Naval Audit Service

Audit Report

American Recovery and Reinvestment Act of 2009 – Photovoltaic Projects at Hampton Roads, VA, and Navy Installations in Florida, Texas, and Mississippi

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MEMORANDUM FOR OFFICE OF THE ASSISTANT SECRETARY OF THE NAVY (ENERGY, INSTALLATIONS, AND ENVIRONMENT)
COMMANDER, NAVY INSTALLATIONS COMMAND
COMMANDER, NAVAL FACILITIES ENGINEERING COMMAND

Subj: **AMERICAN RECOVERY AND REINVESTMENT ACT OF 2009 – PHOTOVOLTAIC PROJECTS AT HAMPTON ROADS, VA, AND NAVY INSTALLATIONS IN FLORIDA, TEXAS, AND MISSISSIPPI (AUDIT REPORT N2011-0060)**

Ref: (a) NAVAUDSVC memo N009-NIA000-0143.000, dated 23 Jun 09
(b) SECNAV Instruction 7510.7F, "Department of the Navy Internal Audit"

Encl: (1) Status of Recommendations and Funds Potentially Available for Other Use
(2) Costs, Savings-to-Investment Ratios, and Simple Payback Periods for Photovoltaic Projects
(3) Electricity Consumption for the Installations Receiving the Audited Photovoltaic Projects
(4) Management Response from Assistant Secretary of the Navy (Energy, Installations, and Environment)
(5) Management Response from Commander, Navy Installations Command
(6) Management Response from Commander, Naval Facilities Engineering Command

1. **Introduction.**

a. This is one of a series of reports on our audit of selected projects of the American Recovery and Reinvestment Act of 2009 (Recovery Act). This report presents the results of our audit of projects relating to the design and installation of photovoltaic systems in Hampton Roads, VA, and Navy installations in Florida, Texas, and Mississippi. Photovoltaic cells convert sunlight into electricity. A photovoltaic system consists of multiple components, including cells, mechanical and electrical connections, mountings, and means of regulating and/or modifying the electrical output. Feeding electricity into

the grid requires the transformation of direct current into alternating current by a special, grid-controlled inverter. The alternating current output goes through an electricity meter into the public grid, and the meter must be able to run in both directions. The following picture illustrates one example of a photovoltaic system (designs will vary according to the needs of an installation):

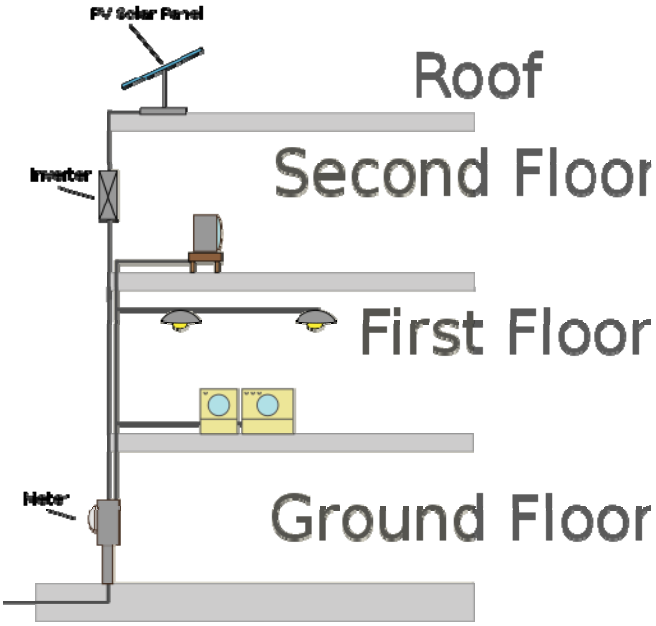

Figure 1. Photovoltaic System

b. The Department of the Navy (DON) identified $95.438 million of photovoltaic projects located at Hampton Roads, VA, and Navy installations in Florida, Texas, and Mississippi to be paid for with Recovery Act funds. The Naval Facilities Engineering Command, Atlantic Division, awarded three task orders under one Global Contingency Construction - Multiple Award Contract on 29 June 2009 for about $89.872 million for the audited photovoltaic projects.[1] Currently, the contractor will provide 32 photovoltaic systems that are expected to generate 6,655 kilowatts of direct current of electricity. There will be a Project Manager/Contracting Officer's Representative/Engineering Technician on-site to monitor the contractor's performance.

c. We concluded that:

[1] The three task orders had a total value of about $92.679 million, and included photovoltaic projects that were not audited.

- These photovoltaic projects were not sufficiently planned. These projects were not specifically identified or fully scoped when nearly $90 million worth of photovoltaic projects were identified and approved and task orders awarded to the contractor on 29 June 2009;
- Although the audited photovoltaic projects will minimally help DON reduce energy usage and increase energy from renewable sources as required, they are not cost effective. These projects will return about $704,000 in annual energy savings on an investment of about $87 million,[2] which results in a simple payback period greater than 120 years and a savings-to-investment ratio less than 0.12. Title 10 Code of Federal Regulations, Part 436, requires at least a 1.00 savings-to-investment ratio for a project to be considered cost effective;
- Using the Global Contingency Construction-Multiple Award Contracts to solicit proposals did not foster competition since only two of the three contractors solicited, submitted proposals. Other solicitation procedures may have fostered more competition, which was a goal of the Recovery Act. In addition, task orders under the Global Contingency Construction-Multiple Award Contracts were to be awarded for construction associated with natural disasters, including occasional projects to ensure readiness to perform during emergency situations, which is not the case with the photovoltaic projects;
- Although the task orders for the photovoltaic projects were quickly awarded on 29 June 2009, construction work had not begun as of 10 March 2011; however, design and testing work has been executed at all sites. As of 31 December 2010, the contractor reported invoicing and receiving about $6 million (7 percent) of the approximately $90 million award, and reported 0 jobs created; and
- Project status provided on the Recovery.gov Web site for the projects audited had minor discrepancies that needed to be adjusted to reflect the correct status.

d. We recommended that the Assistant Secretary of the Navy (Energy, Installations, and Environment) re-evaluate the currently designed photovoltaic projects, and where feasible, cancel those projects that are not cost effective and the Assistant Secretary of the Navy (Energy, Installations, and Environment) did not concur. Therefore, Recommendations 1 and 2 are considered undecided and are being resubmitted to the Assistant Secretary of the Navy (Energy, Installations, and Environment) for reconsideration. The Assistant Secretary of the Navy (Energy, Installations, and Environment) is required to provide comments on the undecided recommendations within 30 days; management may comment on other aspects of the report, if desired.

[2] The "cost-plus award fee" audited amount was about $89.872 million (or nearly $90 million). The Naval Facilities Engineering Command Atlantic estimated amount of $87,309,597 represents the current estimate of how much it will spend for the installation of the photovoltaic systems as of 16 November 2010. As specified by the contractor, the $87 million is a Rough Order of Magnitude estimate and not to be construed as a bid price.

e. Commander, Navy Installations Command agreed with Recommendation 3 to develop a return-on-investment criteria to evaluate renewable energy projects to ensure DON's investments in renewable energy projects are cost effective. The Navy now uses the energy return-on-investment tool for evaluating energy projects; therefore, this recommendation is considered closed. The Commander, Naval Facilities Engineering Command agreed with Recommendation 4 to establish controls and oversight to ensure appropriate solicitation procedures are used to foster competition and protect the interests of the Department of the Navy. The Naval Facilities Engineering Command now conducts acquisition planning to ensure the Government meets its needs in the most cost effective, economical, and timely manner. Their Business Management System documents their corporate business policies and processes and this recommendation is considered closed.

2. **Reason for Audit.** The audit objective was to verify that funds received by DON under the Recovery Act are obligated and used in accordance with the Act. This audit was requested by the Office of the Inspector General, Department of Defense to assist in oversight of the implementation of Recovery Act within DON. Our specific objectives for this phase of the audit were to verify that:

- The selected photovoltaic projects were sufficiently planned to ensure the appropriate use of Congressional funds;
- The projects were properly planned and designed to infuse money and jobs quickly into the economy;
- Contracts for the projects fostered competition, were properly awarded, included all required Federal Acquisition Regulation clauses required by the Recovery Act, and funds were distributed in a prompt, fair, and reasonable manner; and
- Solicitation and contract award information for the selected projects was reported by DON on the Federal Business Opportunities Web site to promote transparency to the public.

3. **Communication with Navy Management.** We communicated our preliminary audit results and conclusions with representatives from the Office of the Assistant Secretary of the Navy (Energy, Installations, and Environment) on 24 May 2010; Commander, Navy Installations Command on 22 April 2010, 21 May 2010, 3 February 2011 and 2 March 2011; Naval Facilities Engineering Command, Headquarters on 22 April 2010 and 6 April 2011; Naval Facilities Engineering Command, Atlantic on 19 March 2010, 10 August 2010, and 6 April 2011; and Naval Facilities Engineering Command, Southeast on 23 September 2010. We also presented our results as a pre-utilization discussion draft report on 9 February 2011. In each case, Navy management agreed that the photovoltaic projects had a low savings-to-investment ratio and a long payback

period; however, they did not agree that the photovoltaic projects should be canceled because they will help the Navy meet the renewable energy goals.

4. **Background, Scope and Methodology, and Pertinent Guidance.**

a. **Background.**

i. On 17 February 2009, the President signed into law the American Recovery and Reinvestment Act with the express purpose of stimulating the economy. This law provided DON with $280 million of Recovery Act funds for Military Construction projects that is available for obligation until 30 September 2013. It also provided $865.9 million of Recovery Act funds for Facilities Sustainment, Restoration, and Modernization projects that was available for obligation until 30 September 2010.

ii. A goal of the Recovery Act is to provide an infusion of money, within specific guidelines, that would result in a jump start to the United States economy. The Act's guidelines include initiating expenditures and activities as quickly as possible in a manner consistent with prudent management. Further, projects should be fully justified and consistent with the law's goals and requirements. The President indicated multiple goals for the Act, including: (1) awarding projects and putting the money into the economy quickly; (2) fostering competition; and (3) creating and retaining jobs. Additional goals were included in the Recovery Act appropriation language that encourages selection of renewable energy projects, and includes providing investments needed to increase economic efficiency by spurring technological advances in science and health. In addition, the Act says that organizations should use competitive "firm-fixed-price" contracts to reduce risk to the Government and taxpayers. Beginning in October 2009, contractors who receive these funds were required to submit information quarterly. This information included the amount of money expended, percent of project completion, salaries of particular personnel, and the number of jobs created or retained.

b. **Scope.** We audited the following four Recovery Act photovoltaic projects estimated to cost $95.438 million:

- **Project P114** – Install photovoltaic systems at Hampton Roads, VA, with $26.098 million from Recovery Act-provided Military Construction funds that expires on 30 September 2013.
- **Project RM 09-1447** – Install photovoltaic systems at Navy installations in Florida, with $34.710 million from Recovery Act-provided Facilities, Sustainment, Restoration, and Modernization funds that expired on 30 September 2010.

- **Project RM 09-1448 –** Install photovoltaic systems at Navy installations in Texas, with $20.826 million from Recovery Act-provided Facilities, Sustainment, Restoration, and Modernization funds that expired on 30 September 2010.
- **Project RM 09-1449** – Install photovoltaic systems at Navy installations in Mississippi, with $13.804 million from Recovery Act-provided Facilities, Sustainment, Restoration, and Modernization funds that expired on 30 September 2010.

c. Conditions noted in this report existed during the time period of our review from October 2009 until 12 April 2011. We performed on-site work at Naval Facilities Engineering Command, Atlantic and Naval Facilities Engineering Command, Mid-Atlantic, Norfolk VA; Naval Facilities Engineering Command Southeast, and Naval Air Station Jacksonville, FL; Naval Base Mayport, FL; Naval Facilities Engineering Command Headquarters; Commander, Navy Installation Command; Office of the Assistant Secretary of the Navy (Energy, Installations, and Environment), Washington, DC; and Naval Facilities Engineering Command Engineering Service Center, Port Hueneme, CA. We reviewed data on the Recovery.gov Web site for the period ending 31 December 2010.

d. **Methodology.**

i. The Department of Defense (DoD) Inspector General selected the four audited photovoltaic projects from the Recovery Act DoD Expenditure Plans as of 20 March 2009, using predictive analytics.

ii. We verified whether the four selected photovoltaic projects were included on the Federal Business Operations Web site and obtained posted information from the Web site.

iii. We obtained copies of the latest Military Construction Project Data Forms (DD Forms 1391) or other applicable documentation to determine the justification and scope of the project.

iv. We identified criteria regarding DON's renewable energy goals, energy reduction goals, and cost effective determinations.

v. We obtained information regarding unfunded facilities sustainment restoration and modernization projects (including energy projects) at Navy installations in Florida, Texas, and Mississippi.

vi. We obtained copies of the life-cycle cost analyses prepared by the contractor for proposed photovoltaic system locations. We evaluated the savings-to-investment ratios and payback periods from the life-cycle cost analyses to determine if the proposed photovoltaic projects were cost effective.

vii. We visited Naval Air Station Jacksonville, FL; Naval Base Mayport, FL; and Hampton Roads, VA. We toured the buildings and locations where the photovoltaic systems may be installed. We did not visit Texas or Mississippi because no projects had been started at the time.

viii. We interviewed responsible personnel at Naval Facilities Engineering Command Atlantic, Naval Facilities Engineering Command Mid-Atlantic, Naval Facilities Engineering Command Southeast, and Naval Facilities Engineering Command Engineering Service Center. We interviewed these officials in order to verify that documentation was developed in compliance with appropriate guidelines, and we evaluated documentation to verify that projects were properly scoped.

ix. We obtained contract solicitation and award information from Naval Facilities Engineering Command Atlantic and funding documentation from Naval Facilities Engineering Command Southeast and Naval Facilities Engineering Command Headquarters personnel. We reviewed the documentation for compliance with Recovery Act guidance.

x. We obtained data from the Recovery.gov Web site to verify that the recipient of the funds provided required information.

xi. We did not review internal controls because that was not within the limited scope of our objectives.

xii. We conducted this performance audit in accordance with Generally Accepted Government Auditing Standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

xiii. We did not identify any Naval Audit Service, DoD Inspector General, or Government Accountability Office reports issued that related to our specific objectives.

However, both the DoD Inspector General and the Government Accountability Office are currently conducting audits related to the Recovery Act.[3]

e. **Pertinent Guidance.**

- **The American Recovery and Reinvestment Act, dated February 2009,** provided supplemental appropriations for job preservation and creation, infrastructure investment, energy efficiency and science, assistance to the unemployed, and State and local fiscal stabilization, for the fiscal year ending 30 September 2009, and for other purposes.
- **Federal Acquisition Regulation reissue, dated March 2005,** provides guidance regarding competition and acquisition planning, contracting methods and contract types, general contracting requirements, special categories of contracts, and contract management, clauses, and forms.
- **Title 10 Code of Federal Regulations, "Energy," Part 436, "Federal Energy Management and Planning Programs," Subpart A, dated November 1990 and June 1996, and current as of September 2010,** establishes a methodology and procedures for estimating and comparing the life-cycle costs of Federal buildings and for determining the life-cycle cost effectiveness of energy conservation measures. It states that for a project to be cost effective, the savings-to-investment ratio must be greater than 1.00.
- **Unified Facilities Criteria Energy Conservation UFC 3-400-01, dated July 2002,** states that design must be cost effective in accordance with Title 10 Code of Federal Regulations, Part 436, Subpart A.
- **DoD Instruction 4170.11, "Installation Energy Management," dated December 2009,** requires investments in renewable energy to be life-cycle cost-effective.
- **National Defense Authorization Act for Fiscal Year 2007, dated October 2006,** states that selection of energy conservation measures shall be limited to those measures that demonstrate an economic return on the investment. The Act also establishes the goal for DoD to produce or procure not less than 25 percent of the total quantity of electric energy it consumes within its facilities and in its activities during Fiscal Year 2025 and each fiscal year thereafter from renewable energy sources.

[3] The American Recovery and Reinvestment Act Energy Conservation Improvement Program Project P0764 was awarded on the same contract as the other photovoltaic projects listed here. Project P0764 was audited separately by the DoD Inspector General as an Energy Conservation Improvement Program project. DoD Inspector General issued report no. D-2011-0045 on 25 February 2011, "American Recovery and Reinvestment Act Project – Solar and Lighting at Naval Station, Norfolk, Virginia."

- **Energy Policy Act, Section 203, dated August 2005,** states that not less than 3 percent of the electricity consumed in Fiscal Years 2007-2009; not less than 5 percent of the electricity consumed in Fiscal Years 2010-2012, and not less than 7.5 percent of the electricity consumed in Fiscal Year 2013 and thereafter shall come from renewable energy.
- **Energy Independence and Security Act, dated December 2007,** defines "life-cycle cost-effective," as meaning that the estimated savings exceed the estimated costs over the lifespan of the measure. This law ratifies energy reduction goals for Federal facilities, mandating the following energy intensity reductions per fiscal year relative to a 2003 baseline:

Fiscal Year	**Percentage Reduction**
2006	2
2007	4
2008	9
2009	12
2010	15
2011	18
2012	21
2013	24
2014	27
2015	30

5. **Federal Manager's Financial Integrity Act.** The Federal Manager's Financial Integrity Act of 1982, as codified in Title 31, United States Code, requires each Federal agency head to annually certify the effectiveness of the agency's internal and accounting system controls. In our professional judgment, we did not find weaknesses systemic enough to be considered for inclusion in the Auditor General's annual Federal Managers' Financial Integrity Act memorandum identifying management control weaknesses to the Secretary of the Navy.

