

REPORT OF GENERAL MANAGER

**APPROVED**

NO. 08-215

DATE July 23, 2008

**JUL 23 2008**

C.D. All

**BOARD OF RECREATION  
and PARK COMMISSIONERS**

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SUBJECT: REQUEST FOR QUALIFICATIONS TO ESTABLISH A LIST OF ON-CALL SOLAR PANEL POWER SYSTEM DESIGN-BUILD FIRMS

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*RAH*

*[Signature]*  
General Manager

Approved \_\_\_\_\_

Disapproved \_\_\_\_\_

Withdrawn \_\_\_\_\_

RECOMMENDATION:

That the Board authorize staff to release a request for qualifications to various solar panel power system design-build firms for the purpose of establishing a list of "on call" or "as needed" contractors for work on Department projects.

SUMMARY:

As part of its objective to achieve long-term sustainability in construction projects, the Department is undertaking energy conservation initiatives through the use of solar power. It is the Department's goal to be a leader in the nation in promoting clean "green" power through the use of solar panels located throughout the park system. The Department is proposing south facing panels to be located on the roof tops of both new and existing facilities that are already exposed to long periods of sunlight. It is also possible for solar systems to be located on elevated platforms in parking lots, pending costs benefit analysis due to higher costs of installation and susceptibility to vandalism.

However, solar panels will not be used at the expense of removing any trees. In fact, they will fit neatly on rooftops with minimal impact to the landscape, and will actually have the positive environmental impact of reducing carbon dioxide emissions equivalent to what would be achieved by planting a small forest.

For instance, a typical recreation center with a gymnasium uses approximately 100,000 kilowatts (kwh) of electricity per year. Electricity generated through traditional methods results in carbon dioxide emissions that contribute to air pollution, local urban heat island effects, high energy costs

## REPORT OF GENERAL MANAGER

PG. 2

NO. 08-215

for air conditioning, and global warming. The roof area of a typical recreation center is large enough to support enough solar panels to supply the 100,000 kwh of electricity through “clean” solar power technology that would, according to the Environmental Protection Agency Greenhouse Gas Equivalency Calculator, reduce those emissions by 77.7 metric tons, a positive environmental effect equivalent to planting and maintaining 1,993 urban trees over a period of 10 years.

In addition, the type of systems that the Department would install would connect to the existing Department of Water and Power power-grid. In this case, the grid stores excess power when the solar system generates more than is needed and the meter runs backwards. If more power is needed than the solar system is generating, electricity can also be provided from the utility source.

In order to meet these goals, the Department needs access to contractors with experience in the technical and professional design and construction of solar power systems. Currently, City employees do not have the expertise to design and install solar (photovoltaic, PV) panel power systems. The State of California allows contractors who possess a valid California Class 46 (Solar Specialty), C10 (Electrical), or A (Engineering) License to install solar panel power systems. Contractors who possess a Class B (General Building), C20 (Heating, Ventilating and Air Conditioning, HVAC), or C36 (Roofing) licensees may also be allowed to install solar panel power systems if they use licensed electricians for the wiring and battery portions of the work. Department staff therefore, recommends that a list of qualified solar panel power system design-build firms be established. Having contractors with the requisite expertise within this specialized field will allow the Department to complete such projects within a reasonable amount of time and at a reasonable cost.

In order to establish the subject contractor list, the Department seeks the Board’s approval to release a Request for Qualifications (RFQ). The RFQ is intended to obtain the qualifications of the various firms that will provide design-build, installation and periodic monitoring and maintenance of installed elements. The Department’s technical, operation and maintenance staff will be trained by the contractors to perform periodic maintenance of the solar panel system components. A panel composed of Department and Bureau of Engineering staff will interview the firms that submit their qualifications for consideration. The qualifications for each firm will be reviewed under the following criteria: years of relative experience, current and past product performance, past contracting performance installing solar panel power systems, and ability to design and construct both small and large projects.

Once the RFQ process is complete, Department staff will request that the Board award contracts to the recommended firms. The proposed contract term will to be three (3) years. The proposed contract ceiling for these contracts will be \$2.0 million.

## REPORT OF GENERAL MANAGER

PG. 3

NO. 08-215

Once the Department establishes list of pre-qualified design build firms, the firms will then be asked to submit competitive bids for solar panel power systems project(s) on an as-needed basis. It is anticipated that individual projects costs will range from \$100,000 to \$500,000 each.

The cost of solar systems can vary significantly depending on the amount of power required. A typical recreation center with a gymnasium would require 17 to 18 kwh of power to provide the 100,000 kwh hours needed per year. At a rate of \$.12, this would be approximately \$12,000 in energy costs per year. For the same recreation center, it would cost approximately \$150,000 to \$175,000 to install a solar system. However, the Department anticipates that rebates will be available through the Department of Water and Power, Solar Power Initiative Rebate Program which rewards reliance on solar power systems proportionally to kilowatts installed. It is estimated that the Department would receive approximately 50% in rebates on the installation cost.

Department staff estimates that it will approximately 6 to 8 years to pay for the initial investment on a typical recreation center. It should be noted that it is likely that special one time funds from the associated project would pay for the design and installation of solar panels. Implementation of the solar power panel systems will enable the City to realize substantial savings in future utility costs.

It should be noted that releasing of an RFQ will not guarantee work performance unless funding is identified for each particular project.

The Superintendent of the Planning and Development Division supports this recommendation.

### FISCAL IMPACT STATEMENT:

There is no impact to the Department's General Fund as funding for the work awarded to each firm will come from the associated project budget.

This report was prepared by Harry Surmenian, Electrical Engineer, Planning and Development.