

## Phoenix International

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**Zone: 1, 2, 3, 4, 6, 7**

**Contract Number:  
N00024-97-D-4025**

**Period of Performance:  
9 Sept 97- 1 Jan 03**

**Contract Title:  
NAVSEA ID/IQ CPAF**

**Relevant Functional Areas: 3.2**

### **Synopsis:**

Phoenix International's Engineering Division is focused on modifying existing and/or developing operational systems and capabilities that will decrease the time it takes to return inoperative or damaged warfighting capabilities to RFI status. The company's multi-disciplinary engineering skills provide the equipment and techniques needed to perform ship, submarine, and underwater structure repairs in-situ, thereby reducing the need for and high cost of dry-docking. Developed systems and capabilities are designed for easy air transport, set-up, and operation in remote regions throughout the world.

Phoenix re-engineers COTS topside maintenance and repair equipment for safe underwater use by divers. Phoenix modified and upgraded a Carbon Arc Gouger and Plasma Arc Cutter for support of underwater repair and maintenance of Navy ships and submarines. These underwater systems provide a 3-4 fold increase in efficiency when removing old weldments and cutting steel hull plate underwater. Welding procedures are developed for Navy certification and use in wet and dry underwater environments. Fixture and jig designs facilitate underwater repair efforts in addition to the waterborne installation or removal of warfighting sensors and systems. The Phoenix designed Air Transportable Underwater Welding System (ATUWS) provides a fully self-sufficient engineering/operations repair capability for use anywhere in the world.

<b>Zone: 1, 2, 3, 4, 6, 7</b>	<b>Contract Number:</b> N00024-97-D-4025	<b>Period of Performance:</b> 9 Sept 97- 1 Jan 03
<b>Contract Title:</b> NAVSEA ID/IQ CPAF		
<b>Relevant Functional Areas: 3.4</b>		
<p><b>Synopsis:</b></p> <p>Phoenix designs and develops prototypes, operations units, and tools needed to increase manned and unmanned underwater work task efficiencies. The goal is to maximize the amount of waterborne ship and submarine structural repair and maintenance work in order to minimize or delay the need to drydock Navy surface ships and submarines. Substantial cost savings are thus realized. Phoenix has developed diver employed, air transportable rigging procedures and fixtures that allow the WSQ-9 (OTAA) submarine sonars to be installed and removed waterborne. A modular 42 ft. high, 21-ton cofferdam is under fabrication that allows for the pier-side re-installation SSN 688 bow domes. During the past three years Phoenix International has been developing equipment and procedures for underwater non-destructive evaluation of ship propulsion systems for NAVSEA. These development projects have focused on the use of ultrasonic testing (UT) and eddy current testing (ET) techniques to inspect propulsors on the Seawolf class submarines, propulsion shafting on the DDG 51 class vessels, and shaft journal bearing coatings on the MCM 4 class vessels. The requirements for these developmental systems were the ability to perform them in-water, involve minimal disturbance of these systems, and be cost effective. All three of these projects are soon ready to progress to the prototype testing phase.</p>		

<b>Zone: 1, 2, 3, 4, 6, 7</b>	<b>Contract Number: N00024-97-D-4025</b>	<b>Period of Performance: 9 Sept 97- 1 Jan 03</b>
<b>Contract Title:</b> NAVSEA ID/IQ CPAF		
<b>Relevant Functional Areas: 3.5</b>		
<b>Synopsis:</b>  <p>Phoenix has eight years of experience maintaining, operating, modifying, and upgrading multi-million dollar inventories of Navy diving, diving related, search, and recovery. A Phoenix developed, Navy approved system is in place to provide a formal, detailed record of the material condition of each piece of equipment to include its latest design and configuration. The integrated electronic and hardcopy drawing documentation system is used to track and report on a weekly basis the status of each system under Phoenix control and provide notice of upcoming certification, maintenance and calibration requirements.</p>		

<b>Zone: 1, 2, 3, 4, 6, 7</b>	<b>Contract Number: N00024-97-D-4025</b>	<b>Period of Performance: 9 Sept 97- 1 Jan 03</b>
<b>Contract Title:</b> NAVSEA ID/IQ CPAF		
<b>Relevant Functional Areas: 3.14</b>		
<b>Synopsis:</b>  Phoenix International develops underwater wet and dry welding procedures and equipment to effect waterborne repairs and maintenance on ships, submarines, and structures in order to eliminate or delay drydocking. These capabilities are certified by the Navy and the American Bureau of Shipping (ABS) and require extensive factory and in situ testing and evaluation under third party review to determine and attain acceptable results for the Navy. Navy acceptance of a capability is assessed in terms of its effectiveness, reliability, robustness, and ability to be safely used by divers.		