6. **Audit Results and Conclusions.**

a. The selected photovoltaic projects were not sufficiently planned to ensure the appropriate use of Recovery Act funds. The audited projects will help DON minimally reduce energy usage and increase energy from renewable sources as required. However, these projects will return about $704,000 in annual energy savings on an investment of about $87 million, which results in a simple payback period greater than 120 years. Furthermore, the Global Contingency Construction - Multiple Award Contract vehicle that was used to select the successful offer may not have been the best solicitation

method for selecting a contractor to install the photovoltaic systems. Other solicitation methods may have increased competition. While the contract was awarded on 29 June 2009, the construction of the projects had not begun as of 10 March 2011. Naval Facilities Engineering Command Atlantic estimates the work will not be completed until June or July 2011. As of 31 December 2010, the contractor reported invoicing and receiving only about $6 million (7 percent) of the $90 million award, and reported 0 jobs created. The prime contractor reported required information on the Recovery.gov Web site. However, project status provided on the Web site for the projects audited needed to be adjusted to accurately reflect the correct status.

b. The contract/task orders included all Federal Acquisition Regulation clauses required by the Recovery Act. Solicitation and contract award information for all projects were reported by DON on the Federal Business Opportunities Web site.

c. **Planning of Photovoltaic Projects**

i. The audited photovoltaic projects approved by Congress in the March 2009 Expenditure Plans were not sufficiently planned to ensure the appropriate use of the Recovery Act funds. The projects were not specifically identified or fully scoped when nearly $90 million of photovoltaic projects were identified and approved, and task orders awarded to the contractor on 29 June 2009. After the contractor was awarded the $90 million task orders, the contractor was in control of recommending what photovoltaic projects would be constructed and where they would be constructed.

ii. The Navy awarded Task Order 0009, Phase I, on 29 June 2009 for the contractor to develop a priority list of photovoltaic projects from the building candidate list provided by the Navy. Task order 0009 also stated that the contractor perform site surveys and analyses to determine a comprehensive "Photovoltaic Rooftop Application Analysis." This analysis would provide clear comparisons between the different photovoltaic types regarding energy output/kilowatt-hour produced and life-cycle cost analysis in the various geographic locations covered by the projects. The Navy awarded Task Orders 0011 and 0012, Phase II, also on 29 June 2009, for the contractor to design and construct the systems identified in Phase I.

iii. Phase I (Task Order 0009) was awarded as "cost-plus award fee." Phase II (Task Orders 0011 and 0012) was awarded as "cost-plus award fee" with a "Not to Exceed" amount. The contract was expected to be converted from "cost-plus award fee" to "firm-fixed-price" prior to the Navy giving the contractor notice to proceed on

construction activities associated with Phase II.[4] The "cost-plus award fee" amounts for Phases I and II for the projects audited were the following:

Figure 2: Project Phases and Award Amounts

Task Order #	Location	Award $ Amount	Actual/ Estimated Start Date[5]	Actual/ Estimated Completion Date
09 Phase I	Florida	82,216	29 Jun 09	23 Oct 09
09 Phase I	Texas	24,856	29 Jun 09	23 Oct 09
09 Phase I	Mississippi	24,856	29 Jun 09	23 Oct 09
09 Phase I	Hampton Roads	208,408	29 Jun 09	23 Oct 09
11 Phase II	Florida	33,239,384	17 Jan 11	30 Jun 11
11 Phase II	Texas	19,968,104	20 Dec 10	8 Jul 11
11 Phase II	Mississippi	13,226,984	3 Jan 11	8 Jul 11
12 Phase II	Hampton Roads	23,097,106	15 Dec 10	30 Jul 11
Total		**89,871,914**		

iv. Commander, Navy Installations Command stated that they considered geothermal, solar thermal, photovoltaic, wind, and ground source heat pumps. They also told us that photovoltaic projects were considered as projects that supported the goals of renewable energy investment and as projects that could be awarded in the requested execution timeframe. Other renewable projects (i.e., geothermal and wind turbine projects) were also included in the Recovery Act program.

d. **Return on Investment of the Photovoltaic Projects.** Although the photovoltaic projects will decrease non-renewable energy use and increase renewable energy use, the projects are not cost effective. According to life-cycle cost data provided by the contractor and Naval Facilities Engineering Command Atlantic, the audited photovoltaic projects will reduce megawatt hours of electricity by 7,301 megawatts per year to help DON reduce energy usage and increase energy from renewable sources as required. However, the reduction represents less than 0.1 percent of the 8,371,136 megawatt hours of electricity used by the Navy in Fiscal Year 2009. In addition, for the Navy installations receiving these photovoltaic projects, the photovoltaic systems will provide

[4] Task Order 0011 for Navy Installations in Texas was converted from cost-plus to firm-fixed-price on 31 January 2011. As of 11 March 2011, construction work for Texas had not begun.

[5] The estimated start dates and completion dates were provided by Naval Facilities Engineering Command Headquarters as of 29 November 2010. Per Naval Facilities Engineering Command Atlantic, installation had not begun as of 31 December 2010.

only about one percent of the 686,933 megawatt hours of electricity used annually[6] (see Enclosure 3). Also, according to the life-cycle cost analysis provided by Naval Facilities Engineering Command Atlantic, these projects will return about $704,000 in annual energy savings on an investment of about $87 million, which represents a simple payback period greater than 120 years and a savings-to-investment ratio of less than 0.12 (see Enclosure 2). Naval Facilities Engineering Command Atlantic's current estimate of 32 photovoltaic systems for Hampton Roads, VA and Navy installations in Florida, Texas, and Mississippi were not cost effective and do not represent a prudent use of the Recovery Act funds. Overal1, the 32 photovoltaic systems show an average savings-to-investment ratio of less than 0.12, whereas the individual ratios for the projects range from 0.04 to 0.20. However, Title 10 Code of Federal Regulations, Part 436, Subpart A, states that the savings-to-investment ratio must be at least 1.00 for a renewable energy project to be cost effective. In addition, the average simple payback period for the 32 photovoltaic systems is greater than 120 years, and the range is from 70 to 324 years. However, the life of the photovoltaic panels is 25 years. In other words, the photovoltaic panels will never pay for themselves (Enclosure 2 shows the specific projects selected by Naval Facilities Engineering Command Atlantic, as well as the estimated savings-to-investment ratios and simple payback periods).[7]

e. **Use of Global Contingency Construction-Multiple Award Contract**

i. We do not believe Naval Facilities Engineering Command Atlantic should have used the Global Contingency Construction-Multiple Award contracts to solicit proposals for the photovoltaic projects because they did not foster competition, it did not protect the Navy's interests, and was not appropriate for awarding photovoltaic projects. In 2006, Naval Facilities Engineering Command Atlantic competitively awarded three Global Contingency Construction-Multiple Award Contracts. Naval Facilities Engineering Command Atlantic requested proposals for the photovoltaic projects from the three contractors who were awarded a Global Contingency Construction-Multiple Award Contract in 2006 and, from these proposals, Naval Facilities Engineering Command Atlantic selected the successful offer for the photovoltaic projects. The "cost-plus award fee" task orders for the photovoltaic projects were expeditiously awarded on 29 June 2009 (3 months after the Expenditure Plan was approved) to obligate the Recovery Act funds. However, by using the Global Contingency Construction-Multiple Award Contract, Naval Facilities Engineering Command Atlantic did not foster

[6] Fiscal Year 2009 data was provided by Naval Facilities Engineering Command/Engineering Service Center. Because of the limited scope of our audit, we did not independently validate the data received from Naval Facilities Engineering Command/Engineering Service Center. We accepted Naval Facilities Engineering Command/Engineering Service Center's estimate as reasonable.

[7] Because of the limited scope of our audit we did not independently validate the savings-to-investment ratio and simple payback calculated by the contractor. We accepted the contractor's estimate as reasonable based on corroboration from Naval Facilities Engineering Command Atlantic.

competition but limited the number of offers to three maximum. Only two proposals were received, since the third solicited contractor did not submit a proposal because he believed it would have a higher risk associated with management complexities after transferring the projects for "firm-fixed-price."

ii. In addition, we do not believe the task orders issued under the Global Contingency Construction Multiple Award Contract adequately protect the Navy's interests. The Naval Facilities Engineering Command, Atlantic obligated nearly $90 million of stimulus funds to the contractor before the scope of the task orders was defined. Although the Navy had final approval on the contractor's recommendations, the contract requires the Navy to buy nearly $90 million of photovoltaic systems with firm-fixed-prices established during sole source negotiations with the selected contractor, putting the contractor in a stronger negotiating position.[8]

iii. We also believe the Global Contingency Construction-Multiple Award Contract does not apply to purchase of photovoltaic systems. The Global Contingency Construction-Multiple Award Contract was awarded to obtain construction and related engineering services in response to natural disasters, humanitarian assistance, conflict, or other projects with similar characteristics, including occasional projects to ensure readiness to perform during emergency situations and military exercises. The design and installation of photovoltaic systems at multiple locations, however, does not appear to be a global contingency.

iv. Naval Facilities Engineering Command, Atlantic believes that cost-type task orders under the Global Contingency Construction Multiple Award Contract were the appropriate contract type and vehicle for execution of the Recovery Act photovoltaic projects. Naval Facilities Engineering Command, Atlantic said they considered the contract type as an appropriate vehicle because it allows for both "cost-plus award fee" and "firm-fixed-price" task orders. In addition, Naval Facilities Engineering Command, Atlantic considered the uncertainties in the scope to be of similar characteristics to other contingency type projects. By using the Global Contingency Construction Multiple Award Contract tool, Naval Facilities Engineering Command, Atlantic stated they were able to ensure readiness of the contractors to respond to other contingency events in these areas. Naval Facilities Engineering Command, Atlantic said that, while the Recovery Act guidelines stress fostering competition, the use of a competitive multiple award contract is not prohibited by Recovery Act rules or regulations. Therefore, Naval Facilities Engineering Command, Atlantic considered the contract type an appropriate contract vehicle that complies with the Recovery Act guidance and Federal Acquisition Regulation 16.505 ordering procedures under multiple award contracts.

[8] Task Order 0011 for Navy Installations in Texas was converted from cost-plus to firm-fixed-price on 31 January 2011.

v. Although we disagree with Naval Facilities Engineering Command Atlantic using the Global Contingency Construction-Multiple Award Contract, the solicitation and associated task orders were posted on the Federal Business Opportunities Web site as required. In addition, the contract contained the required Federal Acquisition Regulation clauses for Recovery Act contract actions.

f. **Timeliness of Photovoltaic Projects.** Although the task orders were promptly awarded, the contractor reported he has not begun work installing the photovoltaic projects, has invoiced and received $6 million, and has reported that no jobs have been created. The contract task orders for the photovoltaic projects were awarded on 29 June 2009. However, work had not begun installing the photovoltaic panels as of 10 March 2011. According to Naval Facilities Engineering Command Headquarters, work was expected to begin in December 2010 and January 2011 and completion was expected in June or July 2011, about 2 years after contract award. However, as of the date of this report, work has not started. The purpose of the Recovery Act was to quickly infuse money and jobs into the economy. However, the photovoltaic projects are still in the design phase or waiting for a "firm-fixed-price" negotiation before installation.[9] Per the Recovery.gov Web site, the contractor has invoiced and received about $6 million of the $90 million award as of 31 December 2010. In other words, only about 7 percent of the obligated funds for the photovoltaic projects have been infused into the economy. Also, the contractor reported 0 jobs created or retained.

g. **Accuracy of Information Reported by Contractor on Recovery.Gov**

i. The contractor provided information on Recovery.gov that did not accurately present information related to the projects. The contractor did not report any jobs being created, although the contractor invoiced/received about $6 million[10] related to the audited Photovoltaic Projects as of 31 December 2010. In addition, the contractor overstated the work completed on a submission for 30 September 2010.

ii. The contractor was unable to report jobs created because Federal Acquisition Regulation, clause 52.204-11, dated March 2009, allowed only for the reporting of jobs created by the prime contractor. The contractor was a joint venture; therefore, only jobs created by the joint venture would be reported. Federal Acquisition Regulation, clause 52.204-11 was revised in July 2010 to also require the reporting of jobs created by the first-tier subcontractor for subcontracts over $25,000, however, the updated clause was

[9] Task Order 0011 for Navy Installations in Texas was converted from cost-plus to firm-fixed-price on 31 January 2011. As of 11 March 2011, construction work for Texas had not begun.

[10] Amount associated with Task Orders 0009, 0011 and 0012 for Hampton Roads and Navy installations in Florida, Texas, and Mississippi, on Recovery.gov as of 31 December 2010.

not retroactive to these task orders. Therefore, the photovoltaic contractor will continue to report no jobs being created for the nearly $90 million received.[11]

iii. In addition, the contractor reported that for the project status for Task Orders 0011 and 0012, more than 50 percent of the work was completed as of 30 September 2010, even though the project was still in the design phase. The contractor subsequently corrected the project status on the Recovery.gov Web site to show less than 50 percent of the project was completed. Because the contractor corrected the oversight, no recommendations are being made. The status report for 31 December 2010 shows less than 50 percent of the project completed.

h. **Reasons Why These Audited Photovoltaic Projects Were Identified and Task Orders Awarded as They Were**

i. These photovoltaic projects were not adequately planned because the Recovery Act money was received as a windfall. Prior to receiving the Recovery Act funds, the Navy did not have plans to invest in these photovoltaic projects. When the Congressional funds became available, the Navy stated that it selected photovoltaic projects for Recovery Act funding to help meet its goals to reduce energy consumption, increase its use of renewable energy, and invest in energy efficiency as stated in the Recovery Act. The Navy told us they specifically selected photovoltaic projects over other renewable energy projects because the photovoltaic technology could be awarded quicker than projects for biomass, wind, or geothermal. In addition, the Global Contingency Construction-Multiple Award Contract did not require the Navy to specify what photovoltaic systems would be acquired, therefore, pre-planning was not required.

ii. The photovoltaic projects were not cost effective because the Navy had not calculated the simple payback period or savings-to-investment ratios before awarding a contract for photovoltaic systems in Hampton Roads, VA, and Navy installations in Florida, Texas, and Mississippi. Based on the system costs, the amount of energy generated, and the utility rates for the locations selected, the photovoltaic projects could not show a positive return on investment in terms of simple payback period or savings-to-investment ratios.

iii. The Navy told us they did not consider return-on-investment, but rather focused on other energy goals, when deciding to invest in photovoltaic systems. The Navy believed the projects helped provide energy security, reduced use of fossil fuels, encouraged overall photovoltaic investment, and met the energy efficiency focus of the

[11] According to Naval Facilities Engineering Command Southeast, the contractor estimates that he will hire about 275 workers for about 9 months to install the photovoltaic systems. We did not audit the contractor's estimate and cannot comment on its accuracy.

Recovery Act. The Navy continues to believe the progress being made toward other energy goals outweighs the lack of return-on-investment for the photovoltaic systems. However, the audited photovoltaic projects will megawatt hours of electricity by 7,301 per year. The reduction represents less than 0.1 percent of the 8,371,136 megawatt hours of electricity used by the Navy in Fiscal Year 2009. In addition, for the Navy Installations receiving these photovoltaic projects, the photovoltaic systems will provide only about one percent of the 686,933 megawatt hours of electricity used annually[12] (see Enclosure 3). Also, the Energy Policy Act of 2005, the Energy Independence and Security Act of 2007, DoD Instruction 4170.11, Unified Facilities Criteria 3-400-01, and 10 Code of Federal Regulations, Part 436, Subpart A criteria clearly state that renewable energy projects must be cost effective.

iv. Naval Facilities Engineering Command, Atlantic stated that the Federal Acquisition Regulation 16.301-2 states that "cost-reimbursement contracts are suitable for use when uncertainties involved in contract performance do not permit costs to be estimated with sufficient accuracy to use any type of fixed-price contract." Therefore, based on the uncertainties in the scope of the photovoltaic projects, Naval Facilities Engineering Command, Atlantic said that they determined that a cost type contract vehicle was the most appropriate. In addition, the projects for all geographic areas were solicited together as one package under the Global Contingency Construction-Multiple Award Contract because Naval Facilities Engineering Command Atlantic believed it allowed for the Government to gain cost efficiencies in design and construction. Furthermore, Naval Facilities Engineering Command, Atlantic stated that, to be consistent with the desires of the Recovery Act program to utilize firm-fixed price contracts as much as possible, Naval Facilities Engineering Command, Atlantic is in the process of converting each of the Phase II task orders from "cost-plus award fee" to "firm-fixed price," hence, transferring the cost risk to the contractor once the designs are completed.[13]

v. The installation of the photovoltaic systems did not begin quickly because the projects had to be scoped and designed, and a "firm-fixed-price" had to be negotiated before the installation work could begin.[14] The photovoltaic projects were not specifically identified or fully scoped when nearly $90 million of the Recovery Act funds were appropriated, projects were identified, and approved and task orders awarded to the contractor on 29 June 2009. As a result, after the photovoltaic projects in the expenditure

[12] Fiscal Year 2009 data was provided by Naval Facilities Engineering Command/Engineering Service Center. Because of the limited scope of our audit, we did not independently validate the data received from Naval Facilities Engineering Command/Engineering Service Center. We accepted Naval Facilities Engineering Command/Engineering Service Center's estimate as reasonable.

