

**U.S. Department of Energy
ENERGY EFFICIENCY AND CONSERVATION BLOCK GRANT (EECBG)
PROGRAM PERFORMANCE REPORT**

Grant Number: EE0000750

Grantee: Oakland County, Michigan

Activity: Act 5: New Airport Terminal Building - Energy Saving and Avoidance Construction Enhancements

Quarter: 01/01/2010 - 03/31/2010

Metric Activity: Government, School, Institutional Procurement

Status: Active

% of Work Complete: 0

Activity Description:

This grant activity will assist in the construction of a new General Aviation Terminal and Administrative Building at the Oakland County International Airport. The new building will reuse the existing foundation, basement, and first floor slab of the existing building. The new building will incorporate LEED Certification practices. This grant activity helps provide for energy saving and avoidance construction enhancements above and beyond those required by local code. Grant Activity Details: 1. Hybrid HVAC system including geothermal field, \$189,700: Funding through this grant activity would provide the delta between a typical boiler and condenser HVAC system and the one designed for this facility. The system as designed provides for a vertical geothermal field with supplemental downsized high efficiency boiler and extensive zone and equipment automated controls. Estimated annual energy avoidance of 12,428 kWh per year or \$6,962 in utility costs is expected, as compared to the baseline ASHRAE 90.01 HVAC system to meet the current State of Michigan Energy Code. 2. Extensive building insulation, \$12,600: Extra roof deck insulation and triple glazed windows will be used in staff occupied areas of the building. Funding through this grant activity would provide the delta between typical insulation and double glazed windows. Estimated annual energy avoidance of 4,815 kWh per year or \$522.00 in utility costs compared to the baseline insulation requirements to meet the current State of Michigan Energy Code. 3. Energy efficient lighting systems, \$89,800: The funding in this activity will be used to incorporate lighting design enhancements to meet the recommended illumination levels by the IESNA and required lighting levels per state and national codes can be met. In addition, the goal is to reduce the connected lighting power use required by the state energy code by approximately 24%. Lighting design for the building consists of high performance fluorescent luminaires with the use of LED and metal halide sources for accent lighting. Lighting fixtures have been selected based on highest efficiency ratings. An automated light management system utilizing integrated occupancy sensors and daylight harvesting will be implemented as part of the lighting design. Estimated annual energy avoidance is 19,700 kWh to offset \$1,770 in utility cost. The funding request for interior lighting represents the delta between a standard lighting system and the system as planned for the facility which will exceed the codes and provide for the anticipated 24% reduction in energy cost. 4. Solar hot water heating: \$32,000: Install a roof top solar hot water collector to supply domestic hot water to the facility. The system would be the primary source of hot water supply for the building and would be backed up with a high efficiency on demand gas fired water heater. The estimated annual energy avoidance would be 77.5 Mcf per year or \$962 in utility costs compared to an 85% efficient storage type water heater. 5. Building commissioning services, \$75,900: Basic building commissioning services as required by LEED certification and the State of Michigan Energy Code are included in the funding for the construction of the facility. Funding through this grant activity would provide the delta between this work and a complete commissioning effort which would include extensive air balancing and calibration of all equipment, motors, and controls. The Lawrence Berkeley National Laboratory reports that a 13% energy savings can be obtained through this effort.

Key Dates:

DESCRIPTION	START DATE	COMPLETION DATE
Activity Planned	01/22/2010	07/01/2011
Activity Actual	01/22/2010	

U.S. Department of Energy
**ENERGY EFFICIENCY AND CONSERVATION BLOCK GRANT (EECBG)
 PROGRAM PERFORMANCE REPORT**

Grant Number: EE0000750
 Activity: Act 5: New Airport Terminal Building - Energy Saving and Avoidance Construction Enhancements - continued -
 Quarter: 01/01/2010 - 03/31/2010
 Status: Active

Grantee: Oakland County, Michigan
 Metric Activity: Government, School, Institutional Procurement
 % of Work Complete: 0

METRICS

Required Metrics

METRIC ACTIVITY	METRICS	UNIT	TOTALS TO DATE	01/01/2010-03/31/2010
Obligations				
Recovery Act funds encumbered	Funds encumbered	Dollars	0.00	0.00

INFRASTRUCTURE INVESTMENT

Infrastructure Investment:

Does this activity contain an infrastructure investment? **Yes**
 Rationale for Funding the Infrastructure Investment:

This activity helps provide for energy saving and avoidance construction enhancements above and beyond those required by local building and energy codes. Areas for the activity include:
 Hybrid HVAC system including geothermal field.
 Extensive building insulation.
 Energy efficient lighting systems.
 Solar hot water heating.
 Building commissioning services.