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<b>Contract Title:</b> NAVSEA ID/IQ CPAF		
<b>Relevant Functional Areas: 3.17</b>		
<b>Synopsis:</b>  Phoenix is required to husband and operate, on a 24/7 basis, the Navy's extensive inventory of diving, diver support, and underwater repair equipment. These systems have to be maintained, spared, activated, shipped, installed on vessels of opportunity, and operated within hours of notification by the Navy in order to make emergent and scheduled repairs to Navy warfighting vessels.		

<b>Zone: 1, 2, 3, 4, 6, 7</b>	<b>Contract Number: N00024-97-D-4025</b>	<b>Period of Performance: 9 Sept 97- 1 Jan 03</b>
<b>Contract Title:</b> NAVSEA ID/IQ CPAF		
<b>Relevant Functional Areas: 3.19</b>		
<p><b>Synopsis:</b></p> <p>Under this key Supervisor of Diving and Salvage (SUPSALV) 5-year delivery order based contract, Phoenix supplied the Navy with the engineering, diving, underwater welding, and rigging skills critical to keeping warfighting ships and submarines in RFI status by minimizing their need to drydock or by extending the period between drydocking. A fully founded, stand-alone engineering, diving, communications, welding, and fabrication capability is on 24/7 stand-by to fly and conduct underwater ship repair or maintenance tasks anywhere in the world, including the Polar Regions. Repairs can be made while the war fighter is pier-side or at anchor.</p> <p>Waterborne tasks include shaft bearing change-outs, shaft coating repairs, submarine towed array motor replacement, hull plate repairs, bilge keel repairs, sonar dome repairs, propeller change-outs, controllable pitch propeller blade replacements, CPP hub repairs, and rudder repairs to name a few. . Waterside engineering includes the templating, design, and fabrication of habitats and cofferdams. Detailed office designs, structural analyses, and generation of installation and work procedures are available for development of complex fixtures and tooling systems.</p>		

<b>Zone: 1, 2, 3, 4, 6, 7</b>	<b>Contract Number: N00024-97-D-4025</b>	<b>Period of Performance: 9 Sept 97- 1 Jan 03</b>
<b>Contract Title:</b> NAVSEA ID/IQ CPAF		
<b>Relevant Functional Areas: 3.20</b>		
<b>Synopsis:</b>  Phoenix provides technical and operations program support to NAVSEA SEA 00C primarily consisting of the identification, evaluation, and modification of commercially available equipment and techniques that may be of potential benefit to Navy missions in ship repair, Homeland Defense, and joint interagency projects. Past efforts included the selection and evaluation of a topside arc gouger and plasma arc cutter for their modification for safe diver use; field evaluation of COTS inspection ROVs for underwater hull and cofferdam inspections; and diverse tasking associated with the joint NOAA/Navy recovery of the USS Monitor engine and turret from its marine sanctuary offshore North Carolina. The Monitor effort entailed, among other tasks, obtaining and readying a commercial saturation diving system for Navy use, chartering barges, a marine crane, and other floating assets, and designing, arranging for manufacture and delivery to the off shore Monitor work site, of the cradle and lifting slings for the Monitor gun turret.		

