

PERALTA COMMUNITY COLLEGE DISTRICT
Board of Trustees Agenda Report
For the Trustee Meeting Date of July 21, 2009

ITEM #

ITEM TITLE:

Consider Authorization for the Department of General Services to Submit Two Grant Applications to the US Department of Energy, Funded by the American Recovery and Reinvestment Act of 2009, in the Amount of \$23,507,553, for Energy and Infrastructure Projects at Laney College, Merritt College, and College of Alameda.

SPECIFIC BOARD ACTIVITY

Approval is requested to submit two grant applications to the United States Department of Energy in the amount of \$23,507,553, for Energy and Infrastructure Projects at Laney College, Merritt College, and College of Alameda.

ITEM SUMMARY

The Department of General Services requests authorization to apply for the following two grants announced by the US Department of Energy, funded by the American Recovery and Reinvestment Act of 2009:

- (1) DE-FOA-0000116, entitled "Recovery Act: Ground Source Heat Pumps," due on August 6, 2009; and
- (2) DE-FOA-0000044, titled "Recovery Act: Deployment of Combined Heat and Power (CHP) Systems, District Energy Systems, Waste Energy Recovery Systems, and Efficient Industrial Equipment," which was submitted on its due date, July 14, 2009 (this is a retroactive approval, explained below).

The Department identified the following eligible projects, costs and federal match:

Site	Project Type	Total Est. Cost	DOE Match	Match %
DE-FOA-0000044				
Laney	Expand Central Chiller Plant and upgrade associated infrastructure	\$10,937,025	\$5,468,513	50.0%
Merritt	Central Chiller Plant and associated infrastructure	\$15,833,070	\$7,916,535	50.0%
Alameda	Central Chiller Plant and associated infrastructure	\$17,953,650	\$8,976,825	50.0%
n/a	District Personnel (General Services, Educational Services)	\$219,301	\$103,071	47.0%
<i>Subtotal</i>		\$44,943,046	\$22,464,944	50.0%
DE-FOA-0000116				
District	Ground-source heat pump to augment current HVAC system	\$2,000,000	\$1,000,000	50.0%
n/a	District Personnel (General Services, Educational Services)	\$90,657	\$42,609	47.0%
<i>Subtotal</i>		\$2,090,657	\$1,042,609	49.9%
Total		\$47,033,703	\$23,507,553	50.0%

The total amount of money requested from the Department of Energy is \$23,507,553, a 50% match of anticipated Measure A funds. Funding for the majority of these projects has been identified in the Measure A Spending Plan, presented to the Board on June 23, 2009. DGS is seeking to augment the limited Measure A resources through leveraging Stimulus Act dollars to fully fund projects already anticipated by the Department of General Services. Award of these

grants would allow the District to build highly efficient, best-in-class systems that are supported by best-in-class infrastructure frameworks.

The District learned of these grants on June 26, 2009, during a meeting with the District's energy service company, Chevron Energy Solutions, to coordinate applications for Stimulus Act funding. DGS made final determinations to pursue these grants on July 8, 2009. The grant application for #DE-FOA-0000116 for Ground-Source Heat Pump demonstration projects is due on August 6, 2009. Department of Energy issued that Funding Opportunity Announcement (FOA) on June 2, 2009. Retroactive approval is requested for Grant #DE-FOA-0000044 since its due date (July 14, 2009) occurred before this current meeting of the Board of Trustees. Department of Energy issued that Funding Opportunity Announcement (FOA) on June 1, 2009. Full compliance with the District's grants application procedure would have meant providing a Letter of Intent on June 14, 2009, with Board Authorization given on June 23, 2009. Due to the urgency of this grant, approval is needed at this regular meeting of the Board of Trustees in order for the District to submit this proposal. Consultation with stakeholders is ongoing.

BACKGROUND/ANALYSIS

Central Chiller plants produce chilled water at a central plant and then the chilled water is distributed out to campus buildings for air conditioning. The scale of these district energy systems enables higher efficiencies to be obtained through the centralized system. The capital cost of new equipment is often a roadblock for utilization of more efficient equipment and processes. Although the Measure A spending plan as presented by Vice Chancellor Ikharo has a significant amount of funds designed for infrastructure projects, DGS staff anticipates that available funds will not be sufficient to build an adequate, uncompromised system.