[13] The negotiation with the contractor to convert projects to a firm-fixed-price task order in Navy Installations, Texas, was completed on 31 January 2011.

[14] Task Order 0011 for Navy Installations in Texas was converted from cost-plus to firm-fixed-price on 31 January 2011. As of 11 March 2011, construction work for Texas had not begun.

plan were approved, the Navy and the contractor had to first identify the candidate buildings or locations that could be used to accommodate the photovoltaic systems, then negotiate a firm-fixed-price before beginning to install the photovoltaic systems.[15]

vi. The timeline for the photovoltaic projects has taken over 20 months as of 10 March 2011, and the photovoltaic systems had yet to be installed. The site surveys and deliberations began on 29 June 2009 when the task orders were awarded. On 23 October 2009, the Navy received the Phase I "deliverable," which discusses issues related to ranking of facilities, application analysis for photovoltaic rooftop applications, lighting upgrades, and solar thermal systems as applicable to the region. It also included a summary-level project schedule for construction. After providing the deliverable for Phase I to the Navy, the contractor began Phase II "design." On 10 August 2010, Naval Facilities Engineering Command Atlantic updated the tentative list of buildings and locations. On 16 November 2010, the life-cycle cost analysis amounts for each chosen facility at Hampton Roads, VA, and the Navy installations in Florida, Texas, and Mississippi were also updated (all indicated buildings are still subject to confirmation of acceptability in design finalization). After deciding where to place the photovoltaic systems, Naval Facilities Engineering Command Atlantic received price proposals from the contractor at the 100-percent design submittal. Naval Facilities Engineering Command Atlantic and the contractor are now negotiating fair and reasonable "firm-fixed-price" for the Navy locations based on this design. The task orders will be converted from the current "cost-plus award fee" to "firm-fixed-price;" thus transferring the cost risk to the contractor. The negotiation process, which began on 3 November 2010, was not completed as of 10 March 2011.[16]

vii. The information on the Recovery.gov Web site was inaccurate as of 30 September 2010 because of an oversight. The data was promptly corrected when brought to the attention of Naval Facilities Engineering Command Atlantic and the contractor.

i. **Impact of Photovoltaic Projects.** The lack of planning for the photovoltaic projects led the Navy to award task orders worth about $90 million for projects that should not have been selected due to the low savings-to-investment ratio, and the long simple payback period. The selected photovoltaic projects will return only about 11 cents for every dollar invested. In addition, the investment cost will not be recovered for an estimated period greater than 120 years. Because the photovoltaic panels have an estimated useful life of 25 years, recovery of the investment is impossible. Also, work installing the photovoltaic systems had not begun 20 months after the task orders were

[15] Task Order 0011 for Navy Installations in Texas was converted from cost-plus to firm-fixed-price on 31 January 2011. As of 11 March 2011, construction work for Texas had not begun.
[16] Ibid.

awarded (June 2009 to 10 March 2011 timeframe). Therefore, these photovoltaic projects are not meeting the Recovery Act goals of infusing money into the economy quickly and promptly creating jobs. In addition, by investing in these photovoltaic projects, the Navy was unable to use the funds for other, unfunded requirements.

7. **Recommendations and Corrective Actions.**

Our recommendations, summarized management responses, and our comments on the responses follow. The complete texts of the management responses are in the Appendices.

We recommend that Office of the Assistant Secretary of the Navy (Energy, Installations, and Environment):

Recommendation 1. Re-evaluate the Hampton Roads, VA photovoltaic project funded with Military Construction funds that has a savings-to-investment ratio of 0.13 and a simple payback period of 109 years, cancel the project if it is not cost effective and apply the funds to other appropriate Military Construction projects. Provide the Naval Audit Service with savings associated with the cancellation.

Recommendation 2. Re-evaluate the photovoltaic project funded with facilities sustainment restoration and modernization funds that have a savings-to-investment ratio of less than 1.00, cancel the projects if they are not cost effective.

Office of the Assistant Secretary of the Navy (Energy, Installations, and Environment) response to Recommendations 1 and 2. Assistant Secretary of the Navy (Energy, Installations, and Environment) agrees with the report's other recommendations, but they non-concur with Recommendations 1 and 2 that they re-evaluate projects funded by the American Recovery and Reinvestment Act of 2009 and cancel those projects that are considered to be not cost effective due to a large payback period or have a low savings-to-investment ratio. There is disagreement over the conclusion that these projects were not sufficiently planned or cost effective. Navy and Marine Corps staffs developed and submitted valid projects consistent with the guidance and time constraints they were given. In addition to savings-to-investment ratio and simple payback periods, the Secretary of the Navy's goals on energy security and independence were factored in to the decisionmaking process. Accordingly, canceling these projects would be counterproductive to the Recovery Act goals and also to the department meeting the Federal mandates (National Defense Authorization Act for Fiscal Year 2007, Energy Policy Act of 2005).

Naval Audit Service comment on the Office of the Assistant Secretary of the Navy (Energy, Installations, and Environment) response to Recommendations 1 and 2. The Office of the Assistant Secretary of the Navy (Energy, Installations, and Environment) did not disagree with the facts presented in the audit report showing the audited projects had a long payback period and a very low savings-to-investment ratios. In addition, the Office of the Assistant Secretary of the Navy (Energy, Installations, and Environment) did not disagree that construction work had not begun as of 10 March 2011 and as of 31 December 2010, the contractor reported invoicing and receiving about $6 million (7 percent) of the approximately $90 million award, and reported 0 jobs created.

The audited photovoltaic projects will minimally help the Department of the Navy reduce energy usage and increase energy from renewable sources as required. These projects will return about $704,000 in annual energy savings on an investment of about $87 million. The audited photovoltaic projects will reduce megawatt hours of electricity by 7,301 per year to help the Department of the Navy reduce energy usage and increase energy from renewable sources as required. However, the reduction represents less than 0.1 percent of the 8,371,136 megawatt hours of electricity used by the Navy in Fiscal Year 2009. In addition, for the Navy Installations receiving these photovoltaic projects, the photovoltaic systems will provide only about one percent of the 686,933 megawatt hours of electricity used annually. Despite the agreement on this point, the Assistant Secretary of the Navy (Energy, Installations, and Environment) believes that the Photovoltaic projects will help meet the overall Navy energy conservation goals established by the Secretary of the Navy.

Because the Office of the Assistant Secretary of the Navy (Energy, Installations, and Environment) did not agree to re-evaluate projects funded by the American Recovery and Reinvestment Act of 2009 and cancel those projects that are considered to be not cost effective due to a long payback period or have a low savings-to-investment ratio, Recommendations 1 and 2 are non-concurrences, and we are re-submitting the recommendations to them for reconsideration.

We recommend that Commander, Navy Installations Command:

Recommendation 3. Establish return-on-investment parameters (e.g., a savings-to-investment ratio of at least 1.00 per Title 10 Code of Federal Regulations) for determining if an energy project is cost effective, and fund only projects that meet the minimum criteria.

Commander, Navy Installations Command response to Recommendation 3. We reviewed the draft audit report and concur with the findings and recommendations contained therein that relate to Commander, Navy Installations Command. Below are our responses to the recommendations addressed to Commander, Navy Installations Command. The Navy uses the Chief of Naval Operations accredited energy scoring tool known as the energy Return on Investment tool for evaluating energy projects. The energy Return on Investment tool was developed to ensure future energy investments are risk based; capability focused, and will yield favorable returns on investment. The energy Return on Investment tool factors in return on investment/payback as well as non-financial benefits such as: legal mandate compliance; Navy energy goals compliance; enabling infrastructure; and providing reliable energy to critical infrastructure. Use of the energy Return on Investment tool is mandated in Chief of Naval Operations Instruction 4100.5E, currently in draft form. The Navy is using the energy Return on Investment tool to assess all future energy projects starting in Fiscal Year 2012, regardless of funding type. Energy projects are evaluated by assigning a relative ranking score to each project based on the energy Return on Investment tool submission. In order to ensure that the best energy projects are selected, the final project approval is based on an optimized project profile from the total submission. The approved Fiscal Year 2012 project list has a consolidated payback period of 4.46 years with an average energy Return on Investment tool score of 8.21.

Actions for Recommendation 3 are complete; request recommendation closure.

Naval Audit Service comment on the Commander, Navy Installations Command response to Recommendation 3. Actions taken by the Commander, Navy Installations Command meet the intent of the recommendation. The recommendation is considered closed as of the date of the management response, 16 May 2011.

We recommend that Commander, Naval Facilities Engineering Command:

Recommendation 4. Establish processes and provide oversight to ensure appropriate contracting vehicles are used to protect the interests of the Department of the Navy.

Commander, Naval Facilities Engineering Command response to Recommendation 4. Concur. Naval Facilities Engineering Command conducts acquisition planning to ensure that the Government meets its needs in the most effective, economical, and timely manner. Acquisition planning includes

developing and documenting the overall strategy for managing the acquisition. The Acquisition Planning Team consists of all personnel responsible for significant aspects of the acquisition (i.e., contracting, fiscal, legal, technical, and small business personnel). Acquisition Strategy Boards, if appropriate, are utilized to determine the acquisition strategy for procurements. The following factors are considered in determining the strategy and contracting vehicle: scope and complexity; in-house capacity and contract capacity; socio-economic programs; results of market research; schedule constraints; cost or budget; site availability and site approval; external support requirements; antiterrorist force protection issues; explosive arc or air operations impacts; natural and cultural resources; and environmental issues.

Naval Facilities Engineering Command's Business Management System documents our corporate business policies and processes. The following Business Management System processes are related to acquisition planning and work induction to Naval Facilities Engineering Command: F-30.1, Work Induction System; F-30.2, Workload Management; S-17.1.1, Market Research Including the Management and Oversight Process for the Acquisition of Services; and S-17.1.3, Acquisition Planning Documentation. In accordance with the Naval Facilities Engineering Command Acquisition Supplement, formal written acquisition plans, when required, are approved by no lower than the Echelon III/IV Chief of the Contracting Office. Specific to the Global Contingency Construction Contract, all planned requirements for this contract vehicle are approved by the Echelon III Commander through the Echelon III Operations Officer. All action is completed for this recommendation as Naval Facilities Engineering Command has existing established processes for work induction and acquisition planning.

Naval Audit Service comment on the Commander, Naval Facilities Engineering Command response to Recommendation 4. Actions taken by Commander, Naval Facilities Engineering Command meet the intent of the recommendation. The recommendation is considered closed as of the date of the management response, 11 May 2011.

8. Any requests for this report under the Freedom of Information Act must be approved by the Auditor General of the Navy as required by reference (b). This audit report is also subject to followup in accordance with reference (b).

9. Please provide all correspondence to the Assistant Auditor General for Installations and Environment Audits, Ron Booth, ronnie.booth@navy.mil, with a copy to the Director, Policy and Oversight, Vicki McAdams, vicki.mcadams@navy.mil. Please

Subj: **AMERICAN RECOVERY AND REINVESTMENT ACT OF 2009 – PHOTOVOLTAIC PROJECTS AT HAMPTON ROADS, VA, AND NAVY INSTALLATIONS IN FLORIDA, TEXAS, AND MISSISSIPPI (AUDIT REPORT N2011-0060)**

submit correspondence in electronic format (Microsoft Word or Adobe Acrobat file), and ensure that it is on letterhead and includes a scanned signature.

10. We appreciate the cooperation and courtesies extended to our auditors.

RON J. BOOTH
Assistant Auditor General
Installations and Environment Audits

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CMC (RFR, ACMC)
DON CIO
NAVINSGEN (NAVIG-4)
AFAA/DO

Enclosure (1):

Status of Recommendations and Funds Potentially Available for Other Use

Recommendations								FUNDS POTENTIALLY AVAILABLE (In $000s)				
Finding[17]	Rec. No.	Page No.	Subject	Status[18]	Action Command	Target or Actual Completion Date	Interim Target Completion Date[19]	Category[20]	Claimed Amount	Agreed To	Not Agreed To	Appropriation[21]
1	1	19	Re-evaluate the Hampton Roads, VA photovoltaic project funded with Military Construction funds that has a savings-to-investment ratio of 0.13 and a simple payback period of 109 years, cancel the project if it is not cost effective and apply the funds to other appropriate Military Construction projects. Provide the Naval Audit Service with savings associated with the cancellation.	U	Office of the Assistant Secretary of the Navy (Energy, Installations, and Environment)	10/21/11		C				

[17] / + = Indicates repeat finding.
[18] / O = Recommendation is open with agreed-to corrective actions; C = Recommendation is closed with all action completed; U = Recommendation is undecided with resolution efforts in progress.
[19] If applicable.
[20] / A = One-time potential funds put to other use; B = Recurring potential funds put to other use for up to 6 years; C = Indeterminable/immeasurable.
[21] / = Includes appropriation (and subhead if known).

Recommendations								FUNDS POTENTIALLY AVAILABLE (In $000s)				
Finding[17]	Rec. No.	Page No.	Subject	Status[18]	Action Command	Target or Actual Completion Date	Interim Target Completion Date[19]	Category[20]	Claimed Amount	Agreed To	Not Agreed To	Appropriation[21]
1	2	19	Re-evaluate the photovoltaic project funded with facilities sustainment restoration and modernization funds that have a savings-to-investment ratio of less than 1.00, cancel the projects if they are not cost effective.	U	Office of the Assistant Secretary of the Navy (Energy, Installations, and Environment)	10/21/11						
2	3	20	Establish return-on-investment parameters (e.g., a savings-to-investment ratio of at least 1.00 per Title 10 Code of Federal Regulations) for determining if an energy project is cost effective, and fund only projects that meet the minimum criteria.	C	Commander, Navy Installations Command	5/16/11						
2	4	21	Establish processes and provide oversight to ensure appropriate contracting vehicles are used to protect the interests of the Department of the Navy.	C	Naval Facilities Engineering Command	5/11/11						

Enclosure (2):

Costs, Savings-to-Investment Ratios, and Simple Payback Periods for Photovoltaic Projects

Table 1 summarizes the estimated costs associated with the installation of the photovoltaic systems at Hampton Roads, VA and Navy installations in Florida, Texas, and Mississippi. The building number for each Navy location was provided by Naval Facilities Engineering Command, Atlantic on 16 November 2010 (all indicated buildings are still subject to confirmation of acceptability in design finalization). The estimated photovoltaic design and construction cost and the non-photovoltaic construction cost were provided by Naval Facilities Engineering Command, Atlantic on 21 December 2010. These costs were based on the energy life-cycle cost analysis prepared by the contractor.

***Key to acronyms used tables:**

kW-DC	Kilowatt – Direct Current	**MBTU**	Mega British Thermal Unit (*1000 British Thermal Units)
MWh	Megawatt Hour	**PV**	Photovoltaic
SIR	Savings-to-Investment Ratio	**TO**	Task Order

Table 1. Estimated Costs of Selected Photovoltaic Projects

Contract N62470-6-D-6007 Task Orders 0009, 0011 and 0012 – Building List[22]

Navy Base/Location	Building#	Expend. Plan Amount ($000)	Task Orders Award Amount ($)	PV Design Costs ($)[23]	Construction Costs		Total Funds Required ($)[24]
					PV ($)[25]	Non-PV ($)[26]	
Hampton Roads, VA P-114 (1500 kilowatts minimum)							
Naval Station Norfolk	Monkey Bottom (Ground Mount)		TO 0009: 208,408 TO 0012: 23,097,106	2,074,676	18,133,921	2,339,985	22,548,582
TOTAL – 1 SITE		**26,098**	**23,305,514**	**2,074,676**	**18,133,921**	**2,339,985**	**22,548,582**

[22] All indicated buildings are subject to confirmation of acceptability in design finalization.
[23] "Apportioned Design Estimate at Completion" costs anticipated are for the given State/Contract Line Item Number. Costs do not include fees. Costs include designs that began, but were not finalized due to excessive anticipated construction costs or other constraints. Costs for these designs are spread across the final sites based on kilowatt fraction. Actual design cost in dollars per watt for smaller sites is higher than larger sites.
[24] This value, which is a total of Photovoltaic Design Costs and Construction Costs, represents a "Rough Order of Magnitude" cost estimate only. Construction costs are pending further definition.
[25] Construction costs are for photovoltaic system materials, installation, and apportioned program management. This is a "Rough Order of Magnitude" estimate and not to be construed as a bid price.
[26] Construction costs are for non-photovoltaic items, including: roof repairs and replacements, structural upgrades, bonds, lighting protection system modifications, rooftop walkways, and rooftop permanent fall protection systems. This is a "Rough Order of Magnitude" estimate and should not be construed as a bid price.

