

# Inspector General

United States  
Department of Defense



American Recovery and Reinvestment Act Project-  
Solar and Lighting at Naval Station Norfolk, Virginia

## Report Documentation Page

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## Acronyms and Abbreviations

DUSD (I&E)	Deputy Under Secretary of Defense (Installations and Environment)
ECIP	Energy Conservation Investment Program
ELCCA	Energy Life-Cycle-Cost Analysis
FAR	Federal Acquisition Regulation
FBO	Federal Business Opportunities
LANT	Atlantic
MIDLANT	Mid-Atlantic
MILCON	Military Construction
NAVFAC	Naval Facilities and Engineering Command
NEPA	National Environmental Policy Act
OMB	Office of Management and Budget
QMAD	Quantitative Methods and Analysis Division
SIR	Savings-to-Investment Ratio
TAFS	Treasury Appropriation Fund Symbol



INSPECTOR GENERAL  
DEPARTMENT OF DEFENSE  
400 ARMY NAVY DRIVE  
ARLINGTON, VIRGINIA 22202-4704

February 25, 2011

MEMORANDUM FOR DEPUTY UNDER SECRETARY OF DEFENSE  
(INSTALLATIONS AND ENVIRONMENT)  
NAVAL INSPECTOR GENERAL  
COMMANDER, NAVAL FACILITIES ENGINEERING  
COMMAND

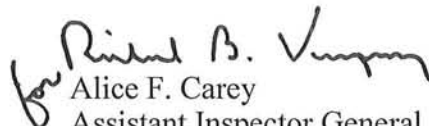
SUBJECT: American Recovery and Reinvestment Act Project – Solar and Lighting at  
Naval Station Norfolk, Virginia (Report No. D-2011-045)

We are providing this report for review and comment. Navy personnel did not ensure that the Recovery Act project, at Naval Station Norfolk, Virginia, was adequately planned and supported. We performed this audit in response to the requirements of Public Law 111-5, "American Recovery and Reinvestment Act of 2009," February 17, 2009 (Recovery Act). We considered management comments on a draft of this report when preparing the final report.

DoD Directive 7650.3 requires that recommendations be resolved promptly. The Department of Navy comments were responsive. However, the Deputy Under Secretary of Defense (Installations and Environment) comments were not responsive to Recommendations 2.a. and 2.b. Therefore, we request additional comments on Recommendations 2.a. and 2.b. by March 28, 2010.

If possible, send a .pdf file containing your comments to [audyorktown@dodig.mil](mailto:audyorktown@dodig.mil). Copies of your comments must have the actual signature of the authorizing official for your organization. We are unable to accept the /Signed/ symbol in place of the actual signature. If you arrange to send classified comments electronically, you must send them over the SECRET Internet Protocol Router Network (SIPRNET).

We appreciate the courtesies extended to the staff. Please direct questions to Mr. Michael A. Joseph at (757) 872-4698.

  
Alice F. Carey  
Assistant Inspector General  
Readiness, Operations, and Support





# Results in Brief: American Recovery and Reinvestment Act Project – Solar and Lighting at Naval Station Norfolk, Virginia

## What We Did

Our overall objective was to evaluate DoD's implementation of "American Recovery and Reinvestment Act of 2009," February 17, 2009 (Recovery Act). Specifically, we reviewed the planning, funding, initial project execution, and tracking and reporting phases of Recovery Act Project P0764, "Solar and Lighting," at Naval Station Norfolk, Virginia, to determine whether the Navy complied with the Act's requirements, Office of Management and Budget (OMB) Memorandum M-09-10, "Initial Implementing Guidance for the American Recovery and Reinvestment Act of 2009," February 18, 2009, and subsequent related guidance.

## What We Found

We determined that Naval Facilities Engineering Command (NAVFAC) Mid-Atlantic (MIDLANT) personnel did not ensure that the Recovery Act project, at Naval Station Norfolk, Virginia, was adequately planned and supported. NAVFAC MIDLANT personnel could not provide documentation to support the simple payback period and savings-to-investment ratio (SIR) calculations on the DD Form 1391, "Military Construction Project Data," and did not adequately consider the environmental impact of the Recovery Act project before starting contracting actions. Without documented support, DoD cannot ensure whether the calculations were correct, the discounted payback period and SIR met the minimum DoD criteria, or that the Navy appropriately selected the project for Recovery Act funding. Also, the effects of the Recovery Act project on the environment are unknown.

NAVFAC Atlantic personnel received Recovery Act funds consistent with OMB guidance, contracting personnel ensured that contracting actions for the Recovery Act project met

Recovery Act requirements, and the contractor reported information required by the Recovery Act.

