including the administrative requirements and Divisions 2-48 representing the technical specifications. In a DBB contract, the Contractor communicates to the Government how the company intends to construct the facility via document submittals, shop drawings, and product information. In general, most of the technical information are approved by the Government Designer, which may be in-house personnel or contract Architect-Engineers (A-Es). In this instance, the CM's role is to coordinate these documents with the Subject Matter Experts (SMEs), such as the Government A-E, and ensure the Government response is provided back to the Contractor.

- ✓ *The contractor design does not supersede or replace the RFP requirements. Those requirements can only be changed by the Contracting Officer via Modification.*

~ Design-Build .....(BMS B-I.5)

In a Design-Build (DB) contract, the Contractor is responsible for the final design within the bounds and in accordance with the Request for Proposal (RFP) and accepted proposal. The Whole Building Design Guide (www.wbdg.org) contains the DB Master RFP which is organized using tabs for the major sections and organization structures for the various categories of information within each tabbed section. The RFP must include all six RFP Parts indicated below unless they are not applicable to the project. The typical facility project will have information in every RFP Part, with the possible exception of RFP Part Five, "Prescriptive Specifications". In a DB contract, the Contractor communicates to the Government how the company intends to construct the facility via the final design and specifications. In general, most of the document submittals, shop drawings, and product information are approved by the Contractor's A-E and sent to the Government as "For Information" only. In general, the CM's role is to acknowledge that the documentation has been submitted.

- ✓ *Part One includes the Proposal Form and Documents and specifies the contractual requirements.*
- ✓ *Part Two contains the General Requirements Specification Sections.*
- ✓ *Part Three contains the Project Program for the project.*
- ✓ *Part Four contains the Performance Technical Specifications.*
- ✓ *Part Five contains any Prescriptive Specifications required for the design build RFP.*
- ✓ *Part Six is for Attachments (e.g., Boring Logs)*

F. Contracting Officer's Representative (COR).....(BMS S-I8.3.6)

A CM with adequate experience to match the complexity of the project will be appointed as the COR for construction projects that require monitoring and surveillance efforts beyond what the contracting officer is reasonably able to provide. The COR assists in the technical monitoring or administration of contracts. Construction task orders requiring monitoring and surveillance shall be validated, at least quarterly by report, to ensure that work has been performed in accordance with contract/task order requirements before payment is authorized. The surveillance activities performed by CORs should be tailored to the dollar value/complexity of the specific contract for which they are designated by the BOP. The contracting officer shall formally appoint individuals as CORs by appointment letter prior to award of the contract action. Per the BOP, the COR appointment letters should indicate the Performance Level of the contract.

Training requirements include CLC 106 for basic construction and CLC 222 for multiple regions/remote geographic locations, cost contracts, and environmental remediation. All CORs are highly encouraged to attend the CTC 342, NAVFAC Contracting Officer Representative COR/COAR course to gain an awareness and understanding of each individual's responsibility for successful and effective contract administration and management. CORs are highly encouraged to take training, if applicable, for the DoD COR Tracking (CORT) Tool, Contractor Performance Assessment Reporting System (CPARS) and Wide Area Workflow. Once designated, CORs must complete the following 10 hours of refresher training every three years to include: CLC 106, annual Ethics training, and annual Combating Trafficking in Persons.

- ✓ *Per FAR 19.805-1(b)(2) and 19.808-1 eCMS can be the official COR file and no other filing is required if used. Make sure the COR Sheet identifying location of documents is loaded in eCMS.*

G. Inherently Governmental Functions.....

The term "inherently Governmental function" (IGF) is defined by Office of Federal Procurement Policy (OFPP) Policy Letter 11-01 and is used when referring to a particular task or function that must be

performed by a Government official. IGF is a policy term which encompasses those governance areas that require officials to exercise discretion, e.g., policy decision-making, performance/mission accountability, and execution of monetary transactions and entitlements. If a task or function is not determined to be inherently Governmental, it may be eligible for performance by private sector Contractors through a contract or other service arrangement.

To illustrate— A contracting officer's authority to obligate Government funds on a contract represents discretionary decision-making and an outlay of taxpayer dollars. This responsibility and authority belongs to individuals who are employed by the U.S. Government and who execute their duties in accordance with the code of ethics for Government service. Conversely, a Contractor is primarily motivated to serve the interests of his or her private sector employer, and is presumed to have a lesser obligation or motivation to guard the public trust. The following provides further **examples** of inherently Governmental functions and non-Inherently-Governmental functions.

<table>
<tr>
<td><u>FAR 7.503 – Inherent Function Examples</u>
• Participating as a voting member on any source selection board
• Accepting or rejecting Contractor products or services*
• Determining whether contract costs are reasonable, allocable, and allowable
• Routine voucher and invoice examination

<u>FAR 7.503 – Non-Inherent Function Examples</u>
• Services that involve or relate to the evaluation of another Contractor's performance
• Contractors providing assistance in contract management (such as where the Contractor might influence official evaluations of other Contractors)</td>
<td><u>FAR 7.503 – Non-Inherent Function Examples</u>
• Contractors providing technical evaluation of contract proposals
• Contractors providing assistance in the development of statements of work
• Contractors participating as technical advisors to a source selection board or participating as voting or nonvoting members of a source evaluation board
• Contractors providing inspection services

<u>FAR 46.401 – Non-Inherent Function Example</u>
• QA (Government inspection shall be performed by <u>or under the direction or supervision of Government personnel</u>)</td>
</tr>
</table>

*Note, review of submittals is not an acceptance/rejection of Contractor products or services. Review of submittals is an assessment of whether the proposed product meets the intent of the contract.

H. Contracting Officer Authority

Contracting officers have authority to enter into, administer, or terminate contracts and make related determinations and findings. Contracting officers may bind the Government only to the extent of the authority delegated to them. Contracting officers shall receive from the appointing authority (see 1.603-1) clear instructions in writing regarding the limits of their authority. Information on the limits of

the contracting officers' authority shall be readily available to the public and agency personnel. Directives (oral or written) by any other Government employee are not enforceable and the Government employee may be held financially liable, especially if those changes impact the price, quality, quantity, delivery, or terms of the contract (also known as "constructive changes" or "unauthorized commitments").

No contract shall be entered into unless the contracting officer ensures that all requirements of law, executive orders, regulations, and all other applicable procedures, including clearances and approvals, have been met. When questions arise about whether work is "in the contract" (or not), it is perfectly fine to have a discussion with the Contractor to discover the facts. However, except for imminent danger situations (discussed later), the CM must not direct the Contractor to perform specific tasks or work that the Contractor believes is "beyond the scope of the contract." When in doubt, the only response a CM should give a Contractor is to "follow the contract" and to "immediately notify the KO in writing."

I. CONTRACT CLAUSES

Contract clauses are standard paragraphs in the Federal Acquisition Regulation (FAR) and Defense Federal Acquisition Regulation Supplement (DFARS) that are incorporated into the contract, based on applicability. In contrast, specifications, such as the various Unified Facilities Guide Specifications, that are also incorporated into the contract are considered "technical requirements." Per Memorandum re Legal Reviews for Department of the Navy (DON) Acquisitions, 1 Oct 2018: Consideration should also be given to seek counsel input as early as possible when a contractor is not meeting its obligations. Counsel review is required for, among other things, terminations, including terminations for convenience and termination related documents (such as show cause and cure notices), stop work orders, Contactor Performance Assessment Reports (CPARs) containing proposed ratings of Marginal or Unsatisfactory in any evaluation area, memoranda for the record or to the contract file that explain or document actions taken in situations where litigation, or the likelihood of litigation, exists and any matter involving loss of or damage to property, death, or bodily injury arising out of contract performance.

The purpose of these clauses is to transfer most, if not all, of the risk and responsibility to the Contractor. While all clauses are important, the CM should pay particular attention to the following.

Accident Prevention (Safety)

FAR 52.236-13 Accident Prevention – requires the Contractor to comply with USACE Safety and Health Requirements Manual (EM 385-1-1) and Occupational Safety and Health Administration (OSHA) requirements; and also requires the Contractor to "provide for protecting the lives and health of employees and other persons and preventing damage to property."

While the construction Contractor is assigned the risk and responsibility of accident prevention, please note, the CM still has a professional obligation (i.e. due diligence) to ensure that observed safety deficiencies are immediately reported to the Contractor for corrective action and/or to stop work for "imminent danger" to life and property. OSHA defines imminent danger as ". . .any conditions or practices

in any place of employment which are such that a danger exists which could reasonably be expected to cause death or serious physical harm immediately or before the imminence of such danger can be eliminated through the enforcement procedures otherwise provided by this Act."

The CM is not expected to memorize the EM 385-1-1 or OSHA safety requirements. However, with an engineering or architectural background and training, the CM should be able to recognize some potential hazards. In any situation, especially when observing activities at the construction site, the CM should ask (similar to preparing an activity hazard analysis):

1. What could possibly go wrong? (identify the hazard)
2. How likely is that event going to happen? (probability)
3. What damage would occur? (severity)
4. Do I need to stop it immediately; is there imminent danger? (control)

If the answer to the third question is “immediate death, serious physical harm, or major property damage,” then the answer to the fourth question is yes.

If the answer to the fourth question is yes, then the CM is authorized to “stop the work.” This is done by notifying (verbally and in writing) the Contractor’s SSHO, and/or the QC Manager, and/or Superintendent that an imminent danger situation exists and corrective action is needed immediately. This process can become very adversarial, and it is crucial for the CM to avoid any verbal and physical confrontations with the Contractor. After notifying the Contractor, the CM must immediately notify the KO (verbally and in writing) and provide additional follow-up.

If the answer to the fourth question is no (e.g. routine safety deficiencies), then the CM should request the SSHO to document the issue in the safety deficiency log for corrective action.

The CM must be diligent in enforcing safety requirements. However, the Contractor always remains responsible for the safety of his/her operations.

Quality Assurance (Government)

FAR 46.401 (Quality Assurance) General - requires the Government to perform quality assurance (QA), but does not specify the method, process, or frequency.

FAR 52.236-5 Material and Workmanship - requires the Contractor to work in a skillful and workmanlike manner and that the Contracting Officer may require the Contractor to remove any employee that is incompetent, careless, or objectionable. In addition, this clause requires all equipment, material, and articles incorporated into the work “shall be new and of the most suitable grade for the purpose intended,” unless specified otherwise.

FAR 52.246-12 Inspection of Construction - is the foundation and basis for all contract requirements dealing with quality control and quality assurance. This clause requires the Contractor to

maintain an adequate inspection system and perform inspections that will ensure contract compliance. This clause also recognizes that the presence or absence of a Government "inspector" does not relieve the Contractor from any contract requirement. This contract clause allows the Government to require the Contractor to expose, test, and ultimately remove and replace deficient work. If necessary, the Government may employ another Contractor to make the corrections if he refuses to correct it himself.

Similar to safety, the construction Contractor is assigned the risk and responsibility for quality and inspection. NAVFAC does not perform inspections. Inspection is part of the three phases of control within the Contractor's QC Program. The Government's role is Quality Assurance (QA), i.e. to verify that the Contractor's system of inspection and quality control program are working.

While observing activities at the construction site, the CM should ask:

1. Is the Contractor conducting and documenting preparatory and initial phase meetings?
2. Is the Contractor documenting deficiencies?
3. Is the Contractor following-up to ensure deficiencies are corrected?

What happens when something goes wrong?

NAVFAC's goals will always include zero mishaps and zero quality mistakes. We all know that unfortunately, sometimes bad things happen on construction projects, despite NAVFAC's goals. When bad things happen, Command leadership will likely look to the CM for answers. It is important for the CM to remember that:

1. The Contractor owns the accident prevention clause, the inspection of construction clause, and the workmanship and materials clause.
2. Neither NAVFAC nor the FAR (52.246-12) requires the Government representative to be at the job site all the time.

When requested by leadership, the CM should be prepared to answer to the following questions:

1. How did the *Contractor* **fail** to provide for "protecting the lives and health of employees and other persons and preventing damage to property?"
2. How did the *Contractor* **fail** to provide an "adequate inspection system and perform inspections that will ensure contract compliance?"
3. How did the *Contractor* **fail** to provide "work in a skillful and workmanlike manner?"
4. How did the *Contractor* **fail** to provide all equipment, material, and articles incorporated into the work to be "new and of the most suitable grade for the purpose intended?"

The CM/ET should provide oversight of the Contractor's investigations if necessary and any proposed safety or quality changes to prevent future occurrences.

Useful Clause Toolkit

At any time during the project NAVFAC may have to respond to a Contractor that is not meeting its obligations. Although it is best to try and resolve these issues at the lowest level, there may come a time when a sterner response is required. A sampling of many of the aggressive examples of ways to elevate problems for resolution are listed below. These should be coordinated through the KO and well documented if utilized.

Withhold Payment - Contract Payment Clause, FAR 52.232-5. Grounds for withholding payment include the Contractor's failure to: perform in accordance with the terms of the contract; provide the Quality Control Plan giving assurance of his intent and ability to comply with quality standards; or build to quality standards. While the Government is obligated to pay for satisfactorily completed work, it has no obligation to pay a Contractor for deficient work.

Removal of unsatisfactory Contractor personnel - Contract Clause, Material and Workmanship, FAR 52.236-5. If Contractor personnel are deemed to be incompetent, careless, or otherwise objectionable, the Government can require the removal of such personnel from the project. However, under other provisions of the contract, if the Government deems the QC staff to be too small, but not incompetent, it may direct the addition of personnel. Be careful as this may come with an increased cost.

Requiring the Contractor to assume personal supervision - Contract Clause, Superintendence by the Contractor, FAR 52.236-6. If the Contractor does not provide an adequate superintendent, the contract allows the Contracting Officer to require the Contractor to assume personal supervision of the work.

Suspension of Work/Stop-Work Order, FAR 52.242-14 & 52.242-15. Another Government option is halting work until deficiencies are corrected. The Contracting Officer may direct the Contractor to cease work and any item or work feature pending satisfactory correction of any deficiency in that work--particularly if the defective work is to be become inaccessible if further work proceeds. If the Contractor refuses to stop and correct the deficiency immediately, a letter from the Contracting Officer may be issued, directing the Contractor to cease that particular operation.

Terminate the Contract - Contract Clause, Default (Fixed-Price Construction) FAR 52.249-10. The most drastic type of action is to terminate the contract. In most cases, termination for default is not in the best interest of the Government. Termination action is taken only after all else fails.

J. Pecuniary Liability

Pecuniary liability is the responsibility for repaying a payment that is:

1. Illegal, improper, or incorrect because of inaccurate or misleading certificate
2. Prohibited by law
3. Does not represent a legal obligation under the appropriation or fund involved

As a COR, the CM is one of many Accountable Officers (AOs) within the Federal Government assigned to disburse payments. With that function, comes the responsibility to ensure appropriateness

and accuracy of payment. This is no different than an AO who reimburses you for your employment expenses or travel.

Calculation errors are not uncommon; however, the CM must make every effort to ensure the accuracy of the payment request. Keep in mind, facilities construction is relatively unique in that progress payments are made at regular intervals during of the project (in contrast, other procurements, such as supplies, typically require a single payment upon delivery of the goods or services). As such, the most crucial progress payment is the final invoice and/or release of retention. Do not release the final payment unless you know for sure the Government received commensurate earned value. This assurance is typically done at a "final inspection."

The law (U.S. Code 3528) provides statutory relief from an erroneous payment. When processing a progress payment request, the CM should always ask:

1. Are there official records (e.g. Quality Control and Production Reports) demonstrating delivery of product or service? And am I providing reasonable diligence to ensure correctness?
2. Is there a legal contract and obligation? And is there no law specifically prohibiting the payment? And did the U.S. Government receive value for the payment?

If the answers to all these questions are yes, then the CM should have no fear of pecuniary liability.

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IV. Post-Award Pre-Construction

The post-award pre-construction phase begins with contract award and ends with the start of construction. The length of this phase will vary depending on the contract type, DB versus DBB. The CM assumes the day-to-day project lead during this phase beginning with the turnover meeting. A goal for the CM during this phase is to conduct either the Post-Award-Kickoff (PAK) meeting or Pre-Construction (PRECON)_, whichever is required, soon after award and to track the Contractor's pre-construction submittals. On DB contracts, which require the Contractor to prepare a design prior to construction, the CM must involve themselves with the design review process primarily to monitor the Contractor's schedule adherence and also to be involved with any potential contract modifications that are discussed. Partnering is also an important part of this phase.

A. Contract Award Document

At construction contract award the CM takes over as the primary project lead through construction and closeout, although the DM/PM will continue to have oversight. The primary job of the CM is to ensure construction is completed in accordance with the plans and specifications and to keep the project moving forward to either avoid or minimize potential Government delays. To effectively perform this job, the CM needs all the contract documentation including the award document itself. Through conversations with the PM, interaction with the Acquisition staff and turnover meetings the CM needs to obtain the following:

1. The Contract Solicitation
    a. CADD .DWG (Drawing) files
2. Award Documentation
    a. Plans – signed copies
    b. Specifications – signed copies
    c. Amendments
    d. Any and all pre-bid questions and the responses
3. Awarded Contractor's proposal
    a. Award Criteria
    b. Protests
4. Funding information to include source, year and remaining budget

This information should be supplied before the contract turnover meeting and discussed in detail between the PM, DM the PCO, CM and more as needed. See IV.A above for more detail.