Navy Base/Location	Building #	Expend. Plan Amount ($000)	Task Orders Award Amount ($)	PV Design Costs ($)[27]	Construction Costs		Total Funds Required ($)[28]
Texas RM09-1448 (1300 kilowatts minimum)[29]							
Naval Air Station Corpus Christi	1217		TO 0009: 24,856 TO 0011: 19,968,104	576,304	5,436,662	555,616	6,568,582
	1218			576,304	5,638,864	608,774	6,823,942
Naval Air Station Kingsville	2701			135,601	1,620,066	157,384	1,913,051
	2740			43,586	671,397	185,453	900,436
	3775			96,858	1,082,860	159,677	1,339,395
TOTAL – 5 SITES		**20,826**	**19,992,960**	**1,428,652**	**14,449,849**	**1,666,904**	**17,545,405**
Mississippi RM09-1449 (850 kilowatts minimum)							
Construction Battalion Center Gulfport	386		TO 0009: 24,856 TO 0012: 13,226,984	65,288	628,706	117,891	811,885
	305			65,288	696,258	123,947	885,493
	361			130,576	1,097,692	529,271	1,757,539
	442			261,153	2,292,940	440,188	2,994,281
	69			65,288	637,399	329,406	1,032,093
	67			65,288	623,934	366,895	1,056,117
Naval Air Station Meridian	330			130,576	1,140,712	909,966	2,181,254
	224/367			326,441	2,460,269	1,018,248	3,804,958
TOTAL – 8 SITES		**13,804**	**13,251,840**	**1,109,899**	**9,577,910**	**3,835,812**	**14,523,621**

[27] "Apportioned Design Estimate at Completion" costs anticipated are for the given State/Contract Line Item Number. Costs do not include fees. Costs include designs that began, but were not finalized due to excessive anticipated construction costs or other constraints. Costs for these designs are spread across the final sites based on kilowatt fraction. Actual design cost in dollars per watt for smaller sites is higher than larger sites.

[28] This value, which is a total of Photovoltaic Design Costs and Construction Costs, represents a "Rough Order of Magnitude" cost estimate only. Construction costs are pending further definition.

[29] Naval Facilities Engineering Command, Atlantic provided on 10 March 2011 the updated Life Cycle Cost Analyses for Texas, after the contract negotiation for Project RM09-1448 from cost-plus to firm-fixed-price. The locations remain the same, but the estimates were updated. The revised figures for Project RM09-1448 show a total investment of $15,702,216 (previously $17,545,405). Due to the immateriality of the new amounts involved and the absence of information for all related fields on the spreadsheet, it was decided not to update the amounts formerly provided but accepted Naval Facilities Engineering Command's estimate as reasonable.

Navy Base/ Location	Building #	Expend. Plan Amount ($000)	Task Orders Award Amount ($)	PV Design Costs ($)[30]	Construction Costs		Total Funds Required ($)[31]
					PV ($)[32]	Non-PV ($)[33]	
Florida RM09-1447 (2200 kilowatts minimum)							
Naval Air Station Key West	437		TO 0009: 82,216 TO 0011: 33,239,384	63,304	612,481	155,850	831,635
	438			63,304	580,063	170,791	814,158
	439			63,304	608,595	190,406	862,305
	A-649			63,304	579,728	537,786	1,180,818
	A-648			63,304	589,052	536,061	1,188,417
	1350			63,304	585,974	182,372	831,650
	1351			63,304	622,098	566,641	1,252,043
	A-629			31,652	394,566	163,718	589,936
	A-626			31,652	442,422	177,551	651,625
Naval Station Mayport	460			189,911	1,433,569	834,611	2,458,091
	2105			63,304	638,024	225,248	926,576
Naval Air Station Jacksonville	919			354,500	2,348,430	1,149,128	3,852,058
	1122			759,643	5,320,916	804,988	6,885,547
Naval Support Activity Orlando	1			329,178	2,429,986	624,452	3,383,616
Naval Air Station Whiting Field	2981			202,571	1,003,710	449,030	1,655,311
	2977			202,571	933,612	526,515	1,662,698
Naval Support Activity Panama City	470			126,607	1,021,560	163,296	1,311,463
	490			88,625	656,761	1,608,660	2,354,046
TOTAL – 18 SITES		**34,710**	**33,321,600**	**2,823,338**	**20,801,547**	**9,067,104**	**32,691,989**
TOTAL PV (32 SITES)		**95,438**	**89,871,914**	**7,436,565**	**62,963,227**	**16,909,805**	**87,309,597**

Table 2 reflects the current estimated annual energy savings and the return-on-investment for the selected photovoltaic projects. Data was provided by Naval Facilities Engineering Command Atlantic on 21 December 2010. Naval Facilities Engineering Command Atlantic based the data on the energy life-cycle cost analysis from the contractor.

[30] "Apportioned Design Estimate at Completion" costs anticipated are for the given State/Contract Line Item Number. Costs do not include fees. Costs include designs that began, but were not finalized due to excessive anticipated construction costs or other constraints. Costs for these designs are spread across the final sites based on kilowatt fraction. Actual design cost in dollars per watt for smaller sites is higher than larger sites.

[31] This value, which is a total of Photovoltaic Design Costs and Construction Costs, represents a "Rough Order of Magnitude" cost estimate only. Construction costs are pending further definition.

[32] Construction costs are for photovoltaic system materials, installation, and apportioned program management. This is a "Rough Order of Magnitude" estimate and not to be construed as a bid price.

[33] Construction costs are for non-photovoltaic items, including: roof repairs and replacements, structural upgrades, bonds, lighting protection system modifications, rooftop walkways, and rooftop permanent fall protection systems. This is a "Rough Order of Magnitude" estimate and should not be construed as a bid price.

Table 2. Annual Energy Savings and Return on Investment for Selected Photovoltaic Projects

Contract N62470-6-D-6007 Task Orders 0009, 0011 and 0012 – Building List[34]

Navy Base/Location	Building #	kW-DC[35]	Cost Per Unit ($/MWh)[36]	Annual Energy Savings			Life-Cycle Discounted Savings ($)	Simple Payback (Years)	SIR*	Invest. Cost Per MBTU Saved ($)
				Utility Reduction (MWh)[37]	MBTU*	$				
Hampton Roads, Virginia P-114 (1500 kilowatts minimum)										
Naval Station Norfolk	Monkey Bottom (Ground Mount)	2100	90	2,297	7,840	206,727	2,910,722	109	0.13	2,876
TOTAL – 1 SITE		**2100**	**90**	**2,297**	**7,840**	**206,727**	**2,910,722**	**109**	**0.13**	**2,876**
Texas RM09-1448 (1300 kilowatts minimum)[38]										
Naval Air Station Corpus Christi	1217	595	90	690	2,355	62,089	874,217	106	0.13	2,790
	1218	595	90	690	2,355	62,089	874,217	110	0.13	2,898
Naval Air Station Kingsville	2701	140	90	162	554	14,609	205,698	131	0.11	3,453
	2740	45	90	52	178	4,696	66,117	192	0.07	5,056
	3775	100	90	116	396	10,435	146,927	128	0.11	3,385
TOTAL – 5 SITES		**1475**	**90**	**1,710**	**5,837**	**153,919**	**2,167,177**	**114**	**0.12**	**3,006**

Annual Energy Savings = Cost Per Unit Megawatt Hours multiplied by the Utility Reduction Megawatt Hours (calculations were provided by Naval Facilities Engineering Command, and included rounding).
Life Cycle Discounted Savings is calculated in the Life Cycle Analyses prepared by the contractor.
Savings to Investment Ratio = Life Cycle Discounted Savings divided by Total Funds Required (see previous table).
Investment Cost per Mega British Thermal Units = Total Funds Required (from previous table) divided by Mega British Thermal Units Saved (rounded).

[34] All indicated buildings are subject to confirmation of acceptability in design finalization.
[35] Photovoltaic kilowatts of direct current capacity indicated are subject to allowable budget.
[36] Navy established values.
[37] The Utility Reduction is based on National Renewable Energy Laboratory data for the given approximate location; a 0.77 derate factor from direct current to alternating current; and direct south facing orientation for flat mounted panels. Actual configuration and subsequent output will likely be different.
[38] Naval Facilities Engineering Command Atlantic provided on 10 March 2011 the updated Life Cycle Cost Analyses for Texas, after the contract negotiation for Project RM09-1448 from cost-plus to firm-fixed-price. The locations remain the same, but the estimates were updated. The revised figures for Project RM09-1448 shows a simple payback period of 102 years (previously 114 years) and a savings-to-investment ratio of 0.14 (previously 0.12). The updated investment cost per Mega British Thermal Units saved is $2,690 (previously $3,006). Due to the immateriality of the new amounts involved and the absence of information for all related fields on the spreadsheet, it was decided not to update the amounts formerly provided but accepted Naval Facilities Engineering Command's estimate as reasonable.

Navy Base/Location	Building #	kW-DC[39]	Cost Per Unit ($/MWh)[40]	Annual Energy Savings			Life-Cycle Discounted Savings ($)	Simple Payback (Years)	SIR*	Invest. Cost Per MBtu Saved ($)
				Utility Reduction (MWh)[41]	MBTU*	$				
Mississippi RM09-1449 (850 kilowatts minimum)										
Construction Battalion Center Gulfport	386	50	90	37	128	3,364	47,369	241	0.06	6,364
	305	50	90	37	128	3,364	47,369	263	0.05	6,941
	361	100	90	75	255	6,729	94,739	261	0.05	6,888
	442	200	90	150	510	13,457	189,478	223	0.06	5,867
	69	50	90	37	128	3,364	47,369	307	0.05	8,090
	67	50	90	37	128	3,364	47,369	314	0.04	8,278
Naval Air Station Meridian	330	100	90	75	255	6,729	94,739	324	0.04	8,548
	224/367	250	90	187	638	16,822	236,847	226	0.06	5,965
TOTAL – 8 SITES		**850**	**90**	**635**	**2,169**	**57,193**	**805,281**	**254**	**0.06**	**6,696**

[39] Photovoltaic kilowatts of direct current capacity indicated are subject to allowable budget.
[40] Navy established values.
[41] The Utility Reduction is based on National Renewable Energy Laboratory data for the given approximate location; a 0.77 derate factor from direct current to alternating current; and direct south facing orientation for flat mounted panels. Actual configuration and subsequent output will likely be different.

Navy Base/Location	Building #	kW-DC[42]	Cost Per Unit ($/MWh)[43]	Annual Energy Savings			Life-Cycle Discounted Savings ($)	Simple Payback (Years)	SIR*	Invest. Cost Per MBtu Saved ($)
				Utility Reduction (MWh)[44]	MBTU*	$				
Florida RM09-1447 (2200 kilowatts minimum)										
Naval Air Station Key West	437	50	180	65	221	11,680	164,453	71	0.20	3,755
	438	50	180	65	221	11,680	164,453	70	0.20	3,676
	439	50	180	65	221	11,680	164,453	74	0.19	3,894
	A-649	50	180	65	221	11,680	164,453	101	0.14	5,332
	A-648	50	180	65	221	11,680	164,453	102	0.14	5,366
	1350	50	180	65	221	11,680	164,453	71	0.20	3,755
	1351	50	180	65	221	11,680	164,453	107	0.13	5,653
	A-629	25	180	32	111	5,840	82,227	101	0.14	5,328
	A-626	25	180	32	111	5,840	82,227	112	0.13	5,885
Naval Station Mayport	460	150	90	174	595	15,689	220,898	157	0.09	4,132
	2105	50	90	58	198	5,230	73,633	177	0.08	4,672
Naval Air Station Jacksonville	919	280	90	325	1,111	29,286	412,343	132	0.11	3,469
	1122	600	90	697	2,380	62,755	883,592	110	0.13	2,893
Naval Support Activity Orlando	1	260	90	302	1,031	27,194	382,890	124	0.11	3,281
Naval Air Station Whiting Field Milton	2981	160	90	190	648	17,099	240,757	97	0.15	2,553
	2977	160	90	190	648	17,099	240,757	97	0.14	2,564
Naval Support Activity Panama City	470	100	90	119	405	10,687	150,473	123	0.11	3,236
	490	70	90	83	284	7,481	105,331	315	0.04	8,298
TOTAL – 18 SITES		**2230**	**108**	**2,658**	**9,072**	**285,959**	**4,026,301**	**114**	**0.12**	**3,603**

TOTAL PV (32 SITES)[45]	**6655**	**96**	**7,301**	**24,918**	**703,798**	**9,909,481**	**124**	**0.11**	**3,504**

The figures in the Tables 1 and 2 above represent the current best estimates from Naval Facilities Engineering Command Atlantic. The contractor will provide 32 photovoltaic

[42] Photovoltaic kilowatts of direct current capacity indicated are subject to allowable budget.
[43] Navy established values.
[44] The Utility Reduction is based on National Renewable Energy Laboratory data for the given approximate location; a 0.77 derate factor from direct current to alternating current; and direct south facing orientation for flat mounted panels. Actual configuration and subsequent output will likely be different.
[45] Considering the slightly change on the figures for Texas after the contract negotiation for Project RM09-1448 from cost-plus to firm-fixed-price, the simple payback for the overall Photovoltaic projects is 121 years (previously 124 years), with a savings-to-investment ratio of 0.12 (previously 0.11), for a total investment of $85,466,408. The updated total investment cost per Mega British thermal units saved is $3,430 (previously $3,504). Due to the immateriality of the new amounts involved and the absence of information for all related fields on the spreadsheet, it was decided not to update the amounts formerly provided but accepted Naval Facilities Engineering Command's estimate as reasonable.

systems (one photovoltaic system per facility), which are expected to generate a total of 6,655 kilowatts of direct current of electricity.

The information provided in Table 2 shows an average simple payback period greater than 120 years for the selected Navy locations, and an average savings-to-investment ratio less than 0.12.

When all locations for Task Orders 0011 and 0012 finally receive a "firm-fixed-price," Naval Facilities Engineering Command Atlantic will have the final cost amounts.[46] Therefore, the savings-to-investment ratio and simple payback period may slightly change from the numbers currently provided.

[46] Task Order 0011 for Navy Installations in Texas was converted from cost-plus to firm-fixed-price on 31 January 2011. As of 11 March 2011, construction work for Texas had not begun.

Enclosure (3):

Electricity Consumption for the Installations Receiving the Audited Photovoltaic Projects[47]

***Key to acronyms used table:**
MWh Megawatt Hour **PV** Photovoltaic

Navy Base/Location	Annual Electricity Used MWH	PV Annual Utility Reduction (MWh)[48]	PV MWH as % of Total	Annual Electricity Cost $	PV Annual Energy Savings ($)[49]	PV Annual Energy Cost as % of Total
NAS Jacksonville FL	107,991	1,023	0.95%	8,957,154	92,041	1.03%
NAS Key West FL	44,653	519	1.16%	5,337,333	93,439	1.75%
NAS Corpus Christi TX	33,302	1,380	4.14%	2,467,093	124,179	5.03%
NAVSTA Mayport FL	67,468	232	0.34%	5,842,276	20,918	0.36%
NAS Kingsville TX	25,021	330	1.32%	1,955,140	29,740	1.52%
NAS Whiting Field Milton FL	26,651	380	1.43%	2,352,503	34,199	1.45%
NSA Orlando FL	8,377	302	3.61%	800,755	27,194	3.40%
NSA Panama City FL	31,644	202	0.64%	2,627,226	18,168	0.69%
CBC Gulfport MS	41,020	374	0.91%	3,368,895	33,643	1.00%
NAVSTA Norfolk VA	271,979	2,297	0.84%	18,052,407	206,727	1.15%
NAS Meridian MS	28,827	262	0.91%	2,461,733	23,550	0.96%
TOTAL (SITES)	**686,933**	**7,301**	**1.06%**	**54,222,515**	**703,798**	**1.30%**
TOTAL NAVY INSTALLATIONS	**8,371,136**					

[47] Fiscal Year 2009 data was provided by Naval Facilities Engineering Command/Engineering Service Center. Because of the limited scope of our audit, we did not independently validate the data received from Naval Facilities Engineering Command/Engineering Service Center. We accepted Naval Facilities Engineering Command/Engineering Service Center's estimate as reasonable.
[48] Data provided by Naval Facilities Engineering Command, Atlantic (see Enclosure 2, Table 2).
[49] Ibid.