<b>Zone: 1, 2, 3, 4, 6, 7</b>	<b>Contract Number: N00024-01-D-4029</b>	<b>Period of Performance: On going</b>
<b>Contract Title:</b> NAVSEA ID/IQ CPAF		
<b>Relevant Functional Areas: 3.2</b>		
<p><b>Synopsis:</b></p> <p>Phoenix engineering is focused on modifying existing and/or developing operational systems and capabilities that will decrease the time it takes to return inoperative or damaged warfighting capabilities to RFI status. Navy and Phoenix owned, manned and unmanned search and recovery equipment and techniques are optimized to quickly locate, recover, and assess warfighting assets lost in ocean depths to 6000 msw. Phoenix operates and upgrades over \$30 million of Navy search sonar, Remotely Operated Vehicle, salvage, navigation/positioning, communications, and data analysis, management, and presentation equipment. Phoenix is developing a Digital Towed Pinger Locator (DTPL) a universal underwater search system that will obsolete two current analog systems. The company also re-engineers COTS topside ship maintenance and repair equipment for safe underwater use by divers. Phoenix modified and upgraded a Carbon Arc Gouger and Plasma Arc Cutter for support of underwater repair and maintenance of Navy ships and submarines. These underwater systems provide a 3-4 fold increase in efficiency when removing old weldments and cutting steel hull plate.</p> <p>Application of pressure tolerant electronics, rechargeable lithium power sources and LED lighting systems has resulted in the design of unique underwater sensor platforms characterized by their lack of implodable volumes, operation to any ocean depth, low cost (expendability), and ability to reconfigure and scale the inherent technologies for diverse applications. The resultant systems are deployable from manned and unmanned underwater host platforms and are of interest to the Navy submarine, Navy SEAL, and special program communities as well as Navy research groups operating in extremely hazardous environments.</p>		



<b>Zone: 1, 2, 3, 4, 6, 7</b>	<b>Contract Number: N00024-01-D-4029</b>	<b>Period of Performance: On going</b>
<b>Contract Title:</b> NAVSEA ID/IQ CPAF		
<b>Relevant Functional Areas: 3.4</b>		
<p><b>Synopsis:</b></p> <p>Phoenix designs and develops prototypes, operations units, and tools needed to increase manned and unmanned underwater work task efficiencies. The goal is to maximize the amount of waterborne ship and submarine structural repair and maintenance work in order to minimize or delay the need to drydock Navy surface ships and submarines. Substantial cost savings are thus realized. Phoenix has developed diver employed, air transportable rigging procedures and fixtures that allow the WSQ-9 (OTAA) submarine sonars to be installed and removed waterborne. A modular 42 ft. high, 21-ton cofferdam is under fabrication that allows for the pier-side re-installation SSN 688 bow domes. During the past three years Phoenix International has been developing equipment and procedures for underwater non-destructive evaluation of ship propulsion systems for NAVSEA. These development projects have focused on the use of ultrasonic testing (UT) and eddy current testing (ET) techniques to inspect propulsors on the Seawolf class submarines, propulsion shafting on the DDG 51 class vessels, and shaft journal bearing coatings on the MCM 4 class vessels. The requirements for these developmental systems were the ability to perform them in-water, involve minimal disturbance of these systems, and be cost effective. All three of these projects are soon ready to progress to the prototype testing phase.</p>		

<b>Zone: 1, 2, 3, 4, 6, 7</b>	<b>Contract Number:</b> <b>N00024-01-D-4029</b>	<b>Period of Performance:</b> <b>On going</b>
<b>Contract Title:</b> NAVSEA ID/IQ CPAF		
<b>Relevant Functional Areas: 3.5</b>		
<p><b>Synopsis:</b></p> <p>Phoenix holds multi-year Navy contracts under which it maintains, operates, modifies, and upgrades over \$30 million of Navy diving, diving related, search, recovery, and submarine rescue equipment. A Phoenix developed, Navy approved system is in place to provide a formal, detailed record of the material condition of each piece of equipment to include its latest design and configuration. The integrated electronic and hardcopy drawing documentation system is used to track and report on a weekly basis the status of each system under Phoenix control and provide notice of upcoming certification, maintenance and calibration requirements. Phoenix is currently supporting NAVSEA'S SRDRS acquisition program in its efforts to certify the SRDRS to the requirements of NAVSEA SS800-AG-MAN-010/P-9290 Rev A, System Certification Procedures and Criteria Manual for Deep Submergence Systems (P-9290) and NAVSEA SS521-AA-MAN-010, U.S. Navy Diving and Manned Hyperbaric Systems Safety Certification Manual (MAN-010)</p>		

