

VA Office of Inspector General

OFFICE OF AUDITS AND EVALUATIONS



Department of Veterans Affairs

*Audit of
Green Management Program
Solar Panel Projects*

August 3, 2016
15-03688-304

ACRONYMS

CAVHCS	Central Arkansas Veterans Healthcare System
COR	Contracting Officer's Representative
CSA	Customer Service Agreement
eCMS	Electronic Contract Management System
FY	Fiscal Year
GMP	Green Management Program
OIG	Office of Inspector General
OAEM	Office of Asset Enterprise Management
OM	Office of Management
PCAC	Program Contracting Activity Central
POCC	Point of Common Connection
PV	Photovoltaic
SHPO	State Historic Preservation Office
SOW	Statement of Work
VA	Department of Veterans Affairs
VHA	Veterans Health Administration
VISN	Veterans Integrated Service Network
WIP	Work-in-Progress

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Highlights: Audit of VA's Green Management Program Solar Panel Projects

Why We Did This Audit

Senator John Boozman and Congressman French Hill of Arkansas requested the Office of Inspector General conduct a review of an \$8 million, 1.8-million megawatt work-in-progress solar panel system at the John L. McClellan Memorial Veterans Hospital, Little Rock, AR. They also requested we review the planning and management of other VA solar projects. Our objective was to determine whether VA effectively planned and managed its work-in-progress solar photovoltaic projects to meet project timelines and expected project power generation goals.

What We Found

The Little Rock VA medical facility did not effectively plan the installation of a solar panel system. The system is not completed and is not generating solar power. The project experienced significant delays and additional contract costs due to disassembly of previously installed solar panel carport structures to accommodate a parking garage. As a result, the solar project is expected to be fully completed in January 2017, over 4 years beyond its original completion date, with unexpected costs of approximately \$1.5 million.

We reviewed 11 of 15 solar projects awarded from fiscal year (FY) 2010 through FY 2013 that were a work-in-progress as of May 2015. At the completion of our audit work in March 2016, only 2 of 11 solar projects were fully completed. In July 2016,

VA informed us that 5 of 11 solar projects were fully completed. This occurred because of planning errors, design changes, a lengthy interconnection process, and contractor delays. As a result, VA did not increase renewable energy for those solar projects in the time frame planned and incurred additional costs through needed contract modifications.

What We Recommended

We recommended the Interim Assistant Secretary for Management implement additional controls to prevent solar panel conflicts, share best practices for executing timely interconnection agreements, implement power generation monitoring controls, and conduct lessons learned assessments.

Agency Comments

The Interim Assistant Secretary for Management concurred with the intent of two of the four recommendations and nonconcurred for the remaining two recommendations. The Interim Assistant Secretary for Management also provided additional comments, which we addressed in this report.

A handwritten signature in black ink that reads "Larry M. Reinkemeyer".

LARRY M. REINKEMEYER
Assistant Inspector General
for Audits and Evaluations

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INTRODUCTION

Objective

In April 2015, Senator John Boozman and Congressman French Hill requested the Office of Inspector General (OIG) conduct a review of an \$8 million, 1.8-million megawatt solar panel system in the parking lot of the Central Arkansas Veterans Healthcare System (CAVHCS), John L. McClellan Memorial Veterans Hospital, Little Rock, AR (Little Rock). According to the congressional request, the solar system has never been activated and construction of a new parking garage resulted in disassembling and relocating a number of solar panels previously installed. They also requested we review the planning and management of other VA solar renewable energy projects. We reviewed other work-in-progress (WIP) solar renewable energy projects that were also longstanding and may have experienced similar reasons for delay as Little Rock. Therefore, we did not review WIP solar projects awarded after fiscal year (FY) 2013 or any successfully completed projects. Our objective was to determine whether VA effectively planned and managed its WIP solar photovoltaic (solar) projects to meet project timelines and expected project power generation goals.

Solar Program

In a 2007 study, VA contracted National Renewable Energy Laboratory to screen VA-owned facilities for cost-effective opportunities for the installation of solar panel projects. As of May 15, 2015, VA's Green Management Program (GMP) had initiated 92 solar projects consisting of 65 operational systems and 27 WIP projects at 74 VA medical facilities.

Solar Energy Funding

VA has spent over \$408 million from fiscal year (FY) 2010 through FY 2015 including just over \$48 million of American Recovery and Reinvestment Act funds. In FY 2016, \$1.6 million is projected for solar projects. Table 1 shows the solar project budget trends from FY 2010 through FY 2016.

Table 1. Solar Project Budget

(Dollars in thousands)

2010 Actual	2011 Actual	2012 Actual	2013 Actual	2014 Actual	2015 Actual	2016 Projected
\$138,287	\$85,630	\$53,437	\$38,825	\$67,535	\$24,481	\$1,639

Source: VA's Annual Budget submissions FYs 2012-2017

Other Information

- Appendix A provides pertinent background information.
- Appendix B provides details on our scope and methodology.

RESULTS AND RECOMMENDATIONS

Finding VA Needs To Ensure Solar Panel Projects Are Properly Planned and Managed

VA needs to improve its planning and managing of the installation of its solar power systems, and implement controls to determine whether the completed solar projects are achieving expected power generation. Specifically, 11 solar projects awarded by Veterans Health Administration's (VHA) Program Contracting Activity Central (PCAC) from FY 2010 through FY 2013 were initially planned for completion in 210 to 372 days from the notice to proceed with design and installation of the solar projects. However, we found these projects were completed or planned for completion in an average of 1,269 days with a range between 707 and 1,915 days. The significantly delayed projects are not yet operational and need to be efficiently managed until completed. Our analysis determined that the solar projects were delayed for the following reasons:

- Planning errors
- Design changes
- Lengthy interconnection agreement process
- Contractor delays

Because of the delays, VA has not increased renewable energy in the time frame planned for those solar projects. Moreover, VA incurred additional costs through contract modifications. At the completion of our audit work in March 2016, we found only 2 of the 11 solar projects were fully completed¹ with 6 of the 11 generating solar power. In July 2016, VA informed us that 5 of the 11 solar projects were fully completed with 8 of the 11 generating solar power. Little Rock was the focus of the congressional request and is one of three solar projects that are not generating solar power. In this report, we also discuss the remaining 10 solar projects that we reviewed.

Little Rock, AR

Little Rock's solar panel project was not adequately planned or managed. The solar project has not been completed and is not generating solar power. VA awarded a solar panel project contract to SunWize for approximately \$8.0 million in January 2012.

¹ We considered the project to be completed when the contracting office signs the acceptance letter. Signing the acceptance letter signifies VA has assumed ownership, or control, of the supplies or services delivered, in this case a solar panel system, as a partial or complete performance of the contract, according to FAR 46.101.

VHA's contracting office² issued a notice to proceed in July 2012 with a planned project completion date of mid-May 2013. The solar panel project is delayed over 4 years from the original planned completion date. The current planned completion date is January 2017.

The Little Rock officials did not effectively plan the installation of the system and a determination regarding whether expected solar power generation was achieved could not be made as the system has yet to be activated. The project experienced significant delays and additional contract costs due to disassembly of previously installed solar panel carport structures to accommodate a parking garage. In addition, a lengthy interconnection agreement process with the local private utility and contractor performance issues added to the delays.

As a result, VA expects to incur additional costs totaling approximately \$1.5 million. These costs include just over \$198,000 already spent for contract modifications to design and install surge protection and an automated disconnect system. In addition, \$906,000 of \$1.5 million has been allocated to disassemble and reassemble the solar panels to the roof of the parking garage. Of the \$906,000 allocation, \$54,000 has already been spent to disassemble the solar panels. According to the Contracting Officer's Representative (COR), required equipment changes resulting from an impact study will cost approximately \$351,000 in contract modification. Appendix C provides a chronology of the Little Rock project's timeline of significant events.

Contractor Selection

Ten contractors submitted proposals for the Little Rock solar project. The SunWize proposal ranked favorably in the following areas:

- Managing multiple projects of similar size and scope
- Experienced key personnel
- Minimal impact on hospital operations
- High kilowatt output
- Cost per kilowatt and price per watt

The contracting office's best value determination included three financial factors such as cost per kilowatt, as well as seven risk-based non-financial factors. Appendix D shows the rankings assigned to the 10 contractors. We

² Veterans Health Administration's contracting office, Program Contracting Activity Central, provides contracting support to GMP for solar projects from pre-solicitation through contract closeout, based on a memorandum of understanding between the contracting office and the Office of Asset Enterprise Management (OAEM)-GMP.

did not include the financial factor rankings due to the proprietary nature of the financial information.