## What We Recommend

We recommend that the Commander, NAVFAC prepare supporting documentation to re-validate the discounted payback period and SIR on the Energy Life-Cycle-Cost Analysis summary. If the calculations resulting from the re-validation effort do not meet the criteria identified in the Recovery Act, DoD Energy Conservation Investment Program Plan, and DoD Energy Manager's Handbook, we recommend that the Deputy Under Secretary of Defense (Installations and Environment) cancel the project and develop plans to use the funds resulting from the project's termination in accordance with DoD guidance. Additionally, NAVFAC should perform a National Environmental Policy Act study on the project.

## Management Comments and Our Response

The Department of Navy provided a re-validated simple payback and SIR, which met the intent of recommendations we made to Commander, NAVFAC. The Deputy Under Secretary of Defense (Installations and Environment) did not agree to cancel the project because he stated the project is in the best interest of the Department. The re-validated payback period of 447.64 years and SIR of .03 demonstrate that the Recovery Act project is very cost-ineffective and is contrary to the intent of Federal regulation, DoD guidance, and the Recovery Act. Therefore, we request the Deputy Under Secretary of Defense (Installations and Environment) reconsider their position on the recommendation and request additional comments by March 28, 2011. Please see the recommendations table on the back of this page.

## Recommendations Table

<b>Management</b>	<b>Recommendations Requiring Comment</b>	<b>No Additional Comments Required</b>
Deputy Under Secretary of Defense (Installations and Environment)	2.a, 2.b	
Commander, Naval Facilities Engineering Command		1.a, 1.b

**Please provide comments by March 28, 2011.**

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# Introduction

## Objective

Our overall objective was to evaluate DoD's implementation of Public Law 111-5, "American Recovery and Reinvestment Act of 2009," February 17, 2009 (Recovery Act). Specifically, we reviewed the planning, funding, initial project execution, and tracking and reporting phases of Recovery Act Project P0764, "Solar and Lighting," (the Recovery Act project) at Naval Station Norfolk, Virginia, to determine whether Naval Facilities Engineering Command (NAVFAC) Mid-Atlantic (MIDLANT) and Atlantic (LANT) personnel complied with the Act's requirements, Office of Management and Budget (OMB) Memorandum M-09-10, "Initial Implementing Guidance for the American Recovery and Reinvestment Act of 2009," February 18, 2009, and subsequent related guidance. See the appendix for a discussion of our scope and methodology.

## Background

In passing the Recovery Act, Congress provided supplemental appropriations to preserve and create jobs; promote economic recovery; assist those most impacted by the recession; provide investments to increase economic efficiency by spurring technological advances in science and health; and invest in transportation, environmental protection, and other infrastructure. The Recovery Act also established unprecedented efforts to ensure the responsible distribution of funds for its purposes and to provide transparency and accountability of expenditures by informing the public of how, when, and where tax dollars were being spent. Further, the Recovery Act states that the President and heads of the Federal departments and agencies were to expend these funds as quickly as possible, consistent with prudent management.

DoD received approximately \$7.16 billion<sup>1</sup> in Recovery Act funds for projects that support the Act's purposes. In March 2009, DoD released an expenditure plan for the Recovery Act, which listed DoD projects that will receive Recovery Act funds. OMB Memorandum M-09-10 required the DoD to develop program plans. Included among those programs was the Energy Conservation Investment Program (ECIP).

### ***Energy Conservation Investment Program***

The "American Recovery and Reinvestment Act of 2009, Department of Defense Energy Conservation Investment Program Plan," May 15, 2009, (updated June 2010), identifies projects valued at \$120 million and funded through the "Military Construction, Defense-Wide" (MILCON) appropriation. DoD personnel allocated \$29.5 million for Navy Recovery Act ECIP projects. The Deputy Under Secretary of Defense (Installations and Environment) (DUSD (I&E)) centrally controls ECIP funding allocation by Service on a

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<sup>1</sup> DoD originally received about \$7.42 billion; however, Public Law 111-226, Title III, "Rescissions," rescinded \$260.5 million on August 10, 2010. The \$7.16 billion does not include \$4.6 billion for the U.S. Army Corps of Engineers Recovery Act civil works projects.

project-by-project basis. Of the \$29.5 million, Navy personnel allocated \$1.02 million in Recovery Act funds to the Recovery Act project.

The DoD Energy Managers Handbook defines a savings-to-investment ratio (SIR) as a measure of a project's economic performance. The SIR, a benefit-to-cost ratio in which the benefits are primarily savings, expresses the relationship between the present value of the savings over the study period to the present value of the investment costs. The SIR is a useful means of ranking independent projects to guide allocations for limited investment funding. According to the DoD Energy Managers Handbook, if a project's SIR is 1.0 or higher, the project is cost-effective.