- ✓ One of the most common Construction Assistance Visit (CAV) findings is that the team is not familiar with the contract documents. Make sure to read and become thoroughly familiar with the project and not to assume the information that may be in the documentation.

- ✓ These documents should be stored on a shared location under the project folder for future reference, use and distribution amongst the NAVFAC team.

B. Turnover Meeting (PCO-ACO).....

Whenever a contract is awarded at the FEC, and in the event of large special projects or MILCONs, a Turnover Meeting is required for the Procuring Contracting Officer (PCO) to hand over the project, including contract files generated up to this point, to the Administrative Contracting Officer (ACO). The turnover meeting should occur as soon as possible after award and must be held prior to the (PAK) meeting. *Prior* to the meeting, Government administration personnel will become knowledgeable regarding the selection of the best value Contractor and the commitments made by the Contractor to the Government. The PCO will chair a meeting with the ACO to get all the details on the project. This will include project history, changes, dependencies or constraints, the funding process and more. Attendees, mandatory (M) and optional (O), shall include:

1. Supervisory Contract Specialist (M)
2. FEAD/ROICC (O)
3. Project Manager (M)
4. Design Manager (M)
5. Construction Manager (M)
6. Engineering Technician (M)
7. Installation Real Property Accountable Officer (RPAO) (M)
8. Client (O), and Other personnel, as appropriate

Agenda for the Turnover Meeting is located in BMS S-17.4.1.1 Assignment of Contract Administration – Construction. Minutes from this meeting should be saved in the project file.

C. Pre-Construction Meeting (PRECON).....(BMS B-I.4.6.3 & B-I.5.5.I)

The purpose of the PRECON is to acquaint Contractor and Government personnel who will be part of the project team and also discuss administrative details of the project. The PRECON occurs just prior to mobilization before construction begins. On a Design-Bid-Build (DBB) contract, the PRECON should occur within the first 30 calendar days after contract award. On a Design Build (DB) contract, the PRECON should occur after the Contractor's design has been accepted prior to mobilization for construction.

The CM is responsible for scheduling and coordinating the PRECON with all required attendees. Required Government attendees include: CM, ET, DM, PM, CS, DOR (A-E), FMS and representative from the supported Command. Required Contractor attendees include: PM, Superintendent, Quality Control Manager, Site Safety and Health Officer and primary sub-Contractors. Optional Government attendees include: PMEB, SGE, Fire Marshal, base environmental, RPAO, DPWO, and APWO. Determine the optional personnel that should attend based on the requirements of the contract.

The CM should have a prepared agenda to follow during the PRECON. Even though the CM will have an agenda, the CM must be somewhat familiar with the scope of work in order to ask questions and field questions from the Contractor.

The major agenda items for most projects include:

- Introductions
- Coordination for outages
- Hot work permits
- Base access requirements
- Safety
- Quality control
- Daily reports
- Invoices
- Construction schedule
- Red Zone
- eOMSI
- RFIs
- Submittal process
- eCMS
- Labor standards
- Unforeseen conditions
- Contract modifications.

The meeting minutes from the PRECON should be saved as part of the official contract file documentation.

- ✓ Per Commander NAVFAC ENG COM memo dated 31 Jan 2019, CPARS is to be reviewed with the contractor at the Pre-Construction Meeting

D. Post-Award Kick Off Meeting (PAK) for Design Build....(BMS B-I.4.6.I)

The PAK Meeting only applies to Design-Build contracts. The purpose of the PAK Meeting is to acquaint Contractor and Government personnel who will be part of the project team and also discuss administrative details of the project with specific emphasis on the design review process. The PAK Meeting should occur within 35 calendar days after the award of the contract, or otherwise as stated in the contract.

The CM is responsible for scheduling and coordinating the PAK with all required attendees. Required Government attendees include: CM, ET, DM, PM, CS, FMS and representative from the supported Command. Required Contractor attendees include: PM, Superintendent, Construction Quality Control Manager, DOR, Design Quality Control Manager, and Site Safety and Health Officer. Optional Government attendees include: PMEB, SGE, DPWO, and APWO.

The CM should have a prepared agenda to follow during the PAK. Even though the CM will have an agenda, the CM must be somewhat familiar with the scope of work in order to ask questions and field questions from the Contractor.

The major agenda items for most PAK Meetings include: introductions, design submittal requirements and design review process, base access requirements, design safety, design quality control, invoices, baseline schedule, Red Zone, RFIs, submittal process, eCMS, eOMSI requirements, design changes and variations and contract modifications. Meeting minutes from the PAK Meeting should be saved as part of the official contract file documentation. After the Contractor's design has been accepted, a PRECON must be held, as described in paragraph C of this section, before mobilization prior to construction.

E. Electronic Construction Management System (eCMS).....

NAVFAC eCMS is how NAVFAC communicates with construction Contractors on a project. Required for projects greater than $150,000, eCMS is a web-based, enterprise project collaboration tool to improve post-award document management (with specific applications for RFIs, submittals, daily reports, non-compliance notices, etc.) using only a web browser.

The benefits of using eCMS include:

1. Leverages cloud capabilities (i.e. speed and storage in secured AWS GovCloud *.mil site)
2. Allows on-line collaboration between GOV and Contractor users associated with project
3. Provides centralized file storage (not limited by *.pst files, or personnel turnover issues)
4. Allows transfer of large files (200 MB per file, tracks status of submittals)
5. Controls user access to sensitive information (e.g. Contractor cannot view A-E responses)
6. Organizes files electronically into designated folders (RFIs, submittals, etc.)
7. Provides functionality on portable devices (Contractor provides)
8. Provides other browser-based tools (e.g. scheduling tool for 3-week look ahead)
9. Tracks action items across projects
10. Simple interface to process RFIs, Submittals and Daily Reports.
11. Provides project metrics while maintaining corporate data and actions in one location

The requirement for using eCMS is in UFGS Section 01 31 23.13 20 Electronic Construction and Facility Support Contract Management System. UFGS Section 01 31 23.13 20 should be in your contract if your construction project is greater than $150K & awarded after 31 Dec 2017.

- ✓ Go to navfac.navy.mil (search for “eCMS”), available to Contractors and A-Es. The page has the access request form and instructions on how to build your team in eCMS.

F. Submittal Register.....

The purpose of the Submittal Register is to list all the required submittals on a contract and serve as a tool for the Contractor and Government to track outstanding submittals. The submittal register is always prepared by the Designer of Record (DOR) after the contract specifications are finalized. Regardless of contract type, the Contractor is required to maintain the submittal register throughout the contract by entering dates associated with the submission and receipt of required submittals. The submittal register is an indispensable tool for tracking construction; it’s a one-stop look at how the Contractor is progressing with submittals and the quality of the submittals (both technical and safety). If this process is not on track, there is **no-way** the construction will be on track.

UFGS Section 01 33 00 provides the requirements for the submittal register. UFGS Section 01 20 00.00 20 requires the Contractor to submit an updated submittal log with each invoice; it should be checked for completeness and filed with the submittals. Replace the previous with the current. For offices that file submittals in numerical order, there is nothing more frustrating than trying to find a submittal for a particular spec section and have no idea of the submittal number and no log handy for reference.

The Submittal Register must include the following:

1. The NAS activity code is entered by the Contractor when a network schedule is required and for those submittals that are associated with specific schedule activities.
2. Item Number is to be completed by the Contractor.
3. The Contractor Schedule Dates Columns should project when submittals will be submitted, when approval is needed, and when the material is needed. This information should be updated every 30 days as required by the specification. Submittals are required by the contract in order to regulate the timely flow of materials to be incorporated into work. They are necessary to demonstrate that the proposed materials, etc., are in compliance with the contract. All required submittals must be provided by the Contractor in time to allow for the review, approval, procurement, delivery, and performance of the preparatory phase of the Three Phases of Control for an item before it is needed for construction. Submittals are indispensable in assuring and controlling construction quality and must be given the attention required.

Contractor Submittal Responsibilities:

The Contractor must review the Submittal Register prepared by the Designer of Record and add any needed additional submittals.

The Contractor must check the submittal schedule requirements against the Network Analysis System (NAS) or other approved construction schedule.

The Contractor constantly maintains and adjusts dates on the register as required by the contract activities to ensure the document reflects current information.

Government Submittal Responsibilities:

The Government DM will prepare a list of submittals required for each contract that are reserved for Government approval. This list will be prepared on a submittal register. The annotated submittal register will be incorporated into the specifications prior to advertisement.

- ✓ The CM and Government DOR shall promptly review submittals as required to avoid project delays. Dates logged in the submittal register can become the basis for Government delays.
- ✓ Submittal Register is integral in scheduling and tracking actions in eCMS. It is imperative the CM/COR load up the submittal register in eCMS and ensure it reflects the contract requirements.

G. CONSTRUCTION SCHEDULES.....(BMS B-I.4.6.2 & B-I.5.5.2)

The Contractor must submit a construction schedule according to the requirements of the contract. This usually requires the schedule to be submitted at the pre-construction conference or PAK meeting. The schedule must be reviewed for acceptance by FEAD/ROICC organization which must occur prior to the start of on-site work. The schedule must be prepared in accordance with the specifications of the contract. Also, an updated progress schedule must be submitted monthly.

The baseline schedule must be prepared in accordance with the applicable schedule specification in the contract documents which requires activities for submittals, approvals, procurement, installation

and erection, testing and inspection. Also, those items of work that will delay the start or completion of other major items of work shall be shown.

The CM & ET must review each monthly progress schedule update to ensure that it conforms to the actual progress on the job and corresponds to the actual DFOWs of the QC plan. The CM & ET will use the three-week look ahead schedule to plan quality assurance surveillance for the project and to verify the actual progress on the job.

If the Contractor submits a progress schedule update that shows them finishing late by no fault of the Government, the Government may retain 10% from the Contractor's next invoice and each progress payment after that until the Contractor is back on schedule. Before withholding any payment be sure to give serious consideration to whether or not the Government may have had any responsibility for the delay. The Contractor must submit a Time Impact Analysis and companion narrative report showing/explaining that the Government actions caused a delay to the critical path. If the Contractor failed to justify that delays were the fault of the Government, then the Contractor should be issued a Letter of Concern informing them of the retainage and requesting a Recovery Schedule that shows how they plan to make up the time in order to achieve on time finish.

The Contracting Officer may withhold approval of progress payments until an updated schedule has been received and approved.

- ✓ Typical omissions from Contractors' first submission of the baseline schedule include mid-project submissions such as O&M; red-lined as-builts, all eOMSI to include appropriate fields entered by the Designer-of-Record and Contractor into the Facility Data Workbook (FDW), Commissioning and Government Critical Systems Acceptance activities and durations; and the required activities and durations of the project close-out inspection process (Contractor Punch, Government Pre-Final and Government Final Inspection).

- ✓ It is important that the contractor coordinates the schedule with the schedule of prices. Review it or the cost loaded schedule to find excessive front-loaded construction costs that do not reflect the actual work on the project.

- ✓ Ensure to document the reason for retainage and avoid claims of punitive damages being imposed.

H. Quality Control (QC) Plan.....(BMS B-I.4.6.3 & B-I.5.5.I)

NAVFAC requires, and holds accountable, the Contractor to plan, inspect and control quality on projects. UFGS Section 01 45 00.00 covers the Quality Control requirements of the project. The FEAD/ROICC team, typically the CM & ET, should refer to the BOP and performance level for the standard requirements for reviewing the QC plan. The Contractor completes and submits QC Reports which show the results of implementing the QC Plan.

For design-build projects, utilize BMS B-1.4.6.3 for guidance on quality management. Although most construction submittals will be internal to the Contractor, if the performance level supports cursory review, make sure to note the submittal log and what items will need Governmental comment or are for situational awareness. The QC Plan should not be generic. It needs to denote specific aspects of the awarded project. Verify the QC manager and alternate meet contractual requirements. Ensure they have an appointment letter signed by an officer of the company and that they report to the appropriate person as denoted in the contract. Remember quality should not be driven by schedule.

For Design-Bid-Build projects utilize BMS B-1.5.5.1 for guidance on quality management. A QC Plan meeting is recommended at the onset to cover QC requirements and the CM/AROICC/ET expectations. If the performance level supports cursory review, make sure the plan is site specific. Verify the QC manager and alternate meet contractual requirements. Ensure they have an appointment letter signed by an officer of the company and that they report to an officer of the company and not the field staff.

The QC Plan must cover all the work that is part of the project; however, under some circumstances, i.e. fast track construction, very large project, project with special requirements, etc., the QC Plan can be an interim plan that covers the work expected to be done in the first 60 to 90 calendar days. This allows the Contractor to prepare the complete QC Plan without any delay in the project schedule. The QC Manager must be the author or co-author of the QC Plan so he/she is completely familiar with the plan and can lead the Contractor's QC organization. Supplemental QC Specialists may be enlisted/required to provide special input and analysis as part of the QC program. No changes can be made to an accepted QC Plan unless the Contracting Officer is informed of the proposed changes before they are made and has given concurrence in writing. The components of the QC Plan include the following:

• QC Organization names and qualifications • Duties, Responsibility and Authority of QC Personnel • Outside Organizations • Appointment Letters • Submittal Procedures and Initial Submittal Register • Testing Laboratory Information • Testing Plan and Log • Procedures for Performing the Three Phases of Control	• Organization and Personnel Certifications Log • Procedures to Complete Rework Items • Documentation Procedures • List of Definable Features of Work (DFOW) • Personnel Matrix • Procedures for Completion Inspection • Training Procedures and Training Log

- ✓ The Contractor's QC Plan must be kept current and changes need to be submitted in writing to the office.
- ✓ The BMS provides a QC Plan checklist to assist with evaluation of the Contractor's plan. Office specific items may need to be added to this list based on the project requirements.

- ✓ Check the QC Plan/specifications for training to be provided by the Contractor.
- ✓ A design QC Plan may be required. The DM has the lead in managing the process and review.

I. Design Build (DB) -Design Quality Control Plan.....(BMS B-I.4.6.3)

The Design-Build Contractor's Design QC Manger is responsible for Design Quality Control and should be the author or co-author of the Design QC Plan. The NAVFAC DM has the lead in managing the design process and reviewing the design QC plan. The performance level of the project will determine the CM's input on this review. Review the BOP to determine the amount of coordination expected by the CM. The information contained in the Design QC Plan shall include:

- QC Organization
- Names, Qualifications and Duties of the DQCM and Alternate DQCM
- Design Organization
- Appointment letters
- Submittal Procedures
- List of Design Deliverables
- Documentation Procedures and Status Reports
- System List (Commissioning Plan, Required Training)

- ✓ This is not intended as a complete review of the design. This is the responsibility of the Contractor and is coordinated by the DM/Designer.
- ✓ Ensure Part 2 UFGS Section 01 45 00.05 20 (01451), Design and Construction Quality Control is in the contract.
- ✓ The Design Manager will forward the Final Design to the ACO via the CM.

J. Design Build (DB) -Design Review Meetings .....(BMS B-I.4.6.I)

On design build projects ongoing design review is a reality. NAVFAC relies on the Contractor to coordinate with the customer and design manager for these meetings. As the performance level of the project increases the participation of the CM and ET increases. Ensure the design manager is engaged and aware of their responsibility to coordinate and attend the meetings.

Refer to BMS B-1.4.6.1 Post Award Design Management and UFGS Section 01 31 19.05 20 (01006N) Post Award Meetings. Design review meeting attendees shall include:

1. Government
    a. PM-DM-CM
    b. Supported Command and other major stakeholders
    c. Project Technical Team (related to the specific Design Submittal)
2. Contractor
    a. PM

b. QC Manager
c. Design Quality Control (DQC) Manager
d. Contractor's Design Staff (related to the topics to be discussed)
e. Contractor's QC Representative (if required by the contract).

The Contractor shall provide consolidated copies of all Government comments with annotations for Contractor's action. If the Contractor disagrees with comments, they must notify the ACO within five days of receipt of comments. Establish a comment resolution plan for disagreements with comments technically or comments interpreted as exceeding requirements of the contract. At the 100% Design Review Meeting, the Contractor shall discuss and finalize the construction baseline schedule.

K. Testing Plan and Log

The testing plan and log includes the tests required, referenced by the specification paragraph number requiring the test, the frequency, and the person responsible for each test. FAR 52.246-12 requires giving advance notice to the Government of the times when tests will be conducted. As tests are performed, the QC manager shall record on the "Testing Plan and Log" the date the test was conducted, the date the test results were forwarded to the Contracting Officer, remarks and acknowledgements that an accredited or Contracting Officer approved testing laboratory was used. These can be tests for fire protection, elevators, generators, pressure vessels and more.

The Testing Plan and Log should be checked to ensure that all required field and factory tests listed in each technical section of the specification is recorded in the Testing Plan and Log.

