

# Memorandum

To: Robert Oglesby  
Executive Director

Date: June 27, 2011

Telephone: 916-657-4854

From: California Energy Commission  
1516 Ninth Street MS-23  
Sacramento CA 95814-5512

Subject: STAFF RECOMMENDATION TO APPROVE AMENDMENT 1 TO THE \$243,506 ARRA EECBG GRANT CBG-09-140 TO THE COUNTY OF IMPERIAL TO INSTALL HVAC SYSTEMS TO BE CONSIDERED AT THE JULY 27, 2011, BUSINESS MEETING.

## Summary of Item

The County of Imperial (County) has requested Amendment 1 to the grant, which: 1) revises the Scope of Work to retrofit 288 tons of air handlers, controls, and their Heating, Ventilation and Air Conditioning (HVAC) central system components: a 100 ton high efficiency scroll chiller, variable speed pumps and 2 cooling towers; and (2) revises the budget by adding Direct Labor, adding materials, decreasing contract labor and increasing contract non-labor, but not changing the dollar amount.

This \$1.06 million project will replace a central heating and air conditioning system on three Juvenile Detention buildings in El Centro, California. An Energy Conservation Assistance Act Technical Assistance package defined the scope of needed work. \$816,494 will be financed with an Energy Commission loan.

This project will reduce the County's annual electrical energy use by an estimated 735,000 kWh. This will save the County approximately \$89,500 annually in energy costs. Peak demand will be reduced by 28.4 kW. More than 244 tons of CO<sub>2e</sub> will be reduced from the comfort operations each year.

Table 1 summarizes the estimated project cost, savings and the project energy saved to grant funds invested ratio.

TABLE 1: Estimated Energy Efficiency Project Savings:

Description	Peak Demand Savings (KW)	Annual Electric Savings (kWh/yr)	mmBTU / yr	Annual Energy Cost Savings	Total Project Cost	EECBG Grant \$	mmBtu/ \$1,000 Grant
Repair Economizers of Building 39 packaged AC Units 7, 8, 9 and 10 (County Staff to Purchase & Install)		26,675	273	\$3,200	\$1,146	\$1,146	238.3
Replace 288 tons rooftop Air Handlers & controls	5.4	458,153	4,691	\$54,300	\$600,797	\$138,188	33.9
Replace Failed Chiller 2 with high efficiency scroll chiller	21.0	87,700	898	\$11,000	\$112,081	\$31,890	28.2
Convert constant volume chilled water pumping to variable volume pumping	1.1	112,200	1,149	\$13,000	\$147,576	\$37,384	30.7
Replace two existing cooling towers with new variable speed towers	0.9	50,000	512	\$8,000	\$198,400	\$34,898	14.7
<b>Total</b>	<b>28.4</b>	<b>734,728</b>	<b>7,523</b>	<b>\$ 89,500</b>	<b>\$1,060,000</b>	<b>\$243,506</b>	<b>30.9</b>

One ARRA job Full Time Equivalent (FTE) is 173.33 hours a month. The labor for this installation of a million dollar central air conditioning system was estimated at 11 FTE.

**Justification for Action Requested:**

The County is committed to reducing its energy consumption and to the reduction of greenhouse gas emissions. This central system HVAC retrofit, when completed, will reduce approximately 244 tons of harmful carbon dioxide emissions annually.

Energy Commission staff has determined that the amendment request for the County of Imperial is technically justified and meets all requirements for the ARRA Funds. The program requires no repayment. The requirement to meet

10 mmBtu/\$1000 of grant funding has been met. Staff recommends approval of the grant amendment to the County of Imperial.

Project Manager

Akasha Kaur Khalsa, Energy Analyst  
Special Projects Office, Fuels and Transportation Division

Oral Presentation

Staff will be prepared to discuss this recommendation and to respond to questions regarding the grant amendment.

Business Meeting Participants

Pat Perez, Deputy Director, Fuels and Transportation Division  
Akasha Kaur Khalsa, Energy Analyst, Fuels and Transportation Division

Commission Action Requested

Approve the grant amendment and authorize the Executive Director to execute the grant amendment documents.

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PAT PEREZ, Deputy Director,  
Fuels and Transportation Division



**County of Imperial  
HVAC Project  
Grant Amount: \$243,506**

**Pros and Cons**

The following are the Pros and Cons to the Energy Commission of providing a grant to the County of Imperial:

**Pros:**

- To reduce energy use, electrical demand, and greenhouse gas emissions through energy efficiency is consistent with the Energy Commission's *2010 Integrated Energy Policy Report*.
- Provides a grant to help the County install energy efficiency projects that it may otherwise not be able to fund.

**Cons:**

- None