The DoD ECIP Plan stated that the program historically averages more than two dollars in life-cycle savings for every dollar invested. The Office of the Assistant Secretary of Defense (Production and Logistics), "Energy Conservation Investment Program Guidance," March 17, 1993, states, "Projects must have a SIR greater than 1.25 and a discounted<sup>2</sup> payback period of 10 years or less."

### ***Naval Facilities Engineering Command***

NAVFAC MIDLANT and LANT supported the Navy by providing project management and contracting services. These services included awarding contracts for the Recovery Act project and assigning project managers to oversee the contracted work. NAVFAC Engineering Service Center develops standard energy business practices and provides program planning, execution, reporting, and financial management support to NAVFAC.

## **Review of Internal Controls**

DoD Instruction 5010.40, "Managers' Internal Control Program (MICP) Procedures," July 29, 2010, requires DoD organizations to implement a comprehensive system of internal controls that provides reasonable assurance programs are operating as intended and to evaluate the effectiveness of the controls. We identified an internal control weakness in the administration of the Recovery Act project as defined by DoD Instruction 5010.40. Specifically, NAVFAC personnel did not provide adequate oversight over the planning efforts for the project. We discuss these issues in detail in the Audit Results section of this report. We will provide a copy of the report to the senior official responsible for internal controls at the Office of the DUSD (I&E) and NAVFAC.

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<sup>2</sup> Similar to simple payback in expressing results in time to recover investment costs; however, savings are discounted to their present value based on the discount rate.

## **Audit Results**

NAVFAC MIDLANT personnel did not ensure that the Recovery Act project was adequately planned and supported. NAVFAC MIDLANT personnel could not provide documentation to support the simple payback period<sup>3</sup> and SIR calculations on the DD Form 1391, "Military Construction Project Data." Additionally, NAVFAC MIDLANT personnel did not adequately consider the environmental impact of the Recovery Act project before starting contracting actions. Without documented support, DoD cannot ensure whether the calculations were correct, the discounted payback period and SIR met the minimum DoD criteria, or that the Navy appropriately selected the project for Recovery Act funding. Also, the effects of the Recovery Act project on the environment are unknown. NAVFAC LANT personnel received Recovery Act funds consistent with OMB guidance, and contracting personnel ensured that contracting actions for the Recovery Act project met Recovery Act requirements and the contractor reported information required by the Recovery Act.

### **Recovery Act Project Not Properly Planned and Supported**

NAVFAC MIDLANT personnel could not provide documentation to support the simple payback period or the SIR calculations on the DD Form 1391 and did not adequately consider the environmental impact of the project before starting contracting actions.

#### ***No Supporting Documentation for Simple Payback Period and SIR***

NAVFAC MIDLANT personnel provided the DD Form 1391, March 20, 2009, but could not provide supporting documentation for the potential investment costs and energy and non-energy savings. Naval Facilities Engineering Service Center personnel provided a copy of the Energy Life-Cycle-Cost Analysis (ELCCA) summary, March 20, 2009, to support the simple payback period of 9.30 years and the SIR of 1.62. The project's simple payback period and SIR are predicated on a mathematical formula which includes factors such as investment costs and energy and non-energy savings or costs. However, NAVFAC MIDLANT personnel did not provide an ELCCA summary with supporting documentation for its investment costs (\$967,000), energy savings (\$84.00 per mega-watt hour of electricity and 850 mega-watt hours of annual utility reduction), and non-energy savings (\$38,560).

NAVFAC MIDLANT personnel stated they provided no support for the calculations because the Energy Manager who developed the DD Form 1391 and the ELCCA summary left the command, and NAVFAC MIDLANT personnel did not ensure the transfer of project files and supporting documentation to the new Energy Manager. According to Office of the Assistant Secretary of Defense (Production and Logistics) "Energy Conservation Investment Program Guidance," March 17, 1993, project

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<sup>3</sup> The amount of time it will take to recover the initial investment in energy savings.

submittals must include copies of the life-cycle analyses with supporting documentation showing basic assumptions made to arrive at projected savings. NAVFAC P-442, “Economic Analysis Handbook,” October 1993, and NAVFAC “Energy Conservation Investment Program (ECIP) Guidance,” April 20, 1993, also requires the Navy to attach back-up data substantiating investment costs and energy and non-energy savings or costs. Without documentation to support how NAVFAC MIDLANT personnel generated the investment costs and energy and non-energy savings, we could not validate the accuracy of the simple payback period and SIR calculations for the Recovery Act project and determine whether Navy personnel appropriately selected the project for Recovery Act funding. Personnel at NAVFAC need to prepare supporting documentation to re-validate the discounted payback period and SIR of the project. Additionally, if the Recovery Act project does not meet the minimum discounted payback period and SIR identified in the Recovery Act, DoD Energy Conservation Investment Program Plan, and DoD Energy Manager’s Handbook, the DUSD (I&E) should cancel the Recovery Act project and apply the remaining funds<sup>4</sup> to other viable Recovery Act projects.

