

# Engineering



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## Long Range Scientific and Technology Program

**United States Department of Defense (DOD)**

**Deadline:** Continuous

**Amount:** Unknown

**Abstract:** The Office of Naval Research (ONR) is interested in receiving proposals for Long-Range Science and Technology (S&T) Projects that offer potential for advancement and improvement of Navy and Marine Corps operations. The five divisions under which proposals are sought include the following:

1. Information, electronics, and surveillance
2. Ocean, atmosphere, and space
3. Engineering, materials, and physical science
4. Human systems
5. Naval expeditionary warfare

**Contact:**

Program Officer  
Office of Naval Research  
800 North Quincy Street  
Arlington, VA 22217-5660  
<http://www.onr.navy.mil/02/baa/>

## Naval Air Vehicle Propulsion Technology

**United States Department of Defense (DOD)**

**Deadline:** Continuous

**Amount:** The award amount is unspecified. Cost plus fixed fee, cost sharing, and cost contracts are anticipated. Other types of contracts may be proposed, but offerors are advised that the government is under no obligation to accept.

**Abstract:** The Naval Air Systems Command (NAVAIR), Propulsion and Power Engineering Department, Science and Technology Office is interested in receiving proposals for advanced naval aviation technologies that will significantly increase the mission performance operational capabilities, and increase affordability of naval air vehicles. Specifically needed are applied research for

- advanced gas turbine propulsion component and materials technologies for fighter or attack aircraft engines,
- patrol/transport/support/surveillance fixed and rotary wing aircraft engines,
- missile and unmanned aerial vehicles (UAV), and
- uninhabited combat air vehicles (UCAV) engines.

The performance, life, and cost goals for these research efforts shall be consistent with phase III of the Department of Defense (DOD)/National Aeronautics and Space Administration (NASA)

Integrated High Performance Turbine Engine Technology (IHPTET) Initiative and the Tri-Service Reliance Science and Technology and Joint Directors of Laboratories Aeropropulsion Sub-Panel Joint Service Program Plans.

**Contact:**

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Propulsion and Power Engineering  
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[http://www.navair.navy.mil/business/ecommerce/solicitation\\_view\\_action.cfm?Sol\\_No=N00421-02-R-0297](http://www.navair.navy.mil/business/ecommerce/solicitation_view_action.cfm?Sol_No=N00421-02-R-0297)

**Hydraulic Structures  
United States Department of Defense  
(DOD)**

**Deadline:** Continuous

**Amount:** Unknown

**Abstract:** The Coastal and Hydraulics Laboratory announces opportunities for research in hydraulic structures. This research is related to the hydraulic performance of locks, dams, outlet works, control gates, stilling basins, spillways, channels, bank protection, riprap stability, pumping plants, and other hydraulic structures, and with physical or numerical model studies to predict and analyze the physical water quality aspects of water resources projects.

Specific areas of required research include the following:

(1) physical and numerical hydraulic model investigations of a wide variety of hydraulic structures to verify proposed designs and develop more effective and economical designs;

(2) analysis of model and prototype data and inspection of field installations to develop design criteria for hydraulic structures;

(3) develop methods of correlating theoretical and experimental information with design methods used by the Corps of Engineers to improve existing procedures and provide material for inclusion in appropriate manuals;

(4) develop physical or numerical models to predict and analyze the water quality aspects of water resources projects and design appropriate hydraulic structures to control water as well as water quantity while satisfying the desired objectives;

(5) conduct research or develop numerical codes to develop techniques for analyzing physical aspects of water quality in lakes and rivers through a better understanding of the hydrodynamics in density-stratified environments and for improving water quality within and downstream of density-stratified reservoirs and to investigate the ability of existing and proposed water resources projects to satisfy established water quality standards;

(6) basic studies related to development of hydraulic design and operation guidance for hydraulic structures used in inland waterways for navigation and flood control purposes;

(7) performance tests, both model and prototype, of hydraulic appurtenances to flood control and navigation dams such as spillways, outlet works, energy dissipators, and approach and exit channels, are conducted or analyzed to develop design guidance that will provide structures of maximum efficiency and reliability with minimum maintenance;

(8) develop innovative methods to

prepare and revise engineering manuals for hydraulic design of various hydraulic structures;

(9) develop innovative methods to conduct training courses on design of various hydraulic structures; and

(10) develop innovative methods to prepare technical reports of all work conducted.