QUALITATIVE DESCRIPTIONS

Reporting Period: 01/01/2010- 03/31/2010

Are you following the Plan? If not, describe the change in approach, and reasons for the change.

We are following the plan.

What we expect to accomplish during the next period

We should be able to identify the costs for each of the items listed in this activity and to project a schedule for their implementation.

U.S. Department of Energy
**ENERGY EFFICIENCY AND CONSERVATION BLOCK GRANT (EECBG)
 PROGRAM PERFORMANCE REPORT**

Grant Number: EE0000750

Grantee: Oakland County, Michigan

Activity: Act 5: New Airport Terminal Building - Energy Saving and Avoidance Construction Enhancements - continued -
 Quarter: 01/01/2010 - 03/31/2010
 Status: Active
 Metric Activity: Government, School, Institutional Procurement
 % of Work Complete: 0

Reporting Period: 01/01/2010- 03/31/2010

Lessons Learned

Contractor interest in bidding the various components of the building project was high and bids were received somewhat below preliminary estimates.

Major Activities, Significant Results, Major Findings, and Key Outcomes

The OCIA Terminal Building construction was bid during this reporting period and the Construction Manager is in the process of awarding sub contracts for the various trades.

What we planned to accomplish this period

The bidding of the main construction project.

Actual or Anticipated Problems or Delays and Corrective Action Plan

None to date.

Products Produced or Technology Transfer Activities Accomplished During the Reporting Period

None to date.

Remarks

None.

APPROVALS

Reporting Period: 01/01/2010- 03/31/2010			
APPROVER NAME	EMAIL ADDRESS	PHONE	STATUS DATE
Beau Terhaar	beau.terhaar@go.doe.gov	(720) 356-1647	Approved 05/14/2010
Steven Stanford	stanfords@oakgov.com	(248) 858-0129	Submitted 04/19/2010

**U.S. Department of Energy
ENERGY EFFICIENCY AND CONSERVATION BLOCK GRANT (EECBG)
PROGRAM PERFORMANCE REPORT**

Grant Number: EE0000750

Grantee: Oakland County, Michigan

Activity: Activity 1: Building and Facilities Energy Audits

Quarter: 01/01/2010 - 03/31/2010

Status: Active

Metric Activity: Building Energy Audits
% of Work Complete: 0

Activity Description:

The County will, with assistance from an appropriate consulting contract firm, perform energy audits which will assist the County in selecting projects with a high return on investment (ROI) and to leverage County funds along with Utility, State, and other Federal grant monies. The following activities will be undertaken with the consultant: 1. Review the County's Energy Management Procedures for effectiveness and to assist with implementation. 2. Perform Phase I, preliminary walk-through, energy audits of County facilities and buildings for Facilities Management, Parks and Recreation, and the Water Resource Commissioner. Interviews with knowledgeable facilities personnel at each facility will help identify energy conservation opportunities. 3. Perform Phase II and III audits on projects identified during the Phase I audits as having energy saving opportunities with good ROI such that detailed project specification can be developed for bidding the work to be done under the individual projects. 4. The consultant will assist the County in meeting EECBG application documentation and reporting requirements. 5. With the assistance of the consultant, the County will utilize DTE and Consumers Power Utilities Energy Optimization funds to supplement and leverage block grant funding wherever possible. 6. The consultant will assist the County to combine projects of similar scope to take advantage of economies of scope and scale. Anticipated activity expenditures are as follows: Grant compliance and reporting: \$40,500 Phase I, II, and III energy audits: \$155,000