Accreditation Requirements – Construction materials testing laboratories must be accredited by a laboratory accreditation authority and will be required to submit a copy of the Certificate of Accreditation and Scope of Accreditation.

Laboratory Accreditation Authorities – There are several Laboratory Accreditation Authorities in the United States. For a listing of the Authorities see UFGS Section 01 45 00.00 20 Quality Control, paragraph 1.13.2 Laboratory Accreditation Authorities.

Capability Check – The Contracting Officer retains the right to check laboratory equipment in the proposed laboratory and the laboratory technician's testing procedures, techniques, and other items pertinent to testing, for compliance with the standards set forth in the Contract.

Test Results – Cite applicable Contract requirements, tests or analytical procedures used. Provide actual results and include a statement that the item tested or analyzed conforms or fails to conform to specified requirements.

Test Reports and Monthly Summary Report of Tests – Furnish the signed reports, certifications, and a summary report of field tests at the end of each month to the Contracting Officer.

- ✓ The Design Manager will identify the list of submittals required for Government approval.

L. Coordination and Mutual Understanding Meeting.....

UFGS Section 01 45 00.00 20 Quality Control calls for the QC Manager and the Contracting Officer (and by extension the CM), prior to submission of the QC Plan, to meet with and discuss the QC Plan requirements of this Contract. The purpose of this meeting is to develop a mutual understanding of the QC details, including documentation, administration for on-site and off-site work, design intent, commissioning, environmental requirements and procedures, coordination of activities to be performed, and the coordination of the Contractor's management, production, and QC personnel. After submission of the QC Plan, and prior to start of construction, the QC Manager will meet with the Contracting Officer to present the QC program required by this Contract. When a new QC Manager is appointed, the coordination and mutual understanding meeting shall be repeated. This meeting might be the first opportunity of QC and QA personnel to meet and discuss QC in detail. It is important that this meeting is attended by the key personnel in the Contractor's QC organization.

- ✓ The QC Manager should provide the meeting minutes for the Coordination and Mutual Understanding Meeting.

M. Contractor Base Access.....

FEAD Office shall coordinate Contractor requests for base access. Base access policies differ from base to base. A Department of Defense (DoD) I.D. is required when entering a base. Some bases may require every person in the vehicle to present an I.D. If you are a passenger and do not have a DoD I.D., you can present a valid driver's license in most cases. Some bases will require scanning your I.D. If your I.D. is not up-to-date you will not be able to gain base access.

For the simple case of a site visit a person can be sponsored by a military member or civilian. Usually this is accomplished by both individuals stopping by the visitor center together so the guest can receive a visitor pass. Typically, a background check is required and a photo may be taken before the pass is issued. Foreign visitors will have to be pre-cleared several days in advance and finding out these timelines from security is a good rule to follow.

For long term instances a Contractor will need to supply a list of employees with some identifiable information to their Government point of contact. That list will be shared with security. A background check will be performed on each member of the list. This process can be impacted by number of individuals requested, nationality of the visitor and location they need to work. Good coordination with the security office is vital to understand this time frame and what information is required. More information on the the Defense Biometric Identification System (DBIDS) can be found at https://www.cnic.navy.mil/om/dbids.html.

- ✓ See local base policies and BOP for coverage requirements.

N. Partnering.....(BMS B-I.6.3)

Partnering is a process involving key team members from the Government and Contractor where the objective is to draw on the strength of both parties in an effort to achieve a quality project, within budget, on schedule and without safety mishaps. The first step of the process is a partnering meeting that occurs

immediately after award, usually following the PAK meeting or Pre-construction Conference. Partnering will either be informal or formal. UFGS Section 01 30 00 will specify the level of partnering required for the project.

Formal Partnering is required on projects greater than $15M. The initial partnering meeting is facilitated by a consultant hired by the prime Contractor. Follow-on partnering sessions are usually required every 6 months and are also facilitated by the Contractor's consultant. All costs associated with formal partnering are the responsibility of the prime Contractor.

Informal Partnering is intended for smaller less complex projects, usually less than $15M. The initial partnering meeting is facilitated by the CM and Contractor's PM. The NAVFAC Partnering Tool Kit contains instructional videos and videos to show during the partnering and should be used whenever facilitating informal partnering. The CM must secure a location for the informal partnering and invite all required attendees.

Required Government attendees include: PWO, DPWO, FEAD, PMEB or SGE, CM, ET, KO, CS, PM, DM, DOR (if in house or A-E design), and end user. Required Contractor attendees include: Senior Level Executive, Project Manager, Superintendent, QC Manager, Safety Manager, DOR and representatives from primary sub-Contractors.

O. Contractor Lay Down Area.....

Traditionally seen as an ET role to help in orchestrating the access to areas indicated in the contract, the CM can still assist in obtaining the area for construction. During the constructability review, and even after receiving the package confirm that space is provided within the construction limits for work to be done. Additional items to ensure/clarify include the following.

1. Is a lay down area explicitly defined in the site plan?
2. Are threatened and endangered species or habitat present?
3. Are wetlands or waters of the U.S. involved?
4. Are points of connections shown for all needed utilities?
5. Is space provided within the construction limits for work to be done, including laydown and over-excavation areas and access/haul roads?
6. Ensure the laydown area is within the CATegorical Exclusion (CATEX) limits.

Confirm with the BOP further expectations, based on performance level, to determine who coordinates the laydown area with the Contractor, customer and Public Works.

P. Ground Breaking Ceremony.....(BMS B-I.6.4)

Ground Breaking Ceremonies are high visibility situations that do need some attention to detail by the Activity. The Activity is responsible for deciding if a ceremony is appropriate and for executing the arrangements for the ceremony. The size and complexity of these types of ceremonies depends on the participants. Large contracts involving major facilities may include congressional representatives, Flag/General Officers and Installation Commanders. Although the PWD/FEAD or ROICC may be involved to

assist the Activity, and steer them in the right direction for the ceremony, consult the BOP for the support requirements afforded to the contract.

Q. Contractor Crane Access.....(UFGS 01 35 26)

Project site access is restricted to cranes that have valid entry permits. In addition to the certificate of compliance, an access permit requires a review of crane condition and operation by the major activity representative. Contractor crane operations still rely upon the Contractor to plan, inspect and control safety. As part of the PAK/PRECON a package of expected forms could be distributed that contains the crane checklists. These forms are found in the USACE EM385-1-1.

NAVFAC CMs and ETs shall provide QA of the construction Contractor's safety plan, lift plan, certificate of compliance (EM 385-1-1 Form 16-1 or P-307 Form P-1), and pre-lift checklist (EM 385-1-1 Form 16-2 or P-307 Form P-2) in accordance with the risk-based performance level standards in the latest Business Operations Plan. NAVFAC construction contracts shall not be permitted to require construction Contractor crane safety standards that exceed OSHA (unless approved by Secretary of Labor) or EM 385-1-1. It is a requirement that CM/ET/PARs complete Contractor Crane Awareness Training (E-Learning course) and/or the 40 Hour Construction Safety course.

When applicable, especially for complex lifts, field offices should continue to obtain weight handling equipment (WHE) subject matter expertise from the local Public Works-Transportation department and/or Navy Crane Center (NCC). These services are usually available on a reimbursable basis.

When reviewing the crane, the major activity representative uses a checklist that identifies OSHA, ASME, and special contract requirements, such as the Army Corps of Engineers safety manual EM-385-1-1, which is invoked in construction contracts. This form walks the Contractor through a typical crane plan and requires them to acknowledge the operation, weight analysis, swing plan, objects in proximity and rigging gear. Typically confirmed by the ET, if applicable to the contract, ensure the P-2 is posted in the cab of the crane. Check the BOP for review requirements related to the project.

- ✓ Utilize FORM 16-1, and 16-2 of the EM385-1-1 for compliance.
- ✓ Lift plans are required for critical lifts.
- ✓ Make sure the Contractor notifies the CM when a crane is to be delivered to the site.

A permit is issued for the duration of the job or 30 days, whichever is less. For long-term stays, a complete re-inspection and a new permit are required every 30 days. On a daily basis, oversight is provided by the Contractor for crane operations.

- ✓ Spot check the 16-1 and 16-2 forms, before operations or the documentation posted in the cab of the crane while in the field.
- ✓ Discuss crane operations at the QC meeting to be aware of crane operations, impacted spaces, and risks expected.

For construction Contractor crane safety mishaps, the CM or ET shall report:

- Class A (damages to DoD or non-DoD property > $2 million, a DoD aircraft is destroyed),
- Fatality or permanent total disability, and
- Selected Class B (damages to DoD or non-DoD property ≥ $500,000 but < $2 million), and
- Permanent partial disability, or 3 or more personnel are hospitalized.
- All other construction Contractor mishaps (including “near misses”) are not required to be reported.

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V. Construction Management

Construction Management is the overall effort by the CM (and ET) to enforce the contract requirements with a focus on quality assurance while acting on behalf of the contracting officer in the performance of their duties. In order to be most effective, the CM must understand the Government's contract oversight responsibilities and strive to accomplish inherently governmental tasks in a timely manner in order to prevent Government-caused delay. The CM must learn to prioritize their responsibilities while focusing on those issues directly impacting project cost growth and schedule growth. The topics listed here are applicable to every contract or task order. The CM should be familiar with these topics in order to effectively perform contract oversight.

A. Quality Control Meetings.....(BMS B-I.4.6.3 & B-I.5.5.I)

Regularly scheduled Quality Control (QC) Meetings are required on active construction contracts and must follow the format outlined in UFGS Sections 01 45 00.00 20 and 01 45 00.05 20. The Contractor's QC Manager is responsible for coordinating and conducting the QC Meeting, which is usually held bi-weekly on most projects. Government attendance is not mandatory; however, QC meetings are primarily held for the benefit of the Government, so the CM and ET should both make it a priority to attend. Furthermore, QC Meetings are a great opportunity for the Government QA representative to keep a finger on the pulse of a project especially if they have a huge workload and are splitting their time between many other projects.

The primary topics that must be covered during every QC meeting include: the submittal register, deficiency log, rework logs, pending modifications, RFI status, progress schedule (three week look ahead), coordinationg with the sub-Contractor who should be present at the meeting and safety performance. The CM or ET should ensure that the Contractor is conducting QC meetings efficiently and that all of the required topics are being adequately addressed. Meeting minutes should be prepared by the QC Manager and distributed to all attendees following each meeting.

- ✓ *Government attendance at QC Meetings is not mandatory; however, QC meetings are primarily held for the benefit of the Government, so the CM and ET should both make it a priority to attend.*
- ✓ *Meeting minutes should be prepared by the QC Manager and distributed to all attendees following each meeting.*

B. Three Phases of Control Process for QC.....(BMS B-I.4.6.3 & B-I.5.5.I)

The Three Phases of Control process is the core of the Contractor's QC Program. This process consists of three distinctly different inspections carried out by the Contractor's QC Manager for each definable feature of work (DFOW) to ensure work is being performed in accordance with the contract specifications. This concept is explained in the course titled "Construction Quality Management for Contractors", which is required for all QC Managers and is also mandatory training for all CMs and ETs. The requirements of the Three Phases of Control process are outlined in UFGS Section 01 40 00.00 20 And 01 45 00.05 20. The three phases are the Preparatory, Initial and Follow-up phase.

The Preparatory Phase takes place prior to any work being performed for a DFOW. A Preparatory Phase Meeting must be conducted by the QC Manager to review the contract requirements related to the quality of work for the DFOW and also to make sure all of the preliminary requirements have been met in order to start the work, such as shop drawings approved, material submittals approved, materials on site, and Activity Hazard Analysis submitted to the Government. The Contractor must notify the Government at least two work days in advance of the Preparatory Phase meeting. While a two-day advance notice may be the minimum required, the Preparatory Meeting should appear on the Contractor's Three Week Look Ahead Schedule, which will provide the ET more notification than just two days to plan their attendance. The Preparatory Meeting should be a priority for the ET to attend because it is a great opportunity for the Government to gauge the QC Manager's organizational skills and overall knowledge of the work by observing their performance to determine if the Contractor appears competent and is in fact ready to start work as planned. Documentation for the Preparatory Phase Meeting must be submitted by the Contractor with their daily QC Report for that day.

The Initial Phase takes place when construction crews are onsite just prior to starting the work. During the Initial Phase, the QC Manager must observe the work. The purpose of the Initial Phase is for the QC Manager to observe the initial work being performed to ensure that the work complies with contract specifications with emphasis on requirements for quality. The initial phase must be repeated for each new crew to work on site or when the quality of work being performed is not satisfactory. Similar to the Preparatory Phase, the Contractor must notify the Government at least two work days in advance of each Initial Phase signifying the start of a DFOW. Documentation for each Initial Phase must be submitted by the Contractor with their daily QC Report for that day.

The Follow-up Phase takes place beginning after the Initial Phase until the all work on the DFOW is completed. The Follow-up phase includes frequently recurring inspections by the QC Manager on work that is ongoing for each DFOW to ensure that the work continues to comply with contract requirements. The QC Manager should be spending the majority of their time performing Follow-up Phase inspections. Follow-up phase inspections that are completed each day should be documented by the QC Manager on the daily QC report for that day.

As previously mentioned, the Three Phases of Control process is the core of the Contractor's QC Program and Government QA should focus on ensuring the Contractor is executing the process as required. If workmanship deficiencies are regularly observed by the ET or CM, it is an indication that the Contractor is not satisfactorily executing the Three Phases of Control process.

- ✓ *The Three Phases of Control process is the core of the Contractor's QC Program.*
- ✓ *The Preparatory Meeting should be a priority for the ET to attend because it is a great opportunity to gage the QC Manager's performance.*

C. Contractor Production Reports

Contractors are required to submit daily Production Reports, Form 01400-1 (6/91) or the equivalent electronic version. On small, non-complex contracts, Production Reports may be combined with the Contractor Quality Control Report. The ET should establish a mutually agreed upon routine with the

Contractor for receiving daily production reports the next working day. This should be discussed during the PRECON meeting. A Contractor Production Report (CPR) is required for each day that work is performed and must account for each work day throughout the life of the contract. The CPR includes a listing of each Contractor who is working that day, as well as the trades and hours worked by each and a description of what work is being done associated with an Activity ID corresponding to Network Analysis Schedule (NAS). This provides a record of the progress, as well as a basis for verifying compliance with the Fair Labor Standards Act.

The CPR also includes the material or equipment received that day and the current equipment on site, whether used or idle. The report includes a space for the Contractor to describe his actions that day to enforce a safe workplace.

CPRs should be reviewed closely by the Government especially at the beginning of the contract to establish a level of expectation with the contactor concerning quality and completeness of the reports. This is typically a task performed by the ET. If the ET disagrees with anything on the report, they should discuss the issue with the superintendent and get the report corrected. If not resolved at the ET and Superintendent level, the CPR should then be forwarded to the CM for review and any issue the CM has with the facts presented in the CPR should be formally documented in a letter to the Contractor.

The CPR is one of the key official documents used in Contractor claims settlement, modification justification, etc. The ET should provide accurate comments in the ET/QA section of the Contractor's CQC report, which documents any site visits performed that day and what was observed. Acknowledgement of the report should be documented even if work was not observed that day.

- ✓ *On small, non-complex contracts, Production Reports may be combined with the Contractor Quality Control Report.*
- ✓ *Proper receipt and filing of the Contractor Production, QC, and QA reports are critical.*

D. Quality Assurance Reports.....(BMS B-I.4.6.3 & B-I.5.5.I)

Quality Assurance (QA) Reports are used by Government QA personnel to document jobsite observations. The bottom portion of the Contractor's Quality Control (QC) Report is reserved for the Government Representative (CM or ET) to input general comments about any of the information in the completed report as well as record notes from their own job-site observations. The ET should sign the bottom of the Contractor's QC Report indicating they concur, object or did not witness. Any discrepancies or disagreements with the information in the report should be resolved with the Contractor and a revised QC Report prepared.

Additional Quality Assurance Reporting may be necessary using either the optional Government QA Report Form or a personal notebook to document details concerning significant issues that are not suited to be mentioned on the on the QC Report. This may be necessary to document repeated unsatisfactory performance by the contactor. This may include poor quality of work, poor safety performance or Contractor field personnel (e.g. SSHO or QC Manager) performing unsatisfactorily. Detailed documentation is necessary in order to build a case to justify the removal of a poorly performing Contractor or Contractor field personnel.

- ✓ *QA reporting is not mandatory, unless the Contractor is performing unsatisfactorily. But failure to comment on the Production and QC reports or to keep other detailed documentation, can be viewed as tacit acceptance of the information and performance.*

E. Quality Assurance (QA) Site Visits.....(BMS B-I.4.6.3 & B-I.5.5.I)

The Government performs contract oversight on all construction contracts to enforce the contract requirements and also determine the effectiveness of the Contractor's Quality Control (and Safety) programs. This effort is formally referred to as Quality Assurance (QA). The amount and extent of contract oversight or QA is determined based on the fund source and corresponding performance level for the project as explained in Chapter II-H.