Selection officials, comprised of PCAC and Veterans Integrated Service Network (VISN) representatives, determined that SunWize was one of two competitors with the highest technical rating. The cost per kilowatt proposed by the other competitor was higher than SunWize proposed. Further, the system size proposed by this competitor was the smallest of the 10 contractors that competed for the award. Based on our review of the best value determination, VA's selection of the Little Rock contractor was justified and reasonable at the time of the award.

VA has awarded 25 solar projects to SunWize. Of these, 21 of 25 projects were completed as of May 2015. We reviewed 4 WIP solar projects awarded to SunWize and found 3 of 4 projects are significantly delayed and not yet operational. According to facility officials,³ SunWize contributed to project delays at the Little Rock, Kerrville, and San Antonio facilities. The Kerrville and San Antonio projects are discussed in further detail on pages 10–11. A fourth project in Honolulu is completed and has been operating since June 2015.

In October 2015, SunWize, now Eco Clean Solar, Inc., was placed in receivership and the U.S. District Court of Arizona issued an order to take immediate possession, custody, and control of this contractor's assets and its operations. According to a PCAC supervisory contract specialist, the contractor is not in bankruptcy and VA is not making any payments to the contractor unless the products and services have been received. We reviewed and determined the payment and performance bond adequately protects VA's interests.

**Solar and
Parking
Garage
Projects**

The former CAVHCS director and former chief engineer at Little Rock identified a conflict between their solar panel and parking garage projects in August 2012. However, they missed the opportunity to delay the January 2013 installation of the solar photovoltaic (PV) panels.

Although the solar project was awarded to SunWize in January 2012, the facility did not provide SunWize the notice to proceed until July 2012. One month later, Little Rock received notification from the VISN approving the construction of a parking garage. In November 2012, Little Rock's statement of work for the parking garage design included an assessment of possible parking garage site locations. The facility intended to remove the carport structures from the then to-be-determined parking garage site and re-install the panels on the parking garage or elsewhere.

³ Facility officials are comprised of the CAVHCS COR and the COR for Kerrville and South Texas Veterans Health Care System projects.

PCAC contracting officers are required to conduct regular progress meetings with the facility and inform Office of Asset Enterprise Management (OAEM) of any project issues. According to a PCAC supervisory contract specialist, Little Rock and PCAC officials informally discussed the potential garage conflict prior to the January 2013 solar panel installation. However, when requested, PCAC could not provide any documentation to support the discussions occurred or its participants. Facility officials did not request contracting officers delay the installation of the solar panels, which occurred in January 2013. Little Rock's current chief engineer explained that in August 2012, approximately \$1.8 million was invoiced for solar panels and design fees. Facility leadership wanted to ensure the panels were installed. We were unable to interview the former CAVHCS director and former chief engineer in charge during the period leading up to the January 2013 installation of the solar panels because they both retired before our site visit.

In early June 2013, the CAVHCS director received formal notification that design funding for the \$9.8 million parking garage had been approved. In June 2013, facility officials selected the site for construction of the parking garage that began in FY 2015. The solar panel project has experienced significant delays and additional contract costs due to disassembly of previously installed solar panels from a carport structure and eventual reassembly on the parking garage. The solar panel project is delayed approximately 4 years from the original planned completion date. The current planned completion date is January 2017.

*Interconnection
Agreement
Delays Project*

In addition to project planning and management issues, a lengthy interconnection agreement process with the local private utility and contractor performance issues added to the delays of the Little Rock solar project. An interconnection agreement specifies the terms and conditions under which the solar photovoltaic system will be connected to the utility grid. To accomplish this, VA facilities work with local utilities to connect the solar panel system to the utility's electric grid. The requirements include VA's obligation to maintain the system in good working order and operate it safely. The completion of the interconnection agreement occurs only after the local utility is fully satisfied with the solar panel system. At this time, there are no Federal regulations to address this process.

Before completing the interconnection agreement at Little Rock, the local utility required an impact study to determine what effects the solar system would have on the utility grid and if system hardware needed upgrading at the medical facility. Little Rock was the only site of the 11 we reviewed for which the utility required an impact study. The contracting office took over 9 months after the utility's September 2012 request to conduct the impact study to award a contract. The CAVHCS COR told us the interconnection agreement delay occurred because of additional planning requirements and time needed to award the contract and conduct the impact study. In addition,

he stated that the impact study will result in approximately \$351,000 in a contract modification for required equipment changes, such as rerouting the existing conduits and wires.

According to the OAEM director, VA representatives raised the desirability of having universal interconnection agreement language for Federal customers in various forums over the years while Office of Management and Budget staff were in attendance, including meetings of the Interagency Energy Task Force, the Federal Utility Partnership Working Group, and events such as Department of Energy's GovEnergy and Energy Exchange. In the interim, VA collaboration with other Federal agencies to identify best practices for executing timely interconnection agreements may prove beneficial until legislation is proposed and adopted for all Federal agencies.

**Solar Panel
Project Delays**

We reviewed the remaining 10 solar projects and found that VA needs to improve its planning and management of the installation of its solar power systems and implement controls to determine whether the completed solar projects are achieving expected power generation. OAEM did not ensure facilities periodically compared actual versus expected solar power generation data. VA's Energy and Water Management Program Directive 0055 requires OAEM to oversee and monitor department-wide energy and water management programs. However, there is no requirement to ensure facilities compare actual versus expected solar power generation data. This periodic comparison would identify any potential solar power generation issues such as failing solar panels. Periodic data monitoring controls will ensure the solar panel system is performing as planned.

**West
Los Angeles, CA,
North Campus**

VA awarded a solar panel project contract to Rec Solar, Inc. for just over \$22.5 million in June 2011 with expected annual production of just under 6.2 million kilowatt hours. The solar panel project was delayed by approximately 36 months from the planned completion date⁴ of September 2012. Approximately 21 months of the delays were a result of addressing State Historic Preservation Office (SHPO) requirements. VA could not have anticipated the impact of the SHPO requirements. In December 2014, VA issued modifications as a result of a SHPO-required review of the project site. The review found that some project locations were historical sites which resulted in a change to the installation plan. Two contract modifications reduced the contract costs to about \$19.1 million. According to the COR, the contractor must make miscellaneous system repairs, such as repairing a broken transformer before closing the contract. In addition, the interconnection agreement required, and resulted in, design changes to the solar panel system to connect to the utility's electrical grid.

⁴ The contract establishes the number of days for project completion, which begins when the notice to proceed is issued.

According to the facility staff, the contract was expected to be completed in April 2016. In July 2016, VA informed us that the contract was completed in May 2016. According to the facility staff, the West Los Angeles North Campus system has been generating power since late September 2015. However, we could not determine if expected annual energy production for the facility's solar panel system was achieved as proposed by the contractor because the system had not been generating power for a year at the time of our review. Based on the updated completion date of May 2016, annual energy results for the facility's solar panel system will not be available until June 2017.

Gainesville, FL

VA awarded a solar panel project contract to AMEC Environment & Infrastructure, Inc. for \$5.9 million in June 2012 with expected annual production of 1.7 million kilowatt hours. The solar panel project was delayed by approximately 30 months from the planned completion date of November 2013. Contractor officials were concerned that construction of a planned parking garage would not be completed in time to install the planned solar panels on the parking deck. The contract was decreased by nearly \$700,000 because of canceling the installation of solar panels on top of a parking garage. In addition, the interconnection agreement required a design change to install new switchgear to connect to the utility grid. The contract was expected to be completed in April 2016. In July 2016, VA informed us that the contract is estimated to be completed in August 2016. Because of the delays, VA did not increase renewable energy in the time frame planned for those solar projects. We could not determine if expected annual energy production for the facility's solar panel system was achieved as proposed by the contractor because the system had not been generating power for a year at the time of our review. Based on the updated completion of August 2016, annual energy results will not be available until September 2017.