Key Dates:

DESCRIPTION	START DATE	COMPLETION DATE
Activity Planned	01/27/2010	03/31/2011
Activity Actual	01/27/2010	

METRICS

Required Metrics	METRICS	UNIT	TOTALS TO DATE	01/01/2010-03/31/2010
METRIC ACTIVITY				
Obligations				
Recovery Act funds encumbered	Funds encumbered	Dollars	0.00	0.00

QUALITATIVE DESCRIPTIONS

Reporting Period: 01/01/2010- 03/31/2010

U.S. Department of Energy
**ENERGY EFFICIENCY AND CONSERVATION BLOCK GRANT (EECBG)
 PROGRAM PERFORMANCE REPORT**

Grant Number: EE0000750

Grantee: Oakland County, Michigan

Activity: Activity 1: Building and Facilities Energy Audits - continued -

Quarter: 01/01/2010 - 03/31/2010

Status: Active

Metric Activity: Building Energy Audits
% of Work Complete: 0

Reporting Period: 01/01/2010- 03/31/2010

Are you following the Plan? If not, describe the change in approach, and reasons for the change.

Program is being followed per plan.

What we expect to accomplish during the next period

We will interview the five short listed RFP respondents in April, then enter into a contract with the successful firm and begin by reviewing our energy strategy and initiating our building audits in May (June at the latest).

Lessons Learned

Initial interest in the RFP was very high with over 160 firms downloading applications from the County's purchasing site. Approximately 100 individuals attended the pre proposal meeting. Only 18 firms submitted written responses, indicating that the specific requirements of the consulting contract could not be met by all those who showed an initial interest.

Major Activities, Significant Results, Major Findings, and Key Outcomes

The County issued an RFP for Energy Strategy & Audit professional services on January 27, 2010 as planned. On February 11, 2010 a pre proposal meeting was held with interested vendors. Eighteen responses to the RFP were received on March 2, 2010. An evaluation team of five individuals representing the departments involved in the EECBG grant reviewed and scored the written responses to the RFP from the 18 respondents. Five firms were shortlisted and interviews were scheduled for April.

What we planned to accomplish this period

Issue and receive the RFP for consulting services. Begin review process of vendors who submitted.

Actual or Anticipated Problems or Delays and Corrective Action Plan

None.

Products Produced or Technology Transfer Activities Accomplished During the Reporting Period

None.

Remarks

None.

U.S. Department of Energy
**ENERGY EFFICIENCY AND CONSERVATION BLOCK GRANT (EECBG)
 PROGRAM PERFORMANCE REPORT**

Grant Number: EE0000750

Grantee: Oakland County, Michigan

Activity: Activity 1: Building and Facilities Energy Audits - continued -

Quarter: 01/01/2010 - 03/31/2010

Status: Active

Metric Activity: Building Energy Audits

% of Work Complete: 0

APPROVALS

Reporting Period: 01/01/2010- 03/31/2010				
APPROVER NAME	EMAIL ADDRESS	PHONE	STATUS	STATUS DATE
Beau Terhaar	beau.terhaar@go.doe.gov	(720) 356-1647	Approved	05/14/2010
Steven Stanford	stanfords@oakgov.com	(248) 858-0129	Submitted	04/19/2010

**U.S. Department of Energy
ENERGY EFFICIENCY AND CONSERVATION BLOCK GRANT (EECBG)
PROGRAM PERFORMANCE REPORT**

Grant Number: EE0000750

Grantee: Oakland County, Michigan

Activity: Activity 2: Facilities Management Energy Program

Quarter: 01/01/2010 - 03/31/2010

Status: Active

Metric Activity: Building Retrofits

% of Work Complete: 0

Activity Description:

This grant activity has five components: Building weather stripping program (Facilities Management); \$400,000; HVAC improvements (Facilities Management): \$700,000; Lighting Retrofits (Facilities Management); \$1,486,300; Pump optimizations (Water Resource Commissioner): \$750,000; Building envelope improvements: \$325,000 Energy Audits performed under the County's technical consultant services grant activity will help us to determine the best approach and priority for the projects we will pursue. 1. Weather Stripping: Oakland County Facilities Management operates over 40 County owned buildings encompassing nearly 2.0 million square feet. These buildings operate with an annual energy budget of over \$5.0 million dollars. We intend to restore building envelopes on several Oakland County-owned buildings by means of removal and replacement of caulking and weather stripping on the building's metal windows and doors. We anticipate saving between 4% and 7% of our heating and cooling costs by reducing the air leaks in our buildings. Envelope restoration will be done according to a prioritized ROI list. While this activity will not address every building within the County's inventory, it will establish an approach plan and permit us to address those buildings with the most significant potential energy savings. 2. HVAC Equipment Replacements: We have several inefficient chillers that need to be replaced because of high energy consumption and CFC's. The energy audits will help us identify and set priorities and it is anticipated that this activity will replace our largest energy users. We anticipate energy savings in the range of 15% to 35% with the installation of new units. 3. Funding in this activity will provide a significant opportunity for Oakland County Facilities to replace and retrofit existing office lighting with high efficiency T8 lamps and improved light fixtures. Work will be prioritized based on the results of the energy audits performed under activity 2 in our application. While the amount requested in the application will not fully cover the cost for lighting retrofits in all our buildings, it will permit the County to make significant reductions in energy consumption and provide us with a model for future work. 4. The Water Resource Commissioner's annual power cost is nearly \$2 Million for public water, wastewater and augmentation wells throughout Oakland County. This activity would act upon the energy audits and identify equipment replacement guidelines and conservation measures (lights, motion sensors, programmable thermostats, etc.). Additionally, since pumping typically accounts for 80 to 95% of the energy use, selected pump testing would be performed to determine overall pumping efficiency. In addition, a pump optimization program would be used to identify cost-effective pump combinations to meet the demands of the facilities. Typically, this type of analysis identifies savings in pump operations of 5% to 10% of the total energy use each year. Pump and motor modifications or the purchase of energy efficient pumps and equipment would be made based upon the results of the energy audit and ROI analysis. 5. This grant activity includes the replacement of windows at a park conference center facility. The Building was constructed in 1929 and utilizes a mix of original single pane and 30 year old deteriorated replacement windows. Windows would be replaced with new high efficiency double pane windows. Additional insulation will also be added to the building when the window work is being done. We anticipate a reduction of energy use in this building of 12% or more through this activity.

Key Dates:

DESCRIPTION	START DATE	COMPLETION DATE
Activity Planned	08/01/2010	04/30/2012
Activity Actual		

U.S. Department of Energy
**ENERGY EFFICIENCY AND CONSERVATION BLOCK GRANT (EECBG)
 PROGRAM PERFORMANCE REPORT**

Grant Number: EE0000750

Grantee: Oakland County, Michigan

Activity: Activity 2: Facilities Management Energy Program - continued -

Quarter: 01/01/2010 - 03/31/2010

Status: Active

Metric Activity: Building Retrofits

% of Work Complete: 0

METRICS

Required Metrics

METRIC ACTIVITY	METRICS	UNIT	TOTALS TO DATE	01/01/2010-03/31/2010
Obligations				
Recovery Act funds encumbered	Funds encumbered	Dollars	0.00	0.00

METRIC ACTIVITY

METRICS	UNIT	TOTALS TO DATE	01/01/2010-03/31/2010
Building Retrofits			
Buildings retrofitted, by sector	Count	0	0
Buildings retrofitted (Sectors : Public)	Squarefeet	0	0
Square footage retrofitted (Sectors : Public)			

QUALITATIVE DESCRIPTIONS

Reporting Period: 01/01/2010- 03/31/2010

Are you following the Plan? If not, describe the change in approach, and reasons for the change.

We are following the plan as prescribed. This activity is contingent on the results of the energy audits in activity 1.

What we expect to accomplish during the next period

The energy audits will be underway during the next quarter. We should be able to begin engineering some of the solutions outlined in this activity by the end of the next quarter.

Lessons Learned

None to date.

