

DATE ISSUED: May 31, 2002

REPORT NO: 02-125

ATTENTION: Honorable Mayor and City Council  
Council Docket of June 4, 2002

SUBJECT: Design/Build Agreements – Photovoltaic Projects - Group A  
(Revised May 21, 2002)

SUMMARY:

Issue - Should the City Council authorize two Design/Build Agreements for the installation of photovoltaic energy generation systems (PV) at the Environmental Services Department's Ridgehaven Green Building and Miramar Place Operations Center?

Manager's Recommendations

1. Approve the list of pre-qualified design/builders for a period of one year and authorize city departments, as well as other governmental agencies within the County of San Diego, to use the pre-qualified list of design/builders for the purpose of designing and installing multiple PV systems on facilities throughout the San Diego region. The successful "Request for Qualification" participants include: Kyocera Solar Corporation, Kerr Enterprise Inc., Siemens Building Technologies, Shimzu Construction and the PowerLight Corporation.
2. Authorize the City Manager to enter into a Design/Build Agreement with PowerLight Corporation for the purpose of designing and installing a 64.8 kilowatt photovoltaic energy generation system on the Ridgehaven Green Building facility, 9601 Ridgehaven Court, for an amount not to exceed \$566,727.
3. Authorize the City Manager to enter into a Design/Build Agreement with the Kerr Enterprise Inc. for the purpose of designing and installing a 72.96 kilowatt photovoltaic energy generation system on the Administration Building at the Miramar Place Operations facility, 8353 Miramar Place, for an amount not to exceed \$681,415.

4. Authorize the Auditor and Comptroller to add CIP 32-025.0, Ridgehaven Building Photovoltaic Project and CIP 32-026.0, Environmental Services Operations Yard Photovoltaic Project.
5. Authorize a \$580,700 increase to the budget for CIP 32-025.0, Ridgehaven Building Photovoltaic Project and a \$693,915 increase to the budget for CIP 32-026.0, Environmental Services Operations Yard Photovoltaic Project in Environmental Services Enterprise Fund 41200.
6. Authorize the Auditor and Comptroller to appropriate and expend \$580,700 in CIP 32-025.0, Ridgehaven Building Photovoltaic Project in Environmental Services Enterprise Fund 41200 to provide funding for the Ridgehaven Green Building design/build agreement of the installation of a photovoltaic energy generation system.
7. Authorize the Auditor and Comptroller to appropriate and expend and \$693,915 in CIP 32-026.0, Environmental Services Operations Yard Photovoltaic Project in Environmental Services Enterprise Fund 41200 to provide funding for the Miramar Operation Center design/build photovoltaic energy generation projects.
8. Authorize the City Manager to accept photovoltaic buy-down incentives (rebates), from the San Diego Regional Energy Office (SDREO), in the amount of \$263,911 for the Ridgehaven Green Building and \$275,788 for the Miramar Place Operations Center upon completion of the installation of the photovoltaic energy generation systems and to deposit the monies in Fund 41200 Fund Balance.

Fiscal Impact - This action will result in an expenditure of \$1,274,615 of which \$1,248,142 has been bid and negotiated and \$26,473 is for in-house engineering and project contingency. \$1,274,615 will be transferred from Fund 41200 Fund Balance to CIP 32-025.0, Ridgehaven Building Photovoltaic Project in Environmental Services Enterprise Fund 41200 in the amount of \$580,700 and to CIP 32-026.0, Environmental Services Operations Yard Photovoltaic Project in Environmental Services Enterprise Fund 41200 in the amount of \$693,915 for these Design/Build Agreements and other project related costs. Rebates from the San Diego Regional Energy Office will reduce this cost by \$539,699 and will be deposited in Fund 41200 Fund Balance upon project completion and acceptance by the San Diego Regional Energy Office.

## BACKGROUND

In Mayor Murphy's 2001 State of the City Address, he outlined ten goals to be accomplished during his term in office. Goal #9 was to pursue energy independence and make San Diego a model city in energy conservation and the utilization of renewable energy resources. To achieve this goal, the Environmental Services Department's Energy Conservation and Management Division began developing a long-term program to incorporate renewable sources of energy into the City's building facilities wherever economically and technologically feasible. Five existing City facilities were chosen as pilot projects for the first phase of this program.

