NAVFACINST 11014.53A
FAC 13/15
24 April 1996

NAVFAC INSTRUCTION 11014.53A

From: Commander, Naval Facilities Engineering Command

Subj: NAVY-WIDE SPECIALIZED EXPERTISE PROGRAM

Encl: (1) Mandatory Centers of Expertise
(2) Technical Centers of Expertise
(3) Public Works Technical Consultants

1. Purpose: To provide guidance for Navy-wide expertise assignments.

2. Cancellation: NAVFACINST 11014.53 of 29 May 1990.

3. Discussion: The Naval Facilities Engineering Command Specialized Expertise Program is designed to provide world-wide technical support to NAVFAC field activities and to NAVFAC customers. The program is made up of three components, Mandatory Centers of Expertise (MCE), Technical Centers of Expertise (TCE) and Technical Consultants, which are described below.

a. Mandatory Centers of Expertise are established for certain high-risk or technically complex facilities to help assure that these facilities are designed and maintained in a way that safely and effectively meets mission requirements. MCE's generally execute plans and specifications for construction of assigned facility types, regardless of location. They also conduct certain specialized procurement and certification activities. In addition they may provide criteria, planning, construction, maintenance, and operations services. The established MCE's are listed in enclosure (1). MCE's receive project funding from the customer or geographic EFD/EFA to support their efforts.

b. Technical Centers of Expertise are designated for certain high-risk or technically complex facilities to help assure that these facilities are designed, constructed, and maintained to consistently meet the customer requirements in the most efficient manner. TCE's may provide criteria, planning, design, construction, maintenance, and operations services. The services provided for any one project vary and will be jointly determined by the geographic EFD/EFA

and the TCE. The scope of services provided by individual TCE's are shown in enclosure (2). TCE's receive project funding from the customer or geographic EFD/EFA to support their efforts.

c. Technical Consultants are the individuals and organizations throughout the Command that are recognized as having the technical ability and resources to best provide unique technical expertise to the Navy shore establishment. Typically these specialists reside within organizations responsible for supporting the Navy-wide facilities planning, engineering, architectural, maintenance, and operations mission, such as: Naval Facilities Engineering Service Center (NFESC), the NAVFAC Chief Engineer's Office, the NAVFAC Criteria Office, and the Guide Specifications Division. Public Works Technical Consultants are appointed by a NAVFAC advisory board. Additional Technical Consultants are appointed by the Chief Engineer. Consultation services from Technical Consultants generally require reimbursable funding.

4. Procedures:

a. After coordination with the EFD's, EFA's, Public Works Centers, and NFESC, the Chief Engineer shall appoint MCE's and TCE's. Enclosure (1) provides the current designated MCE's and enclosure (2) provides the current designated TCE's.

b. Public Works Technical Consultants shall be determined by an advisory board consisting of a representative of NFESC, a representative of an EFD Public Works Support Division, and a representative of the NAVFAC Headquarters Public Works Support Directorate. Current Public Works Technical Consultants have been assigned to NFESC and are listed in enclosure (3).

c. Additional Technical Consultants will be appointed by the Chief Engineer, after coordination with the EFD's, EFA's, Public Works Centers, and NFESC. A list of designated Technical Consultants will be issued and maintained by the Chief Engineer's Office.

d. When feasible, assignments for engineering and design criteria, guide specifications, and reference standard committees will be made to the MCE's, TCE's and Technical Consultants.

5. Action:

a. The Commanding Officer of each organization with a specialized expertise assignment shall support and maintain the required capability for assigned area(s). If a designated activity can no longer support the assignment or the specialized expertise area is no longer needed, the specialized expertise designation will be reassigned or withdrawn by the Chief Engineer or Public Works Advisory Board, as appropriate.

b. The geographic EFD/EFA shall involve the MCE in project planning and shall provide required project funds to the MCE for the mandatory design, procurement. Certification support shall be funded by the customer.

c. At an early stage of a project involving a TCE facility, the geographic EFD/EFA shall initiate written contact with the TCE to jointly determine which of the available services will be required for the project. The TCE will be consulted and funded for execution of projects within the scope of their services, enclosure (2).

d. Technical Consultants that are appointed by the Chief Engineer or Public Works Advisory Board shall perform the consultation functions, when requested. The extent of services and reimbursable funding will be as jointly agreed between the requesting activity and the Technical Consultant parent Command.