Major Activities, Significant Results, Major Findings, and Key Outcomes

U.S. Department of Energy
ENERGY EFFICIENCY AND CONSERVATION BLOCK GRANT (EECBG)
PROGRAM PERFORMANCE REPORT

Grant Number: EE0000750

Grantee: Oakland County, Michigan

Activity: Activity 2: Facilities Management Energy Program - continued -

Quarter: 01/01/2010 - 03/31/2010

Status: Active

Metric Activity: Building Retrofits

% of Work Complete: 0

Reporting Period: 01/01/2010- 03/31/2010

None to date.

What we planned to accomplish this period

This activity follows activity 1 which is just getting underway.

Actual or Anticipated Problems or Delays and Corrective Action Plan

None to date.

Products Produced or Technology Transfer Activities Accomplished During the Reporting Period

None to date.

Remarks

None.

APPROVALS

Reporting Period: 01/01/2010- 03/31/2010

APPROVER NAME	EMAIL ADDRESS	PHONE	STATUS	STATUS DATE
Beau Terhaar	beau.terhaar@go.doe.gov	(720) 356-1647	Approved	05/14/2010
Steven Stanford	stanfords@oakgov.com	(248) 858-0129	Submitted	04/19/2010

**U.S. Department of Energy
ENERGY EFFICIENCY AND CONSERVATION BLOCK GRANT (EECBG)
PROGRAM PERFORMANCE REPORT**

Grant Number: EE0000750

Grantee: Oakland County, Michigan

Activity: Activity 3: Airport Site Lighting LED Replacements

Quarter: 01/01/2010 - 03/31/2010

Status: Active

Metric Activity: Government, School, Institutional Procurement
% of Work Complete: 0

Activity Description:

Funding in this grant activity will provide replacement LED lamp heads for all existing exterior HID light poles on the entrance boulevard drive, parking lot, and pedestrian entrance way to the terminal. The new terminal building is being located on the foundation of the existing building so site amenities are being retained. Existing HID lamp heads will be replaced but the existing poles and structures will be retained. The County plans to use a Michigan produced product designed for retrofit applications (www.xusledlighting.com). Lighting controls are an integrated part of the approach with these lamp heads. Photozell and timer technology will be used to control lighting from the building's energy management system. The fixtures also incorporate a thermal controlled cooling fan to assist with lamp light. LED site lighting will consume approximately 50% less energy than traditional HID lamp sources.

Key Dates:

DESCRIPTION	START DATE	COMPLETION DATE
Activity Planned	01/22/2010	07/01/2011
Activity Actual	01/22/2010	

METRICS

Required Metrics

METRIC ACTIVITY	METRICS	UNIT	TOTALS TO DATE	01/01/2010-03/31/2010
Obligations				
Recovery Act funds encumbered	Funds encumbered	Dollars	0.00	0.00

QUALITATIVE DESCRIPTIONS

Reporting Period: 01/01/2010- 03/31/2010

Are you following the Plan? If not, describe the change in approach, and reasons for the change.

We are following the plan.

What we expect to accomplish during the next period

U.S. Department of Energy
**ENERGY EFFICIENCY AND CONSERVATION BLOCK GRANT (EECBG)
 PROGRAM PERFORMANCE REPORT**

Grant Number: EE0000750

Grantee: Oakland County, Michigan

Activity: Activity 3: Airport Site Lighting LED Replacements - continued -

Quarter: 01/01/2010 - 03/31/2010

Status: Active

Metric Activity: Government, School, Institutional Procurement
 % of Work Complete: 0

Reporting Period: 01/01/2010- 03/31/2010

Final development of design and engineering specifications and drawings. Bidding of the project. Award of bid.

Lessons Learned

LED exterior lighting continues to evolve. New products enter the market regularly. Manufacturer performance claims need to be validated.

Major Activities, Significant Results, Major Findings, and Key Outcomes

We received project approval from County management during this quarter and requested a proposal from our building project architect for the design and engineering necessary to bid this activity. That proposal has been received and is being reviewed. We have also continued to examine LED lighting technology.