*Without documentation to support how NAVFAC MIDLANT personnel generated the investment costs and energy and non-energy savings, we could not validate the accuracy of the simple payback period and SIR calculations for the Recovery Act project and determine whether Navy personnel appropriately selected the project for Recovery Act funding.*

### **No National Environmental Policy Act Study or Categorical Exclusion**

NAVFAC MIDLANT personnel did not adequately consider the environmental impact of the Recovery Act project. This occurred because NAVFAC MIDLANT did not perform a National Environmental Policy Act (NEPA) study or obtain a categorical exclusion before starting contracting actions. According to a November 5, 2010, Council on Environmental Quality report to Congress on the status and progress of NEPA reviews for Recovery Act-funded projects and activities, DoD intends to give the Recovery Act project at Naval Station Norfolk a categorical exclusion. However, until NAVFAC MIDLANT personnel complete a NEPA study or obtain a categorical exclusion, the effects of the Recovery Act project on the environment are unknown.

### **Recovery Act Funds Distributed Timely**

The Office of the Under Secretary of Defense (Comptroller) personnel distributed \$1.022 million in Recovery Act funds to NAVFAC Headquarters for the Recovery Act project in a timely manner. Funding documents properly cited Treasury Appropriation Fund Symbol (TAFS) 97 0501, “Military Construction-Recovery Act, Defense-Wide,” and the amount of funds NAVFAC Headquarters received were consistent with the project estimate of \$1.022 million as stated in the DoD ECIP Plan. Funding documents showed Comptroller personnel transferred the Recovery Act funds to NAVFAC

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<sup>4</sup> The amount of funds is undeterminable until management takes action on recommendations 2.a. and 2.b.

Headquarters on March 31, 2009. NAVFAC Headquarters contracting personnel obligated \$905,847 to the project, and NAVFAC LANT contracting personnel awarded two task orders under contract N62470-06-D-6007 on June 29, 2009, resulting in \$116,153 (\$1.022 million - \$905,847) in potential bid savings.

## **Initial Project Execution Adequate**

NAVFAC LANT contracting personnel adequately executed the project. Contracting personnel competitively solicited and awarded the contract with full transparency, and the contract contained the required Federal Acquisition Regulation (FAR) clauses.

Contracting personnel at NAVFAC LANT awarded the Recovery Act project on two task orders from a multiple award contract. Task Order 0009, valued at \$24,856, consisted of Phase I work for site survey and building selection and was awarded on a cost-plus award fee basis. Task Order 0012, valued at \$880,991, consisted of Phase II work for design-build construction of selected buildings. NAVFAC LANT contracting personnel awarded the task order on a cost-plus award fee basis, and the award will convert to a firm-fixed price when the Recovery Act project's design is 35 percent complete. NAVFAC LANT contracting personnel included in the contract files a justification statement for the deviation from a firm-fixed award. Additionally, contracting personnel at NAVFAC LANT awarded the original contract under full and open competition in August 2006.

Contracting personnel properly recorded contract actions to facilitate full transparency. OMB Memorandum M-09-15, "Updated Implementing Guidance for the American Recovery and Reinvestment Act of 2009," April 3, 2009, describes requirements for reporting Recovery Act-funded actions in the Federal Procurement Data System and publicizing actions on the Federal Business Opportunities (FBO) Web site. NAVFAC LANT contracting personnel properly reported the pre-solicitation notices, identified the project as "Recovery," and included the appropriate "Information Purposes Only" statement in the synopsis for both task orders. Contracting personnel also properly reported both award notices, identified the project as "Recovery," and included the rationale for awarding the contract at other than a fixed price in the synopses reported on the FBO Web site.

Finally, contracting personnel at NAVFAC LANT proactively issued a modification to Contract N62470-06-D-6007 to include FAR clauses required for the Recovery Act. The modification stated that Recovery Act clauses applied to the entire contract and any task orders issued using Recovery Act funding. The modification applied to task orders 0009 and 0012 of the Recovery Act project.

## **Contractor Reported Required Information**

The contractor, Atlantic Contingency Constructors, LLC, reported the recipient information required by the Recovery Act. The contractor reported the number of jobs, a description of quarterly project activities, and the total award dollar value for each of the task order awards to [www.recovery.gov](http://www.recovery.gov) as required by FAR 52.204-11.

