CONSTRUCTION ENGINEERING TECHNICIAN (ET) HANDBOOK

This booklet is the property of:

_____

Name, Rank or Grade

Revised August 2018

FORWARD

This handbook is intended to address only those matters for which NAVFAC has delegated contract administration authority to a local FEAD/ROICC and also applies to the execution of installation contracts administration under the FEAD/ROICC's authority.

The nature of the material contained herein is informational, not directive. However, reference is made to applicable publications, such as NAVFAC's Business Management System (BMS). The BMS is accessible on the NAVFAC private portal, by logging into https://navfac.navy.mil. While additional resources, such as Engineering and Construction Bulletins (ECBs) may be occasionally developed to provide immediate policy and guidance, the BMS is the final repository of standard processes. All supplemental policies and guidance should eventually be updated in the BMS. As always, the contract specifications define Contractor and Government responsibilities and must be thoroughly understood by the FEAD/ROICC staff.

References to Supervisory Engineering Technicians are only to indicate lines of authority. Field office organizational structures may differ among different FEADs and ROICCs. As such, some field offices might not have a Supervisory Engineering Technician. In some cases, the Engineering Technician reports to a Supervisory General Engineer.

Questions and/or comments pertaining to interpretation, suggested revisions and improvements are desired and invited, and should be submitted to the CI5 at your FEC or at HQ. Handbook revisions or additions will be updated electronically on the NAVFAC Portal. The Engineering Technician Handbook can be accessed at https://navfac.navy.mil on the CI5 portal page.

Footnote:

Applicability to Overseas Areas - It should be noted that not all provisions and contract requirements listed in this handbook are applicable to construction contracts at overseas locations. This is due to Memorandums of Understanding or Memorandums of Agreement and/or other Country-to-Country Agreements between the United States and foreign Governments.

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TABLE OF CONTENTS

SECTION 1: ENGINEERING TECHNICIAN ADMINISTRATION PROGRAM

1. PURPOSE

The duties and responsibilities of the Engineering Technician are many and varied which extend beyond knowledge of actual construction practices. Engineering Technicians are the field representative of each Facilities Engineering and Acquisition Division (FEAD) or Resident Officer In Charge of Construction (ROICC). The professionalism of each Engineering Technician in attitude, appearance, demeanor, conversation and responsiveness to issues with our contractors and customers is required to be an effective member of the contract team.

The Engineering Technician plays a vital role in the execution of construction projects before and during the construction phase to obtain a completed facility that conforms to the plans/ specifications and to ensure the best quality construction within the budget and schedule.

A need exists for a single guide covering all aspects of FEAD/ROICC quality assurance techniques and procedures. This handbook is intended to ensure uniformity of construction quality assurance in all FEAD/ROICC offices serving under the jurisdiction of NAVFAC. The terms "Engineering Technician" and "Quality Assurance Representative" are used interchangeably within this handbook and both refer to our Engineering Technician workforce.

All Engineering Technicians having responsibility for quality assurance of contracts should become familiar with the contents of this handbook to ensure that all contract requirements are being performed.

2. CANCELLATION

The contents in this FEAD/ROICC Handbook for Engineering Technician cancels and supersedes the contents of the Construction Representative Handbook previously provided.

3. LESSONS LEARNED

In our business, we must constantly strive to improve the product that we provide to our customers and learn from our past experiences. An important part of this process includes correction of deficient specifications and elimination of repetitive problems. Lessons learned should be applied to suggest changes to the Request for Proposal (RFP) templates and guide specifications or the design and construction process.

The Engineering Technician in day-to-day surveillance of construction work experiences firsthand repetitive problems and deficiencies in the contract documents. It is imperative that these problem areas be passed through the organization for resolution. All Engineering Technicians are strongly encouraged to submit those items that they feel need resolution/correction in writing, to your supervisor. It is not necessary that these items be typed; legible handwriting is sufficient via your supervisor. Each item will be evaluated and a response provided as quickly as possible.

4. QUALITY ASSURANCE TECHNIQUES (BMS B-1.4.6.1 or B-1.5.5.1)

The primary responsibility of the Engineering Technician is to ensure that facilities construction is in conformance with contract requirements. You should remember that you are the eyes and ears on the project; and as such, must be alert to detect; record, and report irregularities that occur on the job. This includes conformance to contract documents, referenced codes, environmental regulations, Army Corps of Engineers EM 385-1-1, labor standards and base security regulations, and site specific requirements. The Government Construction Manager (CM)/Assistant Resident Officer in Charge of Construction (AROICC), Contractor's Superintendent and QC Manager should be immediately notified of any discrepancies that are detected so that the necessary corrective action can be taken before construction proceeds. Failure to do so can result in unnecessary, and more difficult and costly corrective action.

Each Engineering Technician must be familiar in detail with all the requirements of the contract with which they will provide quality assurance oversight. The contract drawings, specifications and contractor's proposal (contract documents) should be intensely studied and any points not understood should be discussed with the supervisor to attain clarification. It is of the utmost importance that each Engineering Technician understands clearly and has at their fingertips the contractual and technical requirements of the work, including contract modifications, Requests for Information (RFI) and the Government response, shop drawings and submittals.

It should be the Engineering Technician's goal to ensure that the work conforms in all respects with the contract documents. The plans and specifications should not be considered as desirable goals, but rather as minimum standards which must be met or exceeded. If quality is to be achieved, competent quality assurance must be applied to the materials and workmanship which go into our projects.

Competent quality assurance includes professional attitude and ability to know exactly what the plans and specifications require for the job, and not rely on what you think is acceptable or what was done previously on another job, is essential. These things are important and if a specified way or material is considered to be detrimental to the final product, then it should be discussed with the CM or supervisor. However, a decision once made by the Contracting Officer or Contracting Officer's Representative (COR) should be fully and enthusiastically supported by the Engineering Technician.

5. QUALITY ASSURANCE FOR THE ENGINEERING TECHNICIAN (BMS B-1.4.6.3 and B-1.5.5.1)

The Engineering Technician is responsible for verifying the quality of construction work prior to acceptance and payment. It is, therefore, advantageous for the Engineering Technician to be as versatile as possible to ensure that the Government receives a quality product.

NAVFAC has provided a Quality Assurance (QA) Plan template to assist the Design Manager in developing the QA Plan, which provides a list of key requirements for each Definable Feature of Work. This template is intended to stimulate thinking habits and to serve as a reminder for the Engineering Technician to return to the contract documents to determine the requirements of each particular phase of construction.

The Engineering Technician should be completely familiar with the QA Plan and the three-week look-ahead project schedule to perform quality assurance surveillance.

6. ENGINEERING TECHNICIAN BACKUP SYSTEM

With the large number of jobs that can be assigned to each Engineering Technician, it is important to have a backup system established to provide coverage during periods of leave, training, etc. The primary Engineering Technician should provide the backup with updated status report of all active jobs. Although the backup will not know everything about the jobs, he should maintain a familiarity so that he can assist when the primary Engineering Technician is absent. These backup duties should include the following:

a. Spot checking job sites as time permits to ensure no problems exist
b. Checking primary Engineering Technician desk for important messages and/or information and following up on issues that need immediate attention
c. Processing invoices, RFI's and submittals
d. Picking up and verifying Daily Contractor's Production Reports/CQC Reports
e. Attending Production and Quality Control meetings
f. Monitoring the contractor's schedule
g. Keeping CM/AROICC appraised of progress/problems
h. Accessing/updating eCMS project files

The Engineering Technician and his backup should communicate regularly and avoid being on leave during the same period whenever possible. When this is not possible, an alternate backup should be established to keep things running smoothly until the primary Engineering Technician or the backup returns. In addition, when time permits, the Engineering Technician and his backup should visit each other's jobs to stay abreast of general progress and key issues.

7. CONSTRUCTION MANAGER/ASSISTANT RESIDENT OFFICER IN CHARGE OF CONSTRUCTION AND ENGINEERING TECHNICIAN INTERFACE

The CM/AROICC, the Supervisory Engineering Technician and the Engineering Technician are expected to work and coordinate as the unified Government team during the total administration of a construction contract.

Generally, the CM/AROICC's primary contact for the field operation should be directly with the Engineering Technician. Although the contract specialist is a not a member of the technical field team, they play a vital role in the administration of the contract. This interaction is expected and encouraged, but the chain of command should always be honored.

When encountering problems in the field that may require action by the CM/AROICC, the Engineering Technician should:

a. Check contract documents to determine contractor or Government responsibility
b. Provide a description of the problem
c. Provide a time frame that the answer is required and why
d. Provide a recommended solution, if possible
e. Provide information on how the problem will impact the job

8. STANDARDS OF CONDUCT AND GOVERNMENT ETHICS

While dealing with the contractors, our relationships should be characterized as reasonable, objective, firm, fair, understanding, helpful, cooperative and courteous. Government personnel are in positions of trust and responsibility which require conducting of business with the highest professional and ethical standards.

Each employee has a responsibility to the United States Government and its citizens to place loyalty to the Constitution, laws, and ethical principles above private gain. To ensure that every citizen can have complete confidence in the integrity of the Federal Government, each employee shall respect and adhere to the principles of ethical conduct as set out in 5 C.F.R. 2635.101(b) as well as the implementing standards found in 5 C.F.R. Part 2635. A good overview of the Standards of Conduct can be found in the DoD Employee's Guide to Standards of Conduct. (http://ogc.osd.mil/defense_ethics/resource_library/employee_guide.pdf). All members of the FEAD/ROICC staff shall familiarize themselves with the contents of this guide and govern their actions by its provisions. Questions regarding ethics and Standards of Conduct should be directed to the command's ethics counselor.

Two ethical areas of concern for NAVFAC employees involved in contracting are gifts and conflicts of interest.

A gift is defined as any gratuity, favor, discount, entertainment, hospitality, loan, forbearance, or other item having monetary value. It includes services as well as gifts of training, transportation, local travel, lodgings, and meals, whether provided in-kind, by purchase of a ticket, payment in advance, or reimbursement after the expense has been incurred.

The ethics regulations prohibit employees from accepting any gift offered to them because of their official position or by a prohibited source (e.g., contractor). This prohibition applies regardless of intent. There are some exceptions and exemptions to this gift prohibition. As such, employees should seek guidance from the command's ethics counselor prior to accepting any gift offered to them because of their official position or from a prohibited source.