<b>Zone: 1, 2, 3, 4, 6, 7</b>	<b>Contract Number:</b> N00024-01-D-4029	<b>Period of Performance:</b> On going
<b>Contract Title:</b> NAVSEA ID/IQ CPAF		
<b>Relevant Functional Areas: 3.7</b>		
<p><b>Synopsis:</b></p> <p>Phoenix provides critical input to RMA Support specialists through its 5-year, delivery order based contract to recover warfighting assets (aircraft, helicopters, missiles, torpedoes, etc) lost over water. Recoveries are essential in determining the cause of a failure as a result of flaws in design, material, or maintenance procedures. For example, in the spring of 2002 the nose gear on a Navy F-14 failed during catapult launch resulting in the loss of the aircraft in 3000 msw. The entire F-14 carrier fleet stood down until the airplane was found, recovered, and the nose gear examined. A successful recovery by Phoenix subsequently revealed corrosion within the strut. Maintenance procedures were immediately changed to assure the area was routinely examined and any detected corrosion condition addressed. Phoenix is under contract to operate and maintain the Navy's next generation submarine rescue system, SRDRS, as its component elements are fabricated and delivered. Our tasks will include RMA responsibilities.</p>		

<b>Zone: 1, 2, 3, 4, 6, 7</b>	<b>Contract Number: N00024-01-D-4029</b>	<b>Period of Performance: On going</b>
<b>Contract Title:</b> NAVSEA ID/IQ CPAF		
<b>Relevant Functional Areas: 3.15</b>		
<b>Synopsis:</b>  <p>As operator of six Navy and five company owned Remotely Operated Vehicles with capabilities to perform effective work to 6000 msw, Phoenix provides underwater range support in the form of recovering warfighting systems (torpedoes and countermeasures) that have sunk on the range. Range hydrophone inspection, installation, and recovery capabilities are also available. Two Phoenix heavy duty work ROVs have onboard systems capable of detecting, tracking, burying, or excavating range cables.</p>		

<b>Zone: 1, 2, 3, 4, 6, 7</b>	<b>Contract Number: N00024-01-D-4029</b>	<b>Period of Performance: On going</b>
<b>Contract Title:</b> NAVSEA ID/IQ CPAF		
<b>Relevant Functional Areas: 3.17</b>		
<p><b>Synopsis:</b></p> <p>Under the NAVSEA SEA 00C Undersea Operations Contract, Phoenix is required to husband and operate, on a 24/7 basis, the Navy's extensive inventory of equipment needed to conduct underwater search and recovery operations. The inventory includes single and dual frequency side scan sonars, CTFM, and ultra high resolution search sonars, pinger locators, 6 families of Remotely Operated Vehicles, surface and subsurface navigation/positioning, satellite communications, and data processing/management systems. Beginning in 2004, the inventory will also include the Navy's next generation submarine rescue equipment. All systems have to be documented, maintained, spared, activated, shipped, installed on vessels of opportunity, and operated within hours of notification by the Navy.</p> <p>Phoenix has been recently tasked to procure an existing commercial saturation diving system, develop modifications to ensure certification to USN standards, manage the system refurbishment, present the system for certification and deliver the system to the Navy for Navy manning and operation.</p>		

<b>Zone: 1, 2, 3, 4, 6, 7</b>	<b>Contract Number: N00024-01-D-4029</b>	<b>Period of Performance: On going</b>
<b>Contract Title:</b> NAVSEA ID/IQ CPAF		
<b>Relevant Functional Areas: 3.19</b>		
<b>Synopsis:</b>  <p>Phoenix holds this key SUPSALV 5-year delivery order based Undersea Operations Contract to supply the Navy with the in-service engineering and at-sea operations skills critical to keeping a \$30 million inventory of search, recovery, and related support equipment in RFI status. The inventory must be ready for mobilization on a 24/7 basis to search for and retrieve warfighting assets lost in water depths to 6,000 meters. A multi-disciplinary engineering and technician staff maintains, repairs, modifies, upgrades, and spares the inventory as needed.</p>		

<b>Zone: 1, 2, 3, 4, 6, 7</b>	<b>Contract Number:</b> <b>N00024-03-D-4030</b>	<b>Period of Performance:</b> <b>On going</b>
<b>Contract Title:</b> NAVSEA ID/IQ CPAF		
<b>Relevant Functional Areas: 3.14</b>		
<p><b>Synopsis:</b></p> <p>This new contract is a result of a successful re-competition of N00024-01-D-4029. Under this NAVSEA SEA 00C Worldwide Diving and Diving Related Services Contract, Phoenix is required to husband and operate, on a 24/7 basis, the Navy's extensive inventory of diving and diving related equipment. These capabilities have to be maintained, activated, shipped, installed on vessels of opportunity, and operated within hours of notification by the Navy.</p> <p>Phoenix International develops underwater wet and dry welding procedures and equipment to effect waterborne repairs and maintenance on ships, submarines, and structures in order to eliminate or delay the need for drydocking. These capabilities are certified by the Navy and the American Bureau of Shipping (ABS) and require extensive factory and in situ testing and evaluation under third party review to determine and attain acceptable results for the Navy. Navy acceptance of a capability is assessed in terms of its effectiveness, reliability, robustness, and ability to be safely used by divers.</p>		