Tampa, FL

VA awarded a solar panel contract to Sun Power Corporation Systems for \$10.9 million in late September 2010, with expected annual production of 4.8 million kilowatt hours. The solar panel project was delayed by approximately 57 months from the planned completion date of August 2011. Design changes to the solar panel system, such as raising the carport canopy structures to accommodate buses at one location and changing ground-mounted solar panels to roof mounting on a parking garage at another location, resulted in delays. The contractor installed a manual versus automatic circuit breaker, which caused delays when it had to be replaced. In addition, there is a problem with the power generation reporting accuracy at the parking garage site even though, according to the COR, the system has been generating power since July 2014. As a result, the COR has not closed the contract because the reporting issue has not been resolved. We could not determine if expected annual energy production for the facility's solar panel system was achieved as proposed by the contractor because of the unresolved issue with the power generation reporting accuracy. In July 2016, VA informed us that the contract was completed in May 2016. Based on the

updated completion date of May 2016, annual energy results will not be available until June 2017.

Honolulu, HI

VA awarded a solar panel project contract to SunWize Technologies for just over \$600,000 in May 2012 with expected annual energy production of approximately 177,000 kilowatt hours. The solar panel project was delayed by approximately 21 months from the planned completion date of September 2013. Delays caused by SHPO concerns account for about 10 months of the solar panel project delay and represent the majority of additional project expenditures of just over \$40,000. VA issued three modifications as a result of the SHPO findings, which resulted in a design change and compensation to the contractor for storage fees and project management.

The contracting office did not order a feasibility study since Hawaii is an optimal location for a solar panel system. If a feasibility study had been conducted, the additional time for the SHPO assessment could have been estimated and built into the project milestones. The remaining 11 months of delays are a result of miscellaneous issues including a 3-month delay for replacement of a subcontractor.

The solar panel project has been generating power since June 2015. However, we could not determine if expected annual energy production for the facility's solar panel system was achieved as proposed by the contractor because the system had not been generating power for a year at the time of our review. Annual energy results for the facility's solar panel system will not be available until July 2016.

Pineville, LA

VA awarded a solar panel contract to Eaton Corporation for just under \$7.4 million in late June 2012 with expected annual production of just under 3 million kilowatt hours. The solar panel project was delayed by approximately 31 months from the planned contract completion date of September 2013. The contract remains open due to an unresolved solar panel data monitoring issue. Another delay relates to a \$97,600 design change for the relocation of the installed solar panel system's point of common connection (POCC). The POCC is the main connection point between the facilities' building(s) and the solar panel system. This occurred because the POCC location was not specified in the solicitation or the contract description of work and the omission was not discovered during the Technical Evaluation Board review of the proposal. The contract was expected to be closed in April 2016. In July 2016, VA informed us that the contract was completed in June 2016. Pineville's solar panel system has been generating solar power since March 2015. VA provided us with annual energy results for the facility's solar panel system through June 2016. Annual energy data showed that actual solar power generation was about 12 percent below expected solar power generation.

Shreveport, LA

VA awarded a solar panel project contract to Hypower, Inc. for \$6.1 million in September 2012 with expected annual production of nearly 1.7 million kilowatt hours. The project was delayed approximately 28 months from the planned completion date of January 2014. The contract remains open pending completion of system commissioning punch list items. In addition, actual expenditures have exceeded the awarded amount by just under \$180,000. Major delays and modifications included repairs and a design change to address unforeseen extraordinary ground conditions such as an underground cavern under a carport lot. In addition, erosion damage repairs in June 2013 took approximately 1 year to repair. Other delays were attributed to contractor errors. Specifically, in August 2014, a cross wiring resulted in a carport fire and a ground fault issue was discovered in October 2015 with its final resolution not occurring until February 2016. The contract was expected to be completed in April 2016. In July 2016, VA informed us that the contract is expected to be completed in August 2016. The Shreveport system has been generating power since late August 2014. However, the system was turned off and not generating power from June through August 2015. We could not determine if expected annual energy production for the facility's solar panel system was achieved as proposed by the contractor because the system had not been generating power for a year at the time of our review. Annual energy results for the facility's solar panel system will not be available until approximately September 2016.

Jackson, MS

VA awarded a solar panel project contract to J.R. Conkey & Associates, Inc. for just over \$11.8 million in September 2012 with expected annual production of 3.5 million kilowatt hours. The solar panel project was delayed by approximately 28 months from the planned completion date. In addition, actual expenditures have exceeded the awarded amount by just over \$39,000. According to the Jackson COR, the contractor's work did not meet contract requirements and resulted in project delays. For example, the contractor used welded structural steel connections in place of bolted connections on galvanized steel. In another example, the metering system for each combiner box did not meet contract requirements. The contract was expected to be completed in April 2016. In July 2016, VA informed us that the contract is expected to be completed in August 2016. Because of the delays, VA did not increase renewable energy in the time frame planned for this solar project. We could not determine if expected annual energy production for the facility's solar panel system was achieved as proposed by the contractor because the system had not been generating power for a year at the time of our review. Based on the updated completion date of August 2016, annual energy results will not be available until September 2017.

Big Spring, TX

VA awarded a solar panel project contract to Efficient Energy of Tennessee, LLC for just over \$6.8 million in September 2013 with expected annual production of 1.9 million kilowatt hours. The project was delayed by approximately 11 months from the planned completion date of October 2014. The majority of the delay occurred because VA did not consider the type of

steel needed during project planning and did not provide clear specifications in the statement of work. As a result, the contractor's proposed carports did not meet structural requirements. Costs of just under \$178,000 were added to the contract to accommodate the structural adjustment because of inadequate planning. Other delays not related to planning occurred, such as installation of a transformer and wiring at an electrical connection point for approximately \$12,800. As a result, VA spent an additional \$190,800 for the two modifications, increasing the final contract price to about \$7 million. Big Spring's solar panel system has been operational since October 2015. However, we could not determine if expected annual energy production for the facility's solar panel system was achieved as proposed by the contractor because the system had not been generating power for a year at the time of our review. Annual energy results for the facility's solar panel system will not be available until November 2016.

Kerrville, TX

VA awarded a solar panel project contract to SunWize Technologies for about \$6.6 million in November 2012 with expected annual production of approximately 2.2 million kilowatt hours. The solar panel project was delayed by approximately 27 months from the planned completion date of June 2014. The COR cited contractor delays as the major reason for the project delay. The contractor is considerably behind on the project milestones and the COR stated that changes in contractor project leadership contributed to the delay. As a result, the contracting office issued three letters of concern to the contractor citing a lack of progress on the project and the failure to prepare and submit modification proposals. In October 2015, the contractor was placed in receivership and the U.S. District Court of Arizona issued an order to take immediate possession, custody, and control of this contractor's assets and operations. Because of the delays, VA did not increase renewable energy in the time frame planned for those solar projects. We could not determine if expected annual energy production for the facility's solar panel system was achieved as proposed by the contractor because the system had not been generating power for a year at the time of our review. In February 2016, VA informed us that the contract is expected to be completed in August 2016. Based on the updated completion date of August 2016, annual energy results for the facility's solar panel system will not be available until approximately September 2017.

*San Antonio,
TX*

VA awarded a solar panel project contract to SunWize Technologies, Inc. for \$8.6 million in January 2012 with expected annual production of 2.5 million kilowatt hours. The solar panel project was delayed by approximately 38 months from the planned completion date. According to the COR, there were four changes in project leadership in a 3-year period. Each new project manager brought new requests for information and proposed changes. The contractor also delayed the project by trying to start construction without approved project designs. For example, the contractor ignored contractual requirements such as galvanizing carport structures. As a result, the contracting office issued a 6-month suspension of work. Because the

contractor delayed submitting a completed project design, the interconnection agreement was not completed. As of January 15, 2016, construction of the solar panels had not begun. The contract was expected to be completed in August 2016. In July 2016, VA informed us that the contract is expected to be completed in December 2016. Because of the delays, VA did not increase renewable energy in the time frame planned. We could not determine if expected annual energy production for the facility's solar panel system was achieved as proposed by the contractor because the system had not been generating power for a year at the time of our review. Based on the updated completion date of December 2016, annual energy results will not be available until January 2017.

Conclusion

VA needs to complete its solar power projects in a timely manner to generate renewable energy at VA medical centers. Additional controls are needed to protect VA from future delays and avoid conflicts between solar panel projects and other projects. A lessons learned assessment will help identify areas for improvement and those additional controls. Although the interconnection process can be lengthy, collaboration with other Federal agencies regarding the interconnection agreement and establishing strong relationships with utilities should minimize delays in the future. Finally, VA will only know if savings are fully realized by periodically comparing actual versus expected solar power generation data.