Additionally, employees are prohibited by a criminal conflict of interest statute from holding financial interests, including imputed financial interests, which create a conflict with his/her official duties. For example, if a NAVFAC employee owns stock in company A worth $20,000, he may not take official action on a matter involving company A. Official action includes, but is not limited to, sitting on a source selection board/technical evaluation board, acting as a COR or TPOC, or approving payments or claims.

Furthermore, per regulation, employees are obligated to take appropriate steps to avoid an appearance of a loss of impartiality in the performance of his/her official duties. To ensure impartiality, NAVFAC employees may not participate in any particular matter if the matter is likely to affect the financial interest of a member of his/her household, or a person with whom he/she has a covered relationship unless a reasonable person with knowledge of the relevant facts would not question the employee's impartiality. For example, a NAVFAC employee is a

member of a source selection board and company X has submitted a proposal in response to the RFP. The NAVFAC employee's mother is a senior executive at company X. Because the NAVFAC employee has a covered relationship with his mother, he should recuse himself from the source selection and report the matter to his supervisor as well as the ethics counselor.

Always seek advice from an ethics counselor if you are not certain that your actions are in compliance with the ethics laws, rules, and regulations.

SECTION 2: CONTRACT AUTHORITY

1. ENGINEERING TECHNICIAN

The Engineering Technician's primary responsibility is to ensure that construction work is in conformance with contract provisions, i.e., construction contract clauses, labor and technical provisions, and that the work performed is in accordance with the plans and specifications. The Engineering Technician must ensure that the work is done safely, that applicable labor and environmental laws are met, that payment requests are validated, and that required testing is properly performed. They must provide quality assurance on all construction work assigned, conduct labor interviews, prepare reports as appropriate, issue deficiency notices, check submittals, and perform a myriad of other functions as deemed necessary to complete the assigned mission.

The Engineering Technician has no authority to allow any deviations from contract requirements, and has no authority to interfere with the methods of performance by the contractor or to issue instructions directly to any of the contractor's personnel, unless the methods being used are unsafe. However, the Engineering Technician has the authority to stop a portion of a job that poses imminent life-safety hazard to personnel or property, or in extreme cases to stop the whole job for safety. Field changes that do not involve time or money must have the concurrence of the assigned CM/AROICC.

The Engineering Technician's attitude in dealing with the contractors must be cooperative, firm and unbiased. The Engineering Technician must be respectful and impartial, and should always remain slightly detached from contractor personnel, while supporting partnering relationships. The Engineering Technician should never become involved on a personal level with contractor personnel. Fraternization with contractor personnel can quickly lead to deterioration of the desired business-like relationship.

Engineering Technicians should not allow themselves to become personally offended or display anger towards contractor personnel. If a situation is leading to an argument, excuse yourself and consult your supervisor.

Engineering Technicians should never fall into the trap of running the job for the contractor or excusing the problem. Care must be taken when offering solutions to contractor problems (remember this is their contract). Often, when a suggested solution doesn't work, the contractor will claim that he was directed to follow this suggested procedure and the Government may pay

for the necessary rework as a result. Therefore, carefully choosing appropriate words when the contractor start probing for acceptable solutions is extremely important.

Engineering Technicians should avoid as much as practicable, direct dealings with the subcontractors. NAVFAC has no contractual relationship with subcontractors, as their contract is with the prime contractor. Confine yourself as much as possible, to dealing only with the prime contractor's supervisor, quality control, site safety and other management personnel. When it becomes necessary to deal with subcontractors, ensure that it is in the presence of, and with the concurrence of, the prime contractor's authorized representative.

Finally, Government quality assurance and tests are for the sole benefit of the Government and do not:

a. Relieve the contractor of responsibility for providing adequate quality control measures
b. Relieve the contractor of responsibility for damage or loss of the material before acceptance
c. Constitute or imply acceptance
d. Affect the continuing rights of the Government after acceptance of the complete work

The presence or absence of a Government Representative does not relieve the contractor from any contract requirement, nor is the Engineering Technician authorized to change any term or condition of the specifications without written authorization.

2. SUPERVISORY/LEAD ENGINEERING TECHNICIAN

A Supervisory Engineering Technician is responsible for overall surveillance and inspection of construction operations on active construction contracts. This involves making periodic visits to work in progress; investigating field problems and recommending solutions; exercising authority to approve or disapprove construction methods, material and workmanship; and promoting harmonious relations among contractors and customers as well. The Supervisory Engineering Technician is responsible for establishing quality assurance schedules and quality assurance methods, and checking progress schedules, labor standards enforcement and work-in-place (WIP) reports for determining payments due. Also, this individual assists in solving complex field construction problems. They maintain close and continuous communication with CM/AROICCs on projects within their area of responsibility to assure well integrated contract management.

3. CONTRACTING OFFICER

The responsibility for Navy procurement is vested by statute in the Secretary of the Navy. The Secretary has delegated this responsibility to each Commander/Commanding Officer for procurement of services under the technical cognizance of his command.

Commander, Naval Facilities Engineering Command is delegated authority to appoint Contracting Officers through the issuance of a warrant for the award and administration of numerous types of procurement actions.

Signature authority and accountability is delegated to the FEAD/ROICC, Project Management & Engineering (PM&E) Branch Head/Supervisory General Engineer (SGE) and Supervisory Contract Specialist to administer construction contracts within the limits of their authority.

NAVFAC is responsible for and authorized to perform the planning, design, development, procurement, construction, alteration, repair and maintenance at all shore activities of Naval and assigned Government establishments for public works and public utilities, and to procure construction, transportation and weight-handling equipment. In addition to this authority, various other delegations of authority are set forth in the Federal Acquisitions Regulation (FAR) and by various other statutes and directives.

4. FACILITIES ENGINEERING & ACQUISITION DIVISION DIRECTOR/RESIDENT OFFICER IN CHARGE OF CONSTRUCTION

The FEAD/ROICC is generally a CEC Officer who is the head of a contracting field office. Contracting officer authority is specifically and independently authorized by a certificate of appointment (warrant). Those with contracting authority are consequently known as "Contracting Officers."

The FEAD/ROICC represents the NAVFAC in the award and administration of specific construction contracts within their area of responsibility.

5. PROJECT MANAGEMENT & ENGINEERING BRANCH HEAD/SUPERVISORY GENERAL ENGINEER

The PM&E Branch Head/SGE is authorized to serve in conjunction with, and in the absence of, the FEAD/ROICC and is responsible for field administration of construction contracts. In most cases, a civilian supervisory engineer occupies this position.

6. SUPERVISORY CONSTRUCTION MANAGERS/ASSISTANT RESIDENT OFFICER IN CHARGE OF CONSTRUCTION

Supervisory CMs/Supervisory AROICCs are a direct line function exercising supervisory and management responsibilities over the CMs/AROICCs. The primary function of this position is to provide for all the day to day coordination of the CMs/AROICCs assigned. This position is only utilized in larger FEAD/ROICC offices which have a significant number of CMs/AROICCs.

7. CONSTRUCTION MANAGER/ASSISTANT RESIDENT OFFICER IN CHARGE OF CONSTRUCTION

CM/AROICC serves as construction project managers with authority to make engineering and administrative decisions involving contracts assigned. They may be either a military or civilian position. Military AROICCs report to the FEAD/ROICC for military matters, while the Supervisory CM/AROICC or PM&E Branch Head/SGE oversees their contract administration efforts. CM/AROICCs are responsible for the field administration of assigned construction contracts from award through final inspection and acceptance by the using activity. They represent the FEAD/ROICC in dealing with contractors, and the using activity and local

Government agency in the administration of construction contracts. Timely and precise decisions must be exercised by these individuals to protect the Government's best interest.

8. QUALITY ASSURANCE SERVICES BY NON GOVERNMENT EMPLOYEES (TITLE II, COOPERATIVE ADMINISTRATIVE SUPPORT UNIT (CASU) AND SEAPORT-E, ETC.)

NAVFAC is responsible for providing adequate post contract award surveillance and inspection to assure that the requirements of construction contracts are being met. This quality assurance and surveillance is normally performed by Government personnel unless special arrangements have been made to the contrary. However, rapid workload growth, complex highly technical projects, and remote project sites can surpass the number of Government personnel available to perform these functions. When this situation occurs, the inspection function must be accomplished by other than Government employees.

Contract construction surveillance and quality assurance, generally known as Title II inspection or CASU services, are procured in accordance with established guidelines. Care must be exercised to assure optimum economy and adherence to prescribed regulations in preparing the scope of work. The following criteria should be considered to determine the inspection efforts needed:

a. Work is technically complex.
b. Work is at a remote location.
c. Overall workload is of such a nature that the Government employee and the contractor employee efforts are not redundant.
d. In no case shall the quality assurance effort be construed as engineering consultation unless specifically provided for in the contract.

When Title II/CASU quality assurance services are provided, the FEAD/ROICC is still responsible to assure that:

a. All work is accomplished in accordance with the contract documents.
b. Sufficient surveillance is provided by Government employees to ensure control of efforts.
c. Direction is not to be provided by one contractor to another contractor.
d. Efforts accomplished by a contractor are not those functions that are reserved for the Government, such as decision making, ordering of work, or approving payment.
e. Title II/CASU employees must comply with FAR Subpart 7.5, regarding inherently Governmental functions.

Unless specific exceptions are established by the contract, the Title II/CASU contractor for quality assurance services shall not:

a. Authorize any deviation from the approved documents.
b. Undertake any of the responsibilities of the construction contractor, i.e. superintendent, QC Manager, etc.
c. Expedite or accelerate the work.

d. Advise on or issue directions relative to any aspect of the means, methods, techniques, sequences or procedures.
e. Authorize or advise users to occupy projects.

9. DESIGN-BUILD AND DESIGN-BID-BUILD CONTRACTS (BMS B-1.4.6.3 and B-1.5.5.1)

Design-Build (DB) is a form of contracting where the contractor is responsible for both the design and the construction of a facility and is generally known as one-step negotiation. Contracts are awarded by a Procuring Contracting Officer (PCO) and administered by an Administrative Contracting Officer (ACO).

Design-Bid-Build (DBB) is a form of contracting where the contractor is responsible for the construction of a facility based on a complete Government provided design, plans and specifications.

The FEAD/ROICC will administer both of these types of contracts utilizing the same quality assurance procedures.

An Engineering Technician, who will be the primary point of contact for the contractor with the Government, will be assigned to the project. The Engineering Technician will review the contractor's quality control/daily reports, prepare QA reports, perform surveillance of the contractor's testing and quality control procedures and perform such construction quality assurance as identified in previous sections.