<b>Zone: 1, 2, 3, 4, 6, 7</b>	<b>Contract Number: N00024-03-D-4030</b>	<b>Period of Performance: On going</b>
<b>Contract Title:</b> NAVSEA ID/IQ CPAF		
<b>Relevant Functional Areas: 3.19</b>		
<p><b>Synopsis:</b></p> <p>Phoenix, for the second consecutive competitive time, holds the key SUPSALV 5-year delivery order based contract to supply the Navy with the engineering, diving, underwater welding, and rigging skills critical to keeping warfighting ships and submarines in RFI status by minimizing their need to drydock or by extending the period between drydocking. A fully founded, stand-alone engineering, diving, communications, welding, and fabrication capability is on 24/7 stand-by to fly and conduct underwater ship repair or maintenance tasks anywhere in the world, including the Polar Regions. Repairs can be made while the warfighter is pierside or at anchor.</p> <p>Waterborne tasks include shaft bearing change-outs, shaft coating repairs, submarine towed array motor replacement, hull plate repairs, bilge keel repairs, sonar dome repairs, propeller change-outs, controllable pitch propeller blade replacements, CPP hub repairs, and rudder repairs to name a few. Waterside engineering includes the templating, design, and fabrication of habitats and cofferdams. Detailed office designs, structural analyses, and generation of installation and work procedures are available for development of complex fixtures and tooling systems.</p>		



<b>Zone: 1, 2, 3, 4, 6, 7</b>	<b>Contract Number:</b> N47408-02-D-8319	<b>Period of Performance:</b> On going
<b>Contract Title:</b> NAVSEA ID/IQ CPAF		
<b>Relevant Functional Areas: 3.15</b>		
<p><b>Synopsis:</b></p> <p>Phoenix is a team member of our Prime Contractor, Sound &amp; Sea Technology of Seattle, WA, tasked with performing underwater cable and range support in the form of recovering warfighting systems (torpedoes and countermeasures) sunk on the range; performing hydrophone inspections, burying or excavating range and surveillance cables; and recovering and installing range cables. Engineering support includes developing innovative concepts for installing or deploying surveillance cable systems.</p> <p>Phoenix owns and operates four Remotely Operated Vehicles capable of providing underwater range support. Two vehicles are Phoenix built ROVs that support environmental assessments and perform route selection surveys. Two very powerful (200 and 400 hp) Post Lay Inspection and Burial (PLIB) ROVs are purpose-built for detecting and tracking buried cables as well as burying or excavating to depths of 1.5 meters. Range cable burial work has been undertaken for the Naval Facility Engineering Support Center, Port Hueneme, CA to protect the cables from disruption by fishing trawlers.</p>		

<b>Zone: 1, 2, 3, 4, 6, 7</b>	<b>Contract Number:</b> Internal Research	<b>Period of Performance:</b> <b>On going</b>
<b>Contract Title:</b> Internal		
<b>Relevant Functional Areas: 3.1</b>		
<p><b>Synopsis:</b></p> <p>Phoenix staffs an Internal R&amp;D group in support of current and anticipated Navy contracts in addition to its own internal needs. Underwater welding R&amp;D is directed to developing Navy certifiable underwater wet and dry (within habitat or cofferdam) welding procedures for a diversity of surface ship and submarine materials including common steels, high strength steel (HY-80), stainless steels, copper-nickel and nickel-copper alloys. A total of 12 Navy certified procedures have been developed over the last seven years. Procedures for HY-100 and High Strength Low Alloy (HSLA) materials are presently under development.</p> <p>R&amp;D efforts have resulted in the design and development of 6,000 msw depth capable work Remotely Operated Vehicles, control and telemetry systems, underwater tools and work systems. Designs are supported with laboratory and prototyping test equipment, software development tools, and computer modeling programs.</p> <p>Current R&amp;D is undertaken in the application of pressure tolerant electronics and rechargeable lithium chemistry based power sources for the design and development of unique underwater systems and tools meeting special mission applications to water depths exceeding 6000 meters of salt water (msw).</p>		