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Vice Commander

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MANDATORY CENTERS OF EXPERTISE

CRANES, SPECIALIZED
MANDATORY CENTER OF EXPERTISE: NORTHNAVFACENGCOM Code 09W
MANDATORY SERVICES: Responsible for shore-based weight handling equipment procurement as described specifically in NAVFACINST 11450.1.
AVAILABLE SERVICES: Consultation for procurement of most types of shore-based weight handling equipment.

DRYDOCK AND MARINE RAILWAY CERTIFICATION
MANDATORY CENTER OF EXPERTISE: NFESC Code 61
MANDATORY SERVICES: Determine the ability of the facilities to be certified in accordance with the Navy's Safety Certification Program.
AVAILABLE SERVICES: Complete engineering services for the design, analysis, evaluation, material condition, and operation of shore-based drydocking facilities, building ways, launching facilities, and ship transfer faciliities. Consultation on planning, design, construction, maintenance, modification, and upgrade and repair of these facilities.
REFERENCE: NAVSHIPS NOTICE 5430 for technical responsibilities for graving docks.

FLEET MOORINGS, SPECIALIZED
MANDATORY CENTER OF EXPERTISE: NFESC Code 55
MANDATORY SERVICES: Complete project execution services including management, requirements analysis, planning, design, acquisition, construction, installation, inspection, maintenance, and repair of deep ocean moorings, storm moorings, and moorings requiring unusual or unique technical solutions. Includes centralized specification, procurement and quality assurance of mooring hardware.

HYPERBARIC AND DIVING FACILITIES, SHORE BASED
MANDATORY CENTER OF EXPERTISE: NFESC Code 55
MANDATORY SERVICES: Complete project execution services including management, requirements analysis, planning, design, acquisition, construction, installation, inspection, maintenance and repair of shore-based hyperbaric and diving facilities including all diver and medical treatment chambers, diver/life support systems and diver breathing gas systems.

HYPERBARIC CERTIFICATION
MANDATORY CENTER OF EXPERTISE: NFESC Code 61
MANDATORY SERVICES: Certification SYSCOM and System Certification Authority (SCA) for all shore-based hyperbaric facilities and diving systems.
REFERENCE: OPNAVINST 3150.27 and The US Navy Diving and Manned Hyperbaric Systems Safety Certification Manual (NAVSEA SS521-AA-MAN-010) for related requirements.

MEDICAL TREATMENT FACILITIES (MTF)
MANDATORY CENTER OF EXPERTISE: NAVFAC, MEDICAL FACILITIES DESIGN OFFICE (MFDO), WNY, Code 09MD
MANDATORY SERVICES: Serves as the Command advisor and coordinator for the design of all hospitals, clinics and other facilities in the DoD Medical MILCON and BRACON program where NAVFAC is the Design Agent.
AVAILABLE SERVICES: Planning, Design, Construction consultation and Post Occupancy Evaluations (Specifically in areas unique to Medical Facilities).
REFERENCE: NAVFACINST 11012.119.

OFFSHORE STRUCTURES
MANDATORY CENTER OF EXPERTISE: NFESC Code 55
MANDATORY SERVICES: Complete project execution services including management, requirements analysis, planning, design, acquisition, construction, installation, inspection, maintenance, repair and rehabilitation of all fixed, off-shore, ocean structures.

TECHNICAL CENTERS OF EXPERTISE

AVIATION ENGINE TEST FACILITIES (AETF) (Jet Engine Test Cells, Propeller Engine Test Cells, Shaft Engine Test Cells (Helos), Acoustical Enclosures (Hush Houses), Unabated Power Check Facilities and Class II Real Property Assets associated with installation of Open Air Un-installed Engine Test Sets)
TECHNICAL CENTER OF EXPERTISE: SOUTHNAVFACENGCOM Code 07
AVAILABLE SERVICES: Planning (including engineering studies, project preparation, siting of the facility, facility studies and environmental issues related to facility operation); Design (including pre-design conferences, design reviews for operational requirements and criteria compliance, and review conferences); Construction (including pre-construction conferences, review of critical submittals, training and assisting ROICCs with shop and site inspections of operationally critical components, and final acceptance inspections); and Operations (including consultation on facilities issues during the operational life of the facilities.)

