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TECHNICAL CAPABILITY

Depth and Breadth

TheESHgroup consists of experienced professional engineers with exemplary, relevant and demonstrated excellence working for the Department of the Navy. We offer specialized services in the environmental, safety and occupational health (ESOH) fields to Navy weapon system Program Managers, and the facilities planning for the shore infrastructure that is required to support those weapon systems. We are able to uniquely integrate our intimate working knowledge of ESOH, system safety, facilities planning, the Navy, systems engineering and weapon system acquisition, resulting in a valuable contribution to any Program Manager's team. Simply put – we make a difference and our customers value our contributions to their teams. Since 1999, we have been providing all of our services in the National Capital Zone (Zone 2) and are continuing to offer these same specialized services under six functional areas in Zone 2 as a prime contractor under SeaPort-e, with four of the functional areas discussed in detail below.

TheESHgroup's past performance reflects its recently and successfully completed efforts under the four SeaPort-e functional areas of Engineering Support, System Safety, Test & Evaluation, and Logistics Support. We are proud of our work performance in each functional area. We have continued to provide these services to several clients for many years running, speaking well for the reputation, expertise and recognized team-value of theESHgroup and its engineers. In all areas, we work within the existing client's organization, facilitating the identification and resolution of ESOH and facilities planning challenges within its Integrated Product Teams. We have prepared an overview, below, of what we have recently done within each functional area to better demonstrate the depth and breadth of our capabilities, followed by resume highlights of our four key personnel. With our people's skill sets and talents, we are and will continue to be successful in these functional areas.

Engineering Support (Seaport-e Functional Area 3.2). In this area, theESHgroup has been providing ESOH support to the CVN 78 Program since 1999. Using a diverse set of capabilities and skill sets, theESHgroup engineers applied their extensive environmental skills together with their working knowledge of the ship design and weapon system acquisition processes to provide the client with the conceptualization and implementation of an outstanding ESOH Program. **TheESHgroup's engineers were instrumental in the CVN 78 Program receiving the CNO's Team Award in early 2004 for environmental excellence in weapon system acquisition.** The scope of the ESOH program entailed the consideration of ESOH requirements throughout the life-cycle of the ship and its systems, from concept exploration through ultimate disposal.

Early in the design process for CVN 78, theESHgroup assisted the Ship Design Manager with the strategic and contractual planning necessary to ensure that ESOH issues were integrated into the systems engineering process. TheESHgroup then helped to develop various design plans that addressed ESOH issues, such as for Pollution Prevention and System Safety. The engineers of theESHgroup also prepared environmental compliance analyses and used its results to guide the

development of a ship systems compliance gap analysis, leading to numerous major design decisions, such as larger holding tanks, a Hazardous Materials Minimization Center (HMMC) and a plasma arc incinerator. Our engineers conducted ESOH compliance audits of prime contractors and supporting programs, provided inputs to key program documentation for program reviews and milestones, and facilitated Integrated Product Teams and focus groups. As design progressed, the company also evaluated Engineering Change Proposals, reviewed draft ship specifications and Decision Memoranda, and commented on system drawings and diagrams. TheESHgroup led the design team of the first-ever HMMC for an aircraft carrier. Throughout the process, theESHgroup provided ESOH awareness training to the design team.

The same engineers of theESHgroup provided similar excellent services to the VIRGINIA Class submarine program. During ten consecutive years of support by theESHgroup's personnel, the VIRGINIA Class submarine program received 16 Navy, DoD, EPA and White House awards for environmental excellence. The POC was Mr. Dave Cartwright, who still works for Team Submarine and can be contacted at 202-781-1183 about our employees' invaluable contributions.