**Contact:**

Mr. Chuck Tate

U.S. Army Corps of Engineers

Vicksburg Consolidated Contracting Office (VCCO)

ATTN: CEMVK-CT-T

4155 Clay Street

Vicksburg, MS 39183-3435

Phone: (601) 634-2120

<http://www.mvk.usace.army.mil/contract/other.asp>

**Coastal Structure and Facility Design (CHL-12)**

**United States Department of Defense (DOD)**

**Deadline:** Continuous

**Amount:** Unknown

**Abstract:** The Coastal and Hydraulics Laboratory announces opportunities for coastal structure and facility design research. This area is focused on the development of functional and stability design criteria for coastal structures and facilities (breakwaters, seawalls, jetties, groins, harbors, marinas, etc.); wave runup, over-topping, refraction, diffraction, transmission, reflection, etc.; design of floating breakwaters; breakwater stability; application of spectral wave conditions to coastal engineering; stability of riprap to irregular wave attack; stability and functional design of over-topped rubble mound breakwaters; scale modeling of armor unit strength; analysis of structural data for floating breakwaters;

investigation of numerical structural models for floating breakwaters; development of wave runup gage for rough and porous slopes; investigation of attenuation or mooring force models of floating breakwaters; development of materials and techniques to produce high quality breakwater model armor units; analysis of wave runup overtopping, refraction, diffraction, transmission, or reflection data on coastal structures and beaches and design of structures for Logistics-Over-The-Shore (LOTS) operations.

**Contact:**

Mr. Dennis G. Markle

U.S. Army Corps of Engineers

Vicksburg Consolidated Contracting Office (VCCO)

ATTN: CEMVK-CT-T

4155 Clay Street

Vicksburg, MS 39183-3435

Phone: (601) 634-3680

<http://www.mvk.usace.army.mil/contract/other.asp>

**High Power Microwave Technology**  
**United States Department of Defense (DOD)**

**Deadline:** Continuous

**Amount:** \$100,000- \$2,000,000

**Abstract:** The Naval Research Laboratory (NRL) is interested in receiving proposals for long-range projects that offer potential for advancement and improvement of naval operations. With a broadening number of missions applicable to unmanned air vehicles, both in the arenas of air and sea warfare, the technology base requires constant expansion to match the ever changing requirements.

The U.S. Navy is interested in exploring the use of High Power Microwave (HPM) techniques and technologies for purposes including anti-ship missile

defense (ASMD) and command and control warfare (C2W). The NRL is encouraging joint proposals wherein the project would be executed in a NRL or contractor team format to get the maximum amount of research in the most efficient manner. These proposals for research and development into HPM techniques and technologies may include, but not be limited to, the following:

1. Wideband (narrow-pulse) HPM sources. The sources of interest range from compact, lightweight devices that may be conventionally or explosively driven to larger, higher voltage devices that are suitable for shipboard installation. Marx generators are one example of several technologies being sought.
2. Narrowband HPM sources. The sources of interest are generally high duty, relatively long pulse transmitters. Very high peak power, high average power, and high efficiency are all desirable.
3. Innovative conventional and non-conventional HPM based electronic attack (EA) techniques and systems including anti-missile defense applications, special operations command applications and C2W applications.
4. NRL more favorably will consider proposals offering initial increments comprised of short term studies (six to eight man-months) that then can be used to decide if the research deserves further investment.

**Contact:**

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**In-Space Propulsion Technologies**

**NASA**

**Deadline:** TBA

**Amount:** Unknown

**Abstract:** The goal of the In-Space Propulsion (ISP) program of the National Aeronautics Space Administration (NASA) Office of Space Science (OSS) is to develop advanced propulsion technologies for use beyond Earth orbit that reduce trip times, mass, and/or cost associated with NASA science missions to the outer planets, satellites, small bodies, and other solar system destinations. This offering of the In-Space Propulsion Technologies (ISPT) program solicits proposals for the development of the following four advanced in-space propulsion technologies that are expected to enable or enhance a wide variety of NASA's science missions: Aerocapture; High Power Electric Propulsion for Near-Term Nuclear Systems; Power Conversion Technologies for Nuclear Electric Propulsion (NEP); and/or Solar Sails.