Recommendations

1. We recommended the Interim Assistant Secretary for Management strengthen controls to ensure facility officials inform the contracting office, Program Contracting Activity Central, of potential conflicts between solar panel projects and other projects.
2. We recommended the Interim Assistant Secretary for Management identify and share best practices for executing timely interconnection agreements with utilities based on continued collaboration with other Federal agencies.
3. We recommended the Interim Assistant Secretary for Management implement controls to periodically compare actual and expected solar power generation data to ensure the solar panel system is performing as planned.
4. We recommended the Interim Assistant Secretary for Management conduct a lessons learned assessment for solar project delays and implement additional controls to ensure future solar panel projects are properly planned and managed.

**Management
Comments**

The Interim Assistant Secretary for Management concurred with intent for Recommendations 1 and 3. For Recommendation 1, Office of Management (OM) stated OAEM implemented a Customer Service Agreement (CSA) document process to improve communication between Green Management Program (GMP), VISN and facilities and provide assurance that the projects do not conflict with current or future projects. OM requested closure of this recommendation.

For Recommendation 3, OM stated VHA energy engineers at the facility level are best positioned and have the greatest incentive to verify that solar panel projects are performing as planned, and operating in peak condition, to ensure that their facilities receive the maximum benefit possible from VA's energy investments. In forthcoming guidance, VA will formalize what VHA energy engineers are already doing, and make verification of actual performance a requirement.

The Interim Assistant Secretary for Management nonconcurred with Recommendations 2 and 4. For Recommendation 2, OM stated VA continues to collaborate with other Federal agencies and highlighted the challenges of applying standard state and utility provisions in interconnection agreements. In addition, they highlighted that each Federal agency handles interconnection agreements different which does not lend itself to a universal best practice. VA stated they will continue to share its experiences with Federal agencies, and work with utilities – and where necessary – with state regulatory bodies, to ensure that interconnection agreements are in compliance with Federal requirements.

For Recommendation 4, OM stated that additional lessons-learned analysis was not necessary as they are constantly sharing information and lessons learned are shared through ongoing communications. OM stated that over the past 2 years, GMP and PCAC have instituted a number of changes to the way solar PV projects are planned, procured, and managed, including more comprehensive economic and technical analysis, greater coordination with VISN and medical center leadership, and changes to performance specifications and contract clauses.

**OIG
Response**

VA stated that our audit scope was biased because OIG did not address the solar panel projects that were completed during our audit scope period. Because of the Congressional request to review the WIP Little Rock solar panel project and other solar projects, our audit focused on WIP solar projects. We reviewed 11 solar projects awarded from FY 2010 through FY 2013 designated as WIP by GMP as of May 15, 2015. During the audit entrance briefing with VA in May 2015, we specifically discussed the audit scope and methodology, as well as our sample of 11 WIP projects awarded during FY 2010 - 2013. In attendance were four management officials from OAEM. In addition, three management officials from PCAC, three officials from VHA, and one official from the Office of Acquisition & Logistics

called into the entrance briefing using the teleconference information provided. The Director and Deputy Director of OAEM did not object to the audit scope, methodology, and objective at that time.

We reviewed both prior and current policies, procedures, and related controls for these projects. Although VA believes the findings and recommendations in this report have been resolved or mitigated, 6 of 11 solar projects we selected for review in May 2015 were still incomplete at the conclusion of our audit work. Solar panel design and installation projects were estimated by VA to be completed in a year or less. However, the 11 projects in our sample have been open an average of approximately 3.5 years. Although OM highlights the improved controls in recent years, VA needs to ensure these longstanding WIP solar panel projects are completed in the near term and generating power.

VA stated that OIG did not consider the many changes incorporated into solar power awards since FY 2013. Since FY 2013, VA highlighted critical changes in planning and management procedures including controls to ensure proper communication between VHA network, medical center leadership and planners, revised contract clauses and performance specifications, and updated contract period of performance requirements. We acknowledge implementation of the CSA process is to improve planning and management procedures as included under Recommendation 1. However, the 11 solar panel projects we reviewed were awarded prior to implementation of the CSA process, which was not executed until the end of FY 2014 and therefore did not fall within the audit scope period. Although the CSA process may have minimized the delays for the 11 projects, it is difficult to conclude it would have had a material impact on the 11 projects that we reviewed. At Little Rock, implementation of the CSA process would not have prevented the conflict based on management's comments to this report.

OM also responded that it is incorrect to state that VA did not increase renewable energy in the timeframe planned. VA highlighted past achievements in attaining agency-wide renewable energy goals and we acknowledge VA's efforts to meet renewable energy consumption targets. However, we did not audit or opine on VA's overall energy goals. The intent of our report is to emphasize that the solar panel projects in our sample did not achieve its expected energy production in the planned contract timeframe. When solar panel projects are not completed timely, it is reasonable to expect that VA cannot meet the planned energy goal for that specific solar panel system because it is not generating power in the planned time frame.

VA also stated the Little Rock project was complex because of the parking garage approval and construction that required the disassembly of the solar panel system. Based on VA's response, we opined that VA would have

made the same decision to install solar panels on all parking lots with the information known at the time. OM also states that they did not want to forgo potentially years of renewable electricity generation and incur costs necessary to cancel an awarded project. In our opinion, it was not prudent to install solar panel systems on all parking lots before the parking garage site was known. Further, OM also contends that the parking garage was not expected to receive construction funding until at least FY 2018 or later and therefore it was decided that it was in the best interest of the government to allow the solar PV project to proceed. We reviewed documentation that supports approval of the parking garage project in August 2012 and that the VISN Network Director informed facility officials during the third quarter of FY 2013 that the funding was approved.

OIG Response

The Interim Assistant Secretary for Management's corrective actions are responsive for Recommendations 1 and 3. For Recommendation 1, the projects that we reviewed were not included in the CSA process that VA implemented at the end of FY 2014. However, our review of the supporting data we received subsequent to our audit work showed limited implementation of the CSA. VA noted that five of VA's most recent solar panel projects have signed CSAs that are now required before projects are awarded. We will monitor progress of the implementation of the CSAs and close the recommendation after evidence of OM's nationwide implementation. For Recommendation 3, we will close the recommendation upon receipt and review of the documents and guidance noted in OM's response.

The Interim Assistant Secretary for Management response to Recommendation 2 nonconcurred with our recommendation. While we acknowledge the challenges VA has presented, our recommendation is intended to emphasize the importance of continuing to identify additional best practices gained from working with utilities and states to further reduce the time to execute interconnection agreements.

The Interim Assistant Secretary for Management nonconcurred with Recommendation 4. We requested GMP provide us with a formal lessons learned assessment during our March 2016 exit briefing when we were made aware that this assessment may have occurred. GMP provided us with a one-page document which indicated that a contract was awarded in 2014-2015 to strategically assess how solar panel projects were performing, where improvements could be made, and how lessons learned could be applied towards future projects. However, no operational improvements were detailed in the document and key challenges for solar panel delays such as contractor delays were not addressed. A formal lessons learned assessment conducted periodically for all current WIP and future projects will help identify process improvements and minimize future program delays.

Appendix A Background

Program Oversight

In order to plan which renewable energy projects to implement, OAEM ensures all investments undergo an appropriate level of analysis required for a sound investment decision. OAEM's mission is to ensure efficient and effective corporate-level management of VA capital assets in order to better serve veterans and their families. OAEM oversees GMP, which focuses on a variety of aspects that help VA facilities become more energy efficient and sustainable, including renewable energy such as solar energy. PCAC provides contracting services from planning through contract closeout based on a memorandum of understanding with GMP.

Facility Oversight

Project oversight personnel consist of facility construction and engineering management and staff, including project engineers, energy engineers, some of whom act as COR. COR duties include project and contractor oversight, and coordination with PCAC.

PCAC Contracting Activity

Each site works with contracting officials at PCAC from acquisition planning through the contract closeout process to ensure the project will be properly completed. The contracting officers at PCAC and site COR are the prime contractual and technical oversight officials throughout the project. PCAC provides acquisition and related program support to Green Management Program Service. PCAC develops the planned statement of work (SOW) and technical evaluation factors provided in solicitations. The SOW is then included in the contract. The period of performance is from the notice to proceed to contract closeout. Before a notice to proceed is issued, the contractor must provide the site COR with the design-installation documentation and all catalog material. Documentation that must be provided includes a schedule that shows complete fulfillment of all contract requirements; milestone dates; and all permits associated with the installation. PCAC provides the contractor with a notice to proceed to begin design-installation, and the estimated completion date, which was between 210 and 372 days for the solar projects reviewed.