Site visits and field inspections by the Government are an important and essential part of the Construction Management and contract oversight process. The ET is the primary Government representative responsible for performing site visits for construction contracts in order to observe and monitor the Contractor's progress. The CM should also perform periodic site visits, but with generally less frequency than the ET. The ET should keep the CM informed of any issues observed during their site visits which may require CM involvement. The CM doesn't need to know everything observed by the ET and the ET is capable of handling many issues themselves without CM involvement; however, the CM and ET should develop an understanding about the kind of information or issues that should be shared. Observations made during site visits, whether by the ET or CM, should be documented in the QA Report for future reference.

The Contractor has the overall responsibility for the quality of work and safety performance on a project. Requirements for the Contractor's QC and safety programs are always outlined in the contract specifications in the Division 01 General Requirements Section. Government QA personnel must gage the overall effectiveness of the Contractor's Quality Control (and Safety) programs by identifying deficiencies and then focusing their effort on finding out why the Contractor's control measures, as documented in their Quality Control Plan and Safety Plan, failed to prevent or identify the deficiency. If Government QA personnel are continuously observing recurring deficiencies with workmanship or safety, this could be an indication that the Contractor's QC and safety programs are ineffective and unsatisfactory, which is not in compliance with the contract. It is not uncommon for Contractors to informally utilize Government QA to supplement their own ineffective QC or Safety programs. In other words, a Contractor may do a poor job of identifying deficiencies themselves, but are happy to correct deficiencies that are pointed out by the Government.

With proper justification provided in writing by Government QA personnel, the Contracting Officer may require that the Contractor remove any employee the Contracting Officer deems incompetent.

- ✓ *The amount and extent of contract oversight or QA is determined based on the fund source & performance level for the project as explained in Chapter II-H.*
- ✓ *Equipment acceptance inspections (e.g. HVAC, Fire Alarm, Elevators, etc.) performed by Government personnel are also considered Quality Assurance (QA).*
- ✓ *Government QA should not be supplementing the Contactor's QC Program.*

- ✓ *It is not uncommon for Contractors to informally utilize Government QA to supplement their own ineffective QC or Safety programs.*

F. TECHNICAL SUBMITTALS.....(BMS B-I.4.6.3 & B-I.5.5.I)

Technical submittals are required from the Contractor on all construction contracts to document the exact material and equipment the construction Contractor intends to use or install during the execution of the contract. Submittal documents should contain the necessary details, such as the performance specifications, dimensions, origin of manufacturer, and other information which is necessary for the Designer of Record (DOR) to review the submittal and compare to the contract specifications to verify if the material/equipment satisfies the requirements of the contract. Submittals may also contain maintenance instructions, testing requirements, testing results and samples that may require review and approval by the DOR or they may be reserved for Government approval if indicated as such on the Submittal Register.

The submittal register indicates the approving authority for each required submittal. The submittal review process should be discussed during the PRECON or PAK Meeting so that all parties understand the process and know the timeframes required by contract to complete the submittal review, when Government approval is required, in order to ensure the most efficient review and avoid potential Government delays. The Contractor's baseline schedule must allow time for Government review of submittals. The review process is slightly different depending on the contract delivery type, Design-Build (DB) versus Design-Bid-Build (DBB). CMs must understand the difference.

For DBB contracts, technical submittals are either reviewed and approved by the A-E under contract with the Government, or by the Government in-house design team. Depending on the contract requirements, the CM may be required to forward submittals to the responsible party for review after receiving them from the Contractor, or the Contractor may be able to upload submittals that are ready for review directly to a cloud server, such as eCMS. The eCMS application will automatically send a notification informing the approving authority that the submittal is ready for their review and the reviewer can access the submittal directly from the cloud server. Regardless of whether eCMS or another application on a cloud server is being used the CM must track submittals to ensure those submittals, which require Government approval, are reviewed in a timely manner and returned to the Contractor according to the contract requirements.

For DB contracts, the majority of technical submittals are approved by the Contractor's DOR and forwarded to the Government for information only. Since the Contractor's DOR is responsible for reviewing most of the technical submittals, the effort required by the CM to track submittals is much less on a DB contract than on a DBB contract. However, there are still some critical technical submittals that are typically reserved for NAVFAC approval regardless of contract delivery type, such as submittals for:

1. Testing and Balancing HVAC
2. Elevators
3. Transformers
4. Fire Protection Systems
5. Pile Driving Records

Note: Submittals reserved for NAVFAC approval will be specifically identified in UFGS Sections 01 33 00 and 01 33 00.05 20.

Also for DB contracts, another major difference with submittals is the design submittal review process that takes place prior to Construction. The CM should remain involved throughout the design review process, even though the Government DM leads the design review effort. The CM should focus on ensuring the design submittals are received from the Contractor according to their Baseline Schedule and that the Government is performing the design review within the timeframe specified in the contract. It is fairly common on a DB contract for changes to be discussed during the design phase, which in many cases, leads to contract modifications.

- ✓ *The submittal register indicates who the approving authority is for each submittal and should be used to track outstanding submittals.*
- ✓ *The Contractor's baseline schedule must allow time for Government review of submittals. In general, though a reasonable turnaround is expected from the CM, submittals should be processed within 20 business days or as project conditions necessitate.*
- ✓ *The CM should remain involved throughout the design review process, even though the Government DM leads the design review effort.*

G. Requests for Information (RFI) and Log.....(BMS B-I.6.8)

A formal Request-for-Information (RFI) is submitted by the construction Contractor whenever clarification is needed regarding any aspect of the required contract work. Note: This section pertains to RFIs submitted after contract award, which is not the same as pre-award RFIs, which are handled differently. A RFI may be needed to clarify an existing requirement in the plans and specifications or RFP, or it could be a need to clarify how to proceed with an unforeseen condition. The Contractor shall use Government supplied standard fillable RFI form or the RFI form in eCMS to document the request, which must include all supporting information necessary for the Government to understand the issue and be able to provide a reply including relavent contract drawing numbers or specification requirements. The RFI form must also include the turnaround time needed for the reply and whether or not the issue may involve a changed condition. The turnaround time requested by the Contractor shall be determined based on the urgency for the response needed in order to avoid a potential delay to the critical path of the project. Every RFI should not require an immediate response and the Contractor should not be abusing requests for urgent responses. At the same, the CM must understand when the RFI is truly urgent and do their best to get a reply back to the Contractor as quickly as possible. Much of what the CM does throughout the course of a project is focused on keeping projects moving in order to prevent Government delays. This certainly applies to the effort and attention required by the CM to provide timely responses to RFIs.

As soon as a RFI is received from the Contractor, the CM must take time to thoroughly understand the issue, determine the best course of action to obtain a reply while noting the response time requested. A visit to the job site may be necessary to help clarify the issue or perhaps a discussion with the ET will help. After fully understanding the issue, if additional consultation with another party is necessary, the CM must initiate the communication with them and work towards getting a reply. Some RFIs may require involvement and input from the Government design team or Project Manager and others may require consulting with the end user or Public Works Department. On DBB contracts, design related RFIs must be forwarded to the DOR via the DM. Note: the DOR may be an A-E under contract with the Government or in-house NAVFAC design team. The CM must communicate the urgency for a reply to the DM and not lose sight of RFIs that are awaiting

replies from the DOR. A-E firms are responsible for providing a reply (or solution) to design related RFIs. However, after receiving the A-E's reply and before forwarding it to the Contractor, the CM must review the reply to be certain it is in the best interest of the Government. In other words, the reply may involve a cost increase modification and there may not be any money available for modifications. In this case, the Government would have to provide an alternative solution. Whenever the RFI reply involves a changed condition, the Government should acknowledge this in the comments. The CM must always sign and date the RFI reply prior to returning to the Contractor. As best practice the DM should sign the RFI before returning to the CM.

The Contractor shall maintain a RFI log for tracking purposes and the log should be reviewed during QC meetings to highlight any outstanding RFIs. DBB contracts will typically generate many more RFIs than DB contracts because on a DBB contract, the Government is responsible for the design and most RFIs on a given project are for design related issues. For DB contracts, the construction Contractor owns the design and the A-E works for the Contractor; therefore, the Contractor's A-E is responsible for replying to design related RFIs on a DB contract. The Contractor will maintain two RFI logs on DB contracts, one for those RFIs requiring Government reply the other for RFIs requiring replies from the Contractor's A-E. RFIs for DB contracts and contractor's DOR replies should be forwarded to the CM

- ✓ *The turnaround time for a RFI shall be noted by the Contractor based on the urgency in order to avoid a potential delay to the critical path of the project. Not all RFIs require an immediate reply, but it is understood that sometimes a faster then contractual requirement responses is needed.*
- ✓ *The CM must understand when the RFI is truly urgent and do their best to get a reply back to the Contractor as quickly as possible. In general though a reasonable turnaround is expected from the CM, RFIs should be processed within 5 business days or as project conditions necessitate.*
- ✓ *The CM must communicate the urgency for a reply to the DM and not lose sight of RFIs that are awaiting replies from the DOR.*
- ✓ *The Contractor shall maintain a RFI log for tracking purposes and the log should be reviewed during QC meetings to discuss any outstanding RFIs.*

H. Safety Meetings.....(BMS B-I.6.I)

Safety is the Contractor's responsibility. As part of the requirements for their safety program, the Contractor must conduct regular safety meetings for all workers. Government representation is not mandatory at Contractor safety meetings; however, contract oversight by the CM or ET should include verifying that the meetings are taking place in accordance with UFGS Section 01 35 26. Monthly safety meetings are required for all supervisors and foreman. Weekly safety meetings conducted by the SSHO are for all trade workers. Reviewing sign-in sheets with names of attendees and topics presented is the easiest way to confirm meetings are taking place.

- ✓ *Government representation is not mandatory at Contractor safety meetings; however, the ET should periodically verify that the meetings are taking place in accordance with UFGS Section 01 35 26.*

I. Mishap Notification and Investigation

A mishap is any unplanned, undesired event that occurs during the course of work being performed. The term mishap includes accidents, incidents and near misses. The Contractor is required to notify the Contracting Officer as soon as practical, but not more than twenty-four hours after any mishaps, including recordable accidents, incidents, and near misses, as defined in EM-385-1-1 Appendix Q. For accidents involving load handling equipment or rigging gear, the Contractor must notify the Contracting Officer as soon as practical, but not more than 4 hours after the mishap. The Contractor must document all mishaps on the OSHA 300 Form and input the required information in the NAVFAC Contractor Incident Reporting System (CIRS). This should be discussed at the kick off meeting for the project. CMs should contact their FEC Safety Rep for more information about the CIRS application.

Mishap investigations must be performed by the Contractor for all recordable injuries and illnesses, property damage, and near misses as defined in EM-385-1-1. Mishap investigations must also be completed within the timeframes established in EM-385-1-1, which vary from 5 to 30 days depending on the severity of the mishap. The Government may decide to perform a mishap investigation separate from the Contractor's, if so, the CM should support the investigation as necessary.

- ✓ *The Contractor is ultimately responsible for their own accidents and accident investigations.*
- ✓ *The CM should monitor the Contractor's investigation to ensure compliance with EM385-1-1.*

J. Mishap Review Boards (MRB).....(BMS F-12.12.4)

The Mishap Review Board (MRB) is NAVFACs standard methodology for corporate review of mishaps and related incidents. The goal is prevention, accountability and awareness of mishaps through a constructive and positive forum. The Command Safety Manager coordinates attendance and facilitates the MRB. The CM may be required to participate in the Mishap Review Board in the event of a significant Contractor mishap, such as a fatality, a mishap requiring hospitalization of three or more workers, or property damage exceeding $200,000.

Refer to BMS F-12.12.4 for additional information regarding Mishap Review Boards.

K. Contractor Non-Compliance Notices

When the Contractor's work does not comply with the contract requirements, a Non-Compliance Notice may be issued. If a work item or safety requirement is unsatisfactory, and the Contractor is making no attempt to correct the situation, the FEAD/ROICC has the option of issuing a noncompliance notice. The noncompliance notice usually targets a deficiency that needs correction before the Contractor can proceed with new work or a deficiency that the Contractor is reluctant to correct. Discuss any potential non-compliance notices with your supervisor prior to issuing to the Contractor.

- ✓ Government should first attempt to address unsatisfactory work or safety issues with the Contractor in the field with discussion with the

Superintendent, SSHO or QC Manager. If the Contractor does not make adequate corrections, then a non-compliance notice should be issued.

- ✓ NCNs are a necessity when writing a less than 'Satisfactory' evaluation of the contractor.

L. Contractor Invoices.....(BMS B-I.6.9)

Contractor invoices are processed in iRAPT/WAWF according to established local procedures. Progress payments normally occur monthly, but if conditions warrant (an extremely rapid high value of Work-in-Place being performed), the Contracting Officer may permit a Contractor to receive payments twice monthly. The invoice process to be followed by the Contractor should be discussed during the Pre-Construction or PAK Meeting.

The invoice amount is billed either against an Earned Value Report (EVR) derived from a cost loaded schedule, or an approved schedule of prices (SOP) when cost loaded schedule not required. It is based on total value of the work that was completed satisfactorily and materials received and properly stored on-site, as verified by the ET, since the last payment was made. The ET will usually meet with the Superintendent at the jobsite to review the Contractor's pay voucher prior to them submitting the invoice. The ET will verify the quantify of work that was completed satisfactorily, any materials received and properly stored on site and come to a mutual agreement with the Contractor for payment. The ET will typically sign the Estimate for Voucher that was approved on site and this signature is then used to confirm that the Estimate for Voucher actually submitted with the invoice is in fact the one that was approved by the ET. Note: The Contractor's very first invoice typically covers the cost for bond, which is acceptable. In accordance with BMS B-1.6.9, payment for bonds is the only payment that may be made before the Contractor has an approved Schedule of Prices or Earned Value Report, but the bond invoice must include a paid receipt for the bonds.

Only non-lump sum materials meeting the contract requirements and properly stored on site may potentially be included in payment requests. After materials have been paid for, the Contractor may not remove the materials from the site. Weather damage, vandalism, fire, flood, etc. remain the Contractor's responsibility even after the Government pays for the materials. If off-site storage is allowed per contract, verify the material or equipment stored off-site is in accordance with the contract requirements (such as, but not limited to, written consent from surety, adequate insurance and protection from theft/weather exposure, etc.) and the fact the material or equipment is still there.

The Schedule of Prices or Earned Value Report should include a line item for testing major equipment; however, if it doesn't, an appropriate amount must be determined and withheld from the invoice until start-up and testing confirm satisfactory operation. The Contractor usually will contest this, so the easiest way to prevent a dispute is to make sure a line item for testing and start-up is included in the Schedule of Prices or Earned Value Report. In accordance with BMS B-1.6.9, withhold 20% of the equipment value until start-up has been successfully performed.

The Prompt Payment Act dictates fixed payment times after which the Contractor will receive interest on the payment amount. In order to meet these time restrictions, the invoice must be processed within three days of receipt. Prompt payment also requires the Contractor to pay their sub-Contractors and suppliers within seven days of receipt of the Government's payment to the prime. If they do not, and the Contractor

certifies on each invoice that sub-Contractor payment has been made, then they may be in violation of the law. Refer any complaints from sub-Contractors or suppliers about payment problems to the KO.

If the Contractor has made satisfactory progress, has provided quality work and has met all administrative requirements, FAR 52.232-5, Payments Under Fixed Price Construction Contracts, requires payment to be made in full. If the Contractor is not fulfilling the administrative contract obligations, the FEAD/ROICC may withhold a maximum of 10% of the payment amount until corrections are made. The Government does not make partial payments on line items that are not in compliance with contract requirements. When work is 75% complete (based on payments), the FEAD/ROICC may retain from previous retainage and future progress payments the amount considered adequate to ensure that the work is completed, punch list items corrected, Record Drawings, provided, etc. Discuss the issue with the PMEB/SGE and KO prior to withholding any retention as this has a serious impact on the Contractor's cash flow. Don't surprise the Contractor with retention, explain the reasoning to them prior to processing the invoice.

FAR 32.103, Progress Payments for Construction Contracts, states that retainage should not substitute for good contract management. Hold retention only for cause and in an amount appropriate for the particular case. The determination to retain payment should be based on the Contracting Officer's assessment of past performance and the likelihood that such performance by the Contractor will continue. In any case, no more than 10% of the approved progress payment amount may be held. This is in addition to anticipated liquidated damages if they are expected. Adjust the retained amount as the contract nears completion to recognize better than expected performance, alternate contract safeguards and other factors. Holding retention is a strategy sometimes necessary to get the Contractor's attention in order to motivate them to correct construction deficiencies and complete the work in a timely manner.

Holding retention beginning at 75% completion is a guideline and not to be applied automatically for every situation. On MILCONS withholding 10% from each invoice after 75% completion has proven to be adequate to protect the Government's interest and ensure completion of contract requirements. Consider the status of each contract on its own merits and evaluate the appropriateness of retention on a case-by-case basis. Consult with your supervisor or KO to discuss the details of the situation prior to processing an invoice with retention. Unnecessary retention can cause additional performance and partnering challenges. Proper retention; however, protects the Government's rights in requiring a quality project meeting all contract requirements. You may need to re-evaluate the Schedule of Prices to include additional systems testing line items or reduce payments on line items that have been subsequently found to need re-work.