10. TESTING/ENGINEERING SERVICE CONTRACTS

The contract specifications typically require the contractor to procure a certified testing laboratory to ensure that certain portions of the work meet the required standard. However, this requirement is not necessarily all inclusive to satisfy the Government needs.

In order for FEAD/ROICC offices to have the capability to conduct independent tests, an engineering services contract is awarded to a certified testing laboratory by NAVFAC (or the individual FEAD/ROICC, if authorized). The laboratory will respond and conduct tests as required to verify that a satisfactory product has been provided. To utilize these services, the CM/AROICC makes the request to the assigned Design Manager, who will make necessary arrangements for the services.

Examples of items included in these contracts are:

a. Concrete
b. Aggregates
c. Fill material
d. Compaction (soil proctor)
e. Sub-grade, sub-base and base course material
f. Asphalt and paving test

g. Concrete masonry units
h. Brick
i. Diving survey and inspection
j. Elevator inspection, testing and certification
k. Welding Inspection
l. Asbestos sample collection and laboratory analysis
m. Investigative services related to construction deficiencies

These contracts may vary in scope depending on the needs on each area or FEAD/ROICC office. Each contract must have a dollar value, a time frame and a specific scope of work.

11. JOB ORDER CONTRACTING (JOC)

A JOC is a competitively bid, fixed-price, indefinite-quantity contract. It includes a collection of detailed engineering tasks and specifications with their established unit prices. It is usually placed with a single contractor to accomplish sustainment, restoration, and modernization projects for the Public Works Office (PWO). The JOC contract term is normally for a fixed base year, with multiple option years available for award contingent upon successful performance. The contract term can be tailored in accordance with the NAVFAC Facilities Acquisition Standard (NFAS) 11.402 and NFAS 17.202.

Since a JOC requirement typically does not include complete design and specifications, negotiations are necessary to define the level of effort such as materials, quantities, and processes required to accomplish the construction task(s). During the Task Order (TO) discussions between the Contractor and the Government, referred to as "joint-scoping", the quantities and tasks necessary to perform the scope of work are negotiated. Then the task quantities are multiplied by the respective line item unit prices in the Unit Price Book (UPB) and the Contractor's coefficient to establish a firm-fixed-price TO. Each individual TO becomes in effect a fixed-price lump sum contract and is managed accordingly.

12. 8(a) CONTRACTS (BMS S-17.2.24)

An 8(a) contract is a contract between the FEAD/ROICC and the Small Business Administration (SBA). The contractor who performs the work is, in essence, a subcontractor to the SBA and has been determined by the SBA to meet the criteria of the program. 8(a) refers to the section of the Small Business Act of the Federal code passed by Congress, which permits this exception to full and open competition. The SBA's subcontractors are referred to as Section 8(a) contractors. (Refer to Federal Acquisition Regulation (FAR) Part 19.800). Participants can receive sole-source contracts, up to a ceiling of $4 million per contract, for goods and services and $7 million for manufacturing. 8(a) firms are also able to form joint ventures and teams for award consideration, for both sole source and competitive contracts. This enhances the ability of 8(a) firms to perform larger prime contracts and overcome the effects of contract bundling, the combining of two or more contracts together into one large contract. Contract documents for all 8(a) contracts contain three signatures, the Contracting Officer, the SBA and the 8(a) contractor.

13. EMPLOYMENT OF MINORS ON CONSTRUCTION CONTRACTS

On construction contracts, child labor requirements for non-agricultural occupation are governed by the Fair Labor Standards Act, Wage and Hour Division.

Oppressive child labor is defined as employment of children under the legal minimum age.

The Fair Labor Standards Act provides a minimum age of 16 years for any non-agricultural occupation. This minimum age applies even when the minor is employed by the parent or a guardian.

Non-agricultural occupations declared hazardous by the Secretary of Labor are prime factors in the employment of minors. A partial listing of occupations in the construction industry which are considered to be particularly hazardous is:

a. Manufacturing and storing explosives
b. Motor vehicle driving
c. Power-driven woodworking machines
d. Exposure to radioactive substances
e. Power-driven metal forming, punching and shearing machines
f. Power-driven circular saws, band saws and guillotine shears
g. Wrecking, demolition and ship-breaking operations
h. Roofing operations
i. Excavation operation

There are many variables relating to employment of minors. Hazardous occupation orders contain exemptions for 16 and 17-year-old apprentices and student-learners provided that they are employed in and registered by, a craft recognized by the Bureau of Apprenticeship and Training of the U. S. Department of Labor and work under the direct and close supervision of a journeyman mechanic. Student-learners, however, are enrolled in a course of study and training in a cooperative vocational training program under a recognized state or local educational authority. Such student learners are employed under written agreement with exemptions.

The Engineering Technician must use caution before taking action on the employment of minors unless safety is a factor. A thorough evaluation of the circumstances is most important to ensure that the employee is being treated fairly.

The Fair Labor Standards Act applies to both the United States contracts and the overseas awarded contracts.

SECTION 3: CONTRACT REQUIREMENTS

1. CONSTRUCTABILITY REVIEW OF PLANS AND SPECIFICATIONS (BMS B-1.4.6.3 and B-1.5.5.1)

Due to a continuing increase in construction costs and the needs of our customers, it is important that projects be designed, bid and constructed as rapidly as possible. This exerts great and continuing pressure toward maximum speed and efficiency of the design process. Thus, it is imperative that design reviews at all levels be efficient and timely. In keeping with this policy and in order to utilize the experience and expertise in the FEAD/ROICC offices, reviews are considered essential.

Normal design schedules allow for constructability reviews at the FEAD/ROICC level for DBB projects at the 100% review stage. A specific technical review by the FEAD/ROICC, regarding the various engineering disciplines, is not encouraged unless the reviewer has some specific knowledge of previous problems resulting from the use of certain materials or design techniques. In this regard, use the checklist provided in BMS B-1.5.5.1.2. For DB projects, the FEAD/ROICC should conduct a review of the 100% design submittal per B-1.4.6.3 Design-Build Quality Management.

2. PRE-CONSTRUCTION CONFERENCE (BMS B-1.4.6.1) OR POST AWARD KICK-OFF MEETING (PAK) (BMS B-1.5.5.1)

The purpose of this conference is to establish administrative procedures which are to be followed in the execution of the contract and to discuss the Construction Quality Management (CQM) requirements for the project. In addition, the meeting is to introduce the key personnel from the contractor, the FEAD/ROICC office and activity personnel who will be the beneficiary of the construction being performed.

The CM/AROICC assigned to the contract will arrange and conduct the meeting. The conference should be conducted in accordance with BMS B-1.4.6.1.3 (DB projects) and B-1.5.5.1.3 (DBB projects).

The Engineering Technician should be prepared to outline to the contractor the following items when requested to do so by the CM/AROICC.

a. Safety
b. Daily reports/sample prepared
c. Labor requirements/posters/interviews
d. Utility outages
e. Road and parking lot crossings
f. Material storage areas
g. As-built drawings
h. Invoice procedures
i. Points of connection for temporary utility connections
j. Office trailer location sites
k. Confined space entry

l. Hazardous Communication

3. SHOP DRAWINGS AND SUBMITTALS (BMS B-1.4.6.1 and B-1.5.5.1)

The term "shop drawings" include drawings, diagrams, layouts, schematics, descriptive literature, illustrations, schedules, performance and test data and similar materials furnished by the contractor to demonstrate in detail compliance with specific portions of the work required by the contract.

Policy and instructions governing submission and handling of contractor's submittals are detailed in BMS B-1.4.6.1.4.6. for DB projects and BMS B-1.5.5.1.3 for DBB projects.

Contractor Quality Control (CQC) project specification stipulates: All submittals shall be reviewed and approved by the contractor's QC Manager. Those requiring Government approval shall be forwarded to the CM/AROICC.

Submittals requiring Government approval are designated in each division of the contract specifications. If the Contracting Officer approves any variation(s), they shall issue an appropriate contract modification, except if the variation is minor and does not involve a change in price or time of performance.

The office submittal file is always available to the Engineering Technician; the contractor's Submittal Log will assist in tracking those submittals which have not come through when payment requests are made. The Engineering Technician verifies key submittals to assure materials delivered are in compliance with contract documents. Discrepancies should be noted in the Daily QA Report. The Engineering Technician should also note this information on his copy of the submittal.

If the submittal does not appear to meet the requirements of the contract, assistance should be obtained by returning it to the CM/AROICC with the reasons you feel that it does not meet the contract documents.

In addition, the Engineering Technician should ensure that those submittals required on material and equipment has been approved and the products meet those approved standards before approving payment of material.

4. WORK REQUIRED BY THE PRIME CONTRACTOR

The contractor will furnish a description of work to be performed with their own organization. The work percentage has historically been equivalent to at least twenty (20) percent of the total amount of work to be performed under the contract; the exact percentage, per FAR 52-236-1, Performance of Work by the Contractor, will be stated in the contract. The value of material will be considered as part of the work performed if installed on the site by the contractor's own organization.

This information must be provided prior to the commencement of any work at the site and preferably at the post award kick-off meeting or pre-construction conference.

The percentage may be reduced on request by the contractor and must be approved by the Contracting Officer.

5. STATION REGULATIONS AND SECURITY REQUIREMENTS

The prime contractor who is awarded a construction contract will be responsible to ensure that each employee is prepared to furnish proof that they are a citizen of the United States or a legal alien.

The entrance and exit of all contractor personnel will be subject to the security regulations required by each individual base or station. However, all locations require that the contractor's equipment be conspicuously marked for identification, including the name of the contractor's company. Some contracts require special escort service due to the nature of the activity. In order to ensure that the requirements for the contract are understood, the Engineering Technician should direct the contractor to the General Requirements of the contract specifications to the paragraphs entitled "Work Restrictions" and "Security Requirements". Additionally, the Contractor should further be directed to the paragraph entitled "Administrative Requirements."

6. PERSONNEL LIST AND EMERGENCY INFORMATION

The prime contractor shall submit to the Contracting Officer Representative (COR) a list of subcontractors and the work each is to perform. This list shall include the names of their key personnel and those of their subcontractors with their after-hours phone numbers for use in the event of an emergency. This information should be provided at the pre-construction/PAK conference to ensure that these personnel are permitted entry to the Government installation.