Chevron Energy Solutions has previously conducted conceptual development and cost-benefit estimates for central chiller plants at College of Alameda, Laney College and Merritt College, as authorized by the Board on May 12, 2009. The Measure A Spending Plan has already anticipated spending for these projects. The proposal has not yet been adopted by General Services nor accepted by the Board Facilities Committee since source of funding had not been identified. Award of this grant would significantly aid the District in implementing these energy- and money-saving systems:

- Laney College has a central chiller providing with 900 tons capacity that serve only half the campus. A new central plant is necessary to lower the college's dependency on stand-alone AC units, to support the soon to be renovated Student Center and to support a new Library. The plant is expected to be located in a currently unused space Building C.
- Merritt College does not have a central chiller plant. In order to lower the college's dependency on stand-alone AC units, and in anticipation of the new Allied Health Building, DGS expects to build a new central chiller plant to be located close to project site for the new Allied Health Building.
- College of Alameda does not have a central chiller plant. In order to lower the college's dependency on stand-alone AC units, and in anticipation of the replacement for buildings C and D, DGS expects to build a new central chiller plant to be located in the current boiler room in building C.

A ground-source heat pump (GSHP) system – also known as a geexchange – is a central heating and/or air conditioning system that actively pumps heat to or from the shallow ground. It uses the earth as either a source of heat in the winter or as a coolant in the summer. This design takes advantage of moderate temperatures in the shallow ground to boost efficiency and reduce operational costs. Like a refrigerator or air conditioner, these systems use a heat pump to force the transfer of heat. Heat pumps can capture heat from a cool area and transfer it to a warm area, against the natural direction of flow, or they can enhance the natural flow of heat from a warm area to a cool one. But unlike an air-source heat pump, which extracts or exhausts heat to or from the outside air, a ground-source heat pump exchanges heat with the ground. This is much more energy-efficient because underground temperatures are relatively stable through the year.

Chevron Energy Solutions has previously conducted conceptual development and cost-benefit estimates for a GSHP system at the District Administrative Center, the only site whose HVAC system is easily adapted towards taking full advantage of a GSHP. The DGS expects to implement a vertical-bore system consist of pipes vertically inserted 100' into the earth at various locations underneath the existing parking lot admin center grounds. The proposal has not yet been adopted by General Services nor accepted by the Board Facilities Committee since source of funding had not been identified. However, DOE grant matches for other planned infrastructure projects will release some Measure A funds towards unplanned projects, such as the GSHP installation.

ALTERNATIVES/OPTIONS:

None

EVALUATION AND RECOMMENDED ACTION:

Approval is recommended to submit two grant applications to the United States Department of Energy in the amount of \$23,507,553, for Energy and Infrastructure Projects at Laney College, Merritt College, and College of Alameda.

SOURCE OF FUNDS (AND FISCAL/BUDGETARY IMPACT):

US Department of Energy, and Measure A, as approved by the voters in Peralta's constituency and authorized under Resolution 05/06-45, Exhibit A-1, District-Wide Projects, "Heating, air, and ventilation systems," and "Solar energy system installation and the retrofitting of existing energy systems."

OTHER DEPARTMENTS IMPACTED BY THIS ACTION:

Department of Educational Services, providing grant administration and reporting support.

WHO WILL BE PRESENTING THIS ITEM AT THE BOARD MEETING?

Dr. Sadiq B. Ikhara, Vice Chancellor of General Services

DID A BOARD STANDING COMMITTEE RECOMMEND THE ITEM? YES _____ NO _____

IF "YES", PLEASE INCLUDE THAT INFORMATION IN YOUR SUMMARY.

This item will be reviewed at a meeting of the Board Facilities and Land Use Planning Committee.

PLEASE ACQUIRE SIGNATURES IN THIS ORDER:

DOCUMENT PREPARED BY:

Prepared by: Sadiq B. Ikharo Date: July 15, 09
Dr. Sadiq B. Ikharo
Vice Chancellor of General Services

DOCUMENT PRESENTED BY:

Sadiq B. Ikharo Date: July 15, 09
Dr. Sadiq B. Ikharo
Vice Chancellor of General Services

FINANCE DEPARTMENT REVIEW

Finance review required Finance review *not* required

If Finance review is required, determination is: Approved Not Approved

If not approved, please give reason: _____

Signature: _____ Date: _____
Thomas Smith
Vice Chancellor for Finance and Administration

GENERAL COUNSEL (Legality and Format/adherence to Education Codes):

Legal review required Legal review *not* required

If Legal review is required, determination is: Approved Not Approved

Signature: _____ Date: _____
Thuy T. Nguyen, General Counsel

CHANCELLOR'S OFFICE APPROVAL

Approved, and Place on Agenda Not Approved, but Place on Agenda

Signature: Elihu Harris Date: 7/15/09
Elihu Harris, Chancellor