

FY2010 Defense Requests

Project Title: Advanced Hybrid Electric Vehicle Technologies for Fuel Efficient Blast Protected Vehicles
Amount: \$9,000,000
Intended Recipient: Force Protection Industries, Inc., Ladson, SC
Purpose/Description:

The objective of this project is the development and delivery to the MRAP fleet -Cougar, Buffalo and Cheetah- mobile silent power. On board power generation capability will enable concurrent operation of a suite of weapons and sensors systems; while an on board energy storage system will enable silent charging of radios, robots and individual soldier equipment. Additionally, this project has the potential for powering silent mobility for ranges 5-10 miles. Potential for significant fuel savings is high.

Project Title: Advanced Material Technologies for Packaging Systems
Amount: \$8,200,000
Intended Recipient: South Carolina Research Authority, Charleston, SC
Purpose/Description:

The program will result in lighter (25%) and less expensive (20%) packaging compared to current systems. The new packaging will provide protection against moisture and oxygen penetration as well as insect infestation, allowing the required three year shelf life. Ration waste will degrade in theater, resulting in reduced logistic requirements. The staging of primary individual combat rations, the Meal, Ready-to-Eat (MRE) and the Unitized Group Ration (UGR), mandate packaging materials which can provide protection from oxygen, moisture, rough handling and insect infestation for at least three years. This extreme requirement has resulted in costly packaging systems which comprise 30 percent of procurement cost and add an estimated \$300 million per year. Further, the packaging currently used represents a major portion of battlefield waste which must be brought back from the theater.

Project Title: Advanced Titanium Manufacturing Development for Weapons and Munitions Technology
Amount: \$4,500,000
Intended Recipient: American Titanium Works LLC, Greenville, SC
Purpose/Description:

The high cost of titanium over the last sixty years has muted the wide-scale adoption of titanium in applications other than aerospace. Cutting, machining, and welding of titanium are the basic manufacturing processes needed to transform titanium plate, sheet, and bar into weapons and munitions system components. These manufacturing processes employ the same basic industrial hardware as would be used when working with steel or aluminum. However, these processes must be modified and improved to account for the unique properties of titanium. This program will improve and optimize high-rate welding techniques like gas metal arc welding, high-rate and hybrid machining processes, and advanced cutting technologies for titanium that will support the development of advanced weapons, munitions, and armor systems. These techniques will be used to produce prototype hardware to demonstrate their use and help transition the manufacturing technologies more widely in DOD and the industrial base.

Project Title: Advanced UV Light Diode Development
Amount: \$5,000,000

Intended Recipient: Sensor Electronic Technology Inc., Columbia, SC

Purpose/Description:

Sensors for real-time detection of weaponized bio-agents, covert optical communications links (both non-line-of sight and line-of sight) and missile guidance/seeker systems require miniature, low-power consumption, robust and reliable deep ultraviolet (DUV) light sources. The goal of the proposed 3-year program is to advance semiconductor-based UV light source technology to meet DoD and DHS sensor requirements and develop manufacturing technology for production scale-up of these novel light sources. The efficiency and lifetime of deep DUV LEDs needs to be increased 3 and 10 times, respectively. Advanced technology gas reactors for manufacturing of DUV LEDs will be developed to meet military specs for semiconductor components.

Project Title: Arrow Missile System (AWS)

Amount: \$30,000,000

Intended Recipient: Boeing Company (AL) and Israel Aircraft Industries (IAI)

Purpose/Description:

The Arrow anti-tactical ballistic missile program is the centerpiece of the U.S.-Israel cooperative defense relationship, and is one of the most advanced missile defense systems currently in existence. The Arrow offers Israel an essential capability against imminent and emerging ballistic missile threats, and provides the U.S. with key research and technology for other theater missile defense programs.

Project Title: C-17A Globemaster III

Amount: \$4,000,000,000

Intended Recipient: The Boeing Company, Long Beach, CA

Purpose/Description:

With a growing need for strategic aircraft to meet global airlift needs additional C-17's are the only solution that meets this critical shortfall in military capability. \$4 billion procures 15 C-17s, keeping the only active strategic airlift production line open. Without additional funding the C-17 production line will begin shutting down the only existing mobility aircraft production facility in the US. From a national security perspective, additional strategic and theater airlift requirements are emerging for which the USAF has no solution. Additional C-17s are a proven, available and affordable way to address America's growing airlift requirements.