COMMUNICATIONS TOWERS AND ANTENNAS (structural inspection of communication towers, 300 feet and higher, and complex large antenna arrays)
TECHNICAL CENTER OF EXPERTISE: NFESC EC DET Code 61
AVAILABLE SERVICES: Structural consultation services for planning, design, construction, maintenance, modification, upgrade and repair of communication towers and complex large antenna arrays.

EXPLOSIVE SAFETY/ORDNANCE FACILITIES (buildings dealing with the receiving, handling or storage of weapon systems, ordnance or explosives or any other facility which requires structural hardening to comply with explosive safety regulations except those covered by Standard Drawings)
TECHNICAL CENTER OF EXPERTISE: NFESC Code 62
AVAILABLE SERVICES: Planning (prepare or approve the Basis of Design that will be followed during plans and specs development); Design (approve 35% and final plans and specs for compliance with explosive safety regulations): Construction (inspect facilities for beneficial occupancy relative to explosive safety regulations)

FIRE FIGHTING TRAINING FACILITIES (FFTF) (Land based FFTFs for Naval surface ships and submarines)
TECHNICAL CENTER OF EXPERTISE: LANTNAVFACENGCOM Code 4033
AVAILABLE SERVICES: Planning (including engineering studies, project preparation, siting of the facility, facility studies and environmental issues related to facility operation); Design (including pre-design conferences, design reviews for operational requirements and criteria compliance, and review conferences); Construction (including pre-construction conferences, review of critical submittals, training and assisting ROICCs with shop and site inspections of operationally critical components, and final acceptance inspections); and Operations (including consultation on facilities issues during the operational life of the facilities.)

MAGNETIC SILENCING FACILITIES (fixed and portable instrumentation systems)
TECHNICAL CENTER OF EXPERTISE: NFESC Code 55
AVAILABLE SERVICES: Consultation and complete project execution services including management, requirements analysis, planning, design, acquisition, construction, installation, inspection and maintenance and repair of magnetic silencing facilities worldwide. Facilities include minesweeper, steel hulled medium and deep ranges, magnetic treatment measurement systems, electro-magnetic roll facilities and portable ranges.

SECURITY ENGINEERING (any facility in which category 1 and 2 ordnance assets are stored or in which top secret information is stored)
TECHNICAL CENTER OF EXPERTISE: NFESC Code 66
AVAILABLE SERVICES: Consultation and complete project execution services including analytical studies to determine risk and cost effective countermeasures selection (risk management), project planning and preparation, pre-design conferences and reviews for compliance with security criteria, construction support, equipment selection and acquisition support, security training and consultation.

SMALL ARMS RANGES (SAR) (EFD/EFAs are exempt from this technical center of expertise if the Commanding Officer certifies that a qualified small arms range specialist is on the staff.)
TECHNICAL CENTER OF EXPERTISE: NAVFAC Criteria Office (LANTNAVFACENGCOM Code 15)
AVAILABLE SERVICES: Planning (including engineering studies, project preparation, siting of the facility, facility studies and environmental issues related to facility operation); Design (including pre-design conferences, design reviews for operational requirements and criteria compliance, and review conferences); Construction (including pre-construction conferences, review of critical submittals, training and assisting ROICCs with shop and site inspections of operationally critical components, and final acceptance inspections); and Operations (including consultation on facilities issues during the operational life of the facilities.)
REFERENCE: NAVFACINST 11012.144 for related requirements.

SPECIALIZED UNDERWATER INSPECTIONS (Piers, Wharfs, Bulkheads, Seawalls, Bridges, Potable Water Storage Facilities, Other Ocean Structures)
TECHNICAL CENTER OF EXPERTISE: NFESC Code 55
AVAILABLE SERVICES: In-house and contracted diving and engineering services to provide planning and execution of cyclical inspections and condition assessments, load capacity analysis, design services for repairs including preparation of plans and specs, PCAS, Title II and construction QA services.
REFERENCE: NAVFAC MO-104.2

SUPERVISORY CONTROL AND DATA ACQUISITION (SCADA) SYSTEMS (new systems for electrical, water, wastewater, natural gas and other utility distribution systems)
TECHNICAL CENTER OF EXPERTISE: NFESC Code 20
AVAILABLE SERVICES: Scope, specification, and design assistance, acquisition, submittal reviews, on-site acceptance, and commissioning.