Enclosure (4):

Management Response from Assistant Secretary of the Navy (Energy, Installations, and Environment)

DEPARTMENT OF THE NAVY

THE ASSISTANT SECRETARY OF THE NAVY
(ENERGY, INSTALLATIONS & ENVIRONMENT)
1000 NAVY PENTAGON
WASHINGTON DC 20350-1000

SEP 2 2011

MEMORANDUM FOR THE AUDITOR GENERAL, NAVAL AUDIT SERVICE

SUBJECT: Draft Naval Audit Service Report "American Recovery and Reinvestment Act of 2009 – Photovoltaic Projects at Hampton Roads, VA, and Navy Installations in Florida, Texas and Mississippi" (N2009-NIA000-0143.006, 12 April 2011)

This is in response to your memorandum dated April 12, 2011 requesting comments on the subject draft report.

Although we agree with the report's other recommendations, we non-concur with recommendations 1 and 2 that the Office of the Assistant Secretary of the Navy (Energy, Installations and Environment) re-evaluate projects funded by the American Recovery and Reinvestment Act of 2009 and cancel those projects that are considered to be not cost effective due to a large payback period or have a high savings-to-investment ratio. As discussed with your staff, there is disagreement over the conclusion that these projects were not sufficiently planned or cost effective. Navy and Marine Corps staffs developed and submitted valid projects consistent with the guidance and time constraints they were given. In addition to savings-to-investment ratio and simple payback periods, the SECNAV's goals on energy security and independence were factored in to the decision making process. Accordingly, cancelling these projects would be counterproductive to the Recovery Act goals and also to the department meeting the Federal mandates (NDAA 2007, EPACT 2005).

Thank you for the opportunity to comment on the subject draft report. My point of contact is Bryon J. Páez, (571) 256-7875, bryon.paez@navy.mil.

Freedom of Information Act (b)(6)

Sincerely,

Roger M. Natsuhara
Acting

Enclosure (5):

Management Response from Commander, Navy Installations Command

DEPARTMENT OF THE NAVY
COMMANDER, NAVY INSTALLATIONS COMMAND
716 SICARD STREET, SE, SUITE 1000
WASHINGTON NAVY YARD, DC 20374-5140

7510
N00G Ser/11U62270
16 May 11

From: Inspector General, Navy Installations Command
To: Assistant Auditor General, Installations and Environmental Audits, Naval Audit Service

Subj: DRAFT NAVAUDSVC REPORT AMERICAN RECOVERY AND REINVESTMENT ACT OF 2009 - PHOTOVOLTAIC AT HAMPTONS ROADS, VA AND NAVY INSTALLATIONS IN FLORIDA, TEXAS, AND MISSISSIPPI (N2009-NIA000-0143.006)

Ref: (a) NAVAUDSVC memo N2009- NIA000-0143.006 of 12 Apr 11

Encl: (1) CNIC Response to the Subject Draft Report
(2) Energy Return on Investment (eROI) Template

1. Per reference (a), enclosure (1) and (2) are provided.

2. The technical point of contact is CDR Tabitha Pierzchala, CNIC N4, at commercial (202) 433-4892 or email tabitha.pierzchala@navy.mil. The Audit Liaison is Brenna Folkman, CNIC OIG, at commercial (202) 433-3972 or email brenna.folkman@navy.mil.

Freedom of Information Act (b)(6)

GERALD R. MANLEY

Copy to:
ASN(EI&E)
CNIC (N4)

Commander, Navy Installations Command Response to NAVAUDSVC Report American Recovery and Reinvestment Act of 2009 - Photovoltaic at Hamptons Roads, VA and Navy Installations in Florida, Texas, and Mississippi (Draft Audit Report N2009- NIA000-0143.006)

We reviewed the draft audit report and concur with the findings and recommendations contained therein that relate to Commander, Navy Installations Command (CNIC). Below are our responses to the recommendations addressed to CNIC.

Recommendation 3: Establish return-on-investment parameters (e.g. a savings-to-investment ratio of at least 1.00 per Title 10 Code of Federal Regulations) for determining if an energy project is cost effective, and fund only projects that meet the minimum criteria.

Management Response: The Navy uses the OPNAV accredited energy scoring tool known as the energy Return on Investment (eROI) tool for evaluating energy projects. The eROI was developed to ensure future energy investments are risk based, capability focused, and will yield favorable returns on investment. The eROI factors in ROI/payback as well as non-financial benefits such as: legal mandate compliance; Navy energy goals compliance; enabling infrastructure and providing reliable energy to critical infrastructure. Use of the eROI tool is mandated in OPNAVINSTR 4100.5E, currently in draft form. The Navy is using the eROI tool to assess all future energy projects starting in FY12, regardless of funding type.

Energy projects are evaluated by assigning a relative ranking score to each project based on the eROI submission. In order to ensure that the best energy projects are selected, the final project approval is based on an optimized project profile from the total submission. The approved FY12 project list has a consolidated payback period of 4.46 years with an average eROI score of 8.21.

Actions for recommendation 3 are complete; request recommendation closure.

Enclosure (1)

Energy Project Scoring Model Template
Worksheet #1

Maximize Financial Benefits — PILOT VERSION

INSTRUCTIONS: Please input the following data from the Economic Life Cycle Cost Analysis into the worksheet below. Please note that the Economic Life Cycle Cost Analysis should be filed out prior to completing this sheet.

Project Name: Photovoltaic System SPAWAR with Battery Back-Up

INVESTMENT COSTS:

Construction Costs:		$	4,267,724
SIOH:	5.70%	$	243,260
Design:	4.84%	$	204,851
Total Funds Required:		$	4,715,835
Construction Start Date:			4/1/2010

CREDITS:

Salvage Value:	$	-
ECIP Programmed Amount:	$	4,510,984

Enter Timeline for Funds Appropriations (above):

	Year 1	Year 2	Year 3
Appropriation	$ 4,715,835		

Construction Start Year: 2010

How many years from the construction start year does this project begin receiving greater than 50 percent of intended tangible benefit?

For example: if the project is to begin construction in 2012, and the project will begin receiving more than 50 percent of the benefits in 2015, then the answer to the above question is 3.

3

ENERGY SAVINGS (COSTS):

		Cost		
Electricity:	Regional Average Price (EIA)	$ 82.00	MWh	*Regional Prices per EIA Short Term Energy Outlook November 10, 2009 Release*
	Adjustment to price [F1]	$ 65.80	Rationale for adjustment (if necessary)	Rate higher due to Navy Working Capital Fund fully burdened rates
	Adjusted Electricity Price	$ 148		

Please denote energy savings as a positive number and purchases as a negative number in the annual utility reduction column.

Energy/Fuel Type	Cost	Cost - Units	Annual Utility Reduction	Annual Utility Reduction - Units	Annual Energy Saved		Annual Savings
Electricity	$ 148	MWh	999	MWh	3409.587	mmbtu	$ 147,852
Demand	$ 148	MWh		MWh	0	mmbtu	$ 83,868
Distillate Oil:		mmbtu		mmbtu	0	mmbtu	$ -
Residual Oil:		mmbtu		mmbtu	0	mmbtu	$ -
Natural Gas:		therm		therm	0	mmbtu	$ -
Coal:		mmbtu		mmbtu	0	mmbtu	$ -
LPG:		mmbtu		mmbtu	0	mmbtu	$ -
Other [F2]		mmbtu		mmbtu	0	mmbtu	$ -
Other [F2]		mmbtu		mmbtu	0	mmbtu	$ -
Water:		kgal		kgal	N/A	N/A	$ -
Sewage		kgal		kgal	N/A	N/A	$ -
Annual Energy Savings					3,410 mmBtu		$ 231,460

NON-ENERGY SAVINGS (COSTS):

Item	# of years from Construction Start Year when item occurs	Savings/Costs
Annual Recurring		$ -
Non-Recurring Savings/ Costs:		
1) rebate	0	$ 1,647,300
2)		
3)		
4)		

Notes:

[F1] Adjustments can be made due to unique pricing adjustments (e.g. peak usage). Please provide documentation or support.

[F2] Costs held constant throughout project life.

Energy Project Scoring Model Template
Worksheet #2

Minimize Shore Energy Consumption **PILOT VERSION**

INSTRUCTIONS: Please select the appropriate energy use for the items below and enter in any additional comments below.

Project Name: **Photovoltaic System SPAWAR with Battery Back-Up**

GREENHOUSE GAS EMISSIONS:

NEPTune uses EPA emissions factors, as cited below, in the calculation of the following GHG emissions. Please only use the override box if there are more accurate emissions factors for the project explicitly available. Provide the appropriate documentation with this template.

Energy/Fuel Type	Annual Energy Saved		Fuel Use	Override Emissions Factors: Use only if needed, otherwise leave blank (empty, not zero). Please enter in either lb CO2 and CH4/N2O per mmbtu or per MWh where applicable			Emissions (lb)*		
				CO_2	CH_4	N_2O	CO_2	CH_4	N_2O
Electricity	999.00	MWh	Electricity Generation				539.522	31	4
Demand	-	MWh	Electricity Generation				-	-	-
Distillate Oil	-	mmbtu					-	-	-
Residual Oil	-	mmbtu					-	-	-
Natural Gas	-	mmbtu					-	-	-
Coal	-	mmbtu					-	-	-
LPG	-	mmbtu					-	-	-
Other	-	mmbtu					-	-	-
Other	-	mmbtu					-	-	-
	999.00						539.522	31	4
			Global Warming Potential**				1	25	298
			CO_2e				539.522	761	1.339
			total lb CO_2e				541.625		

Please provide any comments regarding the the emissions calculated above:

Annual Emissions Saved	541,625	lb CO2e
Economic Life of Project	20	years
Carbon Savings over Project Life	10,832,507	total lb CO_2e
Project Start Year	40452	

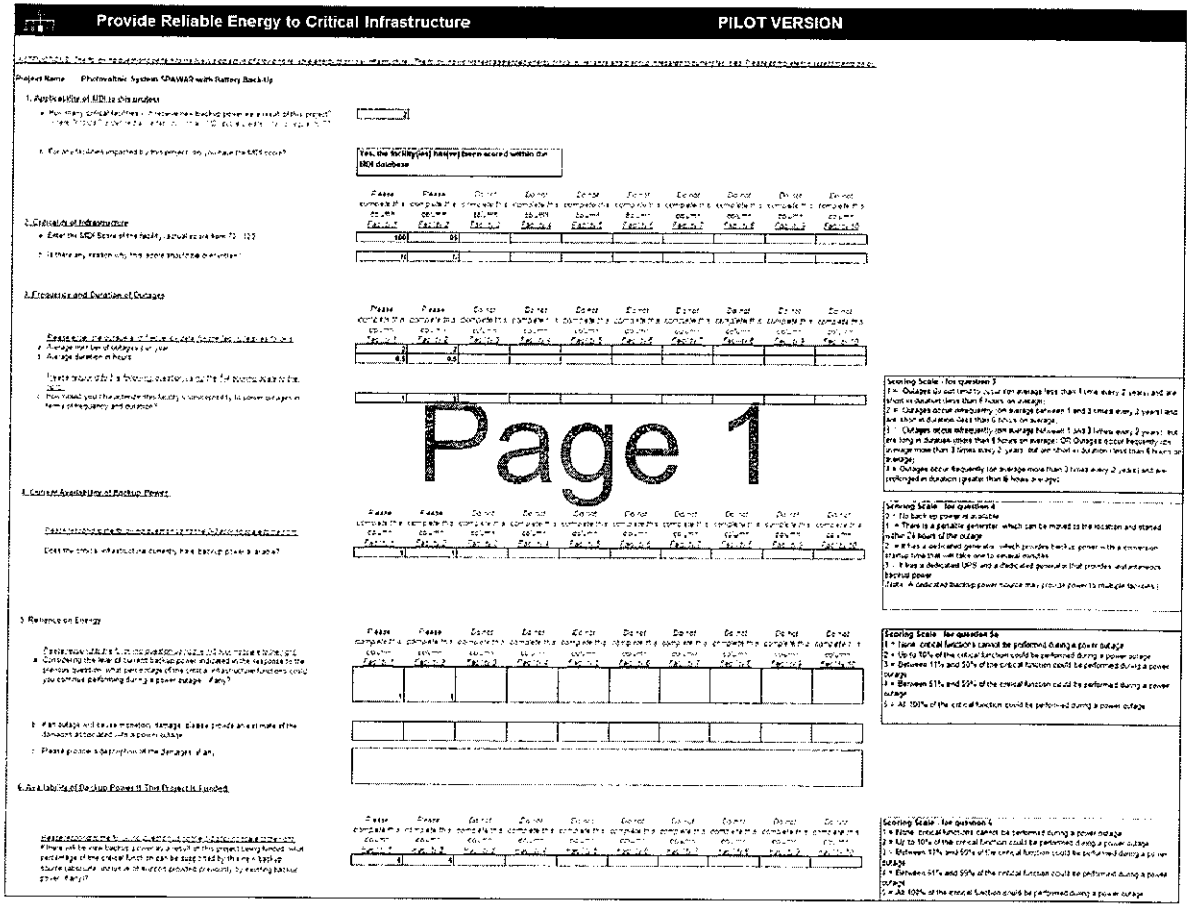
*Source: Emissions factors per eGRID2007 Version 1.1 State File (Year 2005 Data) and Greenhouse Gas Inventory Protocol Core Module Guidance Tables B-3 and A-1

** Source: Forster, P., V. Ramaswamy, P. Artaxo, T. Berntsen, R. Betts, D.W. Fahey, J. Haywood, J. Lean, D.C. Lowe, G. Myhre, J. Nganga, R. Prinn, G. Raga, M. Schulz and R. Van Dorland, 2007: Changes in Atmospheric Constituents and in Radiative Forcing. In: Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change [Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Averyt, M.Tignor and H.L. Miller (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA. Table 2.14. 100 year GWP

2

Enclosure (2)

Energy Project Scoring Model Template
Worksheet #3



Enclosure (2)

Energy Project Scoring Model Template
Worksheet #4

Regulatory Compliance and Shareholder Expectations PILOT VERSION

INSTRUCTIONS: The following questions pertain to the Navy's objective of achieving regulatory compliance and addressing shareholder expectations. Projects will be assessed with regards to the topics below (e.g. regulatory compliance and public perception). Please complete the assessments below for the current project.

Project Name: Photovoltaic System SPAWAR with Battery Back-Up

Regulatory Compliance

Below are some of the key regulatory mandates with which the Navy would like to comply when investing in energy related projects.

Energy Independence and Security Act (EISA) of 2007
- 55% reduction in new facility petroleum use by FY10
- 2% reduction in non-tactical vehicle petroleum use annually to FY15
- 100% natural gas and steam metering by FY16
- 25% facility energy audits annually
- 3 % reduction in facility energy intensity annually to FY15

Executive Order 13423 and 13514

EO 13123
- 10% energy audits annually
- 15% of existing buildings to be of sustainable design by 2015
- 10% increase in annual alternative fuel use

EO 13514
- New Federal buildings, entering the design phase in 2020 or later, are designed to achieve zero net energy by 2030
- 2% annual reduction in potable water consumption intensity through FY 2020, or 26% by the end of FY 2020
- 2% annual reduction in non-potable water consumption intensity through FY 2020, or 20% by the end of FY 2020
- Reducing petroleum consumption in agency fleets of 20 or more 2% annually through FY2020

Energy Policy Act of 2005
- 7.5% renewable electricity consumption by FY13
- 100% electric metering to be provided by FY12
- 100% alternative fuel vehicles to be operated

National Defense Authorization Act of 2007
- 25% renewable energy of all energy consumed by 2025

Please use the guidance to the right and the drop down box below to answer the question below:

1. **Given the regulatory mandates above, the proposed project will:** 3

Scoring Scale (Treats Executive Order 13423 and 13514 as one)
4 = address or contribute to all four mandates
3 = address or contribute to three mandates
2 = address or contribute to two mandates
1 = address or contribute to one mandate
0 = address or contribute to none of the mandates

Energy Project Scoring Model Template
Worksheet #4 (Continued)

Public Perception

Please use the guidance to the right to answer the question below and use the scroll bars and drop down boxes to input data

2. **Will this project showcase to the public that the Navy is investing in renewable energy that will yield social policy benefits?**

Impact on Public's Perception if project is conducted (Please see guidance to the right)	Estimate of when significant impact (50% of max) first occurs (Relative to the completion of the project)
0 1 2 3 — Score: 3.0	Immediately

Please justify your project's score and scope of impact:

Will immediately receive favorable local and national press

Scoring Scale
3 = this project will receive extremely favorable national or international media coverage
2 = this project will receive moderately favorable regional media coverage
1 = this project will receive only minor favorable local media coverage
0 = this project will receive no media coverage

Quality of Service

Below is a brief summary the Navy's goals with respect to Quality of Service:

Quality of Service is a balanced combination of Quality of Life and Quality of Work. This encompasses having a work environment that contributes to personal and professional growth, and includes job satisfaction, ongoing professional growth, high-quality training and education, personal recognition, and confidence in the Navy's promises to its employees and their families

Please use the guidance to the right to answer the question below and use the scroll bars and drop down boxes to input data

3a. **How will this project impact these Quality of Service goals?**

Impact on Quality of Service if project is conducted (Please see guidance to the right)	Estimate of when significant impact (50% of max) first occurs (Relative to the completion of the project)
-3 -2 -1 0 1 2 3 — Score: 2.1	Immediately

Please justify your project's score and scope of impact:

Covered parking.al

Scoring Scale
3 = Quality of Service will be positively impacted to a significant degree
2 = Quality of Service will be positively impacted to a moderate degree
1 = Quality of Service will be positively impacted to a modest but noticeable degree
0 = this project will not have a noticeable impact on Quality of Service
-1 = Quality of Service will be negatively impacted to a modest but noticeable degree
-2 = Quality of Service will be negatively impacted to a moderate degree
-3 = Quality of Service will be negatively impacted to a significant

Using the guidance to the right, please choose the number that corresponds to the best answer to the following question:

3b. **The impact this project will have on Quality of Service will affect how many people in the Navy?** 3

Scoring Scale
6 = greater than 100,001 Active, Reserve and DoN Civilians
5 = between 10,001 and 100,000
4 = between 1,001 and 10,000
3 = between 101 and 1,000
2 = between 11 and 100
1 = between 1 and 10

Energy Project Scoring Model Template
Worksheet #5

Develop Enabling Infrastructure — PILOT VERSION

INSTRUCTIONS: The following questions pertain to the Navy's objective of developing infrastructure that will enable a comprehensive and reliable grid in the future. Projects will be assessed with regards to the topics below (e.g. the ability to improve data and information about energy production and consumption). Please complete the assessment below for the current project.

