

U.S. Department of Energy

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

Grant Number: EE0000750

Final Report:

Grantee: Oakland County, Michigan

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

Quarter: 04/01/2010 - 06/30/2010

Metric Activity: Government, School, Institutional Procurement

Status: Active

% of Work Complete: 5

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 Berkley 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	

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**ENERGY EFFICIENCY AND CONSERVATION BLOCK GRANT (EECBG)
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Grantee: Oakland County, Michigan

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

Quarter: 04/01/2010 - 06/30/2010

Metric Activity: Government, School, Institutional Procurement

Status: Active

% of Work Complete: 5

METRICS

Required Metrics

METRIC ACTIVITY	METRICS	UNIT	TOTALS TO DATE	04/01/2010-06/30/2010			
Obligations							
Recovery Act funds obligated	Funds Obligated	Dollars	6,410.00	6,410.00			

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: 04/01/2010- 06/30/2010

Are you following the Plan? If not, describe the change in approach, and reasons for the change.
Project is progressing as planned.
What we expect to accomplish during the next period
Installation of the geothermal field.

U.S. Department of Energy
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Activity: Act 5: New Airport Terminal Building - Energy Saving and Avoidance Construction Enhancements - continued -

Quarter: 04/01/2010 - 06/30/2010

Metric Activity: Government, School, Institutional Procurement

Status: Active

% of Work Complete: 5

Reporting Period: 04/01/2010- 06/30/2010

Lessons Learned

While not directly related to the work under this grant, we have learned that by not having an absolute understanding of underground utilities and infrastructure at the site, we have encountered minor delays and cost increases because these unknowns have surfaced during demolition of the existing building and construction of the foundations for the new building. This problem highlights the need for accurate as built drawings.

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

Looped coils for the horizontal geothermal field were fabricated on site. Cores were made in the foundation for the field leads to enter the mechanical space.

What we planned to accomplish this period

Installation of the geothermal field should be complete in the next period. Non grant activities should include steel framing and roof deck.

Actual or Anticipated Problems or Delays and Corrective Action Plan

As noted in a previous activity, site conditions slowed the progress of the project overall, but did not significantly impact this grant activity.

Products Produced or Technology Transfer Activities Accomplished During the Reporting Period

Horizontal geothermal field coils have been fabricated and are ready for installation.

Remarks

No additional comments.

APPROVALS**Reporting Period:** 04/01/2010- 06/30/2010

APPROVER NAME	EMAIL ADDRESS	PHONE	STATUS	STATUS DATE
Beau Terhaar	beau.terhaar@go.doe.gov	(720) 356-1647	Approved	08/23/2010
Steven Stanford	stanfords@oakgov.com	(248) 858-0129	Submitted	07/28/2010

U.S. Department of Energy

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

Grant Number: EE0000750

Final Report:

Grantee: Oakland County, Michigan

Activity: Activity 1: Building and Facilities Energy Audits

Quarter: 04/01/2010 - 06/30/2010

Status: Active

Metric Activity: Building Energy Audits

% of Work Complete: 5

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	

FUNDS SUMMARY

Activity Outlays by Source:

SOURCE/ CATEGORY	AGENCY/ DESCRIPTION	PLANNED	OUTLAYS TO DATE	% OF PLAN	04/01/2010- 06/30/2010			
Grant Funds								
Federal			0.00		0.00			
Total Grant Funds		195,500.00	0.00	0%	0.00			
TOTAL OUTLAYS		195,500.00	0.00	0%	0.00			

Restrictive Fund Details by Category:

USE OF FUNDS	FEDERAL PLANNED	FEDERAL COSTS TO DATE	% OF TOTAL FEDERAL COSTS	04/01/2010- 06/30/2010			
Total Subgrants (Sub-Recipients)	0.00	0.00	0%	0.00			

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

Grant Number: EE0000750

Final Report:

Grantee: Oakland County, Michigan

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

Quarter: 04/01/2010 - 06/30/2010

Status: Active

Metric Activity: Building Energy Audits

% of Work Complete: 5

Subgrant Funds Details by Type:

SUBGRANT TYPE	SUBGRANTEE DESCRIPTION	PLANNED	OUTLAYS TO DATE	% OF TOTAL GRANT COSTS	04/01/2010-06/30/2010			
TOTAL SUBGRANTS		0.00	0.00	0%				

MILESTONES

Activity Milestone Status:

MILESTONE	PLANNED AMOUNT	TOTALS TO DATE	% OF PLAN	PLANNED START	ACTUAL START	ACTUAL COMPLETION	STATUS	04/01/2010-06/30/2010			
Building and Facility Energy Audits	155,000	0	0%	06/09/2010	06/09/2010		On-Time	0			

METRICS

Required Metrics

METRIC ACTIVITY	METRICS	UNIT	TOTALS TO DATE	04/01/2010-06/30/2010			
Obligations							
Recovery Act funds obligated	Funds Obligated	Dollars	193,615.00	193,615.00			

User Specified Metrics (Optional)

METRIC ACTIVITY	METRICS	UNIT	TOTALS TO DATE	04/01/2010-06/30/2010			
Obligations (cumulative thru 03/31/10)							
Recovery Act funds obligated (cumulative thru 03/31/10)	Cumulative funds encumbered thru 03/31/10	Dollars	0.00	0.00			

QUALITATIVE DESCRIPTIONS

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

Grant Number: EE0000750

Final Report:

Grantee: Oakland County, Michigan

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

Quarter: 04/01/2010 - 06/30/2010

Status: Active

Metric Activity: Building Energy Audits

% of Work Complete: 5

Reporting Period: 04/01/2010- 06/30/2010

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

Proceeding with Audit progress as planned.

What we expect to accomplish during the next period

We will be conducting building and facility audits.

Lessons Learned

Contract negotiation and establishment process took longer than expected. Data gathering for Fishbeck was more involved and took longer than expected.

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

Establishment of the consulting contract with Fishbeck. Kick off meeting. Gathering of data for Fishbeck so they could begin actual audits.

What we planned to accomplish this period

As noted above. We had also hoped to begin the actual audits which were delayed until July because of the contract process and amount of data that needed to be gathered prior to the audits start.

Actual or Anticipated Problems or Delays and Corrective Action Plan

Fishbeck has developed an aggressive schedule to implement the audits with separate teams dealing with each department.

Products Produced or Technology Transfer Activities Accomplished During the Reporting Period

Building drawings and utility records were gathered by the County and given to the consultant (Fishbeck).

Remarks

No additional comments.

APPROVALS**Reporting Period:** 04/01/2010- 06/30/2010

APPROVER NAME	EMAIL ADDRESS	PHONE	STATUS	STATUS DATE
Beau Terhaar	beau.terhaar@go.doe.gov	(720) 356-1647	Approved	08/23/2010
Steven Stanford	stanfords@oakgov.com	(248) 858-0129	Submitted	07/28/2010

U.S. Department of Energy

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

Grant Number: EE0000750

Final Report:

Grantee: Oakland County, Michigan

Activity: Activity 2: Facilities Management Energy Program

Quarter: 04/01/2010 - 06/30/2010

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

Final Report:

Grantee: Oakland County, Michigan

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

Quarter: 04/01/2010 - 06/30/2010

Status: Active

Metric Activity: Building Retrofits

% of Work Complete: 0

METRICS

Required Metrics

METRIC ACTIVITY	METRICS	UNIT	TOTALS TO DATE	04/01/2010- 06/30/2010			
Obligations							
Recovery Act funds obligated	Funds Obligated	Dollars	0.00	0.00			

METRIC ACTIVITY	METRICS	UNIT	TOTALS TO DATE	04/01/2010- 06/30/2010			
Building Retrofits							
Buildings retrofitted, by sector	Buildings retrofitted (Sectors : Public)	Count	0	0			
	Square footage retrofitted (Sectors : Public)	Squarefeet	0	0			

QUALITATIVE DESCRIPTIONS

Reporting Period: 04/01/2010- 06/30/2010

Are you following the Plan? If not, describe the change in approach, and reasons for the change.
Work on this activity is dependant on the energy audits, which are just beginning.
What we expect to accomplish during the next period
Energy audits will give us direction as to what projects to undertake in this activity.
Lessons Learned
Contract process and information gathering for the audits has taken more time than anticipated.
Major Activities, Significant Results, Major Findings, and Key Outcomes
Work in this activity has not yet started, pending audits.