UNDERWATER CABLE FACILITIES (steel cables and synthetic lines as strength members and electro-mechanical, optical and electro-optical cables):
TECHNICAL CENTER OF EXPERTISE: NFESC Code 55
AVAILABLE SERVICES: Consultation and complete project execution services including management, requirements analysis, planning, design, acquisition, construction, installation, inspection, maintenance, and repair.

UNDERWATER POL PIPELINES (fixed subbottom and on-bottom pipeline structures)
TECHNICAL CENTER OF EXPERTISE: NFESC Code 55
AVAILABLE SERVICES: Consultation and complete project execution services including management, requirements analysis, planning, design, acquisition, construction, installation, internal and external inspection, maintenance, and repair.

UNINTERRUPTABLE POWER SUPPLY (UPS) SYSTEMS (new systems with an estimated cost of over $50,000)
TECHNICAL CENTER OF EXPERTISE: NFESC EC DET Code 65
AVAILABLE SERVICES: Planning (including engineering studies and facility studies): Design (including pre-design conferences, design reviews for operational requirements and criteria compliance, and review conferences); Construction (including pre-construction conferences, review of critical submittals, training and assisting ROICCs with shop and site inspections of operationally critical components, and final acceptance inspections); and Operations (including consultation on facilities issues during the operational life of the facilities.)
REFERENCE: NAVFACINST 11300.23B for related requirements.

PUBLIC WORKS TECHNICAL CONSULTANTS
NAVAL FACILITIES ENGINEERING SERVICE CENTER

GENERAL RESPONSIBILITIES FOR PUBLIC WORKS TECHNICAL CONSULTANTS

- Provide worldwide consultation in assigned area of expertise.
- Identify criteria deficiencies within field of expertise. Serve as engineer-in-charge (EIC) for assigned criteria development or revision.
- Identify RDT&E needs in the area of specialty, and submit new requirements annually to NAVFACENGCOM.
- Keeps abreast of the state-of-the-art and emerging technology.
- Serve as NAVFACENGCOM technical representative in joint-service, industry, and professional/technical seminars, conferences and working meetings.
- Organize Navy-wide or interservice symposia and seminars as appropriate.
- Provide maintenance/repair consulting services upon request of geographic EFD's, NAVFACENGCOM, major claimants, and activities.
- Sponsor or conduct Navy-wide training in the assigned area of expertise.

CORROSION AND CATHODIC PROTECTION CONSULTANT shall:

- Establish/update Navy CP policy, maintenance and design criteria, and inspecting, operating and testing procedures to comply with current and planned laws. Underground Storage Tank and Pipeline Safety statutes require CP of buried metal structure storing and handling POL and other hazardous materials. In addition environmental cleanup costs as a result of corrosion caused leaks can be significant.
- Coordinate with other DOD components in the movement towards and development of tri-service criteria.
- Coordinate with private industry and other government agencies, and represent NAVY/NAVFAC concerns with the industry and government rule makers when developing industry/military standards, regulations, etc.
- Coordinate with the Navy's shipboard CP agency (NAVSEA) as necessary to resolve conflicts between shore and ship based CP systems.
- Coordinate with other related Navy subject matter expertise (e.g. paints and coatings) to ensure integrated corrosion control program.
- Consolidate and maintain the Navy-wide CP Inventory Database and coordinate necessary, periodic base CP surveys with the Major Claimants.

DIRECT DIGITAL CONTROLS CONSULTANT shall:

- Maintain the Navy's DDC guide specification 15972.
- Update HVAC design manuals/military handbooks to include DDC.
- Provide DDC training to acquisition and operations and maintenance personnel.
- Provide quality control and assurance (QCA) for design and construction phases.
- Actively participate with industry and ASHRAE concerning DDC issues.
- Track DDC successes and failures, and provides pertinent "lessons learned" to Navy customers.