7. SAFETY ENFORCEMENT (BMS B-1.6.1)

SAFETY INSPECTION

Safety and health is an inherent responsibility of the Command; therefore, it is the policy of the NAVFAC to actively support and aggressively pursue all actions which will provide the following:

a. A comprehensive, effective safety and health program aimed at curtailing manpower and monetary losses due to accidents.
b. A safe and healthy work environment for all NAVFAC personnel (military and civilian).
c. The safety and health of personnel occupying or exposed to facilities designed and/or constructed under cognizance of NAVFAC.
d. The enforcement of precautions leading to a safe and healthy work environment for all contractor personnel.

There are two safety references the contractor must adhere to: 1) the U.S. Army Corps of Engineers Safety and Health Requirements Manual, EM 385-1-1, a requirement of the contract, and 2) the Occupational Safety and Health Act (OSHA), a requirement that must be followed by law. NAVFAC's policy is to enforce the most stringent standards that apply. We will not act as enforcement agents for the Occupational Safety and Health Administration, since this is a function of the Department of Labor.

Completing the job safely is more important than just getting the job done on time. Hazards and safety violations should be brought to the immediate attention of the appointed contractor's Site Safety and Health Officer (SSHO) and QC Manager. Safety violations must also be noted as part of the daily records. If the hazard poses imminent danger to personnel, the Engineering Technician has the authority to stop work on that particular phase until the hazard is corrected. If the whole job poses a serious threat to personnel safety, detailed documentation in the daily records with photographs are appropriate when the project is shut down.

In very rare cases, a "stop work order" is appropriate for an entire work site. However, orders for contractors to stop perilous work site operations may be numerous, e.g., workers on a high scaffold without adequate guarding, workers in a deep un-sloped or un-shored trench without protection from cave-in or workers using an ungrounded extension cord. In extreme cases, contractors or contractor employees that become obstinate regarding safety violations should be stopped and if necessary removed from Government property.

The Engineering Technician should be knowledgeable of UFGS 01 35 26 as edited for the specific contract assigned to them.

ACCIDENT REPORTING

In the event of an incident; the contractor is required to personally notify the FEAD/ROICC as soon as possible, the specific timing required is identified in UFGS 01 35 26. The contractor has the option of reporting an accident with a copy of a Contractor Safety Incident Report (CSIR). An accident report is required for incidents involving more than first aid on the construction site. The CSIR will be used to follow up corrective action and be made a part of the contract file should an investigation be required. In the event of serious accident, the site should be secured and preserved, pending the investigation. A serious accident is defined as:

a. One which results in the fatality of one or more contractor employees regardless of time between the injury and death, or the length of the illness
b. Days away from work (any time lost after day of injury/illness onset)
c. Restricted work
d. Transfer to another job
e. Medical treatment beyond first aid
f. Loss of consciousness
g. A significant injury or illness diagnosed by a physician or other licensed health care professional, even if it did not result in (1) through (6) above.
h. Any incident involving weight handling equipment

In the event of a serious accident, a detailed narrative report of the accident will be prepared.

OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION INSPECTIONS AND INVESTIGATIONS

Permission has been granted by the Chief of Naval Operations (CNO) for the Federal and State Occupational Safety and Health Administration officials to enter Navy Shore Installations,

without delay and at reasonable times, to conduct either routine safety and health inspections and investigations of contractor work places, or those based upon reports of unsafe conditions. They may also investigate specific complaints of accidents or illnesses involving contractor employees. The OSHA officials shall present appropriate identifying credentials and shall state the purpose of the visit to the Navy Shore Installation Commander or their representative. A determination of the need for security clearance shall be made by the installation security office before entrance. The FEAD/ROICC shall check the OSHA official's credentials (and security clearance, if appropriate) prior to allowing entry into the contractor's work place. The OSHA officials should be accompanied on inspections and investigations by representatives of the using activity, FEAD/ROICC and prime contractor.

MONTHLY SAFETY INSPECTIONS (BMS B-1.6.1)

Every Engineering Technician should review the contractor's monthly Site Safety Evaluation form (BMS B-1.6.1.6.) for integrity and correctness. Dedicating a time each month to perform such an inspection has proven to be beneficial in reducing accidents and/or mishaps. The results of these inspections should be routed with the progress payment to the CM/AROICC.

FIELD OFFICE SAFETY TEAM

It is highly recommended that each FEAD/ROICC office establish a Safety Team consisting of the Supervisory Engineering Technician and the office Safety Technician or Safety Advocate as permanent members, and a CM/AROICC and Engineering Technician to be rotated each month. The purpose of this team is to visit two active construction sites per month, unannounced, and conduct a thorough safety inspection of the job. This is intended to be a proactive approach to foster better safety and not a "witch hunt". Often a fresh set of eyes can see things that the day to day players on the job can miss and this approach is intended solely to help fellow employees in the office and reduce/eliminate the potential for serious accidents. The results of the inspection should always be routed through the Engineering Technician and CM/AROICC assigned to the project. It is recommended that the team leader be the Supervisory Engineering Technician who will be the individual who will select the projects to be inspected for the month and maintain a record of these inspections, including the findings.

CONTRACTOR SITE SAFETY ASSESSMENT PROCESS (BMS B-1.6.1)

Periodically evaluate selected construction sites for safety contract compliance in accordance with BMS B-1.6.1.6. Teams should be formed that typically consisting of the CM/AROICC, Engineering Technician (not assigned to project) and Supervisory Engineering Technician. The assessment should be conducted unannounced, accompanied by the contractor's site Safety Office. The "Contractor Site Safety Worksheet" should be used to evaluate and grade each project. The team will establish scoring for each project visited. The worksheets should be evaluated for respective deficiencies, along with project scores for safety recognition.

8. ENVIRONMENTAL PROTECTION

Retention of the environment in its natural state to the greatest extent possible during construction performance, and to enhance the natural appearance in its final condition is the goal of environmental protection.

Environmental protection requires the control and prevention of environmental pollution during and as the result of construction operations throughout the life of the contract.
Environmental pollution that contains the presence of chemicals, physical, or biological elements or agents which adversely affect human health or welfare, or which unfavorably alter ecological balance, or degrade the utility of the environment for aesthetic and recreational purposes must be controlled, remediated, or minimized. The control of environmental pollution requires protection considerations for the air, the water, and the land, all solid waste, hazardous and toxic waste, hazardous materials, oily waste and substances, and involves minimizing noise, as well as avoiding pollutants.

Federal, State, Navy and Department of Defense directives, and local regulations pertaining to the environment are identified as "environmental law".

ENVIRONMENTAL PLAN (BMS B-1.6.5.2)

Environmental protection plans provide protective measures to control pollution that develops during construction. Environmental Plans are well-defined procedures for handling a wide variety of environmental issues during construction. Contractors are required to conform to environmental laws during the course of a contract.

Contractors may encounter many hazardous materials, both incorporated into the work, and in the course of their work. Typical materials include paint (oil and water-based), solvents, adhesives, cleaning agents, curing compound and solder. Contractors must sometimes handle hazardous waste, that is, materials that are no longer needed and require disposal and have been identified by the Environmental protection Agency (EPA) to exhibit hazardous characteristics, or are "listed" wastes.

Procedures and tests assessing compliance with environmental law shall be performed using analytical work done by qualified or certified laboratories.

Environmental plans need to be reviewed, per BMS B-1.6.5.2, and accepted by the Contracting Officer's Representatives. Engineering Technician should spot check implementation of environmental controls according to the performance level set for the project (see current fiscal year BOP)

9. LABOR STANDARD ENFORCEMENT (BMS B-1.6.10)

Labor Standard Provisions are included in contracts as required by law, Federal regulations and instructions. These provisions should form a part of the contractor's guidelines for preparing his bid. Full and impartial enforcement of the Labor Standard Provisions of contracts is required to assure compliance by the prime contractor and the subcontractor at any tier. The FEAD/ROICC has full authority and responsibility for the application, administration and enforcement of the contract standard provisions.

Labor Standard Provisions for Construction Contracts contain the wage rates appropriate to the contract and should be posted at the job site. Additionally, they should be briefly explained in the pre-construction conferences. The NAVFAC BMS B-1.6.10, Labor Standards Compliance

Monitoring, serves as the primary reference to labor relation matters. The Engineering Technician should review this reference.

The prime contractor is responsible for the proper and timely submission of payrolls for all subcontractors and for ensuring that all laborers and mechanics on the work site are properly classified and paid accordingly.

Thus, the work of a laborer usually consists of the following types of activities:

a. Digging and filling holes
b. Loading, unloading and stockpiling materials
c. Cleaning and sweeping
d. Driving stakes
e. Stripping forms
f. Removal of items which are to be discarded
g. Clearing and grubbing (excluding equipment operator)

While a laborer may assist a mechanic in their performance of the mechanic's work, they may not actually do the work of a mechanic or use the tools peculiar to an established trade unless, while using such tools or performing such work. Workers must be paid according to their work classification.

The contract wage decision, in addition to the basic hourly rate, will list required fringe benefit payments (health and welfare, pension, vacation, apprentice training, etc.) for some of the work classifications. These benefits are a part of the employee's income and must be considered in the hourly rate.

The wage determination decision included in your contract does not contain apprentice or trainee classifications or associated wage rates. These are not appropriate for all trades. Your contract specialist can assist you with these matters.

The contractor/subcontractor shall furnish written evidence of the registration of their apprentice program as well as registration of individual apprentices, the ratios of apprentices to journeyman allowed and the wage rates required to be paid, prior to using any apprentice in the contract work.

Any employee listed on a payroll with an apprentice wage rate, who is (1) not registered, (2) not certified as a non-registered probationary apprentice or (3) not employed in proper ratios to mechanics, shall be paid the wage rate indicated in the wage determination decision.

Trainees shall be permitted to work as such when they are bona fide trainees employed pursuant to a program approved by the U. S. Department of Labor, Manpower Administration, Bureau of Apprenticeship and Training.

A copy of the wage determination decision applicable to the contract must be kept posted at the site of the work in a prominent place where it can be easily seen at all times by the workers. If in

an exterior location, these items shall, along with other documents required to be similarly posted, be displayed in a weatherproof display case and replaced with new copies if they become illegible. The Engineering Technician shall ensure that the contractor properly displays these posters.

One of the primary administrative functions required of the Engineering Technician is that of taking and recording contractor employee labor interviews. The purpose of taking these interviews is to develop factual data shown on the contractor's payrolls.

Labor Standards Interview form (SF 1445) will be used in conducting employee interviews on active contracts, in accordance with BMS S-17.4.12.3. Employee interviews are to include a cross section of the workforce. The number of interviews considered sufficient depends upon a number of factors. However, FEAD/ROICC offices generally require taking them on a routine basis. Interviews on small contracts with a limited number of employees need not be taken a second time during that contract unless a complaint is made or improper classification/wage rate is suspected.