Project Title: C-37B

Amount: \$70,000,000

Intended Recipient: Gulfstream Aerospace, Savannah, GA

Purpose/Description:

The funds allocated will be used for the acquisition of a C-37B aircraft in conjunction with the Air Force's effort to modernize the Operational Support Aircraft (OSA) fleet. This acquisition will help support the objectives set forth in the service's report to the Congress on "Transport Aircraft Requirements". The C-37B, with its transcontinental range, exceptional performance capabilities and one of a kind Contractor Logistics (CLS) program, best supports OSA high priority requirements.

Project Title: Chemical and Biological Threat Protection Coating

Amount: \$5,600,000

Intended Recipient: Graniteville Specialty Fabrics, Aiken, SC

Purpose/Description:

The constant threat posed to our US Military and First Responders encountering lethal chemical and biological weapons is ever present. Combating the threat of chemical and biological weapons will be accomplished through the deployment of low-cost ultra high efficiency protective suits and shelters. The suits will allow for the handling of millions of potentially exposed persons through triage and quarantine procedures that will hasten the process of decontamination actions. Often times the full characterization of an attack requires days to determine. Similarly, tailoring a specific response takes days as well.

Project Title: Combat Casualty Care Equipment Upgrade Program
Amount: \$8,800,000
Intended Recipient: North American Rescue, Greer, SC
Purpose/Description:

The Combat Casualty Care Equipment Upgrade Program provides lightweight, compact, state-of-the-art field medical equipment for U.S. Army combat medics who are the first to provide lifesaving medical care during the critical “golden hour” and are the first link in the survival chain that moves casualties from the field through the various levels of treatment. However, these medics find it increasingly difficult to stabilize and transport casualties and prevent unnecessary losses without the best equipment that current medical technology can supply. The Combat Casualty Care Equipment Upgrade Program and the medical care it supports are designed specifically to reduce preventable combat deaths and speed recovery of the wounded. With the current plan to double our troops deploying to Afghanistan, we urgently need to equip our Army combat medics with the best lifesaving equipment to prevent combat casualties.

Project Title: Controlled Humidity Protection for McEntire Joint National Guard Base (SCANG Facilities)
Amount: \$2,700,000
Intended Recipient: South Carolina Air National Guard, Columbia, SC
Purpose/Description:

Controlled Humidity Protection dramatically reduces or eliminates corrosion created by exposing items to high relative humidity (exceeding 50%) that is prevalent throughout the United States. In DOD alone, the annual cost of corrosion-related damage is estimated to be as much as \$20 billion. The funding will be used to install CHP in 10 facilities at McEntire JNGB that operate, store, maintain, or process valuable and costly equipment used in or for support of the F-16 Air Sovereignty Alert and Suppression/Destruction of Enemy Air Defenses missions operated by the 169th Fighter Wing. This will also protect guns and sensitive materials used at McEntire and available for immediate deployment. Additionally, this will protect the precise and expensive equipment operated by the 245th Air Traffic Control Squadron.

Project Title: Defense Fuel Cell Manufacturing (DfcM): Phase II
Amount: \$5,100,000
Intended Recipient: South Carolina Research Authority, Charleston, SC
Purpose/Description:

This program will incorporate fuel cell systems in unmanned ground and air vehicles, qualifying the design and development of the manufacturing process for a new high-efficiency, lower cost fuel cell membrane and membrane electrode assembly. Phase II of the DfcM project will deliver several key break-through advanced manufacturing technologies and improve total DOD weapon

system readiness by extending the base knowledge of effective manufacturing processes for fuel cell systems, to include those for the fuel cell, fuel cell membrane, membrane electrode assembly, and demonstrating the ability to conduct Low Level Readiness manufacturing for each; Improving the conversion efficiency and fuel concentration of the system—as a result of the next generation membrane and MEA—for use with heavier payloads, extended ranges, and/or longer mission times; and increasing the error tolerance of the total fuel cell system and providing for improved ruggedness for military applications in unmanned ground and air vehicles.

Project Title: Enhanced Ballistic Protection
Request: \$4,000,000
Intended Recipient: Applied Research Development Institute, Anderson, SC
Purpose/Description:

These funds will be used to develop new manufacturing technology to weave high strength fibers into fabric. This fabric will then be used to produce protective equipment systems for the War-Fighter. This manufacturing capability, when coupled with research support would produce an outstanding product for manufacturing into material which could be further manufactured into vests, tents, and other protective gear to protect our War-Fighters against ballistic threats. This program will integrate the efforts underway and continuing to deliver prototype ballistic protection systems that will dramatically improve performance in fielded systems. The end result will be a dramatically improved system that is designed, tested, and prototyped for rapid production and fielding. This technology will then be transitioned for manufacturing of products for the War-Fighter.