Project Name: Photovoltaic System SPAWAR with Battery Back-Up

Improve Data and Information About Energy Production and Consumption

Please use the guidance below to answer the following question:

1 How will this project impact the Navy's data and information regarding energy demand and supply? **1**

Scoring Scale

3 = The Navy will experience a comprehensive improvement in its data and information about energy demand and supply. Significant new information or significant new technology/infrastructure will be created with a major scope of applicability including information provided through onsite energy audits. The new information generated by this project will provide Navy with all of the following:

- comprehensive historic and projected information about energy usage
- historic and real-time electricity outage and disruption information
- real-time monitoring information about electricity usage at the end user level
- historic and real-time and project information on electricity production within the facility, if electricity is produced on base
- presentation of information on management that are comprehensive, easy to understand, insightful, decision oriented and timely
- high-quality, accurate, and auditable data that can be maintained, secured and integrated
- potential for significant future energy savings or cost avoidance
- application to a large fraction of the Navy's facilities
- ability to share information about critical energy or about lessons learned between bases and geographic regions

2 = Navy will experience a **moderate** improvement to its data and information about energy demand and supply. New information or technology/techn

1 = Navy will experience a **minor** improvement to its data and information about energy demand and supply. New information or technology/technical

0 = **No Impact**

Energy Project Scoring Model Template
Worksheet #5 (Continued)

Develop Flexible Energy Infrastructure

Please use the guidance below to answer the following question:

2. How will this project impact the development of a flexible energy infrastructure at Navy installations? **0**

Scoring Scale

3 = The Navy will experience a **major improvement** in its electric infrastructure for managing energy demand and supply. **Significant new capability** will be created that will enable a **major scope of energy efficiencies in the future**. The new infrastructure will provide the Navy with all of the following

- integrated communications that will allow for real-time control, information and data exchange to optimize system reliability, asset utilization and security.
- sensing and measurement systems that evaluate congestion and grid stability, monitor of equipment health, prevent energy theft and control strategies support.
- high speed sensors (phasor measurement units) distributed throughout the Navy base network that can be used to monitor power quality and (perhaps) allow for automatic response.

The infrastructure developed in this initiative:

- applies to a **large fraction** of Navy's facilities, **AND**
- will enable adoption of renewable energy production at a **large fraction** of Navy's facilities.

2= Navy will experience a **moderate** improvement to electric infrastructure for managing energy demand and supply. **Moderate** degrees of new infras

1 = Navy will experience a minor improvement to electric infrastructure for managing energy demand and supply. **Minor** degrees of new infrastructure

0 = **No Impact**

Energy Project Scoring Model Template
Worksheet #5 (Continued)

Demonstrate and Enable New Energy Technology Adoption That Enables Energy Independence

Please use the guidance below to answer the following question:

3a. How will this project impact the Navy's ability to demonstrate new energy technology adoption that enables energy independence? 3

Scoring Scale

3 = The Navy will experience a **comprehensive** learning and validation of the applicability of new energy technologies for deployment within the Navy through a successful implementation and demonstration initiative. This project will provide a **significant** impetus for the rollout of new energy technologies. Without this project, the learning, validation, and impetus for rolling out this new technology would not occur.

2 = The Navy will experience a **moderate** learning and validation of the applicability of new energy technologies for deployment within the Navy through a successful implementation and demonstration initiative. This project will provide a **moderate** impetus for the rollout of new energy technologies. Without this project, the learning, validation, and impetus for rolling out this new technology would not occur.

1 = The Navy will experience a **limited** learning and validation of the applicability of new energy technologies for deployment within the Navy through a successful implementation and demonstration initiative. This project will provide a **minor** impetus for the rollout of new energy technologies. Without t

0 = This project **does not** provide any "demonstration value".

3b. This project will be applicable at what percentage of current, operating Navy installations?

100%
50%
0%

Energy Project Scoring Model Template
Worksheet #6

Impact of Deferring — PILOT VERSION

INSTRUCTIONS: Is there a limited or closing window of opportunity for conducting the project, such that delaying it by one year would significantly change its benefits or costs? If so, indicate on this page the impact to each of your estimated benefits or costs if project funding had to be deferred by one year.

Project Name: Photovoltaic System SPAWAR with Battery Back-Up

Identify the impact on the magnitude of project benefits caused by deferring project funding by one year:

1	**Impact of Deferral on Implementation Timeline and Investment Costs**	Costs would increase 10% and be delayed by 1 year
	Please describe the rationale for the impact of deferring	
2	**Impact of Deferral on Benefits Associated with Energy Reduction**	Benefits would remain the same except be delayed by 1 year
	Please describe the rationale for the impact of deferring	
3	**Impact of Deferral on Benefits Associated with Providing Reliable Energy to Critical Infrastructure**	Benefits would remain the same except be delayed by 1 year
	Please describe the rationale for the impact of deferring	
4	**Impact of Deferral on Benefits Associated with Complying with Regulatory Guidelines and Meeting Stakeholder Expectations**	Benefits would decrease 10% and be delayed by 1 year
	Please describe the rationale for the impact of deferring	
5	**Impact of Deferral on Benefits Associated with Developing Enabling Infrastructure**	Benefits would decrease 10% and be delayed by 1 year
	Please describe the rationale for the impact of deferring	

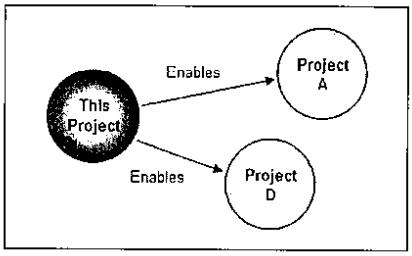
Energy Project Scoring Model Template
Worksheet #7

Project Interdependencies

INSTRUCTIONS
Describe project interdependencies on this page. The four types of interdependencies are detailed below:
***Enter in Section 1**, the names of all projects that cannot be conducted unless this project is also conducted.*
***Enter in Section 2**, the names of all projects (including ongoing) that must be conducted in order for this project to be conducted.*

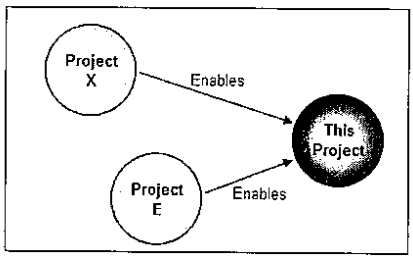
Project Name: **Photovoltaic System SPAWAR with Battery Back-Up**

1.) **Please list other proposed projects that could not be conducted unless this project is conducted:**



List project numbers	List associated project names

2.) **Please list other proposed (including ongoing) projects that must be conducted to permit this project to be conducted:**



List project numbers	List associated project names

Enclosure (6):

Management Response from Commander, Naval Facilities Engineering Command

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
1322 PATTERSON AVENUE, SE SUITE 1000
WASHINGTON NAVY YARD DC 20374-5065

7500
Ser IG2/014
11 May 11

From: Commander, Naval Facilities Engineering Command
To: Assistant Auditor General for Installations and Environment Audits, Naval Audit Service

Subj: RESPONSE TO NAVAL AUDIT SERVICE DRAFT REPORT PHOTOVOLTAIC PROJECTS AT HAMPTON ROADS, VA AND NAVY INSTALLATIONS IN FLORIDA, TEXAS AND MISSISSIPPI, N2009-NIA000-0143.006

Encl: (1) Commander, Naval Facilities Engineering Command response to subject draft report
(2) Documents supporting NAVFAC Response

1. We reviewed the subject report and enclosure (1) provides our responses to the recommendations. Supporting documentation provided in enclosure (2).

2. The NAVFAC audit liaison point of contact is Ms. Shelia Bryant, 202 685-9112. The NAVFAC technical point of contact is Mr. Sergio Guzman 202 685-9135.

Freedom of Information Act (b)(6)

STEPHEN S. BELL
Inspector General

NAVAL AUDIT SERVICE
DRAFT AUDIT REPORT N2009-NIA000-0143.006
AMERICAN RECOVERY AND REINVESTMENT ACT OF 2009 - PHOTOVOLTAIC PROJECTS AT HAMPTON ROADS, VIRGINIA, AND NAVY INSTALLATONS IN FLORIDA, TEXAS, AND MISSISSIPPI

AUDIT AGENCY RECOMMENDATION #4:
Establish processes and provide oversight to ensure appropriate contracting vehicles are used to protect the interests of the Department of the Navy.

NAVFAC Response: Concur.
NAVFAC conducts acquisition planning to ensure that the Government meets its needs in the most effective, economical and timely manner. Acquisition planning includes developing and documenting the overall strategy for managing the acquisition. The Acquisition Planning Team consists of all personnel responsible for significant aspects of the acquisition (i.e., contracting, fiscal, legal, technical and small business personnel). Acquisition Strategy Boards, if appropriate, are utilized to determine the acquisition strategy for procurements. The following factors are considered in determining the strategy and contracting vehicle: scope and complexity; in-house capacity and contract capacity; socio-economic programs; results of market research; schedule constraints; cost or budget; site availability and site approval; external support requirements; anti-terrorist force protection issues, explosive arc or air operations impacts; natural and cultural resources; and environmental issues.
NAVFAC's Business Management System (BMS) documents our corporate business policies and processes. The following BMS processes are related to acquisition planning and work induction to NAVFAC: F-30.1, Work Induction System; F-30.2, Workload Management; S-17.1.1, Market Research Including the Management and Oversight Process for the Acquisition of Services (MOPAS); and S-17.1.3, Acquisition Planning Documentation. In accordance with the NAVFAC Acquisition Supplement (NFAS), formal written acquisition plans, when required, are approved by no lower than the Echelon III/IV Chief of the Contracting Office. Specific to the Global Contingency Construction (GCC) Contract, all planned requirements for this contract vehicle are approved by the Echelon III Commander through the Echelon III Operations Officer. All action is completed for this recommendation as NAVFAC has existing established processes for work induction and acquisition planning.

Enclosure (1)

Last Updated: 24-MAR-10

Freedom of Information Act (b)(6)

F-30.1 Work Induction System

Process Owner Team, Lead: Luke Jackson (NAVFAC Atlantic)

Process Step	Associated Procedure	Resources
30.1.1 Communicate Work Requirement	External Client(s): • Communicate requirement for a product/service to NAVFAC. • Ensure that any requirement that is needed to support his/her requests (e.g., funding, authorization, site approval, scope) has been completed prior to submitting the request to NAVFAC.	
30.1.2 Review Work Requirement	NAVFAC Associate(s): • Review Client work requirement and determine if client requirement is clear and complete. If additional information is required, contact client to obtain required information. • Determine Business Line, Product/Service Code per Enclosure 1 of NAVACINST 7040.5E (Product/Service Matrix), and Business Line Category of Work (COW) for the requested product/service. • NAVFAC Support Lines should not use Work Induction System to create Work Orders for submission. These should be created directly in SPM or eProjects directly without going through the WIS. Work Induction System is for NAVFAC Business Line Products and Services Only.	Enclosure 1 of NAVFACINST 7040.5E NAVFAC Products and Services Matrix NAVFAC Business Line COW Descriptions
30.1.3 Input Client Requirement	NAVFAC Associate(s): • Log into the Single Platform MAXIO (SPM) Associate Work Order WIS Work Induction screen. (NOTE: Associate must have an account established to access SPM.) Specific procedures for logging into SPM and accessing the Work Induction screen can be found in Chapter 2 of the WIS Manual. • Enter client requirement as a new Work Order. All required data elements must be completed before the new Work Order can be submitted in the system. Chapter 3 of the WIS Manual provides step by step	SPM Login URL Work Induction System (WIS) Manual

Last Updated: 24-MAR-10

Process Step	Associated Procedure	Resources
	details for entering a new Work Order. • When the new Work Order has been completed (all required items filled in), select the ***Save*** button, followed by the ***Submit*** button. (**NOTE: All new Work Orders must be Saved prior to being Submitted.** The purpose of this is to allow SPM to perform certain validations. The Submit button will only be enabled after SPM has performed its validation of the new Work Order. Pressing the Submit button causes the Business Line Rules (BLRs) to initiate and route the Work Order to the appropriate Responsible Team and also sends the Work Order to the appropriate project management IT system (e-Projects or SPM)). • If the new Work Order can not be completed immediately, select the ***Save*** button; query the system by the Work Order Number and continue to work on the request at a later time. Notes: The Work Order will be sent electronically to the appropriate project management system; either eProjects or SPM. If eProjects is the designated project management system, the work request becomes non-editable in SPM. Any further editing of the inducted work request will be accomplished in eProjects. If a standard BLR does not exist for the work item entered, the new Work Order will be routed to the Work Induction Board (WIB).	
30.1.4 Monitor for Newly Routed Work	Responsible Team: • Designate specific individual(s) to monitor the system for incoming work. (NOTE: All access rights for teams at a NAVFAC component are under the local control of the ieFACMAN or SPM administrator). • Monitor for new Work Orders that have been routed to the Responsible Team or the WIB. Work Orders routed to the WIB can be located by going to the Start	eProjects Training Manual Work Induction System (WIS) Manual

Last Updated: 24-MAR-10

Process Step	Associated Procedure	Resources
	Center in SPM and clicking on WIB from the pull down menu. The "WIB Search/Incoming" screen will appear. Notes: For instructions on how to find a newly inducted Work Order that has been routed to eProjects for project management, refer to the eProjects Instruction Manual. When eProjects is the project management system, multiple data elements from the Work Order are automatically sent to eProjects. A list of those data elements can be found in Chapter 3 of the WIS Manual. The original Work Order "Stub Record" is left behind in SPM and remains dormant except for certain elements that can be updated from eProjects and then passed back to the "Stub Record" for update. Work Induction Board: • Review Work Order routed to WIB and select the appropriate team to perform the work and the appropriate project management system (SPM or eProjects). • Update these fields on the Work Order in SPM and select "OK". (NOTE: An automatic email notification is then sent to the Execution Team.)	
30.1.5 Pursue Reachback Support, if Required	Responsible Team Leader: • Determine if Responsible Team (original team that was assigned work by the WIS BLRs) has the ability to perform the requested work (based on capability and capacity). • Pursue reachback support if determination is that the Responsible Team can not perform the requested work (per the NAVFAC CONOPS). • Discuss and agree upon redirection of work with receiving team (designated as Execution Team in WIS).	NAVFAC CONOPS

Last Updated: 24-MAR-10

Process Step	Associated Procedure	Resources
30.1.6 Complete Work Induction	Responsible or Execution Team: • Assign a Project Manager and team members (in eProjects) or a Technician (in SPM) for new work. Responsible Team: • For reassigned work, edit the work record to show that the work has been reassigned to a Project Manager/Technician on the new Execution Team. (NOTE: The Responsible Team information remains the same for the duration of the project.) Responsible or Execution Team Project Manager/ Technician: • Change Work Order status to "Accepted."	
30.1.7 Monitor Work Induction System Metrics	Business Line Leaders and Operations at all NAVFAC Commands: • Establish and regularly monitor WIS metrics and implement corrective action, as appropriate. NOTE: All NAVFAC employees have access to WIS Reports within the Reports Module of ieFACMAN. These reports can be used to show percentage of WIS usage and show what type of work is being accomplished for a given Responsible/Execution Team.	WIS Usage Reports Instructions Reports Module in ieFACMAN

Last Updated: 13-SEP-10

Freedom of Information Act (b)(6)

F-30.2 Workload Management

Process Owner Team, Lead: Vicky Taylor (NAVFAC HQ)