## **Conclusion**

NAVFAC MIDLANT personnel did not adequately support the Recovery Act project to ensure DoD's appropriate use of Recovery Act funds. Without documented support for the potential investment costs and energy and non-energy savings on the ELCCA, DoD cannot ensure whether the calculations were correct, and whether the discounted payback period and SIR met the minimum DoD criteria or that Navy personnel appropriately selected the project for Recovery Act funding. Additionally, personnel at NAVFAC MIDLANT did not adequately consider the environmental impact of the Recovery Act project and, as a result, the project's effects on the environment are unknown. NAVFAC should re-validate the project and if the project doesn't meet the minimum discounted payback period and SIR identified in Recovery Act and DoD guidance, the DUSD (I&E) should cancel the project and apply the remaining funds to other viable Recovery Act projects.

NAVFAC LANT personnel received Recovery Act funds for the project in a timely manner, and the funding authorization documents identified a Recovery Act designation. Additionally, NAVFAC LANT contracting personnel ensured that contracting actions for the project met Recovery Act requirements; and the contractor reported the number of jobs created, the total award, and funds invoiced and received.

## **Recommendations, Management Comments, and Our Response**

- 1. We recommend that the Commander, Naval Facilities Engineering Command:**
  - a. Prepare supporting documentation to re-validate the discounted payback period and SIR on the Energy Life-Cycle-Cost Analysis summary, and**
  - b. Conduct a National Environmental Policy Act study or prepare a categorical exclusion for the project.**

### ***Department of Navy Comments***

The Director, Resource Issues, Office of the Under Secretary of Defense (Comptroller), provided comments on behalf of the Department of the Navy. The Navy agreed with Recommendation 1.a. and updated the simple payback period and SIR on the Energy Life-Cycle-Cost Analysis summary. The re-validation effort resulted in a simple payback period of 447.64 years and a SIR of 0.03.

The Navy also agreed with Recommendation 1.b. and stated that NAVFAC MIDLANT was preparing the required NEPA by the end of November 2010 and anticipating the Recovery Act project would receive a categorical exclusion based on similar projects in the geographic area.

## ***Our Response***

Although the Navy re-validated the simple payback period instead of a discounted payback period, we consider the comments responsive to the intent of Recommendation 1.a. We also consider the Navy's comments responsive to Recommendation 1.b. NAVFAC MIDLANT personnel stated that they submitted the NEPA package to the State Historic Preservation Office for approval and as of January 20, 2011, the approval is still pending. No further comments are required.

- 2. We recommend that the Deputy Under Secretary of Defense (Installations and Environment):**
  - a. Cancel the project if the calculations resulting from the re-validation effort do not meet the criteria identified in the Recovery Act, DoD Energy Conservation Investment Program Plan, and DoD Energy Manager's Handbook, and**
  - b. Develop plans to use the funds resulting from the bid-savings and the project's termination in accordance with Under Secretary of Defense (Comptroller)/Chief Financial Officer memorandum, "Project Cost Variations During Execution of American Recovery and Reinvestment Act Expenditure Plans for Infrastructure Investments," May 7, 2009, and "Revision to Policy Regarding Project Cost Variations during Execution of American Recovery and Reinvestment Act Expenditure Plans for Infrastructure Investments," January 11, 2010.**

## ***Deputy Under Secretary of Defense (Installations and Environment) Comments***

The Director, Resource Issues, Office of the Under Secretary of Defense (Comptroller), provided comments on behalf of the Office of the DUSD (I&E). The Director, Facilities Energy, Office of the DUSD (I&E), disagreed with Recommendation 2.a. and indicated that proceeding with the project was in the best interests of the Department and consistent with the intentions of the Recovery Act ECIP plan. The Director, Facilities Energy, also stated that DoD Instruction 4170.11, November 22, 2005, and December 11, 2009, allow a portion of the ECIP program to be used for renewable energy projects below the SIR or payback period thresholds.

The Director, Facilities Energy, partially agreed with Recommendation 2.b. and stated that although they were not planning to direct the Navy to terminate the project, DUSD (I&E) personnel were executing funds derived from bid savings as identified.

## ***Our Response***

The comments are not responsive to Recommendation 2.a. The DoD ECIP Plan indicates that ECIP projects are focused on improving energy efficiency of existing DoD facilities and creating new energy generation sources on military installations in a cost-effective manner.