Project Title: Early Detection and Imaging of Lung Cancer
Amount: \$1,500,000
Intended Recipient: Medical University of South Carolina, Charleston, SC
Purpose/Description:

This program will help develop a computer aided cancer management program designed to detect lung cancer at an earlier, more treatable stage using a combination of advanced imaging and genetic markers to identify those most at risk. The Medical University of South Carolina (MUSC) has created a team of nineteen experts with broad expertise in imaging/radiology, lung medicine, chest surgery, public policy, statistics, economics, image analysis, nuclear medicine, and computer aided detection techniques in a collaborative effort to develop a more sensitive methodology for the early detection of lung cancer. The Department of Defense, acknowledging the severe impact to lung cancer on U.S. active duty personnel and veterans, is a strong advocate of this endeavor. The U.S. Army Medical Research and Material Command has remained a staunch supporter of MUSC lung cancer research efforts for the past four years. In 2005, the Department of Defense awarded this team \$4,275,252, and then an additional \$1,765,000 in 2006 to support the Computer Aided Cancer Management project. The Department of Defense has been well satisfied with their investment in this project, which to date has produced a wide range of deliverables including 8 presentations at national meetings, 11 manuscripts and 6 abstracts published in medical journals, and 3 patents for the evaluation of new technology; new physicians learned to more effectively manage their patients' lung cancer, and investigators created a clinical prediction model that will aid physicians in the evaluation of lung cancer.

Project Title: Floor Standing Mobile LED Lighting System with Battery Backup
Amount: \$1,650,000
Intended Recipient: Jameson Corporation, Clover, SC
Purpose/Description:

The USMC has begun replacing Vietnam-era halogen lighting technology used in field hospitals. To date, the Marine Corps has purchased 1800 LED based lights that are litter bed mounted. The Marine Corps is now requesting funding to purchase 300 floor standing mobile LED lighting systems. These additional lights requested will be mounted to a movable battery backup base that will allow medical examiners to move the lights within the field hospital, giving them greater flexibility. Research and development of the floor standing mobile LED light has been funded by the Marine Corps.

Project Title: Fuel Oil Barge (YON)
Amount: \$8,000,000
Intended Recipient: Medal Trades, Inc., Hollywood, SC
Purpose/Description:

The Navy needs to replace its existing fleet of aging Fuel Oil Barges (YONs) with new vessels to meet fleet requirements and to comply with EPA requirements. The current fleet of Fuel Oil Barges (YONs) is nearly 40 years old, which is well beyond the intended service life, and maintenance costs are increasing substantially. Moreover, the design of these legacy Fuel Oil Barges (YONs) do not meet EPA environmental standards. Replacement of the existing Fuel Oil Barges would dramatically reduce maintenance costs, greatly improve the efficiency of fueling operations, and bring the fleet into compliance with EPA requirements. These vessels serve the Navy fleet in refueling operations when pier-side refueling is not feasible. The barges must be able to fulfill their roles at Naval bases, shipyards, and other shore activities in a variety of industrial conditions and operational scenarios. The Navy allocated \$8 million in FY08 for two Fuel Oil Barges for East Coast operations. Additional funding is required in FY10 to further modernize fleet assets and move toward compliance with EPA mandates, including the *Oil Pollution Act of 1990*.

Project Title: Improved Thermal Resistant Nylon for Enhanced Durability & Thermal Protection in Combat Uniforms
Amount: \$3,300,000
Intended Recipient: Greenwood Mills, Greenwood, SC
Purpose/Description:

This program will increase the safety and protection of the soldier with improved flame resistant, durable, and lower cost materials for the Army combat uniforms, to meet the urgent need of the threat against Improvised Explosives Devices (IED). This project will fund and accelerate R&D for nylon fiber development, fabric optimization, fabric scale up, and performance blend specification. It will develop an improved thermal resistant (ITR) nylon fiber and fabric that meets the U.S. Army need for flame resistant combat uniforms with proven performance and enhanced durability to ensure comfort and safety to the deployed force and cost-savings to the Department of Defense. Development of durable ITR nylon fabrics is projected to save the U.S. Army \$36-43 million/yr. in outfitting the deployed force.