Process Step	Associated Procedure	Resources

30.2.1 Receive Work	NAVFAC Associate or Client:
	• Identify a specific work requirement, define the scope of work, and determine the budget.
	• Forward the work requirement to the Public Works Department (PWD) or Integrated Product Team (IPT).
	PWD Requirements Branch or IPT:
	• Clarify the initial scope of work and estimate the cost:
	  ○ Validate the work requirement is legitimate, necessary, and fundable.
	  ○ Verify the scope is clear and understandable, with enough detail to continue processing the work requirement.
	  ○ Coordinate with the originator to refine or clarify the scope, as required.
	• Determine if the work is a NAVFAC provided Product or Service (P/S).
	  ○ If no, return the work request to the originator and provide a recommendation for an alternate provider.
	  ○ If yes, determine the applicable Business Line, P/S Code, and Category of Work (COW).
	• Determine if the work requirement will be managed on an Integrated Priority List (IPL):
	  ○ If yes, then plan, prioritize, and/or program into the appropriate IPL. Following are guidelines for IPL assignment:
	  ▪ Work requirement scope and cost are within PWO authority:
	  ▪ Prioritize at the local level and include in the PWD discretionary program IPL.
		Process Map -Work Management Process (7 Steps)
		IT Enterprise Architecture Operational View of the Work Management Process (7 Steps)

Last Updated: 13-SEP-10

Process Step	Associated Procedure	Resources
	▪ Work requirement scope and cost are within Region authority: ▪ Prioritize at the local level and include in the Region IPL (Facilities Engineering Command (FEC) Assistant Regional Engineer (ARE) authority). ▪ Work requirement scope and cost are within Commander Navy Installations Command (CNIC) authority: ▪ Prioritize and place in the CNIC IPL (Special Projects, MILCON, Demolition, etc). ○ If no, continue with the remaining procedures. If the work requirement is for emergency service work or transportation P&S, go to Process Step 30.2.6. • Save the work requirement. Do not submit/induct the work requirement through the Work Induction System (WIS) until validation that funding is available. • When funds are available and the work requirement is authorized by the client for execution, go to Process Step 2.0 to induct the work. (**OUTCOME:** A validated work requirement with a scope of work, a planned budget, and any known constraints. If applicable, the work is associated with an appropriate IPL, prioritized, and programmed for funding and execution.)	
30.2.2 Induct Work	PWD Requirements Branch or IPT: • Identify the applicable Business Line, P&S Code, and COW for the work requirement and submit/induct the work requirement through the WIS screen in MAXIMO. (**NOTE:** WIS will not allow the request to be submitted unless the Business Line, P&S Code, and COW are included.) ○ If the appropriate Business Line, P&S Code or COW cannot be determined, forward the work requirement to the Work Induction Board (WIB) for	WIS Information on NAVFAC portal

Last Updated: 13-SEP-10

Process Step	Associated Procedure	Resources
	determination. ○ Once the WIB has determined the correct Business Line, P&S Code and COW the work requirement can be submitted through WIS. • Based on predetermined, programmed Business Line Rules, WIS will automatically route the work requirement to either MAXIMO or eProjects and assign the appropriate team. ○ If no predetermined, programmed Business Line Rules exist for the work requirement, forward the work requirement to the WIB for determination of the appropriate team. ○ Once the WIB has determined the appropriate team the work requirement can be submitted through WIS. (**OUTCOME:** A funded and approved for execution work requirement inducted through WIS, routed to either MAXIMO or eProjects, and assigned to the responsible execution team.)	
30.2.3 Initiate Work	PWD Requirements Branch or IPT: • Validate the assigned team (designated as "Responsible Team") has the capacity and capability to perform the work. • If no, pursue reach-back support. ○ Discuss this redirection of work with and obtain agreement from the receiving team (designated as the "Execution Team"). ○ Update the Execution Team in the Information Technology (IT) work management system assigned through WIS (MAXIMO or eProjects). • Perform acquisition strategy and develop work schedule milestones. Enter into MAXIMO or eProjects, as applicable. ○ Convene Acquisition Strategy Board, if appropriate, to determine Acquisition Strategy. ▪ Factors to consider for Acquisition	B-1 Design & Construction B-1.2 Project Initiation B-1 Design & Construction (see processes under B-1.4 Design-Build) B-1 Design & Construction (see processes under B-1.5 Design Bid Build (Full Plans & Specs)) B-10 Facility Types B-11 MILCON B-21 Anti-Terrorism Force Protection – (Under development) B-25 Asset Management B-15 Facility

Last Updated: 13-SEP-10

Process Step	Associated Procedure	Resources
	Strategy: ▪ Scope/Complexity ▪ In-house capacity/Contract capacity ▪ Schedule constraints ▪ Cost/Budget ▪ Site availability/Site approval ▪ External support requirements ▪ Anti-Terrorist Force Protection Issues ▪ Explosive Arc or Air operations impacts ▪ Natural and Cultural resources ▪ Environmental issues ○ Develop major schedule milestones for work package completion, contract award (if applicable), and completion of work. • Determine and assign the appropriate pre- and post-award team members in MAXIMO or eProjects. As a minimum, a team will consist of a Project Manager (PM), a Contract Specialist, and the Client. • Obtain funding and appropriate Job Order Numbers (JONs) for work package development. Enter into MAXIMO or eProjects, as applicable. (**OUTCOME:** The IT work management system (MAXIMO or eProjects) is updated with acquisition strategy, schedule milestones, team assignments, funding, and assigned JONs.)	Sustainment B-24 Public Works Business Line B-3 Environmental Planning & NEPA Compliance B-6 Cultural Resource Management B-7 Natural Resource Management B-9 Environmental Restoration B-16 Environmental Compliance B-17 Environmental Quality B-18 Environmental Services
30.2.4 Develop Work	PWD Facilities Engineering and Acquisition Division (FEAD) or IPT: • If a new contract or task order is needed, build an Electronic Contract Request (ECR) within the appropriate IT work management system (MAXIMO or eProjects). Using the ECR provides an automated method to enable consolidated reporting of efforts across systems, as well	S-17 Pre- and Post-Award of Contracts S-18 Contract Support S-3 Financial Management

Last Updated: 13-SEP-10

Process Step	Associated Procedure	Resources
	as improve availability of contract information. • Prepare the scope of work in the format that supports the work requirements and the acquisition strategy. Project Manager: • Use project management principles to manage scope, budget, and schedule as the work package is developed. • Routinely update status and information in the appropriate work management IT system (MAXIMO or eProjects) as the work package is developed. PWD Requirements Branch or IPT: • Obtain funds or promise of availability of funds: o Determine that the scope of work documentation is complete and ready for execution. o Request final client approval to fund and execute the work. o Prepare a funding request. o Receive the appropriate funding documentation. • Submit the scope of work documentation for execution: o If acquisition strategy is a contract, update the ECR and submit the work package to the assigned acquisition Contract Specialist. Go to Process Step 5.0. o If acquisition strategy is Shop, submit to in-house Shop. Go to Process Step 6.0. (**OUTCOME:** A complete work package with scope, budget, and schedule; with client approval for execution and funding; ready for award/execution.)	
30.2.5 Solicit/Award Contract	PWD FEAD Acquisition or IPT Acquisition: • Issue the Request for Proposal (RFP) to contractor(s).	S-17 Pre- and Post-Award of Contracts S-3 Financial Management

Last Updated: 13-SEP-10

Process Step	Associated Procedure	Resources
	• Receive proposal(s). • Evaluate proposals for cost, scope, and schedule. Negotiate as necessary. • Obtain funds if a promise of availability of funds was received in Step 4.0 or if additional funds are required. • Award the contract. Project Manager: • Update MAXIMO or eProjects with contract award status and information.	
30.2.6 Execute Work	PWD FEAD or IPT: • If this work requires construction or repair management, executed via contract, follow the appropriate Capital Improvements (CI) Business Line Business Management System (BMS) processes. • For products and services not requiring construction or repair management executed via contract (e.g., emergency/service/recurring work, utilities, minor or specific work accomplished by the shops, studies, technical services, environmental, fundable estimates, real estate actions, inspections, facilities support contracts, planning documents, etc), execute and deliver in accordance with appropriate Business Line BMS processes. Project Manager: • Routinely update MAXIMO or eProjects with work execution status and information.	B-1 Design & Construction B-1 Design & Construction (see processes under B-1.6 Construction) B-25 Asset Management B-3 Environmental Planning & NEPA Compliance B-6 Cultural Resource Management B-7 Natural Resource Management B-9 Environmental Restoration B-16 Environmental Compliance B-17 Environmental Quality B-18 Environmental Services B-5 Utilities & Energy (U&E) Management B-8 Base Support Vehicles & Equipment B-14 Facility Support Contract Management and Facility Services B-15 Facility

Last Updated: 13-SEP-10

Process Step	Associated Procedure	Resources
		Sustainment B-24 Public Works Business Line

30.2.7 Close Out Work	PWD FEAD or IPT:
	• As required, for construction or repair work executed via contract.
	  o Acquire and turnover:
	  ▪ Equipment & Inventory
	  ▪ Maintenance Manuals
	  ▪ Warranty data (roofs, chiller, etc)
	  ▪ As-built drawings
	• Initiate service contract work, as applicable (i.e. janitorial, grounds maintenance, etc.)
	• Develop and initiate preventative and recurring maintenance work requirements.
	• Revise record drawings such as utility maps used for operational reference.
	• Establish warranty program.
	• Submit Interim DD 1354 (Transfer & Acceptance of Military Real Property) as required.
	• Closeout contract, if applicable.
	• Closeout work in MAXIMO and/or eProjects, as applicable. MAXIMO may generate a customer survey. eProjects will generate a notice to the Project Manager for all MILCON projects and any Special Project costing more than $5 million.
	• Settle financial accounts and perform financial closeout.
	• Submit Final DD 1354, as required.
	(**OUTCOME:** Complete work, ready to deliver to our clients.)
		B-1 Design & Construction (see processes under B-1.6.7 Facility Delivery Building Performance)
		B-1.6.11 NAVFAC Red Zone
		B-1.6.12 Completion Inspections
		B-1 Design & Construction (see processes under B-1.6.13 Acceptance and Turnover Items)
		B-1.6.14 Claims - Technical Support
		B-1.7 Contact and Project Closeout
		S-3 Financial Management

S.17.1.1 Market Research Including Management and Oversight Process for the Acquisition of Services (MOPAS) Requirements

Freedom of Information Act (b)(6)

Process Owner Team, Lead: Marcia Barnard (NFI)

Summary of Significant Changes – process refresh November 2009

- Various technical and administrative changes have been made as a result of an annual review of the process to ensure accuracy of resource references and policy guidance as well as consistency of common language steps.
- Process step 17.1.1.4 revised to include requirement for Contracting Officers to consult the Disaster Response Registry as part of market research for disaster or emergency relief activities inside the United States and outlying areas.

Summary of Significant Changes – process refresh October 2008

- Revisions made to the process to incorporate DFARS 210.001 requirement for conducting market research and analyzing results prior to (a) soliciting offers for acquisitions that could lead to a consolidation of contract requirements and (b) issuing a solicitation with tiered evaluation of offers.

Summary of Significant Changes – process refresh August 2008

- Revisions made to the process to clarify that MOPAS is not required for Architect-Engineer, Construction or Utility Service Acquisition contracts. However, the Contracting Officer must ensure that the requirement is adequately defined, and the type of contract is appropriate for the requirement/circumstances so that a competitive environment is maintained and small business concerns are addressed.

Process Step	Associated Procedure	Resources
17.1.1.1 Conduct Strategic Market Research	FAR 10.001, subparagraph (a)(3), and FAR 10.002, subparagraph (b) state that market research is conducted to determine if sources capable of satisfying the agency's requirements exist and if commercial items or non-developmental items are available to meet the Government's needs, or could be modified to meet the Government's needs. FAR 10.002, subparagraph (b)(1) states that the extent of market research will vary, depending on such factors as urgency, estimated dollar value, complexity, and past experience. Market research involves obtaining information specific to the item being acquired. Strategic market research is the ongoing process, independent of any particular requirement, of staying abreast of product and service developments in specific product and service areas that meet the agency's needs. Strategic market research should be conducted from a program perspective and can be valuable to draw information from during the project	FAR 10.001 FAR 10.002

Process Step	Associated Procedure	Resources

	market research process.
	
	Tactical market research is the more focused, requirement-specific market research that is conducted in response to a product or service requirement.
	
	Contracting Officer/Contract Specialist:
	• Conduct strategic, ongoing market research, as outlined in FAR 10.001, subparagraph (a)(2)(v), using any of the following suggested techniques:
	  ○ Review and remain current on service sector standards set by the industry. Examples of standards that are valuable in market research are error rates and task completion times.
	  ○ Keep abreast of and use commercially available market research methods by obtaining current information and methods online through topic searches to identify and be aware of service sector and industry capabilities and developments.
	  ○ Keep a centralized file of project market research reports by industry subject to review in order to:
	  ▪ Monitor trends.
	  ▪ Retrieve valuable information from a strategic perspective for regional and corporate acquisition planning, as well as future project market research.
	  ▪ Stay abreast of service sector and industry capabilities and developments.
	  ○ Use any other system or technique to follow market trends, capabilities, developments, pricing/cost fluctuations, and availability.
	• Involve acquisition and technical community by:
	  ○ Providing opportunity for input.
	  ○ Disseminating key findings during market research processes.	

Process Step	Associated Procedure	Resources
17.1.1.2 Conduct Project/Specific Requirement Market Research	Contracting Officer/Contract Specialist: • Conduct market research for acquisitions as outlined in FAR 10.001, DFARS 210.001, and NFAS 10.001: o Before developing new requirements documents for an acquisition by that agency. o Before soliciting offers for acquisitions with an estimated value in excess of the simplified acquisition threshold. o Before soliciting offers for acquisitions with an estimated value less than the simplified acquisition threshold when adequate information is not available and the circumstances justify its cost. o Before soliciting offers for acquisitions that could lead to a bundled contract. o Before soliciting offers for acquisitions that could lead to a consolidation of contract requirements as defined in DFARS 207.170-2. o Before issuing a solicitation with tiered evaluation of offers as defined in DFARS 202.101. • Conduct market research in a timely manner at the earliest possible time. Note: Failure to conduct market research in a timely manner is not a valid justification in attempting to limit competition.	DFARS 202.101 DFARS 207.170-2 DFARS 210.001 FAR 10.001 NFAS 10.001
17.1.1.3 Determine Information Needed to Conduct Market Research	Contracting Officer/Contract Specialist: • Conduct market research to determine: o If sources capable of satisfying the agency's requirements exist and if commercial items or non-developmental items are available to meet the Government's needs, or could be modified to meet the Government's needs. (Refer to the Commercial Item Handbook for guidance on market research for commercial items.) o If the benefits of the consolidation of contract requirements exceed the	Commercial Item Handbook DFARS 207.170 FAR 10.002 FAR Part 19

Process Step	Associated Procedure	Resources
	benefits of each of the possible alternative contracting approaches. (Refer to DFARS 207.170.) o Whether there are a sufficient number of qualified small business concerns available to justify limiting competition under the terms of the contract. • Obtain information specific to the acquisition by conducting market research that, as outlined in FAR 10.002, subparagraph (b)(1)(i), includes: o Whether the Government's needs can be met by: ▪ Items of a type customarily available in the commercial marketplace; ▪ Items of a type customarily available in the commercial marketplace with modifications; or ▪ Items used exclusively for governmental purposes. o Customary practices regarding customizing, modifying or tailoring of items to meet customer needs and associated costs. o Customary practices, including warranty, buyer financing, discounts, etc., under which commercial sales of the products are made. o The requirements of any laws and regulations unique to the item being acquired. o The availability of items that contain recovered materials and items that are energy efficient. o The distribution and support capabilities of potential suppliers, including alternative arrangements and cost estimates. o Size and status of potential sources. • Ensure market research information obtained will provide the basis for:	

Process Step	Associated Procedure	Resources
	○ Identifying opportunities for using commercial items/services to meet the requirement. ○ Determining the availability of other existing items (non-developmental items) to meet the requirement. ○ Writing product or service descriptions and performance work statements that allow companies to offer their commercial items and services in consonance with commercial practice. ○ Crafting acquisition strategies, solicitations, contracts, and support plans that accommodate and take advantage of commercial business practices and encourage commercial competition. ○ Determining whether the criteria in FAR Part 19 are met for setting aside the acquisition for small business or, for a task or delivery order, whether there are a sufficient number of qualified small business concerns available to justify limiting competition under the terms of the contract. ○ Complying with Federal mandates.	
17.1.1.4 Conduct Market Research	Contracting Officer/Contract Specialist: • Obtain information for market research using any of the following techniques, as outlined in FAR 10.002, subparagraph (b)(2): ○ Contact knowledgeable individuals in Government and industry regarding market capabilities to meet requirements. ○ Review results of recent market research undertaken to meet similar or identical requirements. ○ Publish formal requests for information in appropriate technical or scientific journals or business publications. ○ Query Government and commercial	CCR Website FAR 10.002 FAR 26.205 S-17.2.4 Synopsis of Contract Actions