PAINTS AND COATINGS CONSULTANT shall:

- Establish environmental and safety guidelines for paint removal, surface preparation, paint maintenance and paint application.
- Provide technical input on general painting guidance documents, such as MIL HANDBOOK 1110/1.
- Track painting successes and failures, and disseminate pertinent information to field activities.
- Answer specific painting questions from field activities, especially concerning selection and application of new or reformulated coatings.

PAVEMENT CONSULTANT shall:

- Coordinate the Airfield Condition and Load Evaluation Pavement Surveys Navywide.
- Provide a centralized data base and analysis of conditions that will provide management with the needed information to enable effective prioritization and distribution of available repair and maintenance resources among competing commands. It will also allow better decisions within individual Commands.
- Sponsor and coordinate training in new methods and equipment for maintenance, repair and inspection of pavements.
- Provide technical input and general guidance documents.

ROOFING CONSULTANT shall:

- Maintain oversight in roofing to establish safety guidelines for roof inspections.
- Establish inspection guidelines that cover all roofing systems, materials, technical requirements and limitations.
- Interact with roofing industry on a routine basis to stay abreast of developments and influence standard and criteria setting organizations.
- Provide technology transfer and training within the Navy by training and other mediums such as printed guidance.
- Provide field consultations and inspections. Recommend and review criteria and provide guidance updates.
- Participate on Tri-service or non government committees concerned with developing policies, criteria and standards..

THERMAL PLANTS CONSULTANT shall:

- Maintain oversight of thermal plants, especially in regards to continued safe and reliable operation, environmental concerns and energy conservation.
- Provide a centralized data base and analysis of conditions that will provide management with the needed information to enable effective prioritization and distribution of available repair and maintenance resources among competing commands. It will also allow better decisions within individual Commands.
- Develop and coordinate training in new methods and equipment and establishing technical audits of inspection reports to insure work is accomplished in a timely and appropriate fashion.

TRACKAGE CONSULTANT shall:

- OPNAVINST 11230.2A directs NAVFACENGCOM to administer the program for "Inspection, Certification and Audit of Naval Crane and Railroad Trackage". ASD has directed that the DOD policy will be to comply with Federal Railroad Administration (FRA) Track Safety Standards.
- Provide trackage consulting services Navy wide. The movement of nuclear materials, ordnance, fuels, hazardous materials and heavy loads over the Navy's Crane and Railroad trackage systems dictates the requirement to ensure safe track conditions. Inadequate inspection and maintenance of track facilities increase the risk of loss of life or injuries and loss or damage to property as the result of rail related mishaps.

VERTICAL TRANSPORTATION EQUIPMENT (VTE) CONSULTANT shall:

- Direct and coordinate the VTE safety and inspection program. NAVFAC policy with regards to vertical transportation equipment requirements has been to have activity personnel inspect and maintain VTE systems , have EFD's conduct audits. The Navy uses commercial private sector safety standards including ASME A17.1 Safety Codes for elevators and Escalators , ASME A17.2 Inspectors Manual, and NFPA 101 Life Safety Code. NAVFAC MO 118 requires that each NAVFACENGCOM Engineering Field Division perform periodic audits of the vertical transportation equipment programs at activities within their geographical area every three years. This audit insures that equipment is properly designed and maintained, that inspections are conducted in the proper manner and accordance to required schedules.

- Provide training as necessary to qualify VTE inspectors.

WATERFRONT FACILITIES (MAINTENANCE) CONSULTANT shall:

- Provide central oversight of Navy waterfront maintenance and safety. Proper assessment of structural condition of decks, piles, fender systems and utilities is critical to the operational readiness of the Fleet. Older decks designed for tracked cranes must now be able to carry outrigger loads at virtually any location from mobile cranes. Damaged piles and fender systems can cause significant damage to ships as well as waterfront structures, reducing their availability for operations. Damaged, inoperable or under capacity utility systems can further degrade operational capability and increase the risk of environmental pollution. While there are currently no outside legal factors that require oversight, this is changing. States such as California are beginning to develop and enforce inspection criteria on waterfront facilities. Centralized oversight will help enable consistency in inspections and condition assessments. It will also ensure uniform applications of the latest proven technology, avoid pitfalls of unproved or unauthorized methods and materials and thereby improve the operational availability of waterfront facilities necessary for fleet readiness.