In conducting the interview, the Engineering Technician should draw the employee to an area of relative privacy. The contractor employee selected must be an individual performing work and not someone eating lunch, walking across the site, etc. The information listed is that furnished by the employee being interviewed. The employee will be asked to provide their name and address. The form should never be surrendered to the employee to be picked up later by the Engineering Technicians. Also an employee's interview statement shall not be shown to their employer without their written permission. Discussion should be kept at a minimum and the employee should not be informed of any apparent irregularities. On-the-spot correction of possible irregularities will not be attempted by the Engineering Technician.

In some instances, an employee may approach the Engineering Technician with a complaint that they are not properly classified or not properly paid. The Engineering Technician should get all the facts from the employee by taking an interview and forwarding to the proper authorities for action. Do not offer your opinion on the matter as cautious impartiality must be maintained.

The Engineering Technician should understand the employee's right to refuse to answer any questions. Under the „Privacy Act of 1974," however, they are required to provide you with their name and the name of their employer. Should this happen to you, the following steps should be followed:

a. List employee's name in the appropriate box
b. List contract number
c. List prime contractor
d. List subcontractor, if applicable; obtain from prime contractor if unknown
e. List name of employee's Supervisor; obtain from prime contractor if unknown
f. List the work the employee was observed doing prior to the interview
g. Make statement in red that the employee refused to answer any questions
h. Forward form to your Supervisor

The Engineering Technician is required to keep a record of the interviews taken on each assigned contract, providing a copy to the Contracting Officer and placing the original in the contract file.

10. CONSTRUCTION PROGRESS SCHEDULE (BMS B-1.4.6.2 or B-1.5.5.2)

The contractor must submit, as soon as possible after contract award, a schedule of how the contract is to be completed. If possible, this schedule should be brought to the pre-construction/ PAK conference, or submitted in accordance with time specified in contract documents. The schedule will be reviewed for approval by FEAD/ROICC organization and must be approved prior to the start of on-site work. The schedule will be prepared in accordance with the specifications of the contract. Also, an updated progress schedule must be submitted with each progress payment request.

The construction progress schedule shall contain the various classes and areas of work as indicated in the Schedule of Prices and/or earned value report broken down into times projected 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 Construction Manager will review the original submittal and each monthly update to assure that they conform to the actual progress on the job. The Engineering Technician will use the three-week look ahead schedule to plan quality assurance surveillance for the project and to update the Construction Manager as to the actual progress on the job.

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

11. SCHEDULE OF PRICES (BMS B-1.6.9)

After award of the contract, the contractor is required to submit a signed Schedule of Prices or Earned Value Report to the Contracting Officer for approval. The purpose of the Schedule of Prices or Earned Value Report is to provide a basis for making progress payment to the contractor.

The Schedule of Prices or Earned Value Report is a detailed breakdown of the contract price, giving the quantities for each of the various kinds of work, the unit prices and the total prices thereof. The detailed breakdown must be segregated under each category code and quantity unit and by specification section listed in the contract specification. The units used should be those normally associated with the trade involved.

When the Schedule of Prices or Earned Value Report is received, it should be reviewed jointly by the Construction Manager and Engineering Technician and approved in the FEAD/ROICC office, it should be routed to the Engineering Technician for reference.

12. PAYMENTS TO THE CONTRACTOR (BMS B-1.6.9)

As the work is accomplished, the Government will make monthly progress payments on

estimates of work and material approved by the Contracting Officer. If requested, more frequent intervals may be determined appropriate by the Contracting Officer.

All material and work covered by progress payments shall become the sole property of the Government. This provision shall not be construed as relieving the contractor from the responsibility for all material and work upon which payments have been made or the restoration of any damaged work.

The contractor shall, upon request, be reimbursed for the entire amount of premiums paid for performance and payment bonds (including coinsurance and reinsurance agreements, when applicable) after furnishing evidence of full payment to the surety.

Materials delivered to the contractor at locations other than the site may also be taken into consideration if such consideration is specifically authorized by the contract specifications. Unless specified, only material delivered to the job-site can be considered for payment.

When processing progress payments, the following guidelines are recommended:

a. When the FEAD/ROICC receives the contractor's request for progress payment; care shall be taken to assure payments do not exceed the reasonable percentages of the total price in relation to the work actually performed.
b. The Engineering Technician and project superintendent shall review the draft estimate for voucher prior to submission and agree on work completed.
c. The Engineering Technician is responsible to assure that all material and labor on the invoice are correct and that only approved material is considered for payment.
d. If an error is found, the Engineering Technician will make recommendations to the CM/AROICC on what corrections need to be made to return the invoice to the contractor for re-submission.
e. All pay vouchers should be hand-carried through the office or processed via Wide Area Workflow (WAWF) to ensure prompt payment is made. The time frame for processing progress payments is delineated in the Prompt Payment Act.
f. The final payment voucher should be processed only after: (1) completion and acceptance of the work; (2) submittal of a properly executed voucher and (3) a signed release is received.

13. PAYMENT FOR MATERIALS STORED OFF-SITE

Request for payment of material stored off the construction site can only be considered when the specifications contain a paragraph allowing this. When not identified in the specifications, materials stored off site shall not be paid for. When authorized by the contract, the following conditions must be met:

a. Material will be stored in reasonable proximity of the construction site.
b. Transportation hazards to the job-site will be minimized.
c. The contractor demonstrates clear title to the material (paid invoices).
d. Materials are adequately insured and protected from theft and the elements.
e. The location is appropriately secure.

f. Materials are not susceptible to deterioration or physical damage.
g. No material may be accepted in transit.

Items such as sheetrock, glass insulation, wall covering, carpet, etc. should not be considered for off-site storage. Only items such as steel, machinery, concrete piping etc. are normally given consideration. However, these are determinations within the judgment of the FEAD/ROICC.

The procedures for off-site material storage shall only apply in the 50 states of the United States its territories and possessions and Puerto Rico.

14. PRODUCTION REPORTS

The contractor is required to submit a daily report on the current forms furnished for that purpose.

The Engineering Technician shall ensure that the contractor is properly instructed on the information required on the reports (a sample NAVFAC report form; provided at the pre-construction conference, is recommended for each contract). The forms must be submitted by 10:00 am of the first working day following the day work is performed, or in accordance as specified in the contract documents. Arrangements should be made at the pre-construction conference as to when, where and to whom the report should be submitted.

When the Engineering Technician receives the reports, information should be reviewed for completeness and accuracy. Their review must be based on knowledge of the job, inspection and observation. The reports play an important role in settling disputes and claims. If the reports reflect an inconsistency, omission and/or improper statements, the Engineering Technician should make every effort to resolve the area of contention with the Superintendent, that day if possible. In many cases, this resolution/clarification can be documented in the space allowed for Engineering Technician's comments (Government Quality Assurance Report section of the Contractor Quality Control Report).

If no problems are encountered, the Engineering Technician shall note the special interest items in the Government Quality Assurance Report section of the Contractor Quality Control Report, indicate job-site visits and items inspected, signed and filed appropriately.

Finally, the Production Report, as a minimum, should identify the prime and subcontractor personnel, equipment material delivery, weather, type, activity ID# and location of the work accomplished.

15. CONTRACTOR QUALITY CONTROL REPORT

The Contractor Quality Control (CQC) report has for the most part been misunderstood and improperly prepared. Hopefully, if the procedures provided herein are followed, both the contractor and the Government will find this report one of the most useful reports of the project.

The QC report should be used to record all the actions and inspections made by a QC Manager to include:

a. Preparatory Inspections: List the actions taken by the QC staff at the beginning of each segment of work, i.e., check and review shop drawings and other submitted data. Check for required testing; check to assure all materials and equipment conform and assure all required preliminary work has been accomplished.
b. Initial Inspections: These inspections are to be performed as soon as a representative segment of a particular item of work has been accomplished and shall include, as a minimum, performance and results of scheduled tests, examination of workmanship, a review for omissions or dimensional errors and the approval or rejection of the work.
c. Follow-up Inspections: These inspections are generally performed daily and more frequently when necessary, and shall include continued testing an examinations of the work assuring contract compliance.
d. Special Inspection and Documentation: In addition to the three phase inspection requirements, certain special inspections and documentation requirements are outlined in the technical specifications.

The CQC report includes tests/test results and corrective actions taken, when required and all inspections and actions taken by the QC Manager. Although certification is made at the end of each report as required in the specifications, the FEAD/ROICC will assume that the QC Manager did not inspect or check the work if the QC report fails to indicate the actions taken.

16. QUALITY ASSURANCE REPORT (QAR) (BMS B-1.5.5.1)

The procedures for preparing and submitting the Engineering Technician's Quality Assurance Report (QAR), BMS B-1.5.5.1 have been modified many times over the years. While it is evident that perhaps too many reports are presently required, elimination of all reports is not desirable. However, repetitious and continuous recording of routine job progress by the Navy Engineering Technician should be avoided. In general, the NAVFAC policy for Navy initiated construction reporting will be one of exception reporting. The procedures recommended herein are minimum and do not preclude the FEAD/ROICC from increasing the frequencies at any time they deem necessary.

A QAR is **not required** under the following circumstances:

a. The Daily Reports (Contractor Production Report and Contractor Quality Control Report) are received the next working day.
b. The Engineering Technician indicates that they agree with the Superintendent's or Quality Control Manager's report or indicates exceptions.
c. The Engineering Technician indicates whether or not he visited the job site on the day in question.
d. The Engineering Technician indicates any quality assurance measures or tests witnessed.
e. The Engineering Technician signs and dates the contractor's reports.

The Engineering Technician should accept the contractors' reports as submitted unless there are items that are inaccurate and should be noted in the QA remarks section. The following situations involving disagreement or non-compliance should be covered via other correspondence methods:

a. The review of the contractor's Production Report and Contractor Quality Control Report generates unresolved issues (contract construction non-compliance notice).
b. Any condition and/or situation which adversely affect satisfactory compliance with contract performance (either time or quality) (contract construction non-compliance notice).
c. There is apathy by the contractor regarding Quality Control requirements or failure on their part to take corrective action (if all efforts to correct fail, use contract construction non-compliance notice).
d. Hazardous safety conditions that are not corrected (covered by work stoppage and/or contract construction non-compliance notice).
e. Failure to comply with plans and/or specifications (contract construction non-compliance notice and letter from ACO for multiple infractions).