The following list of the documents must accompany the monthly invoice:

1. Invoice document Form 7300/30 with Quality Control Certification
2. Estimate for voucher Form 4330/54
3. Updated Progress Schedule
4. Contractor Safety Self Evaluation
5. Updated Submittal Register

Invoices which fail to include all of the items listed above shall be returned to the Contractor without payment. Note: Items 3-5 are required monthly regardless of whether or not the Contractor submits an invoice.

- ✓ *Contractor Invoices are processed in iRAPT/WAWF according to established local policies.*

- ✓ *The invoice amount is based on total value of the work that was completed satisfactorily and materials received and properly stored on-site, as verified by the ET, since the last payment was made.*
- ✓ *If work, that has been paid for, is later found to be unsatisfactory, the original value of the unsatisfactory work shall be withheld from the Contractor's next invoice until the deficiencies are corrected.*

M. eCONTRACTS

eContracts is a computer database within ieFACMAN that is used primarily by NAVFAC Acquisition personnel to document and track every official contract action, such as contract award or contract modification. CMs have some responsibility in eContracts for inputting certain data and also printing reports.

CMs are required to perform the following actions in eContracts:

1. Update the current project status for high visibility projects
2. Enter data for Planned Changes (PC)
3. Input actual BOD dates and update planned BOD dates
4. Print the Construction Status, CMS Hot List Reports or PC Log

The Construction Status Report is most useful to leadership for workload management; however, it is also useful to CMs for tracking their assigned projects. CMs may be asked by their supervisors to print a CS Report periodically for use when discussing project status. The CM may also wish to query and print a CS Report for their own benefit to have a concise but informative listing of all of the contracts assigned to them. The CS Report includes relevant contractual information including metrics for cost and schedule growth that is provided by 33 different data fields populated for every project listed in the report.

The CMS Hot List Report is a great report to use for VIP visits or anytime the project status needs to be briefed by OPS or others.

- ✓ *Refer to the TWMS Training Module titled "NAVFAC CI Construction Basic Training Module 4 – eContracts for Construction Mangers" for step-by-step instructions how to use eContracts.*
- ✓ *eContracts is an essential tool for the CM to manage their projects.*

N. TEMPORARY OUTAGES

Temporary utility outages are required on most contracts whenever connections are necessary in order to permit the Contractor to safely tie into or repair existing services. Outages may be required to disconnect primary electricity, shut off domestic water service, discontinue the use of sanitary sewer systems or shut off water supply for fire protection sprinklers. Outages in occupied buildings can be a huge inconvenience to the occupants and are typically only permitted to occur on weekends. Outages should be discussed during the PRECON or PAK Meeting to review the contractual requirements and local policy for requesting outages including how much advance notification is required. The local Public Works Department or BOS Contractor assists with most outages. ETs provide the primary coordination between the Contractor

and Public Works Department and CMs typically have little involvement with outages. The outage process is generally the same at all FEAD/ROICC offices with only slight variations.

The Contractor initiates an outage request with the ET. The ET should review the request and make sure the required information is provided, such as date, time, duration, utility affected, lock out devices to be used and specific location for affected electrical circuits, electrical panels, alarm panels, room numbers, building numbers, etc. Sketches may be required. The ET shall also confirm that the Contractor's progress will be such that they will be ready to perform the work requiring the outage when requested and that all materials are either on site already or are readily available.

Once approved by the ET, the outage request is forwarded to the local Public Works outage coordinator who will evaluate the request and determine the overall impact to adjacent buildings. The outage coordinator may have additional questions and may also propose a different date in order to accommodate other outages or other scheduled work. It is not uncommon for Public Works to piggy back on Contractor requested outages to perform maintenance work of their own. The outage coordinator will notify the ET when the outage is approved.

- ✓ *Outages should be discussed during the PRECON or PAK Meeting to review the contractual requirements and local policy for requesting outages.*
- ✓ *The ET should review the Contractor's outage request before forwarding to the PW outage coordinator to make sure the required information is provided.*

o. Hot Work Permits.....

Hot Work Permits are required for operations that are flame-producing/spark producing (i.e. welding or cutting). Verify that the specification has a hot work section, typically section 1.14 of UFGS Section 01 35 26 or refer to EM-385-1-1, and know when a Fire Watch is required. Typically coordinated by the ET, it is good for the CM to know the process to obtain/renew a Hot Work Permit. On some bases the Contractor may be permitted to coordinate Hot Work Permits directly with the base fire marshal. Discuss the process for Hot Work Permits with the Contractor at the Post Award Kickoff Meeting (PAK) or PRECON. It is a good idea to invite the base Fire Marshal to the PAK or PRECON, who will be the one issuing Hot Work Permits, so they can discuss any specific requirements they may have.

- ✓ *Know the requirements for a Fire Watch.*
- ✓ *Hot Work Permits are typically coordinated by the ET.*
- ✓ *Invite the base Fire Marshal to the PAK or PRECON.*

p. Radiological Safety Oversight.....(BMS F-12.17.9)

Radiological safety applies whenever the Contractor is required to employ the use of a radiation emitting device on a project site. Radiological equipment commonly used on construction sites includes nuclear density gauges and radiography (x-ray) equipment. A nuclear density gauge is used to measure

moisture content and compaction percentage of construction materials such as soil or asphalt, and radiography equipment is used on construction sites to perform non-destructive x-ray testing of critical structural welds. Radiography equipment and usage is governed by NAVSEA SO420-AA-RAD-010, the Command's Radiological Affairs Support Program (RASP) Contract Oversight Management Authority (RCOMA), and NAVFACINST 5104.1A.

All contracts executed by NAVFAC involving radioactive materials or radiation generating devices must include measures to ensure the safety of Department of Navy personnel and the public. Planning and oversight of Contractor operations involving radioactive materials or radiation generating devices is essential to safeguard personnel from radiation exposure.

Radiological safety oversight must focus on the enforcement of the contract requirements outlined in UFGS Section 01 35 26 and EM-385-1-1 par 06.F for transporting, storing and operating radiological equipment. Each NAVFAC FEAD or ROICC office has a designated Contract Oversight Technician (COT) who is responsible for reviewing submittals, maintaining records, and overseeing Contractor operations involving radiation generating devices.

- ✓ *Ensure to notify the COT of any radiological work a minimum of 30 days prior. Otherwise the work can be delayed.*
- ✓ *Radiological equipment commonly used on construction sites includes nuclear density gauges and radiography (x-ray) and Gamma equipment.*
- ✓ *The COT is responsible for reviewing submittals, maintaining records, and overseeing Contractor operations involving radiation generating devices.*
- ✓ *The COT is a collateral responsibility for a designated ET at each FEAD/ROICC.*
- ✓ *In Europe the COT must be military*

Q. Labor Standard Interviews.....(BMS S-I7.4.I2.3)

Labor interviews are conducted with Contractor employees to verify compliance with labor requirements in accordance with the Construction Wage Rate Requirements statute. ETs shall perform random labor standard interviews on trade workers using the SF 1445. The ET shall not share any information received from the interview with any other Contractor employee. Also, the ET must not discuss any known labor violations with the Contractor employee being interviewed. Once the interview is complete, the ET shall forward the SF 1445 to the Contracting Officer or local payroll reviewer within the FEAD/ROICC office.

- ✓ *Labor interviews are conducted on Contractor employees to verify compliance with labor requirements in accordance with the Construction Wage Rate Requirements statute.*
- ✓ *Labor Requirements do not apply to OCONUS contracts.*

R. Buy American Act

In accordance with FAR 52.225-9, Federal Law requires construction Contractors to use only domestic equipment and materials with few exceptions. Domestic construction material means -

1. An unmanufactured construction material mined or produced in the United States
2. A construction material manufactured in the United States and the cost of its components mined, produced, or manufactured in the United States exceeds 50 percent of the cost of all its components. Components of foreign origin of the same class or kind for which non-availability determinations have been made are treated as domestic

Ultimately, the Contractor is responsible for complying with the Buy American Act for construction materials; however, CMs and ETs should be aware of the requirement and periodically inspect equipment labels and manufacturing labels for materials on site to verify that they are domestic products and notify the Contractor if any discrepancies are found. CMs and ETs should also understand that the Buy American Act doesn't require all materials, products and equipment to be exclusively made in America, there are possible exceptions. Consult with the Contracting Officer if you are unsure of the applicability to the Buy American Act or in the event of a dispute about the applicability of the Buy American Act.

- ✓ *The Buy American requirements should be emphasized at the Pre Construction Meeting or PAK Meeting.*

- ✓ *For overseas locations the CM should become familiar with what is required from the KTR when a substitution is needed. Also, determine who the required reviewers would be for substitution requests*

S. Environmental Permits

When required, environmental permits must be obtained prior to commencing construction in accordance with FAR 52.236-7. The Contractor is required to obtain the necessary permits; however, the party truly responsible for obtaining the permit varies depending on the contract delivery type, DBB or DB. For DBB contracts, the Government will obtain certain permits prior to solicitation and award. Most permits require a completed design before the permit can be obtained; therefore, on DB contracts, the Contractor and their design agent are responsible to obtain these types of permits. Required permits also vary from location to location, but generally, permits pertaining to water quality, air quality and/or environmental protection will be required in most locations. Most waterfront work, i.e. pier construction/demolition, wharf/bulkhead restoration, dredging, etc. requires permitting. Examples include Army Corps of Engineers permits, (for discharge of dredged or fill material in to US waters) Coastal Zone, State Air Quality, National Pollutant Discharge Elimination System (NPDES) Stormwater Permit for Construction, Fuel Tank Permit, and Hazardous Waste Storage. Consult with the Government DM or the FEAD/ROICC Environmental Representative for guidance concerning required permits. CM should always question permitting requirements during the Constructability review.

- ✓ *CM should always question permitting requirements during the Constructability review.*

T. EVBL/EPA Site Assessments.....

During construction operations, there may be a time that a site assessment is required to evaluate potential or confirmed releases of hazardous substances that may pose a threat to human health or the environment. If that is the case, ensure coordination with the environmental business line and support as appropriate, the investigation of your job site. The site may also be assessed by Department of Environmental Quality (DEQ) for proper storm water management.

U. Environmental Corrective Action (Notice of Violation).....(BMS B-16.4)

A Notice of Violation (NOV) is issued by the EPA to notify the recipient that the EPA believes the recipient has committed one or more violations and provides instructions for coming into compliance. NOVs typically offer an opportunity for the recipient to discuss their actions, including efforts to achieve compliance. NOVs are not a final EPA determination that a violation has occurred. EPA considers all appropriate information to determine the final enforcement response.

The construction Contractor is responsible for complying with environmental requirements. If the Contractor is cited with a violation on a NAVFAC construction project, with guidance from the NAVFAC Environmental Business Line, the FEAD/ROICC office will assist with the documentation and corrective action verification.

V. Government Furnished Equipment.....

Some contracts include Government Furnished Equipment (GFE). GFE can be material or equipment that is provided by the Government specifically for installation by the Contractor during the execution of the contract scope of work. Any GFE must be clearly identified in the contract documents. During the constructability review, the CM and ET should recognize any GFE included in the contract and identify who in the Government is responsible for furnishing the GFE. Also, the CM/ET should make sure the Contractor's baseline schedule clearly identifies when the GFE is required and then communicate that date with the Government activity furnishing the GFE in order to prevent potential Government delays. Note: Material identified in a renovation contract for removal and reutilization by the Contractor is not considered GFE.

Early communication and coordination, beginning at the Pre-Construction or PAK Meeting, is essential between the CM/ET, the Contractor and the Government activity responsible for providing the GFE. Discussions should take place long before the GFE is actually needed by the Contractor to ensure its delivery is according to the Contractor's progress schedule and also to ensure there are no other surprises that would prevent the Contractor from being able to use the GFE. Some problems that can occur with GFE include: (1) the delivered GFE is different than what was incorporated into the design and it won't fit or work in the constructed facility without modifications or entirely different GFE or (2) there is a delay with the delivery of the GFE, which delays the Contractor's critical path.

- ✓ *Any GFE included in a contract must be clearly identified in the contact documents.*
- ✓ *The Contractor's baseline schedule must identify when the GFE is required and that date should be communicated by the CM/ET to the Government activity furnishing the GFE.*

- ✓ *Communication and coordination of GFE should begin at the Pre-Construction or PAK Meeting.*

W. SEABEE PROJECTS

Occasionally, U.S. Navy Seabees will be tasked with executing construction projects on military bases stateside. These are typically small projects like sidewalk replacements or road and parking lot replacements or construction, etc. The tasking of the Seabees to execute a project depends on many variables including the need to train its workforce and hone their construction skills.

The First Naval Construction Division instruction 4355.1 establishes the policies and procedures for construction performed by the Naval Construction Force units. By instruction, Seabees are required to follow the EM385-1-1 and the BMS for construction quality control (CQC) on construction projects performed in a non-contingency environment. Seabees also have their own Quality Control Plan for managing their internal quality control program.

The NAVFAC philosophy establishes a mutual effort between the construction agent and the FEAD/ROICC to deliver a facility which is acceptable as defined by the plans and specifications. Projects and camp maintenance assigned to the Naval Construction Force (NCF) are monitored by the Naval Construction Regiment (NCR) camp czar in accordance with normal CQC surveillance procedures which are set forth in BMS. Oversight by the FEAD/ROICC is reimbursable and is usually a limited effort by the ET to observe safety performance and provide assistance on the coordination with the local PWD for outages and crane access. Oversight by FEAD/RIOCC does not relieve the construction agent of the responsibility to ensure projects meet the standards in the plans, specifications, and accepted construction practices.

X. VIP VISITS

VIP visits may occur at one point or another on high visibility projects, sometimes without advance notification. The VIPs themselves are usually military personnel at the O6 level or above, or Civilians at the Senior Executive Service (SES) level. During a VIP visit, the CM represents NAVFAC as the person with the most knowledge about a particular project and should be prepared to lead the visit and answer questions related to construction progress. The Contractor may participate in a VIP visit, but is not expected to - it is up to the CM to decide. However, regardless of whether the Contractor participates, they should be given a courtesy “heads-up” prior to the visit taking place. Safety shall also be a priority when escorting visitors around an active construction site and visitors must be equipped with any required PPE. Make sure the required PPE is available, since most visitors won’t have their own. Visitors shall not be permitted in areas of construction without the proper PPE.

To help facilitate the visit, the CM should run the CMS Hot List Report from eContracts with enough copies to hand to all visitors. This report is an effective tool that is very beneficial during VIP visits because it includes information about a particular project that is typically discussed during a VIP visit. Copies of the floor plan(s) are also helpful depending on the progress of construction.

- ✓ *The CMS Hot List Report from eContracts is great to use when entertaining a VIP visit at your project site.*

Y. Termination for Default (T for D).....FAR 49.607

A Termination for Default (T for D) occurs when the Contractor has defaulted by a failure to perform the requirements of their contract within the specified time. This is an extreme action that is exercised only after careful review and consideration by the technical team, Contracting Officer and counsel. In accordance with FAR 49.607, prior to the T for D, the Contractor should be informed of their unacceptable performance with the issuance of a Cure Notice and then a Show Cause Notice. The Cure Notice gives the Contractor a specified timeframe to cure the condition that is endangering their performance of the contract. If the Contractor fails to correct their performance and as stated in the Cure Notice, a Show Cause Notice is issued to inform the Contractor that the Government is considering terminating the contract under the terms of the provisions for default of the contract. The Contractor must present facts that show their failure to perform arose from causes beyond their control and without fault or negligence on their part.

- ✓ *A Cure Notice is issued to inform the Contractor that they have a specified timeframe to cure the condition that is endangering their performance of the contract.*
- ✓ *A Show Cause Notice is issued to inform the Contractor that the Government is considering terminating the contract under the terms of the provisions for default of the contract.*

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VI. Change Order Management

Change order management is the act of managing actions associated with processing contract modifications. Many of these actions are the responsibility of the CM especially if the CM has COAR authority. Change management is estimated to take up approximately 60% of the CMs overall effort beginning with the initial investigation into the potential changed condition through the process of determining entitlement, developing a scope of work, requesting proposals, requesting funds, reviewing proposals, negotiating time and cost, and preparing pre and post negotiation memorandums. Much of the modification process is covered in BMS B-1.6.6 Contract Modifications including many useful reference documents. Depending on the local policy at individual FEAD/ROICC office and whether or not the CM has COAR authority, all or some of the actions listed in this section are the responsibility of the CM.

- ✓ *Although there are many steps and other parties involved, it is the CM's responsibility to manage and track modifications.*

A. Contracting Officer's Authorized Representative (COAR)..(BMS S-I8.3.4)

COAR authority allows the CM to negotiate cost for contract modifications up to $250k. COAR authority does not permit the CM to execute contract modifications, only to agree on a fair and reasonable price along with any time extension for a given scope of work. COAR authority may be granted up to $250k depending on experience and training. BMS S-18.3.4 provides the specific training requirements that must be met to obtain COAR as well as the formal process for submitting an application to the FEC Chief of Contracts. Junior Officers working as CMs must meet the same training requirements as civilian CMs, but are not required to submit an application as long as they have completed CECOS training. The primary benefit to COAR authority is it can speed up the overall modifications process.