Renewable Energy Programs

A March 2015 Executive Order, *Planning for Federal Sustainability in the Next Decade*, established a goal for Federal agencies to ensure that the percentage of the total amount of building electric energy consumed by the agency that is renewable electric energy is not less than 20 percent in FYs 2020 and 2021. VA performed renewable energy studies to determine which facilities would be the most ideal for investing in renewable energy technologies based on the availability of renewable fuels, energy plant characteristics, and local utility rates. Renewable energy projects implemented at VA facilities are expected to yield energy cost savings, reduce reliance on fossil fuels, and provide environmental benefits, including reductions in greenhouse gas emissions. This Executive Order was not in effect when the contracts in our sample were awarded.

Appendix B Scope and Methodology

Scope

We conducted our audit work from May 2015 through July 2016. To accomplish our objective, we reviewed 11 solar projects awarded from FY 2010 through FY 2013 designated as WIP by GMP as of May 15, 2015. These WIP solar renewable energy projects were longstanding and may have experienced similar reasons for delay as Little Rock. Therefore, we did not review WIP solar projects awarded after FY 2013 or any successfully completed projects. During the course of our audit, we determined that there were actually 15 solar projects awarded from FY 2010 through FY 2013 that were WIP during FY 2015. We discuss this in more detail in our data reliability section.

Methodology

We reviewed applicable laws, regulations, policies, and guidelines and interviewed OAEM, GMP, PCAC and site officials to obtain an understanding of program controls. Our review included onsite visits, and obtaining and analyzing relevant program data to assess VA's solar panel projects. We reviewed feasibility studies, best value determinations, contracts, and related contract documentation to determine if VA's management of projects met timeliness and expected power generation. We received FY 2014 solar power generation data for operational sites to assess the actual and expected results.

We worked with OIG Information Technology staff and statistician and obtained data from the Electronic Contract Management System (eCMS) on VA's solar projects including contract information and other attributes. We reviewed the planning and contract documentation for the 11 WIP solar projects to identify any issues that resulted in the projects not meeting milestones or expected power generation. In addition, we compared contract information to data obtained from eCMS, GMP, PCAC, and facility staff.

Our audit included onsite visits to four locations:

1. James A. Haley Veterans' Hospital, Tampa, FL
2. John L. McClellan Memorial Veterans Hospital, Little Rock, AR
3. Audie L. Murphy Memorial VA Hospital, San Antonio, TX
4. VA West Los Angeles Medical Center, Los Angeles, CA

We visited Little Rock, AR, part of VISN 16, because of the congressional request. The remaining three WIP project site visits were non-randomly selected based on the following factors: project duration, project size, and project VISN location.

We also reviewed the contracts and data for the remaining seven sites:

1. Alexandria VA Health Care System, Pineville, LA
2. G.V. (Sonny) Montgomery VA Medical Center, Jackson, MS
3. Malcom Randall VA Medical Center, Gainesville, FL
4. Overton Brooks VA Medical Center, Shreveport, LA
5. Kerrville VA Hospital, Kerrville, TX
6. Spark M. Matsunaga VA Medical Center, Honolulu, HI
7. George H. O'Brien, Jr. VA Medical Center, Big Spring, TX

**Fraud
Assessment**

The audit team assessed the risk that fraud, violations of legal and regulatory requirements, and abuse could occur during this audit. The audit team exercised due diligence in staying alert to any fraud indicators by taking actions such as:

- Reviewing documentation of the Department of Health and Human Services OIG Exclusions Database to search for the contractors' names to ensure that none were excluded from providing goods and services to the United States Government.
- Reviewing contract file documentation to ensure delays and cost overruns were justified.
- Being alert for any conflict of interest such as the COR's authority and limitations of the position.

We did not identify any instances of fraud during this audit.

Data Reliability

We requested and obtained access to VA's eCMS to validate information found on the GMP Web site in May 2015. Specifically, that data included GMP's May 15, 2015 *Key Renewable Energy Projects by State* report. We validated and assessed reliability of data at 11 sites by comparing WIP solar project information found on GMP's Web site to eCMS and source documentation contained in the contract files. This included key contract file data such as contract number, contract value, and contract modifications. We also confirmed with GMP officials that the 11 sites were WIP projects.

In mid-July, GMP provided a list of WIP solar projects. We compared the May 2015 report and the July 2015 data project list, which showed that there were actually 15 solar projects awarded from FY 2010 through FY 2013 that were WIP during FY 2015. Specifically, GMP's May 15, 2015 *Key Renewable Project by State* report erroneously classified four projects as FY 2014 projects when they were actually awarded at the end of FY 2013. We identified these errors after identifying the 11 WIP solar projects. Therefore, five projects were not part of our review. Since we are only reporting our findings of the 11 projects reviewed and not making any projections, the exclusion of the review of the four additional WIP projects did not affect the audit results.

**Government
Standards**

Our assessment of internal controls focused on those controls related to our audit objective. We conducted this performance audit in accordance with generally accepted government auditing standards. These 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 objective. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objective.

Appendix C Little Rock Project's Timeline of Significant Events

Table 2. Little Rock Timeline of Significant Events

Date	Event
April 6, 2011	Solar project feasibility study references the planned parking structure in the section titled <i>Facility Future Expansion Plan</i> .
Jan. 30, 2012	Little Rock solar project awarded to SunWize (Eco Clean, formerly SunWize)
July 19, 2012	Notice to Proceed provided to contractor to begin solar project.
Aug. 2, 2012	Facility received an email from the VISN. This was first notice that the parking garage was approved.
Aug. 9, 2012	Utility submitted interconnection agreement application to SunWize.
Aug. 15, 2012	VA received \$1.8 million invoice from contractor for solar panels delivered to Little Rock.
Dec. 6, 2012	Request for proposal of architect-engineer (A&E) Services and Statement of Work (SOW) for design of possible parking garage locations.
Jan. 11, 2013	Installation starts for all the solar project locations.
Feb. 23, 2013	Installation completed of solar panels on east lot (eventual location of parking garage).
March 25, 2013	A&E contractor for parking garage provided design options for three possible lot locations.
June 5, 2013	Memo from VISN director approved funding for parking garage design in 2013 and build in 2015.
June 13, 2013	Facility approved and selected east lot as location for parking lot after reviewing A&E design options.
June 27, 2013	Facility notified contract specialist, at PCAC, that they needed to discuss the parking garage location. According to facility officials, this was first written notification to PCAC.
July 1, 2013	VISN issued design authorization for parking garage.
May 13, 2014	Facility notified PCAC management, by e-mail, that the parking garage was approved and has received funding.
Sept. 19, 2014	VA and utility signed an interconnection agreement 26 months after notice to proceed.
Jan. 22, 2015	Award made to contractor to construct Little Rock parking garage.
March 19, 2015	The parking garage contractor submitted disassembly plan for solar panels on the east parking lot.
April 6, 2015	The parking garage contractor finished disassembly of solar panels on the east parking lot.
April 2016	Facility estimate for partial operation of the solar panel system.
Jan. 2017	Facility estimate for parking garage and solar project to be operational (system fully operational).

Source: PCAC and Little Rock Management

Appendix D Best Value Determination for Little Rock Project

PCAC's best value determination included three financial factors such as cost per kilowatt as well as seven risk-based non-financial factors. Table 3 shows the rankings assigned to the 10 contractors that competed for the Little Rock project award. We did not include the financial factor rankings due to the proprietary nature of the financial information.

In general, the degree of risk from low to high is identified by the colors blue (exceptional), green (good), yellow (acceptable), orange (marginal), and red (unacceptable). For past performance, the color green indicates moderate risk. Each of the 10 competitors is represented in the table as A through J.

Table 3. Little Rock Best Value Non-Financial Rankings

*	Corporate Experience	AC Energy Delivery	Mounting System	Technical Capability	Key Personnel	Schedule	Past Performance
A	Blue	Green	Green	Green	Yellow	Yellow	Green
B	Blue	Green	Green	Green	Yellow	Yellow	Green
C	Blue	Green	Green	Yellow	Yellow	Yellow	Green
D	Blue	Yellow	Yellow	Green	Green	Yellow	Green
E	Green	Green	Green	Yellow	Yellow	Yellow	Green
F	Green	Yellow	Yellow	Yellow	Green	Green	Green
G	Blue	Yellow	Green	Yellow	Yellow	Green	Green
H	Yellow	Green	Yellow	Yellow	Yellow	Orange	Green
I	Yellow	Yellow	Green	Yellow	Yellow	Green	Green
J	Yellow	Yellow	Yellow	Yellow	Yellow	Orange	Green

Source: PCAC's January 3, 2012 Best Value Determination

**Contractor A is SunWize and Contractor B is the second-highest ranked competitor.*

Appendix E Interim Assistant Secretary for Management Comments

Department of Veterans Affairs

Memorandum

Date: May 10, 2016

From: Interim Assistant Secretary for Management and Interim Chief Financial Officer (004)

Subj: OIG Draft Report – Audit of VA's Green Management Program Solar Panel Projects

To: Assistant Inspector General for Audits and Evaluations (52)

1. Thank you for the opportunity to review and comment on the subject draft report. The Office of Management (OM) partially concurs with OIG's Audit, and has either previously implemented, or has taken steps to implement all four of OIG's recommendations, to the extent possible. OM will continue to ensure that solar panel projects funded with precious taxpayer dollars benefit the Veterans we proudly serve.