Although we support the use of renewable energy projects and acknowledge that DoD Instruction 4170.11 allows for executing projects below the SIR and payback period thresholds, DUSD (I&E)'s execution of the Recovery Project is not consistent with Federal and Recovery Act guidelines. The "Guidance on Life-Cycle Cost Analysis Required by Executive Order 13123," April 2005, states that no single energy conservation measure should be significantly cost-ineffective. Additionally, Title 10, Code of Federal Regulations, Part 436, and the DoD Energy Manager's Handbook state that projects are cost-effective when the SIR is estimated to be greater than one. The results of the Department of Navy's re-validation of the Recovery Act project, which determined a payback period of 447.64 years and a SIR of .03, demonstrated that the Recovery Act project is very cost-ineffective and contrary to the intent of Federal regulation, DoD guidance, and the Recovery Act's requirement for prudent use of funds. The SIR is a useful means of ranking independent projects and guiding allocations of limited investment funding. Adequate planning of the Recovery Act project would have ensured that officials selecting projects had information necessary to select the most cost-effective projects that met Federal and DoD requirements, and the intentions of the Recovery Act. We request the Office of the DUSD (I&E) reconsider its position on the recommendation and provide additional comments in response to the final report.

Although the Director, Facilities Energy, partially agreed, we consider his comments not responsive to Recommendation 2.b. Terminating the Recovery Act project will result in funds that DoD can apply to other more cost-effective DoD Recovery Act ECIP projects. In response to the final report, we request the Office of the DUSD (I&E) provide additional comments on the recommendation and potential monetary benefits after reconsidering its position on Recommendation 2.a.

## **Appendix. Scope and Methodology**

We conducted this audit from June 2009 through October 2010 in accordance with generally accepted government auditing standards. Generally accepted government auditing standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our conclusions based on our audit objectives.

The overall objective was to evaluate DoD's implementation of plans for the Recovery Act. To accomplish our objective, we audited the planning, funding, initial project execution, and tracking and reporting of the Recovery Act project at Naval Station Norfolk, Virginia, valued at \$1.022 million. Specifically we determined whether:

- the selected project was adequately planned to ensure the appropriate use of Recovery Act funds (Planning);
- funds were awarded and distributed in a prompt, fair, and reasonable manner (Funding);
- contracts awarded were transparent, competed, and contained Federal Acquisition Regulation clauses required by the Recovery Act (Initial Project Execution); and
- recipients' use of funds was transparent to the public, and the benefits of the funds were clearly, accurately, and timely reported (Reporting).

We interviewed DUSD (I&E) officials, NAVFAC MIDLANT project managers and engineers, NAVFAC LANT contract specialists, and Naval Facilities Engineering Service Center personnel. We reviewed the project files for requirements, justifications, and funding documents. Specifically we reviewed the DD Form 1391, the ELCCA summary, funding authorization documents, and contract documentation for task order numbers 0009 and 0012 under contract number N62470-06-D-6007. We reviewed Federal, DoD, and Navy guidance. Although we determined whether the contractor reported in accordance with FAR 52.204-11, we did not validate the data reported by the contractor to the [www.Recovery.gov](http://www.Recovery.gov) Web site at this time. We plan to address the adequacy of recipient reporting in a future DoD Office of the Inspector General report.

The DoD Office of the Inspector General and Naval Audit Service reviewed Recovery Act projects other than the solar and lighting project at Naval Station Norfolk. DoD Office of the Inspector General issued Report D2010-RAM-003, "Repair Aircraft Parking Apron at Naval Station Norfolk," March 10, 2010, on a \$43.6 million Recovery Act-funded Navy operations and maintenance project. Naval Audit Service also issued Report N2010-0027, "American Recovery and Reinvestment Act of 2009 — Naval Station, Norfolk, VA," May 14, 2010, on two additional Recovery Act projects.

### **Use of Computer-Processed Data**

We relied on computer-processed data from the FBO Web site and the Federal Procurement Data System – Next Generation. FBO is a single, government-wide point-

of-entry for Federal Government procurement opportunities. The Federal Procurement Data System – Next Generation is a dynamic, real-time database in which contracting officers can update data to include new actions, modifications, and corrections. We compared data generated by each system with the DoD Expenditure Plans, information from NAVFAC personnel, and DoD and Navy ECIP guidance to support the audit conclusions. We determined that the data were sufficiently reliable for the purposes of our report.

## **Use of Technical Assistance**

Before selecting DoD Recovery Act projects for audit, the Quantitative Methods and Analysis Division (QMAD) of the DoD Office of the Inspector General analyzed all DoD agency-funded projects, locations, and contracting oversight organizations to assess the risk of waste, fraud, and abuse associated with each. QMAD selected most audit projects and locations using a modified Delphi technique, which allowed QMAD to quantify the risk based on expert auditor judgment and other quantitatively developed risk indicators. QMAD used information collected from all projects to update and improve the risk assessment model. QMAD selected 83 projects with the highest risk rankings; auditors chose some additional projects at the selected locations. We judgmentally selected the Recovery Act project at Naval Station Norfolk to provide additional project coverage across the “DoD Defense Wide-ECIP appropriation.”