- ✓ *COAR is the CM's authority to negotiate, but it does not allow you to authorize the Contractor to proceed.*
- ✓ *Refer to BMS S-18.3.4 for training requirements and process for submitting application for COAR.*

B. Independent Government Estimate (IGE) .....

Independent Government Estimates (IGEs) are required for contract modifications with values that exceed the Simplified Acquisition Threshold (SAT). The IGE may be prepared by either the CM or DM; however, for IGEs above the SAT, it is recommended that the DM be the preparer. The CM should review the IGE if it's prepared by the DM to confirm that it accurately reflects the estimated costs given any special circumstances associated with the project site and the status of the Contractor's current progress. In order to fully develop an accurate IGE, the scope of work must be fully understood. In order to fully understand the scope of work, a site visit may be required to see the work area and visualize any obstacles that would affect the work. Some of the primary items that must be taken into consideration when preparing a cost estimate include material costs, equipment costs, labor costs including labor burden, bond, field overhead, home office overhead and profit. RS Means cost index is one source that is commonly used to estimate labor and material

costs when preparing an IGE. The IGE should be supported by documentation in the contract file as to the basis for the estimate, including, where available, a breakdown of how the estimate was calculated. Any changes to the IGE at any time (e.g., over or under-estimations), should be immediately reported to the KO.

- ✓ The technical costs (material and labor) estimate can prepared by the CM or DM, but the CM is always responsible to estimate/verify time and overhead (Div 01 spec) requirements.
- ✓ Refer to the Resource Document *Quick Guide for Estimating* in BMS B-1.6.6.
- ✓ Requests for formal costs estimates that are under the SAP level should have higher level concurrence.

C. Technical Analysis (TA)

A technical analysis is the act of analyzing the Contractor's proposal for new awards and modifications above the simplified acquisition threshold. This includes a documented line by line comparison between the IGE and the Contactor's proposal with an explanation of any differences including detailed rationale. This analysis is typically performed by the CM but may be performed by the DM for complex changes. The TA is necessary in order to develop a pre-negotiation position and serves as the basis for negotiations with the Contractor. When there are major differences between the IGE and the Contractor's proposal, such as differences in quantities and unit costs or labor costs, additional research may be needed in order to understand why the differences exist.

- ✓ *TAs may be required to be reviewed by the Supv CM based on the office policies and the experience/COAR level of the CM.*
- ✓ *TAs required to support sole source contract awards should require CM input. This can avoid future changes and properly evaluate Div 1 requirements.*

D. Time Impact Analysis (TIA)

A Time Impact Analysis is a formal analysis performed by the Contractor on their schedule whenever a delay occurs which impacts the critical path that is beyond the control of the Contractor. A TIA is also required whenever a time extension is included in the Contractor's price proposal for a planned change. The TIA should be in narrative and schedule format demonstrating how the delay or additional work impacts the construction schedule. The CM must have a basic understanding of schedules in order to review the TIA. For complex TIAs, it is recommended that the CM consult with the scheduling subject matter expert at the FEC.

- ✓ *Refer to UFGS Section 01 32 17.00 20 for more information about the requirements of the TIA.*
- ✓ *TIA must be compared to the baseline schedule or the latest accepted changes. All schedule changes should be reviewed and accepted outside of the monthly progress updates.*

E. Modification Reason Codes .....(BMS B-I.6.6)

A Modification reason code must be assigned to every planned change (PC) for administrative purposes. This is typically accomplished by the CM in eContracts when the initial electronic record of the PC is created. A mod reason code, as the name suggest, represents the reason that the modification is required. There are 19 different reason codes that capture every possible reason for a modifications and every PC must have the appropriate reason code assigned. A listing of all the mod reason codes along with a description is provided as a resource document in BMS B-1.6.6 Contract Modifications-Technical Support. The four most commonly used reason codes are Customer Request (CREQ), Unforeseen (UNFO), Design Error (DSGN) and Time (TIME). CMs need to understand the difference between the various reason codes to ensure the correct reason code is assigned. NAVFAC Ech II & III leadership routinely captures metrics from eContracts concerning mod reason codes and use this information when considering changes to existing policy.

- ✓ *A listing and description of all of the mod reason codes is included as a resource document titled Modification Reason Codes in BMS B-1.6.6 Contract Modifications- Technical Support.*
- ✓ *Each modification can only have one reason code. CMs can propose to combine multiple PCs with the same reason code into one modification, but do not mix PCs with different reason codes into one PNM.*

F. Pre-Negotiation Memorandum .....(BMS B-I.6.6)

A Pre-Negotiation Memorandum is a formal document prepared by either the CM or the CS depending on local policy, which documents the Government's position and how that position was reached for determination of a fair and reasonable price including time extension for every planned change (PC). A formal Pre-Negotiation Memorandum is only required for changes >$250k. For changes <$250k, an informal Pre-Negotiation Position is required, which can be the Contractor's proposal marked up following the Lean Process in accordance with BMS S-17.4.4.2. The Pre-Negotiation Memorandum is prepared after the TA is performed on the Contractor's proposal including an evaluation of the TIA if included.

- ✓ *Refer to the Resource Document Pre-Negotiation Memorandum Template in BMS B-1.6.6 Contract Modifications – Technical Support.*
- ✓ *Pre-Negotiation Memorandum in only required for changes >$250k.*
- ✓ *For mods <$250k, refer to the Resource Document Quick Guide for PNPs in BMS B-1.6.6 Contract Modifications – Technical Support.*

G. Fair and Reasonable.....(BMS B-I.6.6)

Fair and reasonable pricing should be the goal for all change order negotiations. The goal of the negotiation should NOT be to obtain the cheapest possible price or beat the Contractor down until they agree to a lesser price. By definition, a negotiation is a discussion aimed at reaching an agreement, and the agreement should be a fair and reasonable price. The challenge is determining what is a fair and reasonable price. Oftentimes Contractor proposals are higher than the IGE or are for more than what the Government

initially believes to be a fair and reasonable price. This is why it is so important to conduct a thorough TA using all available resources and why it is important to have productive discussions with the Contractor during negotiations. The IGE may be low because it failed to include portions of the work required to complete the scope or the IGE may have included material costs from an old catalog instead of using current costs. The IGE may have also underestimated material quantities or perhaps the Contractor overestimated the quantities in their proposal in order to protect themselves. All of these things need to be analyzed, evaluated, verified and discussed during negotiations in order to determine what is truly fair and reasonable.

- ✓ *The goal of the negotiation should NOT be to obtain the cheapest possible price or beat the Contractor down until they agree to a lesser price.*
- ✓ *Refer to Resource Documents Negotiation Concepts and Negotiation Strategies, Twelve Common Errors in Negotiating in BMS B-1.6.6 Contract Modifications – Technical Support.*

H. Post-Negotiation Memorandum .....(BMS B-I.6.6)

A Post-Negotiation Memorandum is a formal document prepared by either the CM or the CS depending on local policy, which formally documents the agreement between the Government and Contractor concerning time and money for a change order. This applies to modifications between $250k and $750k. It includes the description of the change, reason for the change, Government estimate and Contractor's proposal, and the Pre-Negotiation Position, with the reasoning behind it. It then explains how the final negotiated amount was determined including how differences were resolved and addresses any time extension that may be included in the change. Any agreements made during negotiations must be documented in the Post-Negotiation Memorandum.

- ✓ *Refer to the Resource Document Post-Negotiation Memorandum Template in BMS B-1.6.6 Contract Modifications – Technical Support.*
- ✓ *For Modifications >$750k a Business Clearance Memorandum is required in accordance with BMS S-17.2.23.*

I. Order of Precedence for Design Build Contracts .....

An order of precedence has been established for determining entitlement in case of conflict or inconsistency between any of the parts of the RFP. This only applies to Design Build projects since it pertains to the RFP. The order of precedence is included in Design Build contracts in Part 2 of the RFP within UFGS Section 01 33 10.05 20. Precedence must be given in the following order:

1. Any portions of the proposal or final design that exceed the requirements of the solicitation.
    a. Any portion of the proposal that exceeds the final design.
    b. Any portion of the final design that exceeds the proposal.
    c. Where portions within either the proposal or the final design conflict, the portion that most exceeds the requirements of the solicitation has precedence.

2. The requirements of the solicitation, in descending order of precedence:

    a. Standard Form 1442, Price Schedule, and Fair Labor Standards Act.
    b. Part 1 - Contract Clauses.
    c. Part 2 - General Requirements.
    d. Part 3 - Project Program Requirements.
    e. Part 6 - Attachments (excluding Concept Drawings)
    f. Part 5 - Prescriptive Specifications exclusive of performance specifications.
    g. Part 4 - Performance Specifications exclusive of prescriptive specifications.
    h. Part 6 - Attachments (Concept Drawings).

3. Within Part 3- Project Program Requirements Section 5.0 ROOM REQUIREMENTS provides detailed requirements on a room by room basis that further defines requirements that are in addition to the ENGINEERING SYSTEMS REQUIREMENTS SECTION.

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VII. Systems Acceptance/ ComMissioning/Equipment Certification

Equipment certification and system acceptance is a process that involves specialized Government Representatives to observe Contractor testing of new equipment for the purpose of verifying that the equipment operates according to the design intent. Oftentimes this phase is overlooked by the CM and ET during construction and it's not until the Contractor's testing is complete before the Government Representatives are notified. Also, systems acceptance should not be confused with commissioning performed by the Contractor; these are two different requirements.

- ✓ *Discuss Acceptance and Commissioning requirements early. Make sure they are included in the progress schedule. Do not try to accomplish these activities while FFE is being installed. Acceptance of these systems is required before establishing BOD.*

- ✓ *The CM should coordinate with the project PM/DM to ensure that the FEC PW Core Certifying Official has been identified and funded.*

A. Technical Oversight and Acceptance Testing of Critical Systems (ECB 2018-03) .....(BMS B-I.6.7.I)

Acceptance of Critical Systems includes specific actions taken by the Government to ensure that essential aspects of five identified high-risk and critical systems have been accomplished consistent with design intent. These critical systems are: Mechanical, Electrical, Roofing, Fire Protection and Underwater Systems.

Acceptance of Critical Systems is a Government quality assurance function. "Acceptance" is not to be confused with Commissioning (Cx), which is a Quality Control function provided by separate, 3rd-party contract by either the prime Contractor or the Government; the latter being the preferred method.

Outlined in Engineering & Construction Bulletin 2018-03 the CM's primary role in the acceptance process is to coordinate the NAVFAC Government acceptance provider's requirements with the Contractor including site visits and submission requirements such as test plans/reports, shop drawings and Operations and Maintenance Manuals. The requirements are coordinated with the lead designer serving as the DM for the project. The Government Acceptance Provider is that assigned, qualified NAVFAC Engineer or Architect performing the Systems Acceptance. In addition to the acceptance provider's actions, at various stages of construction the CM will need to witness various tests or confirm proper installation; these are laid out in the Roles and Responsibilities Matrix provided in the BMS. When in doubt, the CM should reach back to the acceptance provider for either technical assistance or guidance.

Prior to scheduling acceptance testing the CM shall confirm all preliminary inspections and tests have been accomplished by the Contractor and required documentation forwarded to the appropriate acceptance provider. Upon successful inspection and acceptance, the CM shall coordinate with the Contractor, Public Works (PW) and other Installation personnel for systems training.

The CM can refer to the BMS for additional requirements and responsibilities for each of the critical systems. A summary of each is provided below:

1. B-1.6.7.3 Mechanical Systems Acceptance Program for TABS/ACATS/DALTS

The CM will coordinate the efforts of the Contractor and NAVFAC Acceptance Provider in performing:

a. Testing, Adjusting and Balancing of technical systems
b. Performance Verification Testing on HVAC Controls
c. Ductwork Air Leakage Test

2. B-1.6.7.2.1-3 Performance Verification Testing for Power Generators, Uninterruptible Power Supplies and Frequency Converters. Common CM requirements include: Confirm pre-functional/ pre-performance testing submittals have been approved and have been completed; and CM coordination of the testing with the Activity to minimize disruption to mission. CM or ET may verify the operation of this equipment; however, reach back to an E-Line technical representative may be needed.

a. Power Generator Functional Acceptance Testing. Witness and verification is required of the power generator/automatic transfer switch system including, engine protective shutdown devices, engine overspeed trips device, automatic and manual operations and load testing.

b. Uninterruptible Power Supply (UPS) Testing. UPS is an electrical device that provides emergency power to a load when the input power source fails. Witness and verification activity includes load testing, full load burn-in tests, battery discharge test automatic and manual operations.

c. Frequency Converters Testing. Converters are used to supply 270 VDC/400Hz electrical power to aircraft in shore facility environments. Typical applications include aircraft operating in flight line conditions or in hangars, avionics shops, laboratories, training buildings, flight simulators, and computer rooms. (See Specification Section (26 35 44.00 20). Witness and verification activity includes load test, control and protective device checks, transient tests, harmonic distortion tests and automatic line drop compensation tests.

3. B-1.6.7.5 Roofing Systems Acceptance Program. Requirements for roofing systems and components to ensure installation is in accordance with design are contained in the various sections of UFGS Division 07 - Thermal and Moisture Protection. These sections typically require the submission of shop drawings, product data, design calculations, manufacturer's instructions and warranties, all of which the CM will coordinate with the Contractor and DM. The Contractor holds and the CM will coordinate and attend a pre-roofing conference to review roofing documents, such as specifications, drawings, roofing systems components installation, roofing Manufacturer's Technical Representative's inspection and safety requirements. CM shall verify that the roof installation activities and manufacturer's inspections are included in the construction baseline schedule. CM (or ET) Quality Assurance activities include, but are not limited to: verifying proper storage of materials on site, roof substrate is accepted by Manufacturer's Representative, roofing system is in accordance with design drawings and specifications and receipt of Manufacturer's Representative's field inspection report. Finally, verify receipt of the roof warranty with specific Government requirements and installation of the Roofing Information Card.

- ✓ *Refer to the on-line roofing training, NAVFAC CI Construction ET Quality Verification - Roofing (TWMS Course #629230).*

4. B-1.6.7.4 Fire Protection Systems. Acceptance and testing of Fire Protection Systems include specific actions taken by the Government to ensure essential aspects of the systems have been accomplished in accordance with code requirements and are consistent with design intent. Fire Protection systems include, but are not limited to: suppression systems, fire detection and emergency notification systems, smoke control/exhaust systems, and egress and life safety requirements. The CM's primary responsibility is to ensure all pre-final submission and testing is completed by the Contractor. This includes, but is not limited to: delivery of shop drawings and testing plans and preliminary testing and documentation by the Contractor Fire Protection Quality Control Specialist. The CM coordinates the dates of final acceptance, including PW representatives. The FEC FPE will review testing procedures and witness the final acceptance test.

- ✓ *While many of the fire protection activities are the same from project to project, the CM can refer to the following specifications to fully understand the project specific requirements: 07 81 00 Spray-Applied Fireproofing; 07 84 00 Fire stopping; Division 21 - Fire Suppression; and 28 31 76 Sections (Fire Alarm and Mass Notification.)*
- ✓ *Critical Fire Protection activities shall be included on the Contractor's baseline schedule, indicating the Government review and activity notification durations.*

B. Third Party Commissioning

Commissioning (Cx) is the process of assuring that all systems and components of a new facility have been tested and operate according to the design intent. Commissioning is a Quality Control process conducted by a Certified Third Party Commissioning Firm; currently contracted by either the construction Contractor or by the Government. The Commissioning Firm must oversee and assist the General or Prime Contractor with the work specified in UFGS Section 01 91 00.15, Total Building Commissioning.

Commissioning is not the performance verification testing that certain sub-Contractors are required to perform to confirm their work is satisfactory; that is construction Contractor quality control. Commissioning is not the verification testing that Government personnel perform prior to accepting the Contractor's work. That work is a Government quality assurance conducted through the Acceptance Testing of Critical Systems process described above.

CMs should familiarize themselves with the Total Building Commissioning specification when included in their contract to understand the requirements. While there are Cx activities conducted during design, most of the Cx process takes place during the NAVFAC Red Zone (NRZ) process. CMs should ensure that critical activities and milestones related to commissioning appear in the Contractor's baseline schedule and schedule of prices prior to start of construction.

C. Cyber Security Commissioning.....

Cyber security as it relates to construction contracts concerns the installation of new equipment that is at risk for cyber-attack. UFGS Section 25 50 00.00 20, incorporates elements of the NAVFAC Cybersecurity Hygiene Checklist into contract specifications for control systems. These elements will facilitate achieving an Interim Secure cybersecurity level and lessens the effort for PW/CIO when these facilities are accepted into the CNIC inventory. The elements of the Cybersecurity Hygiene Checklist do not require extensive design or construction effort. Examples of systems or components could include Computers, Software and HVAC Control System Devices. The CM should coordinate with the DM and appropriate FEC CIO representative to ensure the Contractor fully meets the Cyber Security Commissioning requirements of the contract.