2. The OIG's objective was "to determine whether VA effectively planned and managed its solar photovoltaic (PV) projects to meet timelines and expected power generation goals." However, the audit focused exclusively on the planning and execution of a small number of older PV projects funded through VA's Green Management Program (GMP) that were identified as in-progress, and did not review planning, program management, and contracting improvements implemented by VA since the inception of the older projects. VA does not believe that selection of these projects is a representative example of our entire portfolio. For example, a recent solar project awarded in Las Vegas that is anticipated to meet 26% of the medical center's electric load, is projected to be completed on schedule this October. Further, the total portfolio of GMP-funded solar PV projects is providing significant cost savings to VA as well as helping VA meet Congressional and Presidential mandates on renewable energy consumption. GMP's solar portfolio is estimated to provide VA annual cost avoidance of over \$10 million; reduce VA greenhouse gas emissions by 78,527 metric tons of carbon dioxide (CO₂) equivalent per year; and, in tandem with emerging microgrid technologies, offers the opportunity for increased energy resiliency. Cost avoidance achieved through VA's solar portfolio allows the Department to redirect those recurring funds to provide care and services to Veterans.

3. VA reviewed the subject report thoroughly. VA's overall concern is that the report's findings and recommendations are unsupported by either the facts as presented or from additional extant facts not mentioned in the report. In particular, VA objects to the bias resulting from OIG's selection of projects to audit. In the discussion below, as well as in the attached Action Plan and Statement of Facts, VA highlights the areas of agreement and disagreement, and provides background and context for better understanding the content of the report, and VA's response.

4. Of the four audit recommendations, VA non-concurs with two and concurs with the intent of the remaining two

Page 2.

OIG Draft Report – Audit of VA's Green Management Program Solar Panel Projects

Discussion

5. OIG's decision to audit a small number of projects already identified as in-progress impairs the report's findings and recommendations. OIG's objective "was to determine whether VA effectively planned and managed its solar PV projects to meet timelines and expected power generation goals." However, OIG chose to limit the audit's scope to only 11 in-progress solar projects awarded between FY 2010 and FY 2013, ignoring the 41 completed solar projects awarded during that same timeframe. The bias in OIG's project selection led to a flawed overall audit finding concerning VA's planning and management of its solar power systems

6. The report does not address the many changes incorporated into solar PV awards made since FY 2013. In addition to ignoring the 41 completed solar projects awarded during FY 2010 through FY 2013, the report also ignores the 15 solar projects awarded since FY 2013, many of which included critical changes in planning and management procedures that directly address OIG's findings and recommendations. Several years prior to the initiation of OIG's audit, GMP and Veterans Health Administration Program Contracting Activity Central (PCAC) had: 1) instituted controls to ensure greater communication between VHA network and medical center leadership and planners; 2) revised contract clauses and performance specifications; and 3) updated contract period of performance requirements.

7. OIG did not discuss addressing renewable energy goals with OM. OIG never discussed VA's strategy for addressing renewable energy goals with Office of Asset Enterprise Management (OAEM), GMP, or PCAC. OIG's frequently used statement that "because of the delays, VA did not increase renewable energy in the time frame planned" misstates VA's renewable energy strategy, and misrepresents the fact that VA met renewable energy goals in FY 2010 through FY 2013 (and continues to do so). Had VA known OIG's intention to address renewable energy goals and been given a chance to provide supporting information, a different conclusion may have been reached.

8. OIG's report does not fully recognize the complexities of the situation at Little Rock. This audit was requested because of complications that arose with the Little Rock Medical Center solar PV project. OIG states that "Little Rock officials identified a conflict between their solar panel and parking garage projects in August 2012. However, they missed the opportunity to delay the January 2013 installation of the panels." While the parking garage was approved in August 2012, it was not expected to receive construction funding until at least FY 2018 or later (dependent on future appropriations), with construction commencing at least a year later. The garage project's construction would have started at least three to four years after the anticipated completion date for the solar PV project, giving VA three to four years of solar power generation and related savings. Cancelling the solar PV project would have

Page 3.

OIG Draft Report – Audit of VA's Green Management Program Solar Panel Projects

delayed implementation of this beneficial renewable energy project by at least 7 years, and would have incurred costs to the Government necessary to cancel an awarded project. The intent was to relocate and reinstall the affected solar panels, less than 20% of the total 7,504, to the top of the parking garage, if funded. An additional, unexpected, appropriation of Veterans Access, Choice, and Accountability Act ("Choice Act", Public Law 113-146) Minor Construction funding in the fall of 2014, however, advanced the parking garage project several years, at which point the solar PV project Contracting Officer's Representative (COR), OAEM, and PCAC were notified, but by this time the project was near completion. Once the Department was aware of the receipt of Choice Act funding, VA officials worked together to mitigate the impact of the panels relocation. While the unexpected funding of the parking garage delayed completion of the solar project, the project experienced additional delays when the contractor entered receivership in October 2015, something over which VA had no control. Receivership gives a third party receiver control over an entity's assets and property to protect them pending the final outcome of a legal action. In the interim, VA's interests are protected by a performance bond.

9. We appreciate the opportunity to voice our concerns with OIG's report, and your consideration of our comments provided, in support of your objective to publish a thorough final report. We will ensure that future efforts further integrate OIG recommendations where applicable to build upon the improvements already made.

(Original signed by)

EDWARD J. MURRAY

Attachments

OFFICE OF MANAGEMENT

Action Plan

Draft OIG Report – Audit of Green Management Program Solar Panel Projects

Date of Draft Report: 4/7/2016

Recommendations/ Actions	Status	Target Completion Date
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Recommendation 1. We recommend the Interim Assistant Secretary for Management strengthen controls to ensure facility officials inform officials in the contracting office of potential conflicts between solar panel projects and other projects.

OM Comments: Concur with Intent. Before OIG initiated its audit, as early as August 2013, the Office of Asset Enterprise Management (OAEM) had identified the need for greater communication between Green Management Program (GMP) projects, Veterans Integrated Service Network (VISN), and facility planners, and had instituted the requirement for a Customer Service Agreement (CSA) document. The CSA requires an explicit acknowledgement by VISN and facility leadership, planning and engineering staff, GMP, and Veterans Health Administration Program Contracting Activity Central (PCAC) of the nature of the project, roles and responsibilities, and assurance that the project does not conflict with current or future projects. This higher-level communication greatly reduces the likelihood of potential conflicts among projects. GMP is now requiring completed CSAs before projects are awarded. Five of VA's most recent solar panel projects have signed CSA documents. OM requests closure of this recommendation.

The following documentation is provided:

- 1) CSAs for most recent solar projects.

Status: CSA complete

Target Completion Date: Complete

Recommendation 2. We recommend the Interim Assistant Secretary for Management identify and share best practices for executing timely interconnection agreements with utilities based on continued collaboration with other Federal agencies.