System Safety (Seaport-e Functional Area 3.9). In this area, theESHgroup engineers are members of the System Safety Society of America and provided system safety support to the CVN 78 Program starting in 1999. Part of the outstanding ESOH Program that we provided (described above under Engineering Support) involved the planning for its system safety program. As required by the DOD 5000 series of instructions regarding weapon system acquisition and strongly reinforced by Navy policy, theESHgroup conceived and developed for the Program Manager a risk-based hazard identification, analysis, mitigation and management process based on a tailored application of MIL-STD-882. It even included new requirements from a final draft of a SECNAVINST on system safety. The result was a comprehensive state-of-the-art System Safety Management Plan, supported by a web-based hazard tracking system, and fully integrated with the program's ship design process. To help ensure that the entire ship design process would be supporting the elimination of hazards, theESHgroup engineers were able to successfully convince the lead design yard to modify its internal design procedures to align with the System Safety Management Plan.

Recently, theESHgroup engineers completed on a fast-turnaround basis a System Safety task for the SEA 05 Technical Warrant Holder (TWH) for System Safety. This consisted of drafting a business plan for the TWH start-up, a detailed two-year POA&M, and the first draft of an updated NAVSEA Instruction on System Safety. **The engineers of theESHgroup were hand-picked for this task** based on (1) their superb performance with the System Safety program for the CVN 78 Program, and (2) their reputation for having significantly participated with the development of the exemplary hazard reduction program for the VIRGINIA Class submarine program from 1994 to 2004.

Test and Evaluation (Seaport-e Functional Area 3.14). In this area, theESHgroup provided support to the CVN 78 Program T&E team starting in 2002. This support is of two distinct types, each of which ensured that planned T&E events could be properly conducted from an environmental perspective. It required the engineers of theESHgroup to have a current, working knowledge of the broad spectrum of environmental compliance requirements and the ability to discern which of the thousands of federal, state and local environmental requirements were applicable to the military and that particular type of test event. In addition, theESHgroup engineers have prior work experience as state environmental regulators.

Type 1 support consisted of periodic detailed reviews of planned test events to identify those with potential implications or “triggers” by the National Environmental Policy Act (NEPA). This entailed a working knowledge of the CVN 78 Program and the realm of Navy test and evaluation planning requirements, understanding how and when to ask questions and influence the formation of test plans. It resulted in the development of NEPA documentation and appropriately revised T&E plans and schedules. TheESHgroup engineers developed the documentation for signature by the T&E Manager, and provided inputs to the test planning process.

Type 2 support consisted of active team participation for specific, complex test events. Our role on these teams was to assist with the identification and mitigation of potential environmental hazards that might otherwise result in dangerous or unlawful test execution or, worse yet, postponed or canceled tests. This type of support entailed having insightful knowledge of how testing is conducted in the field and being able to draft workable, environmentally acceptable procedures to contribute to overall test success. For instance, theESHgroup provided substantial assistance with the planning and conduct of open-ocean survivability testing for a large test platform. This support included developing the scope and substance of a relatively complex NEPA document (an Overseas Environmental Assessment) that was orchestrated to take only 28 months to develop and obtain CNO approval. TheESHgroup developed and managed this task using a complex POA&M used as a schedule by all stakeholders. Our company’s task also included developing the environmental portions of several demilitarization and disposal plans, conducting environmental compliance ship-checks, and preparing operating procedures to guide the on-board test crew during their extensive at-sea testing evolutions. The testing on the large test platform went flawlessly environmentally, and **theESHgroup received a letter of commendation from the T&E Manager.**