**Contact:**

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**Scientific, Engineering, Technical and Analytical Support (SETA)**

**United States Department of Defense (DOD)**

**Deadline:** TBA

**Amount:** The award amount is unspecified. The government anticipates award of a cost plus fixed fee term form contract. The anticipated period of performance is a basic award for 12 months with four 12-month option periods.

**Abstract:** The Naval Research Laboratory (NRL) has a requirement for scientific, engineering, technical and analytical support (SETA) for a wide range of NRL research activities. An additional contact is Wilberena Cosby, contracting officer, phone +1 (202) 767-3090, fax +1 (202) 767-5896, [cosby@contracts.nrl.navy.mil](mailto:cosby@contracts.nrl.navy.mil).

**Contact:**

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<http://fedbizopps.cos.com/cgi-bin/getRec?id=20030117a11>

**Watercraft Engineering Support Services**

**United States Department of Defense (DOD)**

**Deadline:** TBA

**Amount:** Unknown

**Abstract:** The Naval Surface Warfare Center, Carderock Division, Detachment Norfolk (NSWCCDDN) has a requirement to obtain engineering services in support of the NSWCCDDN mission covering the functional areas of

program management and planning, research and development, acquisition design engineering, lifecycle design engineering, logistics engineering, and test and evaluation. This is a multi-disciplinary engineering contract including managerial, structural, mechanical, electrical, naval architectural, computer, testing, and logistician services.

**Contact:**

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NSWC Carderock Division, N00167  
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**Migratory Bird Conservancy (MBC)**

**National Fish and Wildlife Foundation (NFWF)**

**Deadline:** June 01, 2003

**Amount:** All grantees will be required to match Migratory Bird Conservancy awards on at least a one-to-one level with cash or tangible in-kind contributions.

**Abstract:** The Migratory Bird Conservancy (MBC) is a bird conservation grant fund supported by donations from birding businesses and their customers, and matched by the National Fish and Wildlife Foundation. Thus, MBC awards will consist of a mix of private and federal funds. All awards will be made through the National Fish and Wildlife Foundation and grantees will be expected to comply with foundation contractual requirements.

The MBC will fund projects that directly address conservation of priority bird habitats in the Western Hemisphere.

Acquisition, restoration, and improved management of habitats are program priorities. Education, research, and monitoring will be considered only as components of actual habitat conservation projects.

**Contact:**

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National Fish and Wildlife Foundation  
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Mailto: [stangel@nfwf.org](mailto:stangel@nfwf.org)  
<http://www.nfwf.org/programs/mbcpage.htm>

**Space Biological Sciences Advanced Human Support Technology Program**  
**National Aeronautics and Space Administration (NASA)**

**Deadline:** June 13, 2003

**Amount:** Unknown

**Abstract:** The National Aeronautics and Space Administration (NASA) is soliciting proposals in the following research areas: Advanced Environmental Monitoring and Control, Advanced Life Support, and Space Human Factors Engineering. Proposals are solicited for ground-based research and technology development, ground-based pilot studies, rapid technology development teams, and/or space flight experiments, depending on research area.

**Contact:**

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**Small Community Air Service Development Pilot Program**

**United States Department of Transportation (DOT)**

**Deadline:** June 30, 2003

**Amount:** Unknown

**Abstract:** The United States Department of Transportation is instituting a new small community air service development program by soliciting an initial round of proposals from interested communities and consortia of communities. In the department's FY 2003 appropriation bill, P.L. 107-42, Congress appropriated funding for the program. The statute directs the department to assist communities in developing projects that will enhance their access to the national air transportation system through public-private partnerships, and to help communities overcome factors that might be inhibiting improvements in their current air service. The department has stated that the new law is very general about how program funding can be used. Funding is intended to improve air service to those communities that are not receiving sufficient air service or are experiencing unreasonably high air fares, and not to shift existing costs from the local or state level to the federal level. Potential improvements could include promoting awareness among residents of locally available service; attracting a new carrier through revenue guarantees or operating cost offsets; offering an incumbent carrier financial incentives to lower its fares, increase its frequencies, add new routes; or deploy larger, faster aircraft, including upgrading its equipment from turboprops to regional jets.