The reporting frequency for preparing the QAR is recommended as follows:

a. When a problem or changed condition requires extensive documentation
b. To forward progress photographs
c. When the contractor is not performing, list the reasons if known: if not, make a statement to that effect
d. To report non-compliance actions (either corrections or no progress)
e. When lost time accidents occur
f. When significant job slippage occurs for any reason
g. Delays and idle equipment

Should the report become necessary, the Engineering Technician should be aware that not all items need to be filled out - only those blocks which are appropriate for the item need to be recorded. Areas of disagreement and non-conformance which are resolved immediately need not be reported on the QAR.

17. CONTRACTOR QUALITY CONTROL SYSTEM (BMS B-1.4.6.1 or B- 1.5.5.1)

Since the introduction of the CQC Program in March 1970, various levels of application and execution have taken place. Originally, construction contracts estimated to cost $1 million or more required CQC provisions.

The threshold for including CQC in construction contracts was subsequently changed to $2 million in 1983. Beginning in 1992, the philosophy changed again to include some level of contractor responsibility for CQC in all construction contracts. On all smaller construction contracts, "$25 thousand to $2 million", specification Section "Contractor Quality Control" (Minor Construction) 01 45 01. 00 20 will normally be used. This is the standard unedited specification on CQC, where the QC Manager may also act as the project superintendent. On larger construction projects "over $2 million", specification Section "Construction Quality Control" 01 45 00. 00 20 is used and specifically edited (requires a separate QC Manager and possibly some supplemental personnel) or tailored to fit that construction project and the Quality Control requirements. Every construction project specification should be reviewed and a determination is made as to which type of CQC organization is best suited for the work to be

performed, along with how many, if any, specialized supplemental personnel are required.

CQC is the quality control and inspection system established and maintained by the contractor which assures compliance with the contract plans and specifications.

The Engineering Technician must understand the difference between control and inspection. Control is an ongoing and continual system of planning future activities. The objectives of control are to ensure that the contractor is adequately prepared to begin a phase of work and to follow through in accomplishing the work. In short; control is preparation. Inspection is the process by which ongoing and completed work is examined. The objective of inspection is to ensure that the work has, in fact; been accomplished in accordance with the contract requirements. When an inspection is accomplished, after the fact, it is usually too late.

On CQC projects, the contractor is responsible for both control and inspection of the work. When the ROICC continually advises the contractor on what is wrong and what remains to be done to comply with the contract; it places the responsibility for control and inspection on the Government Engineering Technician. The Engineering Technician is assigned the difficult task of using management techniques to verify continually that the contractor's system of quality control is working effectively.

The following list has been provided as a basic guide on Quality Control for the Engineering Technician and is not intended to duplicate the Construction Contract Quality Management Manual or Instruction:

a. The FEAD/ROICC representative should spend enough time on a project to enable them to determine the adequacy of the performance of the QC Manager
b. Understand the specific responsibilities of the QC Manager
c. Ensure that the QC Manager understands all of their duties and responsibilities
d. Have a thorough and extensive knowledge of the contract plans and specifications
e. You are responsible to ensure that the QC program is working and working effectively
f. If the QC Manager continually overlooks deficiencies, a non-compliance notice should be written on the QC Manager first and the deficiency second
g. Attend Preparatory and Initial Meetings on critical definable features of work

18. COMMISSIONING FIRE PROTECTION SYSTEMS (BMS B-1.6.7.1)

The responsibility for the Navy Fire Prevention and Protection Program is assigned to the Chief of Naval of Operations. Technical direction/guidance of this program has been delegated to the NAVFAC.

The NAVFAC Fire Protection Engineering Branch has the responsibility for inspecting, testing and recommending approval of all fire protection installations and devices prior to acceptance by the FEAD/ROICC.

On NAVFAC contracts, all shop drawings and descriptive literature pertaining to fire protection systems must be approved by the QC Fire Protection Engineer (FPE) and QC Manager and copy provided to NAVFAC Fire Protection Engineering Branch. Prior to starting the installation,

verification should be made by the CM/AROICC that the contractor has submitted detailed, working drawings and catalogs of equipment and that these submittals have been reviewed and approved by the QC FPE and QC Manager. The submittal should be checked to ensure approval has been granted.

During the installation of the fire protection system and pre-final inspections, the QC Manager and QC FPE will perform inspections with the Engineering Technician providing overall surveillance.

When the fire protection installation has been completed, the Engineering Technician shall witness a pre-final inspection and witness a complete operational test of the entire system. Upon written verification that the system functions properly, the QC Manager will report to the Engineering Technician that the system is ready for final inspection and acceptance tests.

Final Inspection and Acceptance Tests. The CM/AROICC will schedule the final inspection and acceptance tests through the proper channels, and may request the Engineering Technician to notify the contractor. If so, a word of caution, verbal notification to the contractor usually leads to a misunderstanding, and the tests and inspections may have to be rescheduled. To avoid this occurrence, notification in writing is recommended.

Action. Because there are many types of fire protection systems and each type must conform to a different code, the Engineering Technician should consider, especially on large critical systems, requesting NAVFAC Fire Protection Engineer to assist by performing a walk through inspection (time permitting) at about the 50 percent completion, for the purpose of assuring that the codes are being properly interpreted and complied with.

19. CONSTRUCTION PHOTOGRAPHS

The FEAD/ROICC shall take and maintain periodic photographs on projects on an as needed basis. This includes record photographs necessary to substantiate the Governments position on a potential claim, as well as photographs dealing with safety problems and/or accidents and completion photographs on projects.

The FEAD/ROICC will ensure UFGS 01 30 00 is included in the contract. Section 1.5 of this specification section requires the Contractor to provide photographs prior to the start of construction and provide monthly updated photographs of construction progress.

20. CONTRACT CHANGES/MODIFICATIONS (BMS B-1.6.6)

Contract modifications are defined as a means of changing a contract and may either be unilateral (signed by a Contracting Officer) or bilateral (signed by both the contractor and the Contracting Officer). Contract modifications, including unilateral changes, shall be priced before their execution. A change order or contract modification is defined as being a written order signed by the Contracting Officer which directs the contractor to make changes within the general scope of the contract with or without the consent of the contractor.

Unilateral modifications are only used in administrative situations or when it is necessary to

direct the contractor to perform changes or added work immediately to mitigate expense to the Government. Examples of these types of modifications include:

a. Administrative changes
b. In scope modifications issued as undefinitized. These can include the following:
    1. Unforeseen conditions
    2. Design deficiencies or omissions
    3. Customer requested items that are in contract scope
    4. Planned changes
c. Termination notices

Keep in mind that unless it is necessary to issue a change immediately, it is always desirable to come to agreement on the cost and time associated with the change and issue the modification bilaterally where both parties agree to the terms. Out of scope contract modifications must be issued bilaterally and are issued as Supplemental Agreements. Primary examples of supplemental agreements include:

a. Out of scope modifications in which approval has been granted to proceed
b. Value Engineering Change Proposals

Contract modifications may be additive, deductive or at no change in price, and may include adjustment to contract time for the changed work. All contract modifications must be written and a complete file kept for each action.

The Engineering Technician should maintain well documented files for they are frequently the key element when it becomes necessary to reconstruct contract time lines. Engineering Technician's entries on Daily QA reports are an ideal vehicle for recording this type of information. Use of photographs where appropriate to elaborate upon the narrative information written into the record is of great value. The Engineering Technician should be reminded to record the facts.

An important function of the Engineering Technician is to thoroughly document all the circumstances and events surrounding a claim, or possible claim situation. When a possible claim situation occurs, it should be immediately investigated and all the facts gathered. The time of occurrence, what occurred, who directed who to do what, the contractor equipment and personnel involved (names and classifications), the length of time involved, contractor responsibility, Government responsibility, statements of representatives of either side and any other pertinent facts should be detailed. If the contractor indicates on any of their documents (CQC Report or Production Report) that a claim situation exists, each and every one of the points of their claim must be addressed by the Construction Manager and the Engineering Technician. If the Engineering Technician does not agree, state in the reasons for the disagreement. The same applies if the Engineering Technician agrees. Often claims are settled months or years after the claim situation occurs. The importance of a detailed account of the situation as you see it cannot be stressed enough. Remember, the vital point in all claims is the cost incurred by the contractor. The Government must be able to substantiate or refute each cost item claimed by the contractor.

21. GOVERNMENT-FURNISHED PROPERTY AND CONTRACTOR SALVAGED PROPERTY ON CONSTRUCTION CONTRACTS

Government-Furnished Property (GFP) is material or equipment furnished by the Government and installed by the contractor depending on contract requirements. Materials or equipment that is identified to be reused in a construction contract are not considered GFP. However, collateral equipment that is Government furnished and contractor installed to initially outfit construction projects is also considered as GFP.

Salvaged Property is material or equipment owned by the Government not considered reusable for its original use. These items are generally limited to pieces of equipment and commonly salvaged material, e.g., copper, light fixtures, etc.

A Property Administrator shall be appointed by the FEAD/ROICC who will establish and maintain a control record for the GFP on contracts involving Government-Furnished or salvaged property. The contract specifications must clearly include the quantity, location and a description of the equipment and/or material to be supplied, scheduled delivery dates must be established, and rough-in-data provided to the contractor for equipment hookup, if applicable.

Generally, the CM/AROICC assigned to the project will be appointed as the Property Administrator. The Engineering Technician should provide assistance to the CM/AROICC as follows:

a. Prepare an itemized list to include descriptions, quantity, location and condition of the property.
b. Survey with the contractor the condition and location of the property.
c. Monitor the scheduled delivery or transfer date.
d. When transferring the property, ensure that the contract acknowledges receipt of the property in writing noting any deficiencies.
e. Approve contractor storage arrangements.
f. Ensure that the property is correctly installed for its intended use.
g. When the contract is completed, provide the CM/AROICC with control records, contractor receipts, requisitions, and receiving documents.

On other removed materials that become the property of the contractor, the Engineering Technician shall monitor the property removed from the limits of the station by effective use of property pass procedures and ensure that the quantity and description of the property are accurate.

22. MATERIAL STORAGE TRAILERS, OFFICES, OR STORAGE BUILDINGS

The contractor is responsible for all operations and storage of materials within the limits of construction, as shown on the drawings, unless the specifications provide other locations. When space on site is not available for materials to be stored within the contract limits all efforts must be expended to locate an area as close as possible to the construction site on Government property. Generally, the contractor will request additional storage space if needed at the PAK or pre-construction conference. The station/installation staff and using activity should assist in and

approve the selected locations.