D. Sustainability Reporting.....(UFC 1-200-02, UFGS 01 33 29)

UFC 1-200-02, High Performance and Sustainable Building Requirements, provides the minimum requirements, and guidance for planning, designing, constructing, renovating and maintaining high performance and sustainable buildings. These requirements comply with the Energy Policy Act of 2005, the Energy Independence and Security Act of 2007, Executive Order 13639 and the implementation requirements found in "Guiding Principles for Sustainable Federal Buildings and Associated Instructions (HPSB Guiding Principles). The UFC applies to all planning, design and construction renovation, repair operations and maintenance and affixed equipment installation in new and existing buildings.

UFGS Section 01 33 29, Sustainability Reporting, covers the requirements of providing sustainability documentation for Guiding Principles Validation (GPV) and Third Party Certification (TPC). GPV is equivalent to meeting the requirements of UFC 1-200-02. For NAVFAC, a project's applicability threshold is projects that contain one or more buildings with any of the following: new building; addition; existing building larger than 5,000 SF, renovation with total cost of greater than $3M and 50% or more Estimated Replacement Cost (ERC). In addition, a project with at least one renovation in an existing building with total costs greater than $3M, regardless of ERC or SF of building.

CMs should carefully review the specification as there are many submissions needed to fully document and to meet the requirements of Guiding Principle Validation and Third Party Certification. For NAVFAC, TPC can be achieved by one of five methods:

- USGBC LEED 4 - LEED BDC Reference Guide
- GBCI GP Assessment (DoD Version) - Guiding Principles Assessment by USGBC/GBCI
- GBI GP (DoD Version) - Green Building Initiative Guiding Principle Compliance
- GBI Green Globes for NC - Green Building Initiative Green Globes
- Upon approval from FEC Core CI, meet the Green Building Certification for Federal Buildings (10 CFR 433.300 Subpart C).

As with any other contract requirement the CM should work with the DM and other project E-Line personnel to fully understand the timing and content of the document submissions and the technical, construction aspects of the given sustainable system.

E. Vertical transportation equipment (VTE) certification.....

VTE encompasses a variety of equipment to include Elevators, Escalators, Dumbwaiters, Material Lifts, Moving Sidewalks, Auto Lifts and Loading Dock Leveling Devices, to name a few. While the focus here is Elevators, all VTE require certification. VTE is managed NAVFAC-wide at NAVFAC Expeditionary Warfare Center (EXWC) and at the FEC PW Core by the VTE Lead Certifying Official (LCO). Safety Code certification inspection and testing is performed to ensure that the VTE installation and operation is in conformance with all applicable building codes, safety codes, and safety standards. If the VTE is not in conformance, the VTE must not be certified. Acceptance shall be performed by a NAVFAC VTE Certifying Official.

An elevator is "conveying equipment" and as such falls with Specification Division 14. The CM should obtain and read the project specific section in order to become familiar with the submission requirements for the CM's project. In addition, the CM should coordinate with the project PM/DM to ensure that the FEC PW Core Certifying Official has been identified and funded. The PW Core Certifying Officials are funded on a reimbursable basis. Once identified, the CM shall coordinate the FEC Certifying Official's and the construction Contractor's effort toward elevator design, fabrication, installation and certification; the earlier, the better.

A Qualified Elevator Inspector (QEI) working for the prime construction Contractor as a third party and not affiliated with the elevator installer, must perform inspections and witness tests to ensure that the installation conforms with applicable safety codes and contract requirements. Upon completion of inspection, the QEI must provide written test data for all ASME A17.1/CSA B44 Acceptance Tests and written certification that the elevator is complete and ready for final Acceptance Inspection, Testing, and Commissioning.

After the test data has been received from the Contractor, only then can the construction Contractor request the NAVFAC PW Core VTE Certifying Official.

- ✓ *Reference UFC 3-490-06, Elevators and NAVFAC BMS B-15-12, Vertical Transportation Equipment (VTE) for further information.*
- ✓ *Always check the project contract specification and confirm with the PM/DM and FEC PW Core VTE Certifying Official under which reference version the design and installation of the Elevator are being prosecuted, including the latest Interim Technical Guidance.*

F. Boiler Certification.....(UFGS 23 52 00)

The term "Boilers" refers a variety of equipment including Heating Boilers, Tube Boilers, Low Pressure Water Heating Boilers and Steam Boilers, to name a few. Boilers are managed NAVFAC-wide at NAVFAC Expeditionary Warfare Center (EXWC) and at the FEC PW Core, FM&S (PW5). Boilers are just one of a group of specialized assets for which the Core PW provides specialized structure inspection management and execution and technical support. Acceptance shall be performed by a NAVFAC Boiler Certifying Official.

•To eliminate or minimize boiler problems on all contracts involving new boiler installations, Public Works Departments shall coordinate boiler specification, design and contractor submittal reviews as well as Acceptance and Certification Inspections with the FEC Boiler & UPV LCO, NAVFAC EXWC Boiler & UPV Inspection Program Manager or local NAVFAC Inspector.

• Boiler Acceptance and/or Certification Inspections shall be conducted by a NAVFAC Certified Inspector. Contract Inspectors are not allowed to conduct initial Boiler Acceptance and/or Certification Inspections unless approved by the EXWC Boiler & UPV Inspection Program Manager.

The technical specifications for the differing types of boilers fall within the Specification Division /Section 23 52 XX. The CM should obtain and read the project specific section in order to become familiar with the submission requirements for the CM's project. In addition, the CM should coordinate with the project PM/DM to ensure that the FEC PW Core Certifying Official has been identified and funded. The PW Core Certifying Officials are funded on a reimbursable basis. Once identified, the CM shall coordinate the FEC Certifying Official's and the construction Contractor's effort toward the boiler design, fabrication, installation and certification; the earlier, the better.

Refer to the appropriate specification; however, usual Contractor requirements include the submission of shop drawings, boiler data, design data, test reports O&M manuals and Boiler Certificates. In addition, the Contractor shall submit a certificate of compliance indicating that boilers meet the requirements set forth in the given specification. All required testing and the documentation of testing shall be completed and submitted for review prior to requesting the certification by NAVFAC PW Core Certifying Official.

VIII. Pre-BOD/Use and Possession

Pre-BOD/Use and Possession is probably the most difficult phase for the Contractor because this occurs during the final few months of the project when the Contractor has to pull everything together in order to finish by the contract completion date. Coordination and scheduling of sub-Contractors is very critical during this period because the schedule is much more condensed and there usually isn't any more available float in the schedule. The CM and ET are usually actively engaged in the NAVFAC Red Zone process along with the Contractor. Usually there is a need for the CM to coordinate with Government personnel to perform systems and equipment acceptance and many other activities that require Government involvement in order to complete. The inspection process takes place during the NAVFAC Red Zone with the Contractor first performing the punch-out inspection. Then, the Contractor requests the Pre-Final Inspection. Lastly, the Contractor request the Final inspection as a formality, which establishes the Beneficial Occupancy Date (BOD).

A. NAVFAC Red Zone.....(BMS B-I.6.II)

The NAVFAC Red Zone (NRZ) management process consists of established business practices such as checklists, scheduling tools, meetings and other tools focused on identifying and mitigating all issues that could adversely impact contract completion. NRZ is a collective "snapshot" of contract status, identifying remaining actions to be accomplished, and confirming required resources needed for successful contract completion and turnover to the client.

NAVFAC Red Zone is a required process that ensures all contracted critical activities are identified and listed in a checklist, discussed during regular Red Zone meetings and tracked through completion. Many of these activities require coordination between Government and Contractor personnel such as, equipment acceptance, Government Furnished Equipment, telephone connections and fire alarm testing, etc. The NAVFAC Red Zone process and the entire turnover process, begins at the Pre-Construction Meeting with a discussion with the Contractor regarding the NRZ process and continues at regularly scheduled NRZ meetings.

The CM provides the Contractor a copy of the NRZ Checklist Template on which the Contractor adds/deletes critical activities as necessary to match the project scope. The Contractor lists the planned completion dates for each activity. The CM will review and provide additional input as required, ensuring all required NAVFAC and Government Customer functions are indicated. The checklist should include those critical activities that must be completed prior to BOD. BMS B-1.6.11 includes a template NRZ checklist.

At approximately 75% project completion or six months prior to the planned CCD, whichever occurs first, Contractor and Government personnel should conduct the initial Red Zone Meeting/Facility Turnover Planning Meeting. Government attendees include the CM, ET and Real Property Accountable Officer (RPAO). Others might include the PM, DM A-E and PW and customer representatives.

Using the NRZ Checklist as a Plan of Action and Milestones (POAM) and basis for discussion, the Contractor and Government team review upcoming critical activities and strategies to ensure work is completed on time. Responsibility and planned completion dates should be assigned to each critical activity. Dates entered should match the current progress schedule and be updated as the schedule changes. After the initial Red Zone meeting, additional Red Zone meetings should be held regularly to

discuss progress, coordination issues, changes to dates and additional items if necessary. After the project is complete the final Red Zone Checklist should accompany the As-built schedule submission and be archived with the official contract file.

- ✓ *NAVFAC Red Zone often has to be actively enforced by the CM or ET because the Contractor doesn't always see the benefit.*
- ✓ *NAVFAC Red Zone is a contract requirement (Specification 01 30 00, Administrative Requirements).*
- ✓ *Regular Red Zone meetings should begin at approximately 75% project completion.*

B. Contractor Provided Training.....

Most contracts require the Contractor to provide training for Government personnel on the operation of new equipment. When training is required by contract, the ET or CM must coordinate the training with Public Works or BOS contract employees and the end user as appropriate. Contractors may be required to submit for approval a written training plan with dates of training, location, equipment included in training, an outline or topics covered and the instructor's name and qualifications. The contract may also require the training to be recorded in DVD format.

- ✓ *Training must be completed prior to BOD.*
- ✓ *O&M documentation should be provided before training.*
- ✓ *Contractor provided training is a Red Zone item.*

C. Punch-Out Inspection.....(BMS B-1.4.6.3, BMS B-1.5.5.1 & BMS B-1.6.12)

Near the completion of all work, the QC Manager shall conduct Punch-out Inspections on the completed work and develop a list of items which do not conform to the contract requirements or still need to be completed. Punch out inspections may occur over a period of several days or weeks depending on the size and complexity of the project as well as phasing requirements; however, once started, Punch-out Inspections should occur regularly all the way up to the Pre-Final Inspection. The punch-list generated by the QC Manager must include the estimated date when the deficiencies or remaining work will be corrected or completed. Incomplete items from the Red Zone checklist should be on the QC Manager's punch list until they have been completed. Performing Punch-out inspections is one of the most important responsibilities for the QC Manager. Therefore, Government personnel should make every effort to ensure the QC Manager is performing effective Punch-out inspections. The ET should also verify that major items that still need to be completed are on the Contractor's punch list to avoid surprises later. The Contractor should request a Pre-Final Inspection only after they have completed the requirements of the contract. The Contractor's performance during this difficult period will have a huge bearing on their overall performance evaluation in CPARS.

- ✓ *ET should make sure Contractor is performing Punch Out inspections. The Contractor should request a Pre-Final Inspection only after completing the requirements of the contract*

D. Pre-Final Inspection.....(BMS B-1.4.6.3 & BMS B-1.5.5.1)

After all of the deficiencies from the Contractor's Punch-out Inspection are corrected, the Government and Contractor QC Manager will perform a Pre–Final Inspection to mutually verify the requirements of the contract have been met and the facility is complete and ready for occupancy. The Contractor must request a date for the Pre-Final inspection. During the period leading up to the Pre-Final Inspection, Contractors are feeling a lot of pressure to complete the contract on time prior to the Contract Completion Date. As a result, some Contractors and QC Managers may lower their quality standards or ignore certain deficiencies in hopes they will not be identified by the Government in an attempt to speed up the progress. This may be seen with interior finishes as well as equipment operation and performance. Government personnel should be aware of this and not be pressured into accepting work that is not in compliance with the contract requirements. It is also important for Government personnel to know their contracts well so that they can easily spot work that is not in compliance. All system acceptance and testing should be completed and reports received prior to the Pre-Final Inspection. Ensure that required test reports for equipment and system acceptance are not only received, but reviewed by qualified personnel.

On the date agreed upon by the Government, the CM and ET along with the Contractor's QC Manager and typically the Superintendent will conduct the Pre-Final Inspection. It is also a good idea to invite a representative from the Supported Command to participate in the Pre-Final Inspection. During the Pre-Final Inspection, the parties involved will walk the entire project site together inspecting the work and documenting any deficiencies identified. It is not uncommon to identify some deficiencies during the Pre-Final Inspection, but if many deficiencies are identified early into the Pre-Final Inspection, this is likely an indication that the Contractor's QC Program was not effective during the Punch-out inspection process and the Government may want to consider terminating the Pre-Final Inspection and reconvening at a later date after the Contractor addresses the issue(s). The Government should not be performing the Contractor's QC responsibilities.

A Government punch-list will be created by the QC Manager as a result of the Pre-Final Inspection. This punch list contains all the deficiencies identified by the Government and Contractor during the Pre-Final Inspection. The Government punch list may be lengthy especially for complex projects or it could be an indication that the Contractor's QC Program was not effective. The Contractor must provide an estimated completion date for each item in the Government punch-list. The Contractor's focus should now be on correcting the items in the Government punch list. The ET should monitor the Contractor's progress with the satisfactory completion of the items in the Punch List.

A follow-up Pre-Final Inspection may be necessary upon request by the Contractor in order to inspect the corrected deficiencies from the Government punch list. If the ET has been regularly monitoring the Contractor's progress with correcting the individual deficiencies in the punch list, a follow up Pre-Final Inspection may not be necessary.

Only after the Contractor has corrected all of the deficiencies in the Government punch list may they request a Final Inspection. The Government should not accept a Final Inspection without confirming ahead of time that the Contractor has corrected all deficiencies.

- ✓ *A Government punch-list will be created by the QC Manager as a result of the Pre-Final Inspection.*
- ✓ *All system acceptance and testing should be completed and reports received prior to the Pre-Final Inspection.*

- ✓ *The ET should regularly monitor the Contractor's progress to confirm satisfactory completion of the items in the Government punch list.*

E. Final Inspection .....(BMS B-I.4.6.3 & BMS B-I.5.5.I)

The Contractor shall notify the Government at least 14 days in advance of when they will be ready for a Final Inspection. The Contractor will usually have to estimate the 14 days because during this period they are frantically working to correct the previously identified deficiencies from the Pre-Final Inspection. The Government should not agree to a Final Inspection without first determining ahead of time that the Contractor has in fact completed all of the requirements necessary in order to accept the facility for use and possession. That is why the Final Inspection is typically a formality. The Contractor's QC Manager and Superintendent must attend the Final Inspection. For the Government, the ET and CM should attend and an invitation should be sent to the PW FMS and a representative from the Supported Command. Sometimes senior leadership from the Supported Command will appear during the Final Inspection and may be seeing the facility for the very first time. This is one reason the Government should not agree to a Final Inspection without knowing that the facility is ready for occupancy.

A successful Final Inspection establishes the Beneficial Occupancy Date (BOD) and formal completion of the project. In most cases there are still some remaining minor punch list items and close-out requirements that the Contractor must complete before the project can be formally closed-out, but BOD should not be established if there are outstanding life safety issues; if critical systems acceptance or equipment testing has not been completed or if any other issue exists that would impact the operational readiness of the facility. In addition, the CM should ensure that that the Interim DD Form 1354 is provided before BOD.

- ✓ *The Government should not agree to a Final Inspection without first determining ahead of time that the Contractor has in fact completed all of the requirements necessary in order to accept the facility for use and possession.*
- ✓ *A successful Final Inspection establishes the Beneficial Occupancy Date (BOD) and formal completion of the project.*

F. Ribbon Cutting Ceremony.....BMS B-I.6.4

The supported command may decide to conduct a ribbon cutting ceremony to showcase their new facility. Often NAVFAC representatives will be invited. If so, the CM will be the POC for inviting other NAVFAC representatives. The CM should inform the FEAD if the supported command has invited NAVFAC to attend a ribbon cutting ceremony. The FEAD will communicate with senior NAVFAC leadership to ensure the invitation is extended as needed. Typically, NAVFAC has no official responsibility during a ribbon cutting ceremony.

IX. CONTRACT ACCEPTANCE AND TURNOVER

The contract acceptance and turnover phase period begins immediately following BOD. It is during this period that the CM formally notifies both the Contractor and the end user/PWD that beneficial occupancy has been achieved. The importance of this milestone is that the customer can now occupy the

facility and that the Contractor's warranty period begins. During turnover, all required contract deliverables must be provided by the CM/ET to PW FMS and/or the supported command. During this period the CM and ET work together to ensure all of the requirements of the contract have been met including all outstanding contract modifications and close-out submittals. The CM will also prepare an evaluation of the Contractor's overall performance in CPARS during this period.