The core objective of the pilot program is to secure enhancements that will be

responsive to a community's air transportation needs and whose benefits can be expected to continue after the initial expenditures.

**Contact:**

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Small Community Air Service  
Development Pilot Program  
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**ISS Cargo Mission Contract**  
**National Aeronautics and Space Administration (NASA)**

**Deadline:** July 02, 2003

**Amount:** The award amount is unspecified. The contract type chosen for this acquisition will be cost-plus-award-fee. The period of performance for the effort will be four years and nine months plus two one-year priced options.

**Abstract:** The Johnson Space Center is has issued a request for proposals (RFP) for the International Space Station (ISS) Cargo Mission Contract. The effort will include provision of products and services that support mission planning, cargo coordination, stowage integration, analytical integration, physical processing, on-orbit operations, sustaining engineering, management and integration of commercial carriers and services, and options for certain additional services, such as space shuttle program services, HTV NASA Pre-Packed Cargo Processing, and ATV NASA Pre-Packed Cargo Processing.

**Contact:**

Robert G. Kolb, Contract Specialist

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Antiterrorism and Force Protection  
Engineering Services  
United States Department of Defense  
(DOD)

**Deadline:** July 11, 2003

**Amount:** Unknown

**Abstract:** The Naval Facilities Engineering Command Contracts Office for the Naval Facilities Engineering Service Center (NFESC) is seeking antiterrorism and force protection engineering services. Services will support various Department of Defense (DOD) components as well as other government agencies. Required services may include the following tasks to be performed in any location worldwide:

1. Risk analysis vulnerability assessments (RAVAs) utilizing the RAVA methodology developed by NFESC to quantitatively measure vulnerabilities and risks associated with specific assets targeted by specific threats. This includes recommendation of innovative security countermeasures to mitigate those vulnerabilities.
2. Force protection engineering studies (FPES) based on the latest version of the DOD Minimum Antiterrorism Standards for Buildings (UFC-4-010-1)
3. Entry control point study (ECPS) to identify conceptual layouts associated with vehicle or pedestrian entry control points
4. Conducting antiterrorism workshops or training worldwide using government developed and controlled curriculum

5. Blast analysis studies (BAS) used to calculate blast overpressure effect of structure, humans, and other critical assets

An additional contact is Carol Contreras, contracting officer, phone +1 (805) 982-5195, fax +1 (805) 982-4540,

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**Contact:**

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**Manufacturing Enterprise Systems**

**National Science Foundation**

**Deadline:** October 01, 2003

**Amount:** Unknown

**Abstract:** The Manufacturing Enterprise Systems (MES) program addresses focused research on design, planning, and control of operations in manufacturing enterprises, from shop floors to the associated procurement and distribution supply chains. MES replaces the Production Systems program, which formally sponsored research on these topics. Contributions should extend the range of analytical and computational techniques addressed to these extended enterprise operations, or advance novel models offering policy insight or the prospect of implementable solutions. Among the categories of research supported are the following:

1. Tools for planning and scheduling of

manufacturing and distribution operations, including those in extended, spatially distributed enterprises with diverse management, and those offering make-to-order products in environments such as e-commerce

2. Methods for evaluation, comparison, and optimization of designs for manufacturing systems and facilities, especially in the presence of massive uncertainty and risk about the target operating environment

3. Systems for design, planning, and control of procurement and distribution supply chains, including those in extended enterprises with diverse management

4. Tools for the monitoring and control of manufacturing systems and quality

5. Methods for personnel planning in manufacturing and distribution operations control, including novel systems for staff assignment and cross-training

**Contact:**

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