QMAD did not use classical statistical sampling techniques that would permit generalizing results to the total population because there were too many potential variables with unknown parameters at the beginning of this analysis. The predictive analytic techniques employed provided a basis for logical coverage not only of Recovery Act dollars being expended, but also of types of projects and types of locations across the Military Services, Defense agencies, State National Guard units, and public works projects managed by U.S. Army Corps of Engineers.

## **Prior Coverage**

The Government Accountability Office, the DoD Office of the Inspector General, and the Military Departments have issued reports and memoranda discussing DoD projects funded by the Recovery Act. You can access unrestricted reports at <http://www.recovery.gov/accountability>.

# Under Secretary of Defense (Comptroller) Comments

Final Report  
Reference



COMPTROLLER

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WASHINGTON, DC 20301-1100

FEB 11 2011

MEMORANDUM FOR DEPARTMENT OF DEFENSE INSPECTOR GENERAL

SUBJECT: DoD Response to American Recovery and Reinvestment Act Project-Solar and Lighting at Naval Station Norfolk, Virginia P0764

The above draft report addresses your review of American Recovery and Reinvestment Act Project-Solar and Lighting at Naval Station Norfolk, Virginia. The DoD response is attached.

You may contact me at [REDACTED] or [REDACTED] for questions.

  
Sandra V. Richardson  
Director, Resource Issues

Documents provided in addition to the DUSD (I&E) and Navy comments were omitted because of length. Copies will be provided upon request.





ACQUISITION,  
TECHNOLOGY  
AND LOGISTICS

OFFICE OF THE UNDER SECRETARY OF DEFENSE

3000 DEFENSE PENTAGON  
WASHINGTON, DC 20301-3000

NOV 02 2010

Dear [REDACTED]:

This is the Office of the Deputy Under Secretary of Defense (Installations and Environment) response to the IG draft report Project No. D2009-D000LF-0245.007 "American Recovery and Reinvestment Act Project-Solar and Lighting at Naval Station Norfolk, Virginia" dated October 8, 2010. Detailed comments on the report recommendations are enclosed.

I appreciate the opportunity to respond to your draft report and look forward to working with you.

Sincerely,

Joseph K. Sikes  
Director  
Facilities Energy

Enclosure:  
As stated

**DOD IG DRAFT REPORT – DATED OCTOBER 8, 2010**  
**Project No. D2009-D000LF-0245.007**

**“American Recovery and Reinvestment Act Project-Solar and Lighting  
at Naval Station Norfolk, Virginia”**

**OFFICE OF THE DEPUTY UNDER SECRETARY OF DEFENSE  
(INSTALLATIONS AND ENVIRONMENT)  
COMMENTS TO THE RECOMMENDATIONS**

**RECOMMENDATION 1:** Cancel the project [Recovery Act Project P0764, “Solar and Lighting,” at Naval Station Norfolk, Virginia] if the calculations resulting from the re-validation effort do not meet the criteria identified in the Recovery Act, DOD Energy Conservation Investment Program (ECIP) Plan, and DOD Energy Manager’s Handbook.

**ODUSD(I&E) RESPONSE:** Non-concur. We consider proceeding with the project to be in the best interests of the Department and consistent with the intentions of the Recovery Act ECIP program. Recovery Act funding for ECIP was provided to the Military Services based on the combined requirements of the Recovery Act and goals of ECIP. As described in the Recovery Act ECIP Program Plan, ECIP is generally designated for projects that reduce energy and water consumption, but ECIP also provides a critical funding source for investments in small-scale renewable energy technologies. P0764 contributes to these overall program goals by promoting renewable energy in the Norfolk area.

ECIP policy does not require individual renewable energy projects to meet the SIR and payback standard. To support renewable energy projects, both the 2005 and 2009 editions of DoDI 4170.11 permit a portion of the ECIP program to be used for renewable energy projects that are below the SIR or payback period thresholds. This approach is also consistent with the consolidated appropriations committee report for the ECIP program in 2009, which strongly supports the Department’s use of ECIP to promote renewable energy resources.

**RECOMMENDATION 2:** Develop plans to use the funds resulting from the bid-savings and the project’s termination in accordance with Under Secretary of Defense (Comptroller)/Chief Financial Officer memorandum, “Project Cost Variations During Execution of American Recovery and Reinvestment Act Expenditure Plans for Infrastructure Investments,” May 7, 2009, and “Revision to Policy Regarding Project Cost Variations during Execution of American Recovery and Reinvestment Act Expenditure Plans for Infrastructure Investments,” January 11, 2010.

**ODUSD(I&E) RESPONSE:** Partially concur. We do not plan to direct the Navy to terminate P0764. The Defense Components, however, are executing funds derived from bid savings as they are identified.