A. Turnover .....(BMS B-1.6.13.5)

Turnover is the process of turning over the newly renovated or constructed facility to PW as well as to the supported command. It is critical for the CM to ensure that all of the required actions necessary for turnover are accomplished prior to BOD, i.e. completed DD Form 1354 forwarded to RPAO, complete equipment & systems training, receive and forward operation & maintenance manuals to PW, handing over of keys, and others.

- ✓ *The CM is responsible to ensuring that all required turnover actions are accomplished prior to BOD.*

B. Contractor Acceptance Letter (BOD Letter).....(BMS B-1.6.13.5)

Immediately upon Final Acceptance and BOD, the CM will prepare an acceptance letter to the Contractor formally documenting the Government's acceptance of the facility. The letter documents the acceptance date, which establishes the BOD date and the beginning of the warranty period. If the project includes multiple phases where partial acceptance or use and possession is necessary, a separate acceptance letter will be prepared for each phase of work accepted. The letter must clearly identify the physical boundaries of the facility that have been accepted for each phase. Any outstanding items remaining to be completed, which are required by contract, should be listed along with their planned completion dates in a punch list and attached to the acceptance letter. The ET and CM will continue to oversee the Contractor's work during the completion of the remaining items identified on the punch list. Typically, the FEAD will sign the BOD letter, but this may vary based on local policy on signature authority. The CM shall enter the date of the BOD in the "BOD(A)" field in the project's eContracts file within 10 days of BOD.

- ✓ *Refer to Resource Document Acceptance Letter to Contractor Sample in BMS B-1.6.13.5 Contract Acceptance and Turnover for letter template.*
- ✓ *Some FEC's update eContracts with the BOD letter for future use.*

C. Turnover Letter to Activity .....(BMS B-1.6.13.5)

Simultaneously with the preparation of the BOD letter the CM will prepare a Turnover Letter to Public Works and the supported command or activity advising them that the facility is substantially complete and ready for use and possession. The turnover letter should be addressed to the PWO and copied to the Supported Command, APWO, FEAD, SGE, PMEB, ET and RPAO. The letter advises PW and the supported command that they are now responsible for the security, maintenance and operation of the facility and that the warranty period has started. Instructions for executing warranty work are provided in the letter including the Contractor's point of contact information. The Turnover Letter should

be signed by the Construction Manager and the BOD letter included as an attachment prior to forwarding to recipients.

- ✓ *Refer to Resource Document Turnover letter to Activity Sample in BMS B-1.6.13.5 Contract Acceptance and Turnover for letter template.*

D. DD Form 1354 Real Property Transfer .....(BMS B-25.7.1.3 & 4)

A DD Form 1354 is required for all projects involving new construction, demolition or energy upgrades. The purpose of the form is to formally document the transfer of a newly constructed facility or other capital improvement from the construction agent to the host installation. The Real Property Accountability Officer (RPAO), who works at the installation PWD office, is the subject matter expert on real property transfer and the DD 1354. Any questions concerning the form should be directed to the local RPAO.

The decision whether a DD 1354 is required on a contract does not belong to the CM, it belongs to the Planners and RPAO and is made during the early planning stages of the project so the requirements for the DD 1354 can be inserted into the contract documents. The CM should review the contract documents to determine if a DD 1354 is required on the project.

The Draft DD1354 is prepared by the RPAO with CI assistance (PM/DM or DOR). On a Design-Bid-Build this happens prior to awarding the construction contract. On a Design Build, the Contractor's A-E prepares the Draft DD 1354. For DB contracts the CM will need to enforce the development of the draft DD 1354 by the DOR (and continued development during construction by the Contractor). The Draft DD 1354 should accompany the Final Design submittal. The Draft DD 1354 should be an item on the Red Zone checklist as well as a pay item on the Contractor's schedule of values.

The CM must ensure the Contractor completes their portion of the DD 1354 as required by contract. The Contractor will insert the as constructed costs for each of the assets listed on the Draft DD 1354 and return the document to the Government approximately 30 days prior to planned BOD. The RPAO will review and return the unsigned DD1354 to the CM as an Interim DD 1354. The Interim DD 1354 is signed by the PMEB, SGE or designated PWD official at the successful conclusion of the Final Inspection and declaration of Beneficial Occupancy. To help ensure the Contractor performs their portion of the DD 1354, when required by contract, the Contractor's schedule of prices should include a pay item for the Draft DD 1354.

- ✓ *Contractors often have to be reminded to complete the requirements of the DD Form 1354.*
- ✓ *The DD Form 1354 should be a pay item in the Contractor's schedule of prices and also included in the Red Zone Checklist as it is a requirement of the NAS specification.*

E. Stormwater Notice of Termination (NoT) for Construction Activities.

If a National Pollutant Discharge Elimination System (NPDES) Construction General Permit was required for a project, a Notice of Intent (NOI) for construction would have been required to be submitted to the Contracting Officer and EPA prior to the start of construction. Once construction is complete and

permanent final stabilization has been achieved on all portions of the site for which the Contractor is responsible under the NPDES permit, the Contractor must submit a Notice of Termination (NoT).

F. Contractor Performance Assessment Reporting System (CPARS) .....(BMS S-I7.4.I5.2)

FAR part 42.15 requires that Contractor performance information be collected and used in source selection evaluations for future contract awards. CPARS is the Government-wide system used to document the construction Contractor's performance on all contracts >$700k. The responsibility to complete the CPARS evaluation rests with the CM as the designated assessing official representative (AOR). Each evaluation must include detailed and complete statements about the Contractor's performance concerning their quality of work, effectiveness of management, timeliness, compliance with labor standard and safety compliance. Government expectations with the Contractor's performance and the CPARS evaluation should be addressed with the Contractor in the Pre-Construction meeting or Post Award Kick-off meeting. On Design Build contracts, the evaluation must address the performance of the DOR as well as the construction Contractor. Therefore, remarks concerning the quality of the design, timeliness and responsiveness to design related issues should be included in the evaluation.

An interim CPARS evaluation is required every 12 months throughout the entire period of performance. An interim evaluation is also required at any time the Contractor's performance is rated marginal or unsatisfactory in any one category. The interim evaluation should only document the Contractor's performance occurring since the preceding evaluation. A final CPARS evaluation must be completed within 60 days of the beneficial occupancy date.

Assessing Official Representatives should use the CPARS Matrix and narrative tool located on the HQCI5 web page to guide their comments and ratings on contractor performance.

Concurrence from the FEC Chief of Contracts must be obtained prior to forwarding the evaluation to the Contractor when evaluations contain unsatisfactory ratings on 50% or more of the individual elements OR for outstanding/exceptional evaluations if the contract contains an award/fee option provision.

- ✓ *An Interim CPARS is required every 12 months if the performance period is over 365 days or anytime if Contractor's performance is marginal or unsatisfactory in any one or more categories.*
- ✓ *Final CPARS is required within 60 days after BOD.*

G. Warranties.....(BMS B-I.6.I3.2)

FAR clause 52.246-21 establishes that construction work is warranted by the Contractor for a period of 1-year from BOD. If the Government takes possession of any part of the work before the overall completion of the contract, the warranty will commence on that work for a period of 1-year from the date the Government takes possession. A joint 4-month and 9-month warranty inspection will be conducted with the contractor, measured from time of acceptance per UFGS Section 01 78 00 – 1.7.1.

Often construction contracts specify certain materials to be covered by an extended warranty. Roofing systems, siding, floor finishes are just a few examples of the types of materials that typically

require extended warranties. An extended warranty is considered any warranty lasting longer than the standard 1-year warranty for all contract work as established by FAR clause 52.246-21. Contract documents will specify exactly how long the extended warranty must be good for along with any special conditions for the warranty. CMs should review the contract documents, and warranty management plan, to identify any extended warranties required by contract. Contractors must submit the manufacturer's warranty information as a submittal for materials requiring an extended warranty.

After BOD, the responsibility for initiating warranty calls rests with the Public Works FMS or equivalent Marine Corps personnel. Contact information for the Contractor was provided to the FMS in the Turnover Letter. Before contacting the Contractor, the FMS must first confirm that the problem is a warranty issue. In warranty situations, the burden of proof rests with the Government to confirm that the deficiency is in fact a warranty issue. This may require initiating a service call to shops personnel to have them troubleshoot the problem, even if the facility is less than a year old. Sometimes problems are initially thought to be warranty issues but turn out to have been inadvertently caused by Government personnel, either by the tenant or even maintenance personnel performing routine maintenance. Equipment may be malfunctioning because filters were not replaced as part of regular maintenance, or improper adjustments were made by maintenance personnel, or electrical breakers were inadvertently turned off. If a Contractor is called to respond to a warranty issue and it is determined not to be a warranty related problem, the Contractor may be entitled to fair compensation for their time. The FMS must inform the Contracting Officer whenever a warranty call is placed with the Contractor. If the Contractor is not responsive, the FMS should alert the Contracting Officer.

- ✓ *The responsibility for initiating warranty calls rests with the Public Works FMS or equivalent Marine Corps personnel.*
- ✓ *The burden of proof is on the Government to confirm that the problem is in fact a warranty issue.*
- ✓ *The FEAD/ROICC will only get involved in warranty issues if the Contractor refuses to respond, or if a latent defect issues arises*
- ✓ *While not required, initiating a Warranty Meeting every month with PW to follow up on all outstanding warranty issues may be of benefit to the CM, the PW and to the customer. Warranty response could be an item of discussion in the Contractor's CPAR.*

H. Final Payment.....(BMS B-1.7)

Final payment will be made only after all of the requirements of the contract have been met. For large projects final payment typically occurs long after BOD because there are often change orders that are pending and second season TABS still need to be completed. Final payment cannot be made if a claim is pending or if there are change orders pending. Utilize the close-out checklist in BMS B-1.7 to track the completion of items that are required before making final payment.

- ✓ *Utilize the close-out checklist to confirm all close-out actions have been completed before processing the Final Invoice.*
- ✓ *Do not allow deductive modifications to establish final payment. A final invoice must be processed, to allow proper financial close-out of a contract.*

I. File Archive

The CM and ET will assist the Contract Specialist with archiving contract documents and files, whether these are hard copy documents, digital files on a local shared drive or are accessed from the "Cloud" through eCMS. Official contract files must be archived following local policy.

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X. REFERENCES

This reference section contains a list of documents and/or websites which construction managers should be aware in order to access required information in the performance of their CM duties.

A. BUSINESS MANAGEMENT SYSTEM (BMS).....NAVFAC PORTAL

The NAVFAC BMS provides a systematic method for the management of business processes, common practices and process and quality improvement that produce and/or support production of Command products and services. In short, the BMS provides an easy access roadmap type service for those wanting to know how best to conduct business activities grouped in a workflow context. For more information regarding the BMS see NAVFACINST 5200.38A.

B. CAPITAL IMPROVEMENTS COMMUNITY MANAGEMENT PLAN.....NAVFAC PORTAL

Available on the NAVFAC Portal, the CI CMP provides a framework for community members to use, in conjunction with supervisors and mentors, to plan one's career with NAVFAC. The document provides career ladder information regarding positions, grades and training required for each discipline in the Capital Improvements Business Line.

C. CONSTRUCTION MANAGEMENT RESOURCES WEBPAGE.....NAVFAC PORTAL

The administration of Navy construction contracts by Government and Contractor personnel requires the use of many specific different forms, templates, letters, spreadsheets, software applications, data bases and the like in order to execute the contract. Most of the standard forms that are regularly used to document and transfer information between the Contractor and Government (e.g. Daily Reports, RFIs Forms, Submittal Transmittal Forms, etc.) are included and created within the eCMS application. However, there are many other forms, templates, and guiding documents that are needed from time to time on a project that are not in eCMS and must be obtained by the CM in order to perform a task. All of the documents necessary to administer a construction contract are included as individual resources in the specific BMS policy that is applicable to the process requiring the form. It can be time consuming searching for a specific document in BMS. Therefore, in order to help NAVFAC personnel quickly locate a document needed, all of the mandatory forms, templates, letters, or documents used by the CM or Contractor to administer a construction contract can be found in a single list on the NAVFAC Portal under Communities>Capital Improvements>CI Divisions-Construction (CI5)> Construction Resources.

- ✓ *All of the mandatory forms, templates, letters, or documents used by the CM or Contractor to administer a construction contract can be found in a single list on the NAVFAC HQ CI5 Portal using the "resources" link.*

D. ENGINEERING & CONSTRUCTION BULLETINS (ECB).....NAVFAC PORTAL

Engineering and Construction Bulletins are documents issued by NAVFAC HQ Capital Improvements. They contain single-topics, each with one of three levels of applicability: policy, criteria, or information. The

bulletins provide instruction and policy regarding business line programs, processes and metrics, technical information on engineering and construction topics, criteria, safety and delivery system information.

E. Federal Acquisition Regulation (FAR).....www.acquisition.gov

The FAR is the principle set of rules in the Federal Acquisition Regulations System regarding Government procurement in the U.S. It is codified at Chapter 1 of Title 48 of the Code of Federal Regulations; 48 C.F.R.1. This document governs the acquisition process including acquisition planning, contract formation and contract administration. Ultimately, this document tells the CM, as a member of the acquisition community, how to legally manage the construction contract. CMs should be aware of the FAR clauses typically cited in the construction contract. Discuss and work with the contracting officer or contract specialist as required.

F. milSuite.....www.milsuite.mil

milSuite is a collection of online applications focused on improving the methods of secure collaboration for the United States Depart of Defense. The U.S. Army Program Execution Office produces the effort for Command, Control, and Communications-Tactical's MilTech Solutions office with online suite consisting of five primary applications: milBook, milWiki, milTube, milUniversity, milWiki and milSurvey.

G. Naval Engineering Training and Operating Procedure and Standard.....

Naval Engineering Training And Operating Procedure And Standard (NETOPS) are documents issued by NAVFAC Headquarters to convey change in policies that are planned for transition to more enduring policy documents, usually within one year from the date of issue. Found on NAVFAC Portal.

H. NAVFAC Business Operations Plan (BOP).....NAVFAC Portal

The NAVFAC Business Operations Plan is an annual plan published by the NAVFAC Executive Director providing a path towards meeting NAVFAC's strategic objectives. The plan provides planning, funding and execution guidance for each business and support line. CMs should become familiar with this document as it conveys the current CI resourcing status and the actions to be taken to operate in a fiscally responsible manner.

The BOP Communicator is a CI5 document that simply states and describes the various funding sources and their associated level of oversight outlined in the Business Operation Plan. CMs should know who is paying for their project(s). Knowing this will allow them to provide the appropriate amount of oversight which shall be consistent with the funding provided. The Communicator provides common questions and answers that CMs and ETs may have regarding the Business Operations Plan as it relates to their duties.

I. NAVFAC CI Construction Management Training Videos.....twms.navy.mil

NAVFAC CI has produced 16 Construction Management Training Videos, many of which are referenced herein and in the Construction Management Qualification Standard section of this handbook. Construction Management modules are narrated self-guided video presentations covering several topics associated with construction management. These are located on the TWMS website. Select Online Training

& notices then, Online TWMS. Search through the Available TWMS Training for courses that begin with NAVFAC CI Construction CM Basic Training Module.

J. NAVFAC CI Construction Quality Verification Training.....TWMS.NAVY.MIL

NAVFAC CI has created four Construction Qualify Verification (QV) Courses which are required for every Construction Manager. The four QV Courses cover General Construction, Masonry, Concrete and Roofing. Courses include a pre-test, post-test and individual lesson tests to evaluate the viewer's knowledge of course content. Viewing time for each course is approximately 8 hours and courses may be taken over multiple days. These are located on the TWMS website. Select Online Training & notices then, Online TWMS. Search through the Available TWMS Training for courses that begin with NAVFAC CI Construction ET Quality Verification.

K. RS Means.....WWW.RSMEANS.COM

RSMeans provides accurate and up-to-date cost information that helps to project and control the cost of new building construction and renovation contracts. The data provided by RSMeans is used by various cost estimating software/programs including Costworks, which is the current estimating software being used by NAVFAC CMs. RSMeans books are procured at the local level.

L. Total Workforce Management Services.....TWMS.NAVY.MIL

TWMS is a web-based Government application which gathers information regarding the workforce; both military and civilians. The data residing in TWMS comes from official programs of record such as DCPDS. TWMS also provides information regarding required and available training. TWMS automatically tracks and records required training including the NAVFAC Construction Management Training Videos.

M. Whole Building Design Guide (WBDG).....WWW.WBDG.ORG

The WBDG is a web-based portal providing Government and industry practitioners with a one-stop access to up-to-date information regarding building-related guidance, criteria and technology. Development of the WBDG is a collaborative effort among federal agencies, private sector companies, non-profit organizations and educational institutions.. The web site is offered by the National Institute of Building Sciences (NIBS) and is funded through many agencies, including the NAVFAC Innovation and Criteria Office. On its home page, the WBGD has links to: DOD Unified Facilities Criteria (UFC), DOD Unified Facilities Guideline Specifications (UFS), USACE and NAVFAC Engineering and Construction Bulletins (ECB) DOD CAD Resources and others.

Appendix I

Construction Management

Qualification Standard

Task Sheets and endorsements