What we planned to accomplish this period

Secure authorization to proceed from management, secure proposals for design and engineering services.

Actual or Anticipated Problems or Delays and Corrective Action Plan

None to date.

Products Produced or Technology Transfer Activities Accomplished During the Reporting Period

None to date.

Remarks

None.

APPROVALS

Reporting Period: 01/01/2010- 03/31/2010

APPROVER NAME	EMAIL ADDRESS	PHONE	STATUS	STATUS DATE
Beau Terhaar	beau.terhaar@go.doe.gov	(720) 356-1647	Approved	05/14/2010
Steven Stanford	stanfords@oakgov.com	(248) 858-0129	Submitted	04/19/2010

**ENERGY EFFICIENCY AND CONSERVATION BLOCK GRANT (EECBG)
PROGRAM PERFORMANCE REPORT**

Grant Number: EE0000750

Grantee: Oakland County, Michigan

Activity: Activity 6: New Airport Terminal Building - Transportation Alternatives

Quarter: 01/01/2010 - 03/31/2010

Status: Active

Metric Activity: Transportation
% of Work Complete: 0

Activity Description:

This grant activity will assist in the construction of a new General Aviation Terminal and Administrative Building at the Oakland County International Airport. The new building will reuse the existing foundation, basement, and first floor slab of the existing building. The new building will incorporate LEED Certification practices and will be the County's first LEED registered building. This grant activity will provide the local community and traveling public an alternative approach to extensive travel for business meetings. Grant Activity Details: Members of the public, local business community, or visitors by air that need a private space to conduct business will be able to use one of three private office rooms or the conference center by checking in or through advanced registration with Airport administration. The airport's central location within the County and easy access off main roads make it a good location for promotion of limited commutes rather than extensive travel within the region. It is the County's intent to promote these spaces and equipment as a means to alternative travel for meetings. Keeping travel local or conducting business through video conference will promote better use of resources and time. As the airport is already a regional and international transportation terminal, the County wants to promote it as a terminal for alternative modes of "e-transportation" as well. The rooms will be available at little or no cost to the user for daily use and will only seek to recoup direct cost technology fees. Funding through this grant activity will provide the energy efficiency and technology delta for the construction of three telecommuter offices and a conference center. The County is providing the funding to construct the office and conference spaces. Energy efficiency upgrades will include insulation, windows, lighting and lighting controls all exceeding current energy codes in efficiency. The offices will also showcase locally produced LED lighting replacements for fluorescent fixtures. Within the three offices, technology promoting connectivity will include internet through WiFi and webcam enabled large flat screen wall mounted monitors. Within the Conference Center teleconference audio visual equipment would enable communications with other equally equipped facilities anywhere in the world. Making this technology available to the local business community and to the business community that uses the airport by air will create opportunities for limiting or eliminating local as well as air travel throughout the region. WiFi service will also be available throughout the main lobby of the building. This grant activity will also fund an in-building web based display system that will provide users with the energy savings and GHG avoidance values for use of the space. Being web based, the information will also be available on the County's web site.

Key Dates:

DESCRIPTION	START DATE	COMPLETION DATE
Activity Planned	01/22/2010	07/01/2011
Activity Actual	01/22/2010	

METRICS

Required Metrics

METRIC ACTIVITY	METRICS	UNIT	TOTALS TO DATE	01/01/2010-03/31/2010
Obligations				
Recovery Act funds encumbered	Funds encumbered	Dollars	0.00	0.00

U.S. Department of Energy
ENERGY EFFICIENCY AND CONSERVATION BLOCK GRANT (EECBG)
PROGRAM PERFORMANCE REPORT

Grant Number: EE0000750
Grantee: Oakland County, Michigan

Activity: Activity 6: New Airport Terminal Building - Transportation Alternatives - continued -
Quarter: 01/01/2010 - 03/31/2010
Metric Activity: Transportation
Status: Active
% of Work Complete: 0

INFRASTRUCTURE INVESTMENT

Infrastructure Investment:

Does this activity contain an infrastructure investment? Yes
Rationale for Funding the Infrastructure Investment:

Members of the public, local business community, or visitors by air that need a private space to conduct business will be able to use one of three private office rooms or the conference center by checking in or through advanced registration with Airport administration. The airport's central location within the County and easy access off main roads make it a good location for promotion of limited commutes rather than extensive travel within the region.