Trailers, offices or storage buildings will be permitted where space is available, subject to the Contracting Officer's approval. It must be maintained and include a sign not smaller than 24 inches by 24 inches indicating:

a. The company name
b. Business phone number
c. Emergency phone number

The contractor shall bear the expense for temporary facilities including utilities and utility connection. When the project has been completed, all temporary facilities shall be reviewed, and the area restored to its original condition unless the Contracting Officer has approved, in writing, otherwise.

23. CONTRACT CONSTRUCTION NON-COMPLIANCE NOTICE (BMS B-1.4.6.3 and B-1.5.5.1)

The non-compliance notice has been established to provide a uniform system for notifying contractors that action is required to correct a construction deficiency and is not intended to instruct contractors as to the method for correcting the deficiency. The notice should be restricted to contract deficiencies that need correction before proceeding with new work, imminent danger, safety, and/or those deficiencies that the contractor is reluctant to correct.

When the Engineering Technician discovers a deficiency, every effort should be made to convince the contractor of the deficiency by noting the specifications and/or contract drawings as applicable to support the deficiency. If this fails, the Engineering Technician shall prepare a Construction Contract Non-Compliance Notice (CCNCN) following these procedures:

a. The Engineering Technician will complete blocks 1 through 7. The statements in blocks 5, 6, and 7 must be clear and concise. The contractor should have no doubt of the deficiency. Reference form Construction Contract Non-Compliance Notice (NAVFAC 4330/36).
b. Establish a numerical listing order in block 3 for each notice and contract assigned.
c. The supervisor and/or CM/AROICC should be aware and agree that the notice is necessary prior to preparing for their signature.
d. Deliver the notice to the prime contractor's representative/QC Manager as applicable ensuring that the contractor understands the notice.
e. Request the contractor's representative to provide corrective action or information in block 8 (if known) and sign in block 10. If the contractor's representative refuses to sign, state so in the signature block and return the notice to the CM/AROICC for action.
f. Distribution should be made as shown on the back of the CCNCN.

Although the CCNCN has been issued, the Engineering Technician should include the deficiency in his comment on the CQC report or prepare a QA report. If no action has been taken within a reasonable time (sound judgment required) or when the deficiency has been corrected, the Production or CQC report, whichever is applicable, should so indicate action taken by the

contractor.

24. CORRECTION OF DEFICIENCIES/REWORK ITEMS

Virtually no construction project is ever completed without deficiencies of some type during the course of the job. A deficiency is any item found where the contractor has not complied with the contract requirement.

Generally, deficiencies that are corrected the same day they are identified, need not be reported on the Rework Items Lists, unless the deficiencies are repetitive and the contractor has a negative attitude on the matter. The deficiency should be noted on the contractor's Production or CQC report.

The QC Manager is responsible for establishing and maintaining a Rework Items List; however, the Engineering Technician must ensure that the log is being updated and that the appropriate deficiencies are listed and corrected.

25. CONTRACTOR'S WORK OUTSIDE REGULAR HOURS

Construction contract completion dates are normally set so as not to require work in excess of eight hours per day and 40 hours per week.

Normal working hours established for each contract, which are generally from 07:00 a.m. to 4:00 p.m., Monday through Friday. These hours were established to ensure that the contract work is being accomplished without undue hardship on the using activity and to permit the FEAD/ROICC time to ensure that the quality of the work conforms to the contract documents.

Unless special scheduling requirements are specified or necessary, the general intent is for the contractor to do the work within the hours allotted. The FEAD/ROICC can modify this requirement to suit the conditions of the project. However, this should be done with the contractor's and activity's approval, or as a supplemental agreement.

The contractor can request permission to work outside regular hours specified, and every effort should be taken by the FEAD/ROICC to assist in this request providing certain prerequisites have been satisfied.

a. The contractor has made the request in ample time to allow satisfactory arrangements to be made by the Government to assure the quality of work and safe working environment.
b. The contractor has worked a normal week, and in the opinion of the FEAD/ROICC representative, has a balanced number of employees on the job.
c. Inclement weather has prevented the work from being done during regular hours.
d. If the request is for utility interruption/tie-in, ensure that permission to interrupt/tie-in the service(s) have been approved and coordinated.

Problems that generally occur when the contractor is permitted to work outside the regular hours the Engineering Technician should watch for:

a. Laborers doing mechanics' work
b. No/decrease supervision (QC Manager and SSHO) on the project
c. Unsafe working habits or unnecessary exposure to dangerous situations
d. Installation of non-approved materials
e. Interference with the activity's operation

26. UTILITY OUTAGES AND CONNECTIONS

Final utility connection requirements differ in each FEAD/ROICC office due to local regulations. However, some of the basic rules remain the same throughout all FEAD/ROICC offices. The Engineering Technician should check the specifications for the requirements in their area. However, the following should always apply:

a. The contractor should not be permitted to operate nor disturb the setting of any control devices, such as valves, breakers, disconnects or seals, in the utility system.
b. The Government will operate the control devises as required for normal conduct of the contractor's installation when applicable.
c. Reasonable advance notice will be provided to the FEAD/ROICC prior to any outage.

Generally, reasonable notice is defined as 15 working days (or as defined by the base). However, in many locations, no definition is given. In those cases, a mutual agreement regarding advance notice should be established during the pre-construction conference.

Depending upon the local regulations, the final taps, tie-ins and connections are made by the Government at the expense of the contractor. However, the contractor may be permitted to make the taps, tie-ins or connections. In either case, the contractor will normally pay for the material, labor, equipment and any miscellaneous cost, such as dewatering, barricades, lighting, etc.

The contractor is required to submit to the Contracting Officer the outage request, in writing, providing advance notice (see specification). The outage request shall include:

a. The nature of the outage
b. The time needed to accomplish the work
c. The time the outage should take place
d. The location of the outage

Prior to preparing the outage request, the contractor and the Engineering Technician should meet and discuss the outage requirements.

The Engineering Technician should contact the activity outage coordinator and familiarize them with the nature and location of the outage needed. In most cases, the time needed by the activity to prepare for the outage should be established at this meeting. The Engineering Technician should return to the contractor with the information obtained, which should then be utilized in preparing the outage request to the Contracting Officer.

The final request to the activity should always be made in writing to avoid delays, conflicts and misunderstandings.

27. TEMPORARY UTILITIES FOR THE CONTRACTOR

Government utilities and services, such as water, sewage, electricity, compressed air, etc., may be furnished to the contractor if available. Such services shall not be made free of charge, unless specifically provided for in the contract. The amount of each utility service consumed shall be charged to or paid for by the contractor at prevailing rates charged to the Government or, if produced by the Government at reasonable rates determined by the Contracting Officer.

The contractor shall at his expense be responsible to:

a. Install and maintain all temporary connections, distribution lines and meters
b. Provide transformers, disconnects, backflow preventers and other equipment necessary to meet station requirements
c. Remove and restore utility services to their original condition upon completion

During the PAK or pre-construction conference, temporary utility requirements should be determined, including types, methods, amounts and method of payments. The most overlooked temporary utilities are toilets and drinking water. If not considered, the contractor employees will be inclined to enter the existing facilities for this service. Unless determined that this arrangement is beneficial to the Government, it should not be permitted.

28. RED ZONE (BMS B-1.6.11)

The NAVFAC Red Zone (NRZ) process is focused on identifying all issues that could adversely impact contract completion and initial operating capability. The process addresses elements of construction completion, facility delivery activities, and contractor, Supported Commanders and NAVFAC actions. The process establishes business practices such as checklists, scheduling tools, meetings, and other tools to mitigate potential delays, costs and enables timely delivery of the completed project. Clear expectations for facility turnover will be established at the Pre-Construction conference or Post Award Kickoff meeting. The NRZ process will begin within the last 25% of contract time or three to six months before Beneficial Occupancy Date (BOD), whichever comes first, and extend to contract closeout.

29. OPERATION AND MAINTENANCE (O&M) DATA

The requirements for Operation and Maintenance (O&M) manuals are listed under each technical section of the specifications in the Section entitled “Submittals” and will also include the items and/or equipment requiring manuals.

The requirements for copies, data class, labeling, diagrams, etc., can be found in specifications Section 01 78 23 (Operation and Maintenance Data). This specification section will be used on all projects. In addition, Specification Section 01 78 24.00 20 Facility Electronic Operation And Maintenance Support Information (eOMSI) will be used for projects within the threshold of NAVFAC ECB 2014-01 (as amended by the Chief Engineer/Assistant Commander for PW joint letter on eOMSI of 21January 2015, and BMS B15.33, and other projects as requested by the local Public Works office. Note that the $1M threshold was

reduced to $750K by the Chief Engineer/Assistant Commander for PW joint letter on eOMSI of 21January 2015. Recommend that this letter and the BMS B15.33 be provided as references.

The O&M data shall be submitted to the Contracting Officer for review and approval within thirty (30) days after delivery of any item or equipment to the job site, unless specified otherwise.

The O&M manuals should be included in the Red Zone process (BMS B-1.6.11).

30. RECORD (AS-BUILT) DRAWINGS (BMS B-1.6.13.4)

To ensure the availability of data for possible future alterations or investigations, drawings that show all features of projects as actually built are required for all construction contracts.

FEAD/ROICCs will ensure that contractors maintain detailed, accurate records of all changes from the original contract drawings, in red, on a full-size set of blue-line drawings as the work progresses.

During the progress of the work, one full-size print of each of the drawings accompanying the specifications shall be neatly and clearly marked, in red, to show all variations (e.g. contract modifications) between the construction actually provided and that indicated or specified in the contract documents. The as-built drawings shall be kept up to date at the work site at all times during the contract and shall be available for inspection by the Contracting Office upon request.

It is the responsibility of the Engineering Technician to review the contractor's as-built drawings throughout the execution of the contract to ensure correct recording and to ensure all changes, additions or modifications are clearly noted. It is recommended to review as-built drawings during invoice review.

The as-built drawings should be made a part of the pre-final and final inspections until completed as-built drawings have been presented to the Contracting Officer for approval.

The final payment will not be processed by the FEAD/ROICC office until acceptable as-built drawings have been received from the contractor, reviewed and approved.

31. AS-BUILT RECORD OF EQUIPMENT AND MATERIALS (Spec 01 78 00 CLOSE OUT SUBMITTALS)

When required by the contract, the contractor shall furnish an as-built record of equipment and materials used on the project which shall be keyed to the areas and spaces depicted on the contract drawings showing manufacturers, brands, types, classes, etc. Final payment will not be processed until this record is received and approved by the FEAD/ROICC.