OM Comments: Non-concur. VA has, and continues, to collaborate with other Federal agencies to promote best practices in this area. However, through these efforts, we learned that each Federal agency's handling of the interconnection agreements is specific to an agency and does not lend itself to a universal best practice that fits all. Utility interconnection agreements are regulated at the state level and each utility company has different requirements. To date, many utility companies are unfamiliar with pertinent Federal contracting requirements. As a result, the interconnection agreements they present to VA for execution often contain boilerplate provisions that we

cannot agree to. For example, their interconnection agreements often contain provisions that would require VA to indemnify the utility company for any injury to persons or damages that the VA energy equipment might cause to the utility company's infrastructure. VA cannot agree to such indemnity provisions, because that would constitute an open-ended obligation that would violate the Anti-Deficiency Act (31 U.S.C. §§ 1341, 1342, 1351, and 1517). Accordingly, the U.S. Department of Justice has specifically instructed VA to use the following alternative language in Interconnection Agreements: "The liability, if any, of the United States for injury or loss of property, or personal injury or death shall be governed exclusively by the provisions of the Federal Tort Claims Act (28 USC 2671-2680)." Another example of unacceptable boilerplate language occurs when utility companies seek to have State and local law control in Interconnection Agreements. For obvious reasons, VA must require to have the agreement made subject to applicable law, which in many instances would include Federal law. When impasses occur on such issues when negotiating interconnection agreements with utility companies, VA on occasion must seek relief through the local public utility commissions, to request appropriate changes to unacceptable boilerplate language in underlying interconnection agreements. VA will continue to share its experiences with Federal agencies, and work with utilities – and where necessary – with state regulatory bodies, to ensure that interconnection agreements are in compliance with Federal requirements.

Status: N/A

Target Completion Date: N/A

Recommendation 3. We recommend the Interim Assistant Secretary for Management implement controls to periodically compare actual and expected solar power generation data to ensure the solar panel system is performing as planned.

OM Comments: Concur with Intent. VHA energy engineers at the facility level are best positioned and have the greatest incentive to verify that solar panel projects are performing as planned, and operating in peak condition, to ensure that their facilities receive the maximum benefit possible from VA's energy investments. VHA energy engineers are already required to upload renewable energy generation data on a quarterly basis to the VHA Support Service Center (VSSC) database. These periodic checks provide VHA energy engineers with the data to verify optimal system performance. VA previously provided OIG with access to VSSC and provided renewable energy generation data for all of FY 2014, and the first three quarters in FY 2015. The OIG's report acknowledges that there is no requirement to compare planned versus actual generation at the corporate level, but VA agrees this is a prudent verification as we are currently doing this at the local level. In forthcoming guidance, VA will formalize what VHA energy engineers are already doing, and make verification of actual performance a requirement.

The following documentation will be provided to close this recommendation:

- 1) Energy Investment Tool kit
- 2) Updated Directive 0012 (DRAFT)

Status: In progress

Target Completion Date: 12/31/2016

Recommendation 4. We recommend the Interim Assistant Secretary for Management conduct a lessons-learned assessment for solar project delays and implement additional controls to ensure future solar panel projects are properly planned and managed.

OM Comments: Non-concur. OM disagrees that additional lessons-learned analyses are required at this time. VA is a continuously learning organization and lessons learned are constantly shared through our ongoing communication through conference calls, interaction with the field, and other means of communication. In fact, over the past two years, GMP and PCAC have instituted a number of changes to the way solar PV projects are planned, procured, and managed, including more comprehensive economic and technical analysis, greater coordination with VISN and medical center leadership, and changes to performance specifications and contract clauses. For example, in its awards for solar PV systems at Las Vegas and Houston in FY 2014 and FY 2015, GMP and PCAC changed the method by which the projects were solicited, resulting in clearer objectives and scope, and greater competition. VA believes that had OIG considered a representative array of projects, these changes would be reflected in the report. GMP has also appointed region-specific points of contact for solar projects to help ensure optimal planning and management. As a result, VA believes that the concerns raised in this report have been successfully resolved or mitigated.

Status: N/A

Target Completion Date: N/A

OFFICE OF MANAGEMENT

Statements of Fact

Draft OIG Report – Audit of Green Management Program Solar Panel Projects

Date of Draft Report: 4/7/2016

Statement/Response

Introduction: The Statements of Fact section corrects and clarifies language within OIG's report that is either incorrect or misleading. As explained in its response memorandum, VA cannot concur with the overall findings in the report because the unrepresentative project scope draws conclusions and results in recommendations that can only be supported when the facts are viewed in a vacuum. This Statements of Fact section hopes to correct the record so that the report can be understood in the broader context within which the projects analyzed exist.

Item 1 – Page 1

Audit Statement: "In FY 2016, \$1.6 million is projected for solar projects."

Response: The statement should be revised to "In FY 2016, GMP originally had \$1.6 million projected for solar projects. Because of changes in funding priorities, GMP currently projects \$900,000 in solar projects in FY 2016."

Item 2 – Page 2

Audit Statement: "Specifically, 11 solar projects awarded by Program Contracting Activity Central (PCAC) from FY 2010 through FY 2013 were initially planned for completion in 210 to 372 days from the notice to proceed with design and installation of the solar projects. However, we found these projects were completed or planned for completion in an average of 1,269 days with a range between 707 to 1,915 days."

Response: This range is due to OIG's choice to limit the projects they examined to only the work in progress projects awarded between FY 2010 and FY 2013. The statement should be revised to include "Planned completion performance has improved significantly. Projects awarded between FY 2013 and FY 2014 were completed within an average of 144 days of expected period of performance, while projects awarded in FY 2014 and FY 2015 were completed within an average of 44 days of planned period of performance."

Item 3 – Page 2

Audit Statement: “In addition, VA incurred additional costs through contract modifications.”

Response: It is inaccurate to describe a contract modification as an incursion of additional cost. In most instances, project “performance period extensions” are needed to complete in-scope changes to the contract. The statement should be modified to include: “However, all cost increases are a result of negotiated modifications to the contract where the end product is improved, the government receives benefit and the contractor is fairly compensated for their additional work. Additionally, while it is industry standard to include in a construction contract a contingency of roughly 10% of the contract price for any unforeseen changes that arise, the solar PV contracts OIG analyzed were not construction contracts, but were installed under GSA schedule, thus necessitating contract modifications for any changes to the design or installation.”

Item 4 – Pages 2 & 4

Audit Statement: “Office of Asset and Enterprise Management”

Response: The correct office title is “Office of Asset Enterprise Management.”

Item 5 – Page 3

Audit Statement: “The Little Rock VA officials did not effectively plan the installation of the system and did not achieve expected solar power generation because the system has yet to be activated.”

Response: The report should be modified to exclude the statement “the system did not achieve expected solar power generation because the system has yet to be activated.”

Justification: While it is correct that the system had not been activated at the time of the study, and therefore was not generating renewable electricity, it is incorrect to say that the system did not achieve expected solar power generation. Throughout the OIG's report this claim is made. VA believes it is based on a misunderstanding of what OAEM means by “expected power generation.” VA is not sure how this misunderstanding arose, as OIG never asked OAEM about generation timelines and goals.

Expected power generation refers to the power OAEM expects a system to produce, on average, once it is fully operational, for an assumed useful equipment life. From a contracting perspective, there is an expected completion date at which point the system should be fully operational. From a planning perspective, there is no set start date for any one solar PV project to begin generating. The start date does not affect a system's assumed useful life. Thus, even when a project becomes fully operational one, two or

three years after the expected contract completion date, the solar power generation can still meet expectations.

There is, however, a relationship between the projects we implement and the Congressional and Presidential target deadlines for renewable power consumption. Current targets are set by Executive Order 13693 – *Planning for Federal Sustainability in the next Decade* – requiring 30 percent renewable electricity consumption by 2025. However, E.O. 13693 was not signed until March 19, 2015. The relevant authorities on renewable electricity consumption during the time period OIG chose to evaluate (FY 2010 through FY 2013) were the Energy Policy Act of 2005 that required 7.5 percent renewable energy consumption by 2015, and Executive Order 14323 that required 50 percent of statutorily required renewable energy consumption to come from “new” sources. VA is consistently meeting these goals.

Item 6 – Page 3

Audit Statement: “Little Rock officials identified a conflict between their solar panel and parking garage projects in August 2012. However, they missed the opportunity to delay the January 2013 installation of the solar panels.”

Response: The statement should be modified to state “Little Rock officials identified a conflict between their solar panel and parking garage projects in August 2012. However, because the parking garage project was not expected to receive construction funding until at least FY 2018 or later, depending on future appropriations, with construction commencing at least a year later, it was decided that it was in the best interest of the government to allow the solar PV project to proceed, and not forgo potentially years of renewable electricity generation and costs necessary to cancel an awarded project. The intent was to relocate and reinstall the affected solar panels, less than 20% of the total 7,504, to the top of the parking garage, if funded. An additional unexpected appropriation of Veterans Access, Choice, and Accountability Act (“Choice Act”, Public Law 113-146) Minor Construction funding in the fall of 2014 advanced the parking garage project several years, at which point the solar PV project COR, OAEM, and PCAC were notified. Unfortunately, by this time, the project was near completion, but VA officials worked together to mitigate the impact of the panels relocation.”