QUALITATIVE DESCRIPTIONS

Reporting Period: 01/01/2010- 03/31/2010

Are you following the Plan? If not, describe the change in approach, and reasons for the change.

No change in plan.

What we expect to accomplish during the next period

Construction of the OCIA Terminal will begin with the demolition of the existing facility which will start in April. Specifications will be developed for the technology and the energy savings delta identified as a result of construction bid results.

Lessons Learned

None.

Major Activities, Significant Results, Major Findings, and Key Outcomes

None. Awaiting start of building construction project to begin technology planning.

What we planned to accomplish this period

Bidding on the building construction project that is the basis for work under this grant.

Actual or Anticipated Problems or Delays and Corrective Action Plan

None.

Products Produced or Technology Transfer Activities Accomplished During the Reporting Period

None.

U.S. Department of Energy
**ENERGY EFFICIENCY AND CONSERVATION BLOCK GRANT (EECBG)
 PROGRAM PERFORMANCE REPORT**

Grant Number: EE0000750

Grantee: Oakland County, Michigan

Activity: Activity 6: New Airport Terminal Building - Transportation Alternatives - continued -

Quarter: 01/01/2010 - 03/31/2010

Metric Activity: Transportation

Status: Active

% of Work Complete: 0

Reporting Period: 01/01/2010- 03/31/2010

Remarks

None.

APPROVALS

Reporting Period: 01/01/2010- 03/31/2010

APPROVER NAME	EMAIL ADDRESS	PHONE	STATUS	STATUS DATE
Beau Terhaar	beau.terhaar@go.doe.gov	(720) 356-1647	Approved	05/14/2010
Steven Stanford	stanfords@oakgov.com	(248) 858-0129	Submitted	04/19/2010

**U.S. Department of Energy
ENERGY EFFICIENCY AND CONSERVATION BLOCK GRANT (EECBG)
PROGRAM PERFORMANCE REPORT**

Grant Number: EE00000750

Grantee: Oakland County, Michigan

Activity: Activity 4: New Airport Terminal Building - Renewable Energy Enhancements

Quarter: 01/01/2010 - 03/31/2010

Status: Active

Metric Activity: Government, School, Institutional Procurement
% of Work Complete: 0

Activity Description:

This grant activity will assist in the construction of a new General Aviation Terminal and Administrative Building at the Oakland County International Airport. The new building will reuse the existing foundation, basement, and first floor slab of the existing building. The new building will incorporate LEED Certification practices. Funding in this activity will showcase several locally produced emerging energy technologies. Photovoltaic roofing on low slope roof surfaces: \$72,700 Photovoltaic roofing on metal pitched slope roof surfaces: \$112,600 Wind turbine for electrical generation: \$60,700 Solar powered building signage: \$25,300 1. Photovoltaic Roofing on low slope roof surfaces: Install a 5.8KW photovoltaic system on the low slope portion of the building. System shall consist of crystalline silicon modules in a fixed mounted array. The array shall be oriented for optimal energy production (42 degree tilt at 180 degrees azimuth) and located to avoid shading from roof top equipment and adjacent building structural elements. The array shall be mounted on permanent structural supports that raise the bottom of the array 24" above the roof surface to allow re-roofing without removing the PV modules. The PV array shall be connected to the building electrical system through an UL1741 grid-tie inverter that is approved by the local utility. Estimated annual energy production: 6,700 kWh to offset approximately \$603 in Utility costs. Project to utilize US manufactured PV panels (Evergreen,Solarworld), Michigan manufactured components (Evergreen Solar - string ribbon wafers used in the panels), and US manufactured inverters (PV Powered). 2.Photovoltaic roofing on metal pitched slope roof surfaces: Install approximately 10KW building integrated photovoltaic laminate system on the sloped standing seam roof. System shall consist of triple-junction amorphous silicon panels design specifically for integration to a metal roof system (UniSolar PVL). The panels will be installed at a 24 degree tilt, 204 degree azimuth with little or no shading expected. The PV array shall be connected to the building electrical system through an UL1741 grid-tie inverter that is approved by the local Utility. Estimated annual production: 11,900 Kwh to offset approximately \$1,071 in utility cost. The system will utilize Michigan manufactured PV laminate (Unisolar) and US manufactured inverters (PV Powered). 3. Wind turbine for electrical generation: Install a single vertical shaft Windspire wind turbine as manufactured by Michigan based Mariah Power. Estimated annual production for the unit is 1,100 kWh to offset \$99 in utility costs. The system will utilize US manufactured inverters (PV Powered). 4. Solar powered building signage: This installation will include roof mounted photocells and storage batteries located inside the building to provide power to LED signage on the face of the building. Signage will activate with a photocell and draw down from the storage batteries before switching over to grid supplied power when needed. Signage will identify the building and public entrance.