**DOD IG DRAFT REPORT DATED OCTOBER 2010**  
**Project No. D2009-D000LF-0245.007**

**“AMERICAN RECOVERY AND REINVESTMENT ACT**  
**PROJECT-SOLAR AND LIGHTING AT NAVAL STATION**  
**NORFOLK, VIRGINIA”**

**DEPARTMENT OF NAVY COMMENTS**  
**TO THE DOD IG RECOMMENDATIONS**

**RECOMMENDATION 1:** We recommend that the Commander, Naval Facilities Engineering Command:

a. Prepare supporting documentation to re-validate the discounted payback period and SIR on the Energy Life-Cycle-Cost Analysis summary, and

**DoN RESPONSE:** Concur. Supporting documentation has been updated and is attached.

b. Conduct a National Environmental Policy Act study or prepare a categorical exclusion on the project.

**DoN RESPONSE:** Concur. NAVFAC Mid Atlantic is in the process of preparing the required NEPA and anticipates completion by the end of November 2010. Based on similar projects in the geographic area, a categorical exclusion is anticipated.

**Energy Life Cycle Cost Analysis Summary**

Discount Rate: 3.0%

**Renewable Energy Systems**  
P0764 - NAVSTA Norfolk PV/Lighting ECIP

**EPSS No:**

FY2010 Version

Aug 03, 2010

Activity UIC : N62688  
Location: NAVSTA Norfolk  
State/Country: VA

Project No.: P-0764  
Energy Category: 9  
Region: 3  
Economic Life: 20

Prepared By: Activity POC:  
Telephone: Telephone:  
DSN: DSN:  
e-mail: e-mail:

**INVESTMENT COSTS:**

Construction Costs:		\$812,040
SIOH:	5.7%	\$46,286
Design:	10.0%	\$81,204
<b>Total Funds Required:</b>		<b>\$939,530</b>

**CREDITS:**

Salvage Value:	\$0
Rebate:	\$0

ECIP Programmed Amount: \$858,326

**ENERGY SAVINGS (COSTS):**

	<i>Cost/Unit</i>	<i>Annual Utility Reduction</i>	<i>Annual Energy Saved</i>	<i>Annual Savings</i>	<i>Discount Factor</i>	<i>Life-Cycle Discounted Savings</i>
Electricity:	\$65.52/MWh	66 MWh	224 MBtu	\$4,300	14.08	\$60,543
Demand:	*	*	*	\$0	14.88	\$0
Distillate Oil:	\$0.00/MBtu	0 MBtu	0 MBtu	\$0	19.41	\$0
Residual Oil:	\$0.00/MBtu	0 MBtu	0 MBtu	\$0	33.36	\$0
Natural Gas:	\$0.00/therm	0 therm	0 MBtu	\$0	19.13	\$0
Coal:	\$0.00/MBtu	0 MBtu	0 MBtu	\$0	14.91	\$0
LPG:	\$0.00/MBtu	0 MBtu	0 MBtu	\$0	19.23	\$0
Thermal	\$0.00/MBtu	0 MBtu	0 MBtu	\$0	14.88	\$0
Other	\$0.00/MBtu	0 MBtu	0 MBtu	\$0	14.88	\$0
Water:	\$0.00/Kgal	0 Kgal	*	\$0	18.08	\$0
Sewage:	\$0.00/Kgal	0 Kgal	*	\$0	18.08	\$0
<b>Annual Energy Savings:</b>			<b>224 MBTU</b>	<b>\$4,300</b>		<b>\$ 60,543</b>

**NON-ENERGY SAVINGS (COSTS):**

<i>Item</i>	<i>Savings</i>	<i>Year of Occurrence</i>	<i>Discount Factor</i>	<i>Discounted Savings</i>
Annual Recurring:	(\$2,201)	*	14.88	(\$32,747)
<b>Non-Recurring Savings( Costs):</b>				
1) <i>Annual steam line repairs</i>	\$0	0	1.000	\$0
2) <i>description</i>	\$0	0	1.000	\$0
3) <i>description</i>	\$0	0	1.000	\$0
4) <i>description</i>	\$0	0	1.000	\$0
5) <i>description</i>	\$0	0	1.000	\$0
6) <i>description</i>	\$0	0	1.000	\$0
<b>Total Discounted Non-Energy Savings:</b>				<b>(\$32,747)</b>

**SUMMARY:**

Mbtu Saved per \$1,000 Invested:	0.24
Kgal Saved per \$1,000 Invested:	0.00
Annual Savings:	\$2,099
Discounted Energy Savings:	\$60,543
Discounted Non-Energy Savings:	(\$32,747)
<b>Total Net Discounted Savings:</b>	<b>\$27,796</b>

<b>Simple Payback</b>	<b>Savings to Investment Ratio</b>
<b>447.64</b>	<b>0.03</b>

UPDATED BY: Name  
DATE: Date



Inspector General  
Department of Defense