Process Step	Associated Procedure	Resources
	databases that provide information relevant to agency acquisitions. o Participate in interactive, online communication among industry, acquisition personnel, and customers. o Obtain source lists of similar items from other contracting activities or agencies, trade associations or other sources. o Review catalogs and other generally available product literature published by manufacturers, distributors, and dealers or available on-line. o Conduct interchange meetings or hold pre-solicitation conferences to involve potential offerors early in the acquisition process. • Obtain information for market research using any of the following other techniques: o Build a list of potential suppliers from strategic market research data. For services, identify potential sources related to the service sector by obtaining potential service sector information. o Identify trends, fluctuations, market capabilities and developments from information maintained in the local and corporate strategic market research information. o Obtain existing Contracting Officer lists of contractors who have bid or proposed on similar services in the past. o Obtain information from other program offices. o Identify sources, obtain strategic market research information, obtain project-specific recommendations, or other valuable information from industry by posting a "Sources Sought" or "Request for Information" notice in the Federal Business Opportunities (FedBizOpps). (Refer to S-17.2.4 Synopsis of Contract	

Process Step	Associated Procedure	Resources
	Actions.) o Query the Central Contractor Registration (CCR) database for small business suppliers and contractors actively seeking to do business with the Government by using the Dynamic Small Business Search link on the CCR Website. o Perform an on-site inspection of a system or service related to the requirement. This involves visiting locations where a system or service is in use to determine its quality and operational experience of the customer. o Obtain past performance and product quality data from other sources such as government databases, consumer protection organizations, or user groups. Government technical personnel are also a rich source of past performance information. o Obtain past performance information for service quality history by obtaining references to verify the past performance of a prospective offeror. o Consult the Disaster Response Registry to determine the availability of contractors for debris removal, distribution of supplies, reconstruction, and other disaster or emergency relief activities inside the United States and outlying areas. (Refer to FAR 26.205, subparagraph (a).) Note: A list of prospective vendors voluntarily participating in the Disaster Response Registry can be retrieved using the CCR Search tool on the CCR Website.	
17.1.1.5 Analyze Market Research Information	Contracting Officer/Contract Specialist: • Analyze all information obtained from market research information retrieval techniques to ascertain if: o Commercial items or non-developmental items are available to	DFARS 207.170-3 DFARS 210.001 FAR 10.002 FAR Part 12 FAR Part 19

Process Step	Associated Procedure	Resources
	meet the Government needs, or ○ Could be modified to meet the Government's needs. • Ascertain acquisition method based on findings of market research analysis, as outlined in FAR 10.002 and DFARS 210.001. ○ If market research indicates commercial or non-developmental items might not be available to satisfy agency needs, reevaluate the need and determine whether the need can be restated to permit commercial or non-developmental items to satisfy the agency's needs. ○ If market research establishes that the Government's needs may be met by the type of item or service customarily available in the commercial marketplace that would meet the definition of a commercial item as outlined in FAR Subpart 2.1, solicit and award any resultant contract using the policies and procedures set forth in FAR Part 12. ▪ Determine if NAVFAC products and services are appropriate for commercial item acquisition. (Refer to NAVFAC Commercial Item Considerations, which provides samples of NAVFAC products and services that may be appropriate for commercial item acquisition.) Note: NAVFAC products and services that are NOT appropriate for commercial item acquisition include, but are not limited to, Architect-Engineer services subject to the Brooks Act, design-build construction, military construction, or maintenance of any item or facility that is unique to the Government. ○ If market research establishes that the Government's needs cannot be met by a type of item or service	FAR Subpart 2.1 NAVFAC Commercial Item Considerations

Process Step	Associated Procedure	Resources
	customarily available in the marketplace, the acquisition shall not be procured using the policies and procedures of FAR Part 12. Include a notice in the synopsis that the Government does not intend to use FAR Part 12 for the Acquisition, as outlined in FAR 10.002, subparagraph (d)(2). o If considering consolidation of two or more separate contracts, analyze market research information to ascertain whether consolidation of contract requirement is necessary and justified in accordance with DFARS 207.170-3. o If considering a solicitation with tiered evaluation of offers, analyze data to determine whether the criteria in FAR Part 19 are met for setting aside the acquisition for small business or, for a task or delivery order, whether there are a sufficient number of qualified small business concerns available to justify limiting competition under the terms of the contract. Note: If a determination cannot be made that the FAR Part 19 criteria can be met, include a written explanation in the contract file.	
17.1.1.6 Document Market Research and Findings and, if applicable, Complete Management and Oversight Process for the Acquisition of Services (MOPAS) Documentation	Contracting Officer/Contract Specialist: • Document the results of the market research appropriate to the size and complexity of the acquisition, as outlined in FAR 10.002, subparagraph (e), using the following templates: o For acquisition of services requiring Management and Oversight Process for the Acquisition of Services (MOPAS) review: ▪ Document market research findings using the MOPAS 2 Acquisition Strategy (Template). (Refer to FAR 37.502 for services not requiring MOPAS review.) ▪ Obtain appropriate approvals in	FAR 10.002 FAR 37.502 NFAS 37.170-2 NFAS 37.504 Market Research Report (Template) MOPAS 2 Acquisition Strategy (Template) S-17.1.3 Acquisition Planning Documentation

Process Step	Associated Procedure	Resources
	accordance with NFAS 37.170-2 and NFAS 37.504. Notes: (1) MOPAS is not required for Architect-Engineer, Construction, or Utility Service Acquisition contracts. However, the Contracting Officer must ensure that the requirement is adequately defined, and the type of contract is appropriate for the requirement/circumstances so that a competitive environment is maintained and small business concerns are addressed. (2) For services to be acquired by an agency other than the Department of Defense (DoD), a Determination and Findings (D&F) under the Economy Act shall be prepared instead of the MOPAS Acquisition Strategy document. o For all other acquisitions: ▪ Document market research findings using the Market Research Report (Template). ▪ Sign market research report and obtain approval as outlined in the Template. Approving Official: • Fully review and provide approval/non-approval of the findings, conclusions, and recommendations of the market research report. Contracting Officer/Contract Specialist: • Develop acquisition plan for acquisition method determined in market research documentation, as outlined in S-17.1.3 Acquisition Planning Documentation. Notes: (1) An Acquisition Plan is not required when a MOPAS 2 Acquisition Strategy document is approved for a service acquisition. Competitions conducted under Office of Management and Budget (OMB) Circular A-76 require a MOPAS 2	

Process Step	Associated Procedure	Resources
	only; an Acquisition Plan is not required. (2) Ensure market research documentation (i.e., Market Research Report or MOPAS Acquisition Strategy document) is included in the acquisition plan.	

S-17.1.3 Acquisition Planning Documentation

Freedom of Information Act (b)(6)

Process Owner Team, Lead: Marcia Barnard (NFI)

Summary of Significant Changes – process refresh February 2011

- Various technical and administrative changes have been made as a result of an annual review of the process to ensure currency of resource references and policy guidance as well as consistency of common language steps.
- Process step 17.1.3.1 has been revised to add reference to NFAS 37.170 for approval requirements for non-performance based service acquisitions; to raise the delegation authority of the Chief of the Contracting Office (CCO) to make a determination to award a task or delivery order contract to a single source to $103M due to FAR change effective 1 Oct 10; to revise verbiage related to justification for inclusion of options, to add the resource "Justification for Inclusion of Option(s) (Template)"; and to add references to FAR 7.105(b)(5) and FAR Subpart 32.7 for budgeting and funding guidance.
- Process step 17.1.3.3 has been revised to address mandatory use of the format in the DoN Acquisition Plan Guide for acquisitions with an estimated value of $100 million or more (including options) requiring approval by DASN (A&LM) and to add Peer Review approval requirements under Contracting Officer responsibilities and to include applicable resource references.

Summary of Significant Changes – process refresh September 2010

- Process step 17.1.3.5 – Establish/Maintain File Records has been revised to update this common language step, and include new Record Index resources.

Process Step	Associated Procedure	Resources
17.1.3.1 Ensure Acquisition Planning Actions are Complete	Acquisition Planning Team, as referred to in this process, consists of all personnel responsible for significant aspects of the acquisition (i.e., contracting, fiscal, legal, technical and small business personnel). Acquisition Planning Team: • Ensure all acquisition planning actions are complete, to include, as applicable: o Obtaining interagency acquisition approval. (Refer to S-17.1.7 Interagency & Intra-Navy Acquisitions.) o Obtaining non-performance-based service acquisition approval. (Refer to NFAS 37.170.) o Determining whether services to be acquired are considered Advisory and Assistance Services (A&AS). (Refer to S-17.1.6 Advisory and Assistance Services (A&AS).) o Determining whether requirement for products and services meets the	DFARS 216.504 F-31.1 Small Business Coordination Records DD2579 FAR 6.401 FAR 7.105 FAR 17.202 FAR 17.205 FAR 36.103 FAR Subpart 32.7 Justification for Inclusion of Option(s) (Template) NFAS 6.401 NFAS 16.504-90 NFAS 17.202 NFAS 37.170 NMCARS 5216.504

Process Step	Associated Procedure	Resources
	definition of commercial items. (Refer to S-17.2.20 Commercial Items.) o Obtaining approval for award of a task or delivery order contract to a single source. (Refer to Determination and Findings (D&F) requirement as outlined in DFARS 216.504, NMCARS 5216.504, and NMCARS 5216.504-90.) Note: The authority to make a determination to award a task or delivery order contract to a single source is delegated to the Chief of the Contracting Office (CCO) for actions at or below $103M. (Refer to NFAS 16.504-90.) o Conducting market research. (Refer to S-17.1.1 Market Research Including Management and Oversight Process for the Acquisition of Services (MOPAS) Requirements.) o Determining contract type. (Refer to S-17.1.4 Contract Type Determination.) o Ensuring small business concerns are afforded an equitable opportunity to compete for all contracts that they can perform to the extent consistent with the Government's interest. (Refer to F-31.1 Small Business Coordination Records DD2579.) o Obtaining justification for other than full and open competition. (Refer to S-17.2.7 Justification and Approval for Other Than Full and Open Competition.) o Obtaining written justification for inclusion of options, using the Justification for Inclusion of Option(s) (Template). (Refer to FAR 17.202, FAR 17.205, and NFAS 17.202.) o Selection of acquisition method. Notes: (1) Sealed Bidding and Competitive Proposals: When the conditions in	NMCARS 5216.504-90 S-17.1.1 Market Research Including Management and Oversight Process for the Acquisition of Services (MOPAS) Requirements S-17.1.4 Contract Type Determination S-17.1.6 Advisory and Assistance Services (A&AS) S-17.1.7 Interagency & Intra-Navy Acquisitions S-17.2.7 Justification and Approval for Other Than Full and Open Competition S-17.2.20 Commercial Items

Process Step	Associated Procedure	Resources
	FAR 6.401, subparagraph (a) apply, sealed bids shall be solicited. If these conditions do NOT apply, the determination to use other than sealed bidding procedures shall be documented in the Acquisition Plan or on a separate memorandum. (Refer to NFAS 6.401, subparagraph (b).) (2) Construction: FAR 36.103, subparagraph (a) states sealed bidding procedures shall be used for construction contracts if the conditions of FAR 6.401, subparagraph (a) apply. Otherwise, the determination to use other than sealed bidding procedures shall be documented in the Acquisition Plan or on a separate memorandum. (Refer to NFAS 6.401, subparagraph (b).) o Budgeting and funding. (Refer to FAR 7.105, subparagraph (b)(5) and FAR Subpart 32.7.)	
17.1.3.2 Determine Type of Acquisition Planning Documentation Required	Contracting Officer: • Ensure acquisition planning strategies are documented for all acquisitions. o Determine if a written Acquisition Plan is required. (Refer to DFARS 207.103, subparagraph (d)(i) and NFAS 7.103, subparagraph (a).) ▪ Acquisitions for development, as defined in FAR 35.001, when the total cost of all contracts for the acquisition program is estimated at $10 million or more; ▪ Acquisitions for Military Construction (MILCON) and Architect-Engineering (A-E) when the total cost of all contracts for the acquisition program is estimated at $50 million or more for all years or $10 million or more for any fiscal year; ▪ Acquisitions for Major Station Maintenance/Repair and Commercial Items when the total cost of all contracts for the	DFARS 207.103 FAR 35.001 NFAS 7.103 NFAS 37.504

Process Step	Associated Procedure	Resources
	acquisition program is estimated at $50 million or more for all years or $25 million or more for any fiscal year; ▪ Acquisitions for Production or Services when the total cost of all contracts for the acquisition program is estimated at $50 million or more for all years or $25 million or more for any fiscal year; and ▪ Any other acquisition considered appropriate by the department or agency. ○ For all acquisitions not requiring a written Acquisition Plan, ensure an acquisition planning document is prepared that provides information on the acquisition planning strategy for the acquisition. Notes: (1) In accordance with DFARS 207.103, subparagraph (d)(ii), written acquisition plans are not required in acquisitions for final buy outs or one-time buys covering all known present and future requirements. This exception does not include multiyear contracts or a contract with options or phases. (2) In accordance with NFAS 37.504, an Acquisition Plan is not required when a MOPAS-2 Acquisition Strategy document is approved for a service acquisition. Competitions conducted under Office of Management and Budget (OMB) Circular A-76 require a MOPAS-2 only; an Acquisition Plan is not required.	
17.1.3.3 Prepare Written Acquisition Plan and Obtain Approvals	NMCARS 5207.103, subparagraph (d)(i) allows the content requirements prescribed in FAR 7.105 and DFARS 207.105 to be tailored for written acquisition plans in the following categories: Military construction, commercial items, overhaul and/or modification of naval vessels, small vessels and crafts, overhaul and/or modification of engines, operation and maintenance of weapon test/training ranges, ocean towage, Commercial Activities, architect-engineer, and major station maintenance and	Department of the Navy Acquisition Plan Guide DFARS 201.170 DFARS 207.105 FAR 7.105 NFAS 7.103 NMCARS 5201.170

Process Step	Associated Procedure	Resources
	repair. Acquisition Planning Team: • Prepare the written Acquisition Plan using the format prescribed by FAR 7.105, DFARS 207.105, and NFAS 7.103, as applicable. Note: For acquisitions with an estimated value of $100M or more (including options), the Acquisition Plan requires approval by DASN (A&LM) and shall be prepared using the format in the Department of the Navy Acquisition Plan Guide (Appendix A). This Guide also provides guidance for the preparation of Acquisition Plans with an estimated value of <$100M. • Ensure the following is included in the Acquisition Plan as required by FAR 7.105: o Milestones at which decisions should be made. o All technical, business, management, and other significant considerations controlling the acquisition. o For service contracts or orders, strategies for implementing performance-based acquisition methods or the rationale for not using them. Contracting Officer: • Ensure sufficient time is allotted for Peer Review of contracts for services estimated to exceed $50M, options included. (Refer to DFARS 201.170, and NMCARS 5201.170.) Note: Pre-Award Peer Reviews for competitive acquisitions are to be completed: (1) prior to issuing the formal solicitation; (2) prior to request for final proposal revisions; and (3) prior to contract award. • Ensure review and approvals of the Acquisition Plan are obtained in accordance with NFAS 7.103.	NMCARS 5207.103

S-17.1.3 Acquisition Planning Documentation

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Process Step	Associated Procedure	Resources
17.1.3.4 Prepare Acquisition Development Plan	Contracting Officer/Contract Specialist: • Using the Acquisition Development Plan as guidance, for those acquisitions not requiring a written Acquisition Plan, prepare documentation for the contract file that provides information on the acquisition planning strategy for the acquisition. Note: Although use of the Acquisition Development Plan is not mandatory, it is an excellent way to ensure all requirements of acquisition planning are met and documented in the contract file.	Acquisition Development Plan
17.1.3.5 Establish/ Maintain File Records	Contracting Officer/Ordering Officer/Contract Specialist: • As specified in FAR Subpart 4.8, establish/maintain file records of all contractual actions and supporting documents. • File hard copies of pre-award and post-award documents in the official contract file using the appropriate Contract Record Index: o Architect-Engineer (A-E) Contract Record Index o Blanket Purchase Agreement (BPA) Record Index o Modification Record Index o Negotiated (Construction/Services/ Commercial Item) Contract Record Index o Sealed Bidding (Construction/ Services/Commercial Item) Contract Record Index o Simplified Acquisition Procedures (SAP) Record Index o Task Order/Delivery Order Record Index	Architect-Engineer (A-E) Contract Record Index Blanket Purchase Agreement (BPA) Record Index FAR Subpart 4.8 Modification Record Index Negotiated (Construction/Services /Commercial Item) Contract Record Index Sealed Bidding (Construction/ Services/Commercial Item) Contract Record Index Simplified Acquisition Procedures (SAP) Record Index Task Order/Delivery Order Record Index

Summary of Significant Changes – process refresh January 2010

- Updated process step 17.1.3.1 based on NFAS Change 13 (NFAS 16.504-90).
- Added clarification to process step 17.1.3.1 regarding the requirement to prepare a determination when sealed bidding is not appropriate.

- Additional references added to resource document "Acquisition Development Plan."

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