Item 7 – Page 4

Audit Statement: “Contracting officers are required to conduct regular progress meetings with the facility and inform Office of Asset and Enterprise Management of any project issues. However, we did not find any documentation to support this occurred.”

Response: This statement should be removed from the audit as there is ample evidence that regular progress meetings occurred. PCAC no longer had the necessary records, but GMP, who was not asked, does retain these records. During the period in question, GMP and PCAC held weekly meetings to discuss all awarded but incomplete projects. During these calls, PCAC informed GMP of progress and potential issues

including, but not limited to: meetings between interested stakeholders, design/construction issues, and planned milestone dates towards project completion. The information relayed during these calls was gathered by the contracting specialist and/or contracting officer through direct communication with the contractor, the Contracting Officer's Representative (COR), site personnel, and state and local officials, as necessary. Documentation can be provided, if requested.

Item 8 – Page 5

Audit Statement: “The requirement for an impact study was unforeseen”

Response: The statement is not accurate and should be modified to “While the requirement for an impact study was not unforeseen, neither the absolute need for an impact study, nor the level of effort required, can be fully known until a project is well past award because utilities will often not assess a project until the design is complete, and sometimes not until into construction. Some utilities perform the assessment themselves, and others require a whole new contract for the impact study (adding time, and effort). Not all utilities require impact studies, but many do. Current GMP feasibility studies require the contractor to discuss planned projects with local utilities to assess whether a study is likely to be needed.”

Item 9 – Page 6

Audit Statement: “VA awarded a solar panel project contract to REC Solar, Inc. for just over \$22.5 million in June 2011 with expected annual energy production of just under 6.2 million kilowatt hours. The solar panel project was delayed by approximately 36 months from the planned completion date of September 2011.”

Response: The contract awarded in June 2011 for \$22.5 million was for the North Campus of West Los Angeles Medical Center. The original completion date for this contract was 14 September, 2012. It was not given the notice to proceed until September 2011. In December 2011 the State Historic Preservation Office (SHPO) determined that the project required additional study, and in June 2012 determined that the placement of some of the panels was unacceptable. Allowable locations were not determined until June 2013. The statement should be revised to “VA awarded a solar panel project contract to REC Solar, Inc. for just over \$22.5 million in June 2011 with expected annual energy production of just under 6.2 million kilowatt hours. The solar panel project was planned to be completed in September 2012, but additional State Historic Preservation Office requirements that were outside of VA's control caused a delay of 18 months. The panels were installed between June 2013 and June 2014 and were accepted in August 2015.”

Item 10 – Page

Audit Statement: “The contracting office did not order a feasibility study since Hawaii is an optimal location for a solar panel system. If a feasibility study had been conducted, the additional time for the State Historic Preservation Office assessment could have been estimated and built into the project milestones.”

Response: The statement should be removed from the report. Feasibility studies highlight potential State Historic Preservation Office (SHPO) issues, where such information is available, but they do not provide estimated timelines. SHPOs often require a design or plan before making determinations regarding solar PV projects. Further, even where SHPO is able to identify a potential conflict, they are unable to provide estimated review timelines, causing delays that are outside of VA's control.

Item 11 – Page 7, 9, 10

Audit Statement: “Because of the delays, VA did not increase renewable energy in the time frame planned.”

Response: As stated in the response for Item 5 – page 3, the report should be modified to exclude the statement “Because of the delays, VA did not increase renewable energy in the time frame planned.”

Justification: While it is correct that the system had not been activated at the time of the study, and therefore was not generating renewable electricity, it is incorrect to say that VA did not increase renewable energy in the time frame planned. Throughout the OIG's report this claim is made. VA believes it is based on a misunderstanding of what OAEM means by “expected power generation.” VA is not sure how this misunderstanding arose, as OIG never asked OAEM about generation timelines and goals.

Expected power generation refers to the power OAEM expects a system to produce, on average, once it is fully operational, for an assumed useful equipment life. From a contracting perspective, there is an expected completion date at which point the system should be fully operational. From a planning perspective, there is no set start date for any one solar PV project to begin generating. The start date does not affect a system's assumed useful life. Thus, even when a project becomes fully operational one, two or three years after the expected contract completion date, the solar power generation can still meet expectations.

There is, however, a relationship between the projects we implement and the Congressional and Presidential target deadlines for renewable power consumption. Current targets are set by Executive Order 13693 – *Planning for Federal Sustainability in the next Decade* – requiring 30 percent renewable electricity consumption by 2025. However, E.O. 13693 was not signed until March 19, 2015. The relevant authorities on renewable electricity consumption during the time period OIG chose to evaluate (fiscal year (FY) 2010 through FY 2013) were the Energy Policy Act of 2005 that required 7.5

percent renewable energy consumption by 2015, and Executive Order 14323 that required 50 percent of statutorily required renewable energy consumption to come from "new" sources. VA exceeded these goals, meeting 13.8 percent of its electricity consumption with renewable energy as of the end of FY 2013.

Item 12 – Page 10

Audit Statement: "VA needs to complete its solar power projects in a timely manner to achieve its electric renewable energy contribution of 20 percent by the year 2020."

Response: This statement should be removed. Delays to awarded VA projects have not stopped VA from meeting Congressional and Presidential goals for renewable energy. The current target is set by E.O. 13693, and requires 30 percent of electricity consumption to be renewable by 2025.

Item 13 – Page 10

Audit Statement: "Although the interconnection process can be lengthy, collaboration with other Federal agencies regarding the interconnection agreement and establishing strong relationships with utilities should minimize delays in the future."

Response: This statement should be removed. It belies the reality of the interconnection process and distributed generation. Traditional utilities have a vested financial interest in ensuring that the electricity a VA campus uses is provided either by them, or flows through their lines. Utilities receive a guaranteed return on infrastructure investments, including generation assets, and receive revenue for power that flows over their transmission and distribution network. Energy that is generated on-site on a VA campus is energy not purchased from the utility or generated by a utility-owned asset. Especially where VA installs larger generating systems, utilities are often reluctant to interconnect customer-sited generation such as solar PV. VA does not have the ability to eliminate this financial disincentive on the part of utilities.

In an effort to ease the burden of interconnection, GMP and PCAC now engage with utilities much earlier in the design and construction process. We include line items for interconnection equipment in solar PV contracts, and where necessary we seek support from state regulatory bodies. Regarding interagency collaboration, while VA does actively communicate with other Federal agencies on strategies and best practices for interconnection, ultimately VA must rely on its legal counsel to evaluate the legal sufficiency of interconnection agreements.

Item 14 – Page 12

Audit Statement: “A March 2015 Executive Order, Planning for Federal Sustainability in the Next Decade, established a goal for Federal agencies to ensure that the percentage of the total amount of building electric energy consumed by the agency that is renewable electric energy is not less than 20 percent in FYs 2020 and 2021.

Response: This statement should be revised to include: “Executive Order 13693 further requires that the total amount of building electric energy consumed by the agency that is renewable electric energy is not less than 25 percent in FYs 2022 and 2023, and 30 percent in FY 2025, and each year thereafter.”

Additionally, the report should acknowledge that during the period that was reviewed (FY 2010 through FY 2013), renewable consumption targets were mandated by the Energy Policy Act of 2005 that required 7.5 percent renewable energy consumption by 2015, and Executive Order 14323 that required 50 percent of statutorily required renewable energy consumption to come from “new” sources.

Item 15 – Page 14

Audit Statement: “We requested and obtained access to VA’s eCMS to validate information found on the GMP Web site in May 2015. Specifically, that data included on GMP’s May 15, 2015, *Key Renewable Energy Projects by State* report.”

Response: The report should be updated to clarify that the website is not GMP’s report of record, and is in fact not a report at all. Rather it is published in an effort to provide greater transparency to the public. It is not a real-time source of project status. GMP and PCAC do maintain real-time records in a centralized database, and in required contracting documents, but OIG did not request this documentation before making their project selections based on this website.

Item 16 – Throughout

Audit Statement: “Assistant Secretary for Management”

Response: This should be revised to “Interim Assistant Secretary for Management”

Appendix F **OIG Contact and Staff Acknowledgments**

Contact	For more information about this report, please contact the Office of Inspector General at (202) 461-4720.
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Acknowledgments	Cherie Palmer, Director Matthew Byrne Joseph DeAntonis Mary Ann Fitzgerald Kevin Gibbons Raymond Jurkiewicz David Lakoskey Cynnde Nielsen John Pawlik Herman Woo
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