On June 22, 2001 the Environmental Services Department advertised a Request for Qualifications to pre-qualify design/builders to design and install photovoltaic (PV) energy generation systems on the five facilities chosen. A total of 36 firms, both designers and contractors, requested copies of the Request for Qualifications and ten design/build teams submitted qualifications. Of the ten teams that participated in the proposal process, five teams were placed on the City of San Diego's proposed PV design/build shortlist. This shortlist was presented to the Rules Committee and approved as part the Environmental Services Department's Energy Conservation and Management Division's Energy Status Report, CMR 01-252. The pre-qualified shortlist of design/builder teams did and will compete among themselves for each photovoltaic design/build project in accordance with the City Charter section 94.2 and the Municipal Code section 22.3308 requiring competition for each design/build project. The proposed shortlist of design/build teams included: Kyocera Solar Corporation, Kerr Enterprise Inc., Siemens Building Technologies, Shimzu Construction and the PowerLight Corporation. This shortlist of design/build teams will remain active for a period of one year from the date of City Council approval.

In September 2001, the first Request for Proposal was sent to the five teams to propose on two PV systems at the Environmental Services Department's Ridgehaven Green Building and Miramar Place Operations Center.

## DISCUSSION

Authorizing these Design/Build Agreements would allow the Environmental Services Department to design and install PV systems at two facilities for the purpose of reducing energy consumption. These building's would be the first City facilities to incorporate photovoltaic energy generation systems and would serve as demonstration projects.

As demonstration projects, the Environmental Services Department is proposing the installation of two different PV systems. The PV system proposed for the Ridgehaven Green Building would shed about 13 % of its peak summer energy loads during the peak summer demand period and would produce approximately 78,000 kilowatt hours of electrical energy per year.

The PV system at the Ridgehaven Green Building would also include an educational component consisting of a secondary photovoltaic array located in the facility's south parking lot and an informational kiosk in the facility's lobby area. The secondary array will give visitors an opportunity to see a photovoltaic array in operation. The informational kiosk will provide information about photovoltaic energy generation systems, how they operate and real time meters showing how much energy is being generated and used at the facility.

The Administration Building at the Miramar Place Operations Center will be a "Net- Zero" facility. This installation is intended to shed 100 % of the facility's annual energy consumption. To become a "Net-Zero" facility, the Environmental Services Department will need to enter into a Net Metering Agreement with San Diego Gas and Electric. Net Metering looks at energy consumption on an annual basis and the facility no longer receives a monthly energy bill. During the summer months it is anticipated that the PV system will generate more power than the facility consumes and in the winter the facility will consume more power than it can generate. While the facility is generating more energy than it consumes, the excess energy is

sent to SDG&E's grid and the electrical meter literally runs backwards, thus providing energy credits that will be used when the facility is consuming SDG&E power. The estimated amount of energy consumed at the Miramar Place Operations Center is approximately 92,000 kilowatt hours per year.

The City of San Diego will enter into two Net Metering Agreements with SDG&E for both the Ridgehaven Green Building and the Miramar Place Operations Center, upon completion of the photovoltaic design. These Net Metering Agreements would be approved by City Council at a later date. As a result of this future action, the City would stop receiving monthly bills for the two facilities, receive credits against purchased energy for every hour the PV system generated more energy than was being consumed such as on weekends and holidays, and receive only one "reconciliation" energy bill per year.

Prior to proposing the installation of PV systems on these two buildings, energy efficiency measures were installed to make them highly energy efficient buildings and reduce total energy consumption. The Ridgehaven Green Building was the first building in the United States to receive a USEPA/Department of Energy designation as an Energy Star Building. The Miramar Place Operations Center, Administration Building, was just upgraded to be 52% more energy efficient than is required by California's Title 24.

The Environmental Services Department will be able to reduce the overall capital cost for these photovoltaic systems through a renewable energy buy-down incentive program offered by the San Diego Regional Energy Office. This program will reduce the cost of the projects by about 45%. Projects must be completed and certified by the SDREO prior to receiving the reimbursement. The total buy-down incentives for both projects will be \$539,699.

## CONCLUSION

The installation of these photovoltaic systems will significantly reduce the amount of energy purchased from San Diego Gas and Electric, an estimated 170,000 Kilowatt-hours per year, and reduce energy costs by over \$28,400 annually based on projected energy rates. It will also bring the City one step closer to fulfilling the Mayor's commitment to long-term energy independence for the City of San Diego.

ALTERNATIVE

Do not authorize the Design/Build Agreements for designing and installing photovoltaic energy generation systems at the Ridgehaven Green Building and Miramar Place Operations Center. Not executing these agreements will result in loss of energy saving estimated to be over \$28,400 per year and buy-down incentives in the amount of \$539,699.

Respectfully submitted,

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Tom Blair  
Energy Administrator

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Richard L. Hays  
Environmental Services Director

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Approved: George I. Loveland  
Senior Deputy City Manager

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