U.S. Department of Energy

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

Grant Number: EE0000750

Final Report:

Grantee: Oakland County, Michigan

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

Quarter: 04/01/2010 - 06/30/2010

Status: Active

Metric Activity: Building Retrofits

% of Work Complete: 0

Reporting Period: 04/01/2010- 06/30/2010

What we planned to accomplish this period

We knew that we would be waiting on audit results, so no work was planned during this period.

Actual or Anticipated Problems or Delays and Corrective Action Plan

We will be able to start the projects in this activity by the end of the next quarter.

Products Produced or Technology Transfer Activities Accomplished During the Reporting Period

None to report.

Remarks

No other comments.

APPROVALS**Reporting Period:** 04/01/2010- 06/30/2010

APPROVER NAME	EMAIL ADDRESS	PHONE	STATUS	STATUS DATE
Beau Terhaar	beau.terhaar@go.doe.gov	(720) 356-1647	Approved	08/23/2010
Steven Stanford	stanfords@oakgov.com	(248) 858-0129	Submitted	07/28/2010

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

Grant Number: EE0000750

Final Report:

Grantee: Oakland County, Michigan

Activity: Activity 3: Airport Site Lighting LED Replacements

Quarter: 04/01/2010 - 06/30/2010

Status: Active

Metric Activity: Government, School, Institutional Procurement

% of Work Complete: 20

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. Photocell 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	04/01/2010-06/30/2010			
Obligations							
Recovery Act funds obligated	Funds Obligated	Dollars	9,320.00	9,320.00			

INFRASTRUCTURE INVESTMENT**Infrastructure Investment:**

Does this activity contain an infrastructure investment? Yes

Rationale for Funding the Infrastructure Investment:

Installation of LED street lighting will save energy and reduce maintenance costs for the entrance road and parking lot at the Airport.

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

Grant Number: EE0000750

Final Report:

Grantee: Oakland County, Michigan

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

Quarter: 04/01/2010 - 06/30/2010

Status: Active

Metric Activity: Government, School, Institutional Procurement

% of Work Complete: 20

QUALITATIVE DESCRIPTIONS

Reporting Period: 04/01/2010- 06/30/2010

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

Project is progressing as planned.

What we expect to accomplish during the next period

Bid review and acceptance. Contracting the work. Scheduling the installation of the Street Lighting.

Lessons Learned

Product continues to evolve quickly. Equipment considered at the time of application is obsolete. Bid documents should be performance based rather than equipment specific.

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

Test unit installed on site provides better light levels on the street than the units that will be replaced.

What we planned to accomplish this period

We met our objective to have the project out to bid.

Actual or Anticipated Problems or Delays and Corrective Action Plan

Not problems or delays.

Products Produced or Technology Transfer Activities Accomplished During the Reporting Period

Test lighting unit has been installed on site for evaluation.

Remarks

No additional comments.

APPROVALS

Reporting Period: 04/01/2010- 06/30/2010

APPROVER NAME	EMAIL ADDRESS	PHONE	STATUS	STATUS DATE
Beau Terhaar	beau.terhaar@go.doe.gov	(720) 356-1647	Approved	08/23/2010
Steven Stanford	stanfords@oakgov.com	(248) 858-0129	Submitted	07/28/2010

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

Grant Number: EE0000750

Final Report:

Grantee: Oakland County, Michigan

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

Quarter: 04/01/2010 - 06/30/2010

Status: Active

Metric Activity: Transportation

% of Work Complete: 2

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	04/01/2010-06/30/2010			
Obligations							
Recovery Act funds obligated	Funds Obligated	Dollars	3,640.00	3,640.00			

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

Grant Number: EE0000750

Final Report:

Grantee: Oakland County, Michigan

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

Quarter: 04/01/2010 - 06/30/2010

Metric Activity: Transportation

Status: Active

% of Work Complete: 2

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: 04/01/2010- 06/30/2010

Are you following the Plan? If not, describe the change in approach, and reasons for the change.
Project is progressing as planned.
What we expect to accomplish during the next period
Issue an RFP for A/V design and installation services for the meeting space and telecommuting offices.
Lessons Learned
This activity will start later in the construction program for the terminal building, so there has not been significant activity to date.
Major Activities, Significant Results, Major Findings, and Key Outcomes
None to date.
What we planned to accomplish this period
There was no planned work on this activity during this period.
Actual or Anticipated Problems or Delays and Corrective Action Plan
None.
Products Produced or Technology Transfer Activities Accomplished During the Reporting Period
None.
Remarks

U.S. Department of Energy

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

Grant Number: EE0000750

Final Report:

Grantee: Oakland County, Michigan

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

Quarter: 04/01/2010 - 06/30/2010

Metric Activity: Transportation

Status: Active

% of Work Complete: 2

Reporting Period: 04/01/2010- 06/30/2010

No additional comments.

APPROVALS**Reporting Period:** 04/01/2010- 06/30/2010

APPROVER NAME	EMAIL ADDRESS	PHONE	STATUS	STATUS DATE
Beau Terhaar	beau.terhaar@go.doe.gov	(720) 356-1647	Approved	08/23/2010
Steven Stanford	stanfords@oakgov.com	(248) 858-0129	Submitted	07/28/2010

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

Grant Number: EE0000750

Final Report:

Grantee: Oakland County, Michigan

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

Quarter: 04/01/2010 - 06/30/2010

Status: Active

Metric Activity: Government, School, Institutional Procurement

% of Work Complete: 15

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 energy 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	04/01/2010-06/30/2010			
Obligations							

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

Grant Number: EE0000750

Final Report:

Grantee: Oakland County, Michigan

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

Quarter: 04/01/2010 - 06/30/2010

Metric Activity: Government, School, Institutional Procurement

Status: Active

% of Work Complete: 15

METRIC ACTIVITY	METRICS	UNIT	TOTALS TO DATE	04/01/2010-06/30/2010			
Obligations							
Recovery Act funds obligated	Funds Obligated	Dollars	49,650.00	49,650.00			

INFRASTRUCTURE INVESTMENT

Infrastructure Investment:

Does this activity contain an infrastructure investment? Yes

Rationale for Funding the Infrastructure Investment:

Investment in these systems will provide a local platform to showcase renewable technologies fabricated and installed by local companies. Reduction in the building energy costs will result as well.

QUALITATIVE DESCRIPTIONS

Reporting Period: 04/01/2010- 06/30/2010

Are you following the Plan? If not, describe the change in approach, and reasons for the change.
Proceeding as planned.
What we expect to accomplish during the next period
Bid results for the various systems will be reviewed and proposals accepted for fabrication and installation.
Lessons Learned
Coordination between photovoltaic systems manufacturers and the Architect is important to make sure that the systems will operate to their greatest potential. In our case we had to go with a different metal roof design to make sure we were not creating shadow on the photovoltaic array from the standing seams of the roof.
Major Activities, Significant Results, Major Findings, and Key Outcomes
Alternative Energy is an emerging discipline. Evolution in product design and capabilities is ongoing. This makes it hard to lock in on a given technology for construction that won't happen months down the road.
What we planned to accomplish this period
We had hoped to have bidding complete during this period, but issues with the standing seam roof specifications delayed the results.
Actual or Anticipated Problems or Delays and Corrective Action Plan

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Reporting Period: 04/01/2010- 06/30/2010

As noted earlier, we were delayed as we worked through issues related to the design interface between the standing seam metal roof and the photovoltaic system planned for that roof. The issues have been resolved and final pricing is being developed by the bidders.

Products Produced or Technology Transfer Activities Accomplished During the Reporting Period

Design specifications and documents were finalized during the last quarter and the work is in the process of being bid.

Remarks

No additional comments.

APPROVALS**Reporting Period:** 04/01/2010- 06/30/2010

APPROVER NAME	EMAIL ADDRESS	PHONE	STATUS	STATUS DATE
Beau Terhaar	beau.terhaar@go.doe.gov	(720) 356-1647	Approved	08/23/2010
Steven Stanford	stanfords@oakgov.com	(248) 858-0129	Submitted	07/28/2010