Key Dates:

DESCRIPTION	START DATE	COMPLETION DATE
Activity Planned	01/22/2010	07/01/2011
Activity Actual	01/22/2010	

METRICS

Required Metrics

METRIC ACTIVITY	METRICS	UNIT	TOTALS TO DATE	01/01/2010-03/31/2010
Obligations				

U.S. Department of Energy
**ENERGY EFFICIENCY AND CONSERVATION BLOCK GRANT (EECBG)
 PROGRAM PERFORMANCE REPORT**

Grant Number: EE0000750

Grantee: Oakland County, Michigan

Activity: Activity 4: New Airport Terminal Building - Renewable Energy Enhancements - continued -

Metric Activity: Government, School, Institutional Procurement

Quarter: 01/01/2010 - 03/31/2010

% of Work Complete: 0

METRIC ACTIVITY	METRICS	UNIT	TOTALS TO DATE	01/01/2010-03/31/2010
Obligations				
Recovery Act funds encumbered	Funds encumbered	Dollars	0.00	0.00

QUALITATIVE DESCRIPTIONS

Reporting Period: 01/01/2010- 03/31/2010

Are you following the Plan? If not, describe the change in approach, and reasons for the change.

We are following the plan.

What we expect to accomplish during the next period

Our architect will be working on design and engineering documents and we expect to be able to go out for bid on the PV and Small Wind projects that are a part of this activity. We hope to have bid results back and products selected by the time this next quarter is complete.

Lessons Learned

PV and Small Wind technologies are constantly evolving. We have energy start up companies contacting us regularly with new designs for both PV and Small Wind systems. Unfortunately these technologies are usually not fully validated or engineered to the point of regular production.

Major Activities, Significant Results, Major Findings, and Key Outcomes

We gave the building architect the approval to proceed with a proposal for design and engineering services related to this and other EECBG activities. The proposal has been received and is under review.

What we planned to accomplish this period

We have continued to evaluate suitable technologies and have received a proposal from the architect on the terminal building project for design and engineering services related to the work under this activity.

Actual or Anticipated Problems or Delays and Corrective Action Plan

None to date.

Products Produced or Technology Transfer Activities Accomplished During the Reporting Period

None to date.

Remarks

None.

U.S. Department of Energy
**ENERGY EFFICIENCY AND CONSERVATION BLOCK GRANT (EECBG)
 PROGRAM PERFORMANCE REPORT**

Grant Number: EE0000750

Grantee: Oakland County, Michigan

Activity: Activity 4: New Airport Terminal Building - Renewable Energy Enhancements - continued -

Quarter: 01/01/2010 - 03/31/2010 Metric Activity: Government, School, Institutional Procurement

Status: Active

% of Work Complete: 0

APPROVALS

Reporting Period: 01/01/2010- 03/31/2010				
APPROVER NAME	EMAIL ADDRESS	PHONE	STATUS	STATUS DATE
Beau Terhaar	beau.terhaar@go.doe.gov	(720) 356-1647	Approved	05/14/2010
Steven Stanford	stanfords@oakgov.com	(248) 858-0129	Submitted	04/19/2010