Logistics Support (Seaport-e Functional Area 3.16). In this area, theESHgroup has been providing engineering and analytical support to the developers of new weapon systems since 1999. The attached file of Table A refers to the recently completed support to NAVFAC in the performance of facilities planning for new weapon systems. NAVFAC presented theESHgroup with a performance award in 2006 for its invaluable support to the Navy. The engineers of theESHgroup, in supporting NAVFAC, translate the design of a new weapon system into facilities planning criteria, develop supporting infrastructure requirements, conduct field surveys to discern supportability gaps, and then draft a comprehensive management plan that the Program Manager, Resource Sponsor and NAVFAC all use to make the facilities available. The Fleet Forces Command even uses the management plan to help make basing and homeporting decisions. TheESHgroup pioneered this process for the Littoral Combat Ship (LCS), applied the proven process to other new ship systems, including CVN 78 and DDG-1000, and is currently extending the process to new aviation systems. Insightful performance in this functional area has the potential to save the Navy significant money. For example, during the facilities planning for the LCS, theESHgroup was able to help the Navy realize a cost avoidance of over \$20 million over the Five Year Defense Plan (FYDP) by reusing existing facilities instead of building new ones.

Besides supporting NAVFAC with facilities planning, theESHgroup provides logistics planning support directly to acquisition system Program Managers. Our engineers are members on the Logistics Managers’ Integrated Product Support (IPS/ILS) teams. TheESHgroup works closely with the teams to study and plan for the new systems’ entire life cycles, prepare the ESOH and facilities planning portions of the Supportability Plans, and assist with the programmatic and

contractual planning necessary to ensure that ESOH issues are integrated into the overall programs of record. The ESHgroup develops appropriate ESOH Policy Statements, Environmental and ESOH Management Plans and Strategies, and prepares documents such as the Programmatic ESOH Evaluation (PESHE) for the acquisition Milestone Decision Authority. Throughout the process, the ESHgroup advocates and provides training on ESOH awareness and facilitates the acquisition program's compliance with the requirements of NEPA and the DOD 5000 series of acquisition instructions. The ESHgroup is adept at these support tasks because of the holistic approach of its engineers with environmental, facilities and acquisition requirements.

The ESHgroup is a small, effective, results-oriented company. We are a Service Disabled Veteran-Owned Small Business (SDVOSB) business with four full-time employees, all of whom are engineers and subject matter experts, with almost 80 years of combined professional ESOH and Facilities experience. We are intimately familiar with the applicable federal, DoD and Navy ESOH requirements, and with DoD, Navy, OPNAV and NAVFAC procedures and policies for planning, constructing and maintaining shore facilities and infrastructure. Our people:

The Senior Engineer is Mr. Mark Pfarrer ... retired Navy Civil Engineer Corps...over 30 years of experience with facilities planning and weapon system support... licensed Professional Engineer...registered environmental manager...MS in Environmental Engineering...supporting weapon system development offices since 1994...trained as a warranted contracting officer... Member of the Society of American Military Engineers... recent experience with PEO Carriers, PEO Subs, PEO LCS and PEO Ships ... security clearance.

The Chemical Engineer is Ms. Michelle Rudisill...BS in Chemical Engineering...over 19 years of experience with ESOH engineering and support services to government weapon system acquisition programs...registered Engineer-in-Training...prior environmental regulator with the State of Pennsylvania... Member of the System Safety Society of America...trained in ISO 14001 Environmental Quality Standards... recent experience with SEA 04RE acquisition ESOH, SEA 05 System Safety, and VIRGINIA Class and CVN 78 Programs ... security clearance.

The Senior Facilities Engineer is Mr. Mark Roys ... retired Navy Civil Engineer Corps ... over 19 years of experience with facilities planning and logistics support services to weapon systems ... expert in entire MILCON process ... working knowledge of ESOH and system safety ... licensed Professional Engineer ... MS in Construction Engineering ... supporting NAVFAC weapon system development since 2011 ... recent experience with LCS and Ship-Shore-Connector ... security clearance.

The Senior Electrical Engineer is Mr. George Brown ... prior Navy Electronic Warfare Technician ... 33 years of experience with all aspects of NAVSEA submarine acquisition programs ... expert in submarine modernization efforts and facilities planning ... working knowledge of ESOH and system safety ... BS in Electrical Engineering ... supporting NAVFAC weapon system development since 2011 ... recent experience with Ohio Replacement Class ... security clearance.