

**CITY OF ALBANY
CITY COUNCIL AGENDA
STAFF REPORT**

Agenda Date: December 7, 2009
Reviewed by: BP

SUBJECT: LED Street Light Replacement Project

REPORT BY: Nicole Almaguer, Environmental Specialist

STAFF RECOMMENDATION

That the City Council authorize:

1. Staff to execute an agreement with PG&E to conduct a citywide LED street light replacement project.
2. Utilize the Energy Efficiency Block Grant (EECBG) to fund the LED street light replacement project.
3. Obtain a 1% interest loan from the California Energy Commission to fund the remaining LED street light replacement project costs.

BACKGROUND

The City has approximately 710 street light fixtures consisting of two main types. The majority are typical street light fixtures termed “cobrahead fixtures”. The City has approximately 640 cobrahead fixtures. Additionally there are decorative lighting fixtures located along Solano, Masonic and adjacent areas. All of the City’s street lights are currently powered with high pressure sodium vapor lights (HPSV), and maintained via contract with Alameda County. Per PG&E, street lights represent one of the most significant municipal energy expenses, and largest amount of energy consumption. Street lights can account for as much as one third of all municipal energy costs.

DISCUSSION

In an effort to reduce greenhouse gas emissions, increase energy efficiency and achieve energy cost savings, staff has worked with PG&E to identify opportunities for replacing existing HPSV with light-emitting diode (LED) lights. This project is timely given that a number of one-time funding opportunities are currently available from the California Energy Commission (CEC) including energy efficiency block grant funding and a 1% energy efficiency loan program.

Additionally, PG&E has developed a turnkey street light replacement program, intended to assist municipalities effectively replace existing street lights with more energy efficient LED lights. PG&E’s turnkey program provides technical assistance, project management and installation services, proper disposal and recycling of the HPSV lights, as well as a 1-

year replacement guarantee, 5-year warranty, GIS data, and administration of all rebates/service rate changes. To date PG&E staff has provided a significant amount of technical assistance in analyzing the City's existing street lighting and has provided recommendations on how to achieve the most energy savings with installation of LED lights.

PG&E has developed the attached detailed proposal for replacing the HPSV lights within the 640 cobrahead fixtures throughout the City. The proposal outlines the project scope, energy and cost savings, and other services that will be provided by PG&E. LED lights for the cobrahead fixtures are readily available and have been thoroughly tested by PG&E. Replacement of the existing HPSV lights in the cobrahead fixtures with LED lights will maintain the same lighting level currently provided, while improving lighting quality.

At this time the decorative lights are not included in the proposal as these fixtures vary, and will require further research to determine the most suitable energy efficient replacement. Manufacturing of LED lights is becoming increasingly specialized, and customized lights for these fixtures may be available in the near future. PG&E staff has agreed to conduct further analysis of the decorative street lights and will provide information as it becomes available regarding recommended lighting alternatives.

SUSTAINABILITY IMPACT

Replacement of the HPSV lights with the more energy efficient LED lights will help enable the City to achieve the goal adopted by City Council to reduce greenhouse gas emissions 25% below 2004 levels by the year 2020. Additionally, this project is included in the City's draft Climate Action Plan.

FINANCIAL IMPACT

According to PG&E estimates, as outlined in the attached proposal, the total project cost is \$336,302. After project completion, PG&E estimates the City will realize a cost savings of approximately \$28,723 within the first year, and a decrease in monthly costs from \$4,200 to \$1,800. Additionally, LED lights should significantly reduce the cost of maintenance through increased lamp life, with replacement cycles reduced from once every five years to once every fifteen to twenty years. Staff will review the City's contract agreement with the County to ensure the terms adequately reflect this decrease in maintenance needs.

The project can be funded by a combination of sources including an energy efficiency block grant (EECBG) and a 1% interest loan for energy efficiency projects, both provided by the CEC. These funding sources are detailed below.

EECBG funds

As part of the Federal Stimulus Package, energy efficiency block grant funding (EECBG) is being provided to smaller cities and counties via the California Energy Commission (CEC). This is a non-competitive grant funding of federal stimulus dollars, managed by the CEC, and allocated by formula to small cities & counties for energy efficiency projects. The CEC has placed strict cost effectiveness requirements

on grant projects, which has effectively limited the number of possible energy efficiency projects the City could propose. Staff worked closely with CEC technical staff to identify allowable projects, and adhere to the grant guidelines. Based on discussions with CEC staff, it has been determined that the most effective use of the City's EECBG funds would be on an LED street light installation project. Further, the CEC has identified replacement of street lights with LED lights as one of the most cost effective projects. The CEC encourages grantees to submit applications as soon as possible, with an ultimate deadline of January 12, 2010.

A total of \$88,976 in EECBG funds is allocated by formula to the City. An authorizing resolution to apply for these grant funds is included within this report.

CEC 1% interest energy efficiency loan

The CEC offers a 