32. GUARANTEES/WARRANTY INFORMATION AND TAGGING (BMS B-1.6.13.2)

A "warranty" is a written guarantee of the integrity of a product and of the manufacturer's

responsibility for the repair or replacement of defective parts.

The contractor shall furnish written guarantees for all equipment furnished under the contract and shall include the specification section applicable to the equipment, the duration of the warranty, the starting date and ending date of the warranty and the point of contact for fulfillment of the warranty. The warranty shall be effective for a period of one (1) year from the date of final acceptance of the work unless specified otherwise or a manufacturer's warranty is available for a period greater than one (1) year.

When required by the contract, the contractor shall tag each item of warranted equipment or product with a durable, oil and water resistant tag approved by the Contracting Officer. The tag shall show:

a. Type of equipment
b. Accepted date
c. Warranted until
d. Under contract _____
e. Prime contractor (phone number and point of contact)
f. Station personnel to perform only preventive maintenance

The Engineering Technician is responsible to ensure that the list and tagging are complete before final inspection and final acceptance.

33. TESTING, ADJUSTING, BALANCE AND START-UP (TABS) OF MECHANICAL SYSTEMS (BMS B-1.6.7.3)

NAVFAC has established specific guidelines and requirements for testing, adjusting, balance and start-up of mechanical systems.

The procedures, schedules, forms and the reporting format to be used by the contractor should be submitted to the FEAD/ROICC for review and approval within the time restraints provided in the specifications and shall be approved prior to accomplishing any field work.

The Engineering Technician must be knowledgeable of these requirements and ensure that the procedures have been followed. Random checks should be done by the Engineering Technician of all HVAC equipment and systems. These checks should be done jointly with (a) the prime contractor, (b) subcontractors involved and (c) the QC Manager.

Before final inspection, the contractor will submit a certified report to the FEAD/ROICC stating that the work is complete and testing adjusting and balancing has been accomplished in accordance with the submitted TABS agenda.

34. USE AND POSSESSION PRIOR TO COMPLETION

The Government shall have the right to take possession of or use any completed or partially completed part of the work. Before taking possession of or using any portion of a contract, the Contracting Officer shall furnish the contractor with a list of items of work remaining to be

performed or corrected on those portions of the work that the Government intends to take possession of or use.

While the Government has such possession or use, the contractor shall be relieved of the responsibility for the loss of or damage to the work resulting from the Government's possession or use. If prior possession or use by the Government delays progress of the contractor which causes additional expense to the contractor, an equitable adjustment shall be made in the contract price or the time of completion, and the contract shall be modified accordingly.

There are many reasons why the Government may deem it necessary to take possession and use a facility prior to completion; therefore, each situation must be dealt with independently. This does not relieve the contractor of fulfilling the Testing, Adjusting, Balancing and Start- up requirements, nor any other specification requirement.

When the Government takes possession or use, the Engineering Technician has an important responsibility to ensure that a complete construction status has been compiled. Generally, a list of items remaining to be done is only required, therefore, the Engineering Technician should understand in detail what is required in each situation.

35. PRE-FINAL INSPECTION (BMS B-1.6.12)

The pre-final inspection is a procedure where the FEAD/ROICC can be assured that the project has been completed in accordance with the plans and specifications prior to the final acceptance inspection.

The Engineering Technician is responsible for verifying that all items of the contract have been inspected and that all defects have been corrected and adjustments made before final acceptance.

A well-organized pre-final inspection will expedite the final inspection and acceptance process. The pre-final inspection should not be viewed as a means for the contractor to ascertain what must be accomplished to complete the contract but rather an explanation of the minimum standards that will be accepted to conform to the contract requirements.

Strict compliance with the contract is the contractor's responsibility, and all fine tuning of the contract; i.e., painting, touch-up, lighting, equipment; panel labeling and testing, should be completed before requesting the pre-final inspection.

When the contractor's Quality Control feels that the project or a phase of the project (when applicable) is ready for pre-final inspection, the Engineering Technician assigned, the project supervisor and the QC Manager should:

g. Establish a location to start the inspection.
h. Have a copy of the contract documents.
i. Establish a numbering system.
j. Ensure each punch list item states the deficiency, its location and the drawings or specification sections applicable to the problem (page or section)

During the initial inspection, if the punch list becomes excessive, the QC Manager shall be informed. The QC Manager should inform the contractor and FEAD/ROICC of what necessary steps must be taken to correct items of this nature and a thorough inspection made by the contractor before the pre-final inspection could continue. For example:

a. No door stop, Specification Section
b. No light switch, Drawing #
c. No chalkboard, Drawing #
d. Paint on walls, no uniform coverage, Specification Section
e. Doors not sanded prior to painting, Specification Section
f. Floor tile corners chipped in three places

When the contractor Quality Control certifies that the project is ready to start a second inspection, certifies that the previous items have been corrected, verification shall be conducted. The originally created list should be used, never discard the list and start a new one. Always continue with the next number and mark through those items that have been corrected.

At the completion of the job, you should have a record of the efforts taken to finalize the work and it should be used to provide an evaluation on the contractor's performance.

The responsibility for the pre-final is with the QC Manager; however, the Engineering Technician should be satisfied that the pre-final inspection has been properly accomplished.

Problems such as long lead delivery of special materials and failure to get the subcontractor back on the job-site frequently preclude the contractor from completing the pre-final punch list in a timely manner. If this should occur, the CM/AROICC and the Engineering Technician should determine an appropriate time to schedule the final inspection. Always ensure that the CM/AROICC has been provided a list of the outstanding punch list items.

Many items that get overlooked in the pre-final inspection are:

a. As-built drawings
b. Operating and Maintenance (O&M) manuals
c. Keys and key schedule
d. Warranty labels
e. Valve tags/valve charts
f. Room numbers
g. Equipment labels
h. Spare parts and special tools
i. Performance test
j. Instruction/training
k. Outstanding non-compliance notices
l. Emergency lighting
m. Panic hardware
n. Posted Operating Instructions

36. FINAL INSPECTION (BMS B-1.6.12 or B-1.6.13.5)

The purpose of the final inspection is to turn the completed facility over to the using activity.

The actual final inspection should be easy and without surprises if the pre-final inspections and preliminary work have been properly completed.

Generally, the CM/AROICC is responsible for arranging the final inspection. Consideration should be given to the Engineering Technician's schedule in coordinating a time and date for final inspections. Engineering Technician must advise their immediate supervisor of all scheduled final inspections. The inspection should generate a very limited number of punch list items that may have been overlooked during the pre-final inspections. The CM/AROICC will establish a date that these punch list items should be corrected.

It must be emphasized that a punch list, while possibly beneficial, is not part of the contract and that all work shall be 100% complete within specified terms of the contract. This includes the submittal of all testing certifications. (Examples: TABS, Elevator, Cranes, etc.)

Those recommended to attend the final inspection are:

k. CM/AROICC assigned
l. Using activity: Observe and ask questions
m. The Engineering Technician assigned: Conducts the inspection, answer questions and take notes if necessary
n. The prime contractor representative (superintendent): Answer questions and operate equipment on request
o. QC Manager: Answer questions and take notes

All items from the pre-final inspection should be corrected prior to the final inspection. However, any items that have not been corrected due to extenuating circumstances should be listed and discussed at the beginning of the final inspection. Any additional items or concerns found by the final inspection team during the final inspection should be listed by the prime contractor and/or the Engineering Technician to document all concerns that need further attention or explanation.

All questions from the activity should be directed to the CM/AROICC, who will ask for assistance from those present when needed.

It is seldom possible to hold a final inspection without having punch list items. The CM/AROICC will establish a date that all punch list items are to be corrected/completed. If the contractor fails to meet this date, a letter should be prepared showing the items completed and the items remaining to notify the contractor of outstanding items. Remember, the Engineering Technician must continue to visit the project until all punch list items have been completed.

37. CONTRACT CLOSE-OUT (BMS B-1.7)

One of the most important parts of the contract is the organization and execution of the contract

close-out. This is as important as the proper development of plans and specifications of the contract.

For normal delivery of facilities constructed, the following procedures apply: The CM/AROICC will schedule the Final Inspection (following the Pre-Final Inspection) upon acceptable completion of all contract requirements or when the project is declared usably complete. Seven (7) day advance notice will go out to all agencies having direct interest in the facility and should have representatives present at the Final Inspection.

The CM/AROICC will communicate with the prime contractor and also provide him the time and date for the Final Inspection. This will include in detail, all items listed in the Pre-final inspection and any other punch list items that must be resolved in order to turn the facility over to the activity.

After the Final Inspection and the facility are found acceptable, the CM/AROICC will advise the prime contractor officially in writing. Also the CM/AROICC will advise the prime contractor that the effective date for the commencement of the warranty period is the date of the acceptance and any punch list items existing at the time of the acceptance must be corrected with a mutual agreed time schedule, normally within 30 days. The outstanding punch list must be kept in the contract file after all work items listed for correction have been completed.

The CM/AROICC will advise the user officially that the property which was under contract is now ready for occupancy. This letter should also address any punch list items that are outstanding at the Final Inspection and information relative to correction of these punch list items will be provided.

Within one week of the Final Inspection (acceptance) the CM/AROICC will furnish the following items with a forwarding letter to the contract designated Facility Manager.

p. Manufacturing's spare parts catalogs and as-built records of materials in quantities specified in the contract
q. Operation and Maintenance (O&M) manuals
r. Keys to doors, special enclosures, water valves and fire hydrants and other detached special appliances required for operation and maintenance of the facility
s. As-built drawings
t. Government furnished material (GFM) records
u. Test certificates performed during the progress of the project
v. Complete start-up testing of systems, with the list of names and the type of instruction provided to the Government operating/maintenance personnel
w. Final LEED documentation book
x. Records certificate shall be provided on boilers, elevators cranes, roof etc.

In order to close out the contract in a timely manner, the CM/AROICC must ensure all punch list items have been resolved and all work accepted with input from the Engineering Technician. It is important that the CM/AROICC should retain money that pertains to completion of the punch list items. This is a must in case the contractor does not complete the punch list in a timely

manner.

After all punch list item and all other action required by the contractor is completed, the CM/AROICC shall obtain the Contractor's Release. This release will be forwarded to the appropriate Disbursing Office with the contractor's final invoice. Final payment cannot be made unless the release has been executed.