Project Title: M-249 Squad Automatic Weapon (SAW)
Amount: \$13,500,000
Intended Recipient: FN Manufacturing, LLC, Columbia, SC
Purpose/Description:

Next to individual assault rifles, the M-249 SAW is the most vital and widely used small arm in Iraq and Afghanistan. Guns are wearing out from heavy combat use and must be replaced. In

addition to replacement guns for the active Army and Marine Corps, there remains an unfulfilled Army Acquisition Objective (AAO) for the Army National Guard. Historically, the National Guard has been a low priority because the active Army's early deploying units came first. However, Guard deployments in combat are the largest since World War II, and these units must have new weapons. An upgrade with improvements coming from combat theaters, the M249 A1, will be supported by the FY2010 appropriation, as well as acquisition of replacement weapons.

Project Title: M-Gator
Amount: \$10,000,000
Intended Recipient: John Deere Horicon Works, Horicon, WI
Purpose/Description:

The M-Gator has proven to be a key asset to our troops around the globe in support of the Global War on Terror and provides a unique capability that does not exist in the Army equipment inventory. M-Gators fill critical equipment shortages in Infantry, Aviation, Military Police, Combat and Field Service Hospitals, Special Operations, and other Combat Support and Combat Service Support units. The M-Gator enjoys an enviable reputation because of its ruggedness, load-carrying capability, and reliability. Army units have never had sufficient operational funding to either initially purchase M-Gators or, in cases where M-Gators have been purchased, replace those that have been heavily utilized in combat and are beyond repair. The requested funds will meet unfunded requirements for both purposes.

Project Title: Moldable Fabric Armor
Amount: \$2,800,000
Intended Recipient: Milliken & Company, Spartanburg, SC
Purpose/Description:

Milliken will leverage the prior work effort to design, fabricate and test a full scale molded armor component for an existing DOD tactical vehicle. In this effort Milliken plans to work with government and industry to make a component that will help meet future vehicle requirements to reduce weight while maintaining or improving survivability. Testing will consist of a combination of structural, blast and ballistic testing. Anticipated design of the component will be a hybridized structure consisting of Tegrin, metals and potentially other composite materials. Final design will be based on an iterative design process which uses risk reduction sub-element components of critical areas to ensure success of the final molded part. Testing of the final component will be performed at Aberdeen and be representative of current threats including mine blast, armor piercing rounds and explosively formed projectiles (EFP's).

Project Title: Multivalent Dengue Vaccine Program
Amount: \$5,000,000
Intended Recipient: GenPhar, Inc., Mount Pleasant, SC
Purpose/Description:

The need for an effective vaccine to protect against exposure to dangerous virus outbreaks of Dengue fever is critical to the safety of U.S. Armed Forces personnel deployed in combat theaters throughout the world. Dengue epidemics have increased dramatically in recent years, and cover nearly the entire tropical and subtropical regions of the world, including South East Asia, Africa, the entire Caribbean, and South, Central and parts of North America, putting two thirds of the world population at risk. Dengue epidemics not only have devastating effects in regions that hold US interests, they also threaten the wellbeing of US military personnel operating in these regions.

Project Title: National Robotics Training Center (NRTC)
Amount: \$2,000,000
Intended Recipient: Florence Darlington Technical College, Florence, SC
Purpose/Description:

The objective of the National Robotics Training Center (NRTC), in coordination with the Department of Defense Joint Robotics Program Office, has been the development and implementation of a model robotics technology training program and providing the expertise necessary to move small robotics manufacturers from concept and design to prototyping and manufacturing. The NRTC is the key to the Concept-Design-Prototype-Production Solutions for robotics manufacturer's timely delivery of new technology to the Department of Defense. The Center's Manufacturing Product Launch Process has and will continue to provide the guidance that the Protégés in the DoD Mentor Protégé program need to move from prototype to full scale production with a highly trained workforce.

Project Title: Next Generation High Strength Glass Fibers for Ballistic Armor Applications
Amount: \$3,300,000
Intended Recipient: AGY Holding Corp, Aiken, SC
Purpose/Description:

This project will accelerate "step change" development of next generation high strength glass fibers for composite armor. This will result in lighter, stronger composite vehicle armor without sacrificing ballistic protection against severe threats. Reducing the weight of the armor allows for an increased vehicle payload, less fuel requirements, and the ability to do more off road operations. These fibers will allow armor materials to be more widely integrated as a structural element into the base design of new military vehicles which provides even more opportunity for weight savings.

Project Title: OceanLink
Amount: \$3,200,000
Intended Recipient: SPAWAR Systems Center Atlantic, N. Charleston, SC
Purpose/Description:

The SPAWAR Atlantic Program Element seeks to develop and demonstrate technologies that address emergent and enduring operational problems in an accelerated timeframe. OceanLink provides a secure Non-Radio Frequency (RF) communications platform which can provide advanced safety and security in the military theatre of operations. OceanLink is a light-wave communication system from a submarine to any platform with a wide angle simultaneously avoiding operational detection. Using LightSpeed technology OceanLink can create a 1 megabyte per second communication channel between a submarine, underway and below water surface to passing platforms, buoys and off-board sensors at distances exceeding 10km. Current state of the art in low frequency RF is on the order of 100bps range and other state of the art alternatives are approximately 10Kbps. OceanLink proposes two orders of magnitude improvement.

Project Title: Rule of Law at the University of South Carolina
Amount: \$500,000
Intended Recipient: University of South Carolina, Columbia, SC
Purpose/Description:

Rule of law is a cornerstone in the stability operations our military is executing in Afghanistan and Iraq. It is one of the key areas in which multiple government agencies and non-governmental agencies seek to develop policy and strategy in pursuit of the same goal. Yet despite the wide recognition of the importance of rule of law, there is no central location within the United States where all of these participants come together to gain understanding and prepare themselves for this unique mission. Accordingly, I have been working with the US Army Judge Advocate General's Corps to develop the resources to address this gap in our nation's support to the war effort. This funding will be used for development and training in support of rule of law operations.

Project Title: SCAR (Special Operations Forces Combat Assault Rifle)
Amount: \$4,500,000
Intended Recipient: FN Manufacturing, LLC, Columbia, SC
Purpose/Description:

SCAR is the choice of U.S. Special Operations Command (US SOCOM) for a 21st century modular rifle designed to meet demanding new warfighting requirements for Special Operations Forces. It provides SOF a quantum leap in reliability, accuracy, and service life over the M-16/M-4 legacy systems. Funds in the FY 2010 will be used to enter regular production, pending outcome of final Op-Eval testing with 2000 LRIP models. This item was included on the FY 2009 US SOCOM Unfunded Priorities List. The sniper support rifle has an elongated upper receiver for the attachment of improved optics and equips the second member of the two-man sniper team responsible for security of the team. The sniper support variant provides greater force protection and combat capability in the event the sniper team is attacked.

Project Title: Situational Awareness Improvements for Joint Threat Warning
Amount: \$3,900,000
Intended Recipient: Scientific Research Corporation, North Charleston, SC
Purpose/Description:

The Joint Threat Warning System (JTWS) is used by the SOF warrior to collect real-time tactical signals intelligence information. Current efforts are underway to network JTWS systems together to provide this information to multiple users. These networked JTWS systems are the platform for providing additional intelligence information to the deployed SOF warrior. This additional information includes geoposition information on high-value targets, intelligence feeds from multiple sources, and real-time threat identification information from other JTWS variants. Development and integration funding must be accelerated to get this essential information to SOF operators. Improved intelligence information and enhanced situational awareness are required to increase warfighter survivability, mobility across multiple mission areas, and probability of locating and capturing enemy combatants.

Project Title: SOaR Recruiting Initiative
Amount: \$3,400,000
Intended Recipient: Celebrate Freedom Foundation, Columbia, SC
Purpose/Description:

The Celebrate Freedom Foundation (CFF) is a Non-Profit Educational and Historical 501-C-3 Corporation that's primary purpose is to Educate Children, Promote Lasting Patriotism and Honor the Military, Past, Present and Future. The CFF's most prominent program is SOaR™. Using de-commissioned Cobra helicopters donated by the Department of Defense, the SOaR™ program travels to high schools throughout South Carolina to demonstrate first-hand the

importance of math, physics, and science. The program stresses education, encouraging students to pursue a higher level of education, skills, and training. Additionally, the SOaR™ program generates leads for the U.S. Army Recruiting Command. Over 5,000 students have participated in SOaR™ and over 20 percent of participants have provided contact information to USAREC.

Project Title: Tactical UAV XRD*i* Heavy Fuel Engine
Amount: \$2,200,000
Intended Recipient: XRD Inc., Beaufort, SC
Purpose/Description:

The XRD*i* replacement engine will allow the Shadow to meet the mandate of “One Fuel Forward” DoD Directive 4140.25 which states “Primary fuel support for land-based air and ground forces in all theaters shall be accomplished using a single kerosene-based fuel, in order of precedence: JP-8, commercial jet fuel (with additive package), or commercial jet fuel (without additives), as approved by the Combatant Commander.” The Directive further states “In overseas theaters where the predominant fuel requirement is in support of the Navy, JP-5 may be substituted for JP-8 as approved by the Combatant Commander and “to the maximum extent practical, no new combat support or combat service support equipment or vehicles requiring gasoline-type fuels will be acquired or developed unless the support concept is to supply fuel as a packaged product.” XRD*i*’s engine has passed the FAR 33 test at AMRDEC in Huntsville, Alabama and the engine is ready for flight testing and production. Over \$6.5 million has been spent in the design and development of this engine. Requested funds would be utilized for further engine development into relevant markets and to see current engine through to full production and provide a US manufactured replacement multi-fuel engine for the Shadow.

Project Title: Transparent Armor Enhancement
Amount: \$1,800,000
Intended Recipient: United Protective Technologies, Rock Hill, SC
Purpose/Description:

Transparent armor is a material or system of materials designed. UPT is proposing to develop and apply a version of this ASSALT technology to Transparent Armor, eliminating weight, reducing cost, and enhancing performance through a US Army, Applied Aviation Technology Directorate supported effort. Federal support for this request is necessary to facilitate an efficient and effective R&D effort to design, develop, and begin implementing transparent armor laminate structures on Army aircraft and equipment. Ultimately the project’s purpose is to aid in weight reduction on Army aircraft and equipment while maintaining superior safety and protection for the warfighter.

Project Title: Tricon and Quadcon Shipping Containers
Amount: \$6,000,000
Intended Recipient: Charleston Marine Containers Inc., Charleston, SC
Purpose/Description:

The Department of Defense has a requirement to purchase approximately 120,000 TRICONS and Quadruple Specialty Containers (QUADCONS) for the United States Military through the Military Surface Deployment and Distribution Command. Less than half of these essential containers have been purchased. Containers must be robust enough to withstand field handling and surface movements by truck, rail or sea. TRICONS & QUADCONS have been proven under the most severe operational conditions and are available under IDIQ contract W56HZV-D-0033, which was competitively bid but funding continues to be limited. In sum, with the continued

deployment of military forces all over the world and with a requirement less than 50% filled, the need continues to hamper strategic mobility of United States Forces.

Project Title: Vibration Management Enhancement Program
Amount: \$4,000,000
Intended Recipient: Intelligent Automation Corporation, Columbia, SC
Purpose/Description:

This funding will continue procurement of VMEP ship sets for installation on Army National Guard CH-47D Chinook aircraft. VMEP is an embedded Condition Based Maintenance (CBM) system “required” by the Army for mechanical fault detection for the entire aircraft power train. Current diagnostic capabilities include rotor track and balance, special vibration assurance checks, and power train monitoring that includes main and combiner transmissions, drive shafts, bearings, engines, and other components such as on-board generators. VMEP diagnostic data are shared through a secure internet portal which provides fault forecasting, diagnostic updates, fleet wide data and trending, configuration management and a variety of analysis tools. This combination of data provides operators and maintenance personnel with the latest information they need to keep their aircraft combat ready, while significantly reducing support costs. VMEP activities are consistent with DOD’s goals of using embedded diagnostics for Condition Based Maintenance to reduce operating and support costs for military aircraft, while increasing overall aircrew safety and operational readiness. VMEP systems are now operating on ARNG Apache aircraft both in CONUS and Iraq and Afghanistan.

Project Title: Warfighter Sustainment Adv. Technology for Biological & Corrosion Funding for the US Navy Maritime Fleet
Amount: \$5,900,000
Intended Recipient: Clemson University Restoration Institute, N. Charleston, SC
Purpose/Description:

Military Maritime Vessels are plagued with deteriorating hulls as a result of corrosion which adversely affects the US Naval Maritime fleet. This program will further develop processes used on the Hunley Submarine restoration project to strengthen and protect US fleet from corrosion. Federal support is needed as this will improve the fleet and save future restoration dollars needed to restore fleets from extensive damage. Inserting a mass spectrometer on an electron microscope will enable spatially-defined mass analysis. This program will be focused on infrastructure corrosion removal and recoating with advanced materials to provide strength and protection. These processes have provided major technological advances in removal & preventing of corrosion which can be applied to solving sustainability problems associated with the U.S. Naval Maritime Fleet.