

**theESHgroup, Inc.  
5572 La Vista Drive  
Alexandria, VA 22310-1252**

**1 June 2007**

## **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, as well as 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 four functional areas in Zone 2 as a prime contractor under Seaport-e.

TheESHgroup's past performance reflects its recently and successfully completed efforts under the four 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 two key personnel. With our people's skill sets and talents, we are and will continue to be successful in these four functional areas.

**Engineering Support (Seaport-e Functional Area 3.2)**. In this area, theESHgroup has been providing ESOH support to the CVN21 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 21 Program receiving the CNO's Team Award in early 2004 for environmental excellence in weapon system acquisition.** The scope of the ESOH program was considering ESOH requirements throughout the life cycle of the ship and its systems, from concept exploration through ultimate disposal.

Early-on, theESHgroup assisted the CVN 21 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 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 both members of the System Safety Society of America and have been providing system safety support to the CVN 21 Program since 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, 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 Management Plan.

Most recently, theESHgroup engineers completed on a fast turnaround basis a System Safety task for the newly-created NAVSEA 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 21 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 has been providing support to the CVN 21 Program T&E team since 2002. This support is of two distinct types, both of which are to ensure that planned T&E events can be properly conducted from an environmental perspective. It requires 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 are 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 consists of periodic detailed reviews of planned test events to identify those with potential implications or “triggers” by the National Environmental Policy Act (NEPA). This entails a working knowledge of the CVN 21 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 results in the development of NEPA documentation and appropriately revised T&E plans and schedules. TheESHgroup engineers develop the documentation for signature by the T&E Manager, and provide inputs to the test planning process.

Type 2 support consists of active team participation for specific, complex test events. Our role on these teams is 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 entails 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 conducting of open-ocean survivability testing for a large test platform. This support included developing the scope and substance of a relatively complex NEPA document (specifically 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. Table A refers to the recently completed third year of support to NAVFAC in the performance of facilities planning for new weapon systems. The work is continuing for another year; **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), and is applying the proven process to other new systems, including CVN21 and DDG-1000. Insightful performance in this functional area has the potential to save the Navy significant money. During the facilities planning for the LCS, theESHgroup was able to 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 Logistics Support (ILS) teams. TheESHgroup works closely with the teams to study and plan for the new system’s entire life cycle, prepare the ESOH and facilities planning portions of the ILS Plan, and assist with the programmatic and contractual planning necessary to ensure that ESOH issues are integrated into the overall program of record.

TheESHgroup 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, theESHgroup advocates ESOH awareness and facilitates the acquisition program's compliance with the requirements of the National Environmental Policy Act (NEPA) and the DOD 5000 series of acquisition instructions. TheESHgroup is adept at these support tasks because of the holistic approach of its engineers with environmental and acquisition requirements.

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TheESHgroup is a small, effective, results-oriented company. We are a woman-owned small business with two full-time employees, both of whom are engineers and subject matter experts, with 36 years of combined professional ESOH experience. We are intimately familiar with the applicable federal, DoD and Navy ESOH requirements, gained from formal education, from supporting such programs as the CVN 21 aircraft carrier program and the VIRGINIA Class submarine, and from our prior experiences as State environmental compliance regulators. Our engineers remain current with present and future ESOH requirements, procedures and philosophies through such activities as active participation as members of the NAVSEA Pollution Prevention Working Group, the Acquisition ESOH Advisory Council, and the CNO System Safety Advisory Board. We also have a working knowledge of ship systems engineering design processes, and apply our environmental engineering insights towards assisting naval architects and designers with the ESOH ramifications of ship design, specifications and process documentation, participating hands-on with the workings of design and advisory group Integrated Product Teams at NAVSEA and at NSWC Carderock.

Our employees are our strength. The following information, in addition to that provided thus far, is to further demonstrate the breadth and depth of theESHgroup's two full-time employees. Additional employees are brought on as the workload dictates.

The Senior Engineer is Mr. Mark Pfarrer ... retired Navy Civil Engineer Corps...over 25 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...final security clearance.

The Engineer is Ms. Michelle Rudisill...BS in Chemical Engineering...over 14 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...final security clearance.

**Representative Past Performance of the ESH Group, Inc.**

	<b>Contract No.</b>	<b>Prime or Sub</b>	<b>\$ Value</b>	<b>Date Completed</b>	<b>Seaport-e Performance Zone</b>	<b>Mission Areas For Which Function Was Performed</b>	<b>Government POC (Phone Number)</b>
Seaport-e Functional Area (SOW 3.1-3.22)							
3.1 R&D Support							
3.2 Engineering Support	N000024-01-D-7017, Sub S-9239.21	Sub	120K	Jan 2007	2	NAVSEA CVN 21 Program, Ships and Ship Systems (ship integration and design; environmental quality systems)	Doug Vaughters (202-781-3611) & Robin Hays (202-781-4975)
3.3 Modeling							
3.4 Prototyping							
3.5 System Des Doc/Tech Data							
3.6 Software							
3.7 RM&A							
3.8 HF Engineering Support							
3.9 System Safety	N00167-00-D-088, DO144	Sub	20K	Feb 2007	2	NAVSEA/NSWC Carderock, Ships and Ship Systems (ship integration and design, system safety)	Kiet Ung (301-227-5235)
3.10 CM Support							
3.11 QA Support							
3.12 IS/IA/IT							
3.13 Inactivation/Disposal Sup.							
3.14 Interoperability/T&E/Trials	N000024-01-D-7017	Sub	120K	Jan 2007	2	NAVSEA CVN21 T&E Program, integrating Environmental Compliance into T&E events	Steve Schrobo (202-781-0603)
3.15 Measure Facilities/Ranges							
3.16 Logistics Support	N47408-04-D-8514, #19	Sub	161K	Oct 2006	2	NAVFAC Headquarters, Integrated Logistics Support (Facilities Planning for New Weapon Systems)	Kail Macias (202-685-0327)
3.17 Supply & Provisioning							
3.18 Training							
3.19 In-Service Eng							
3.20 Program Support							
3.21 Administrative Support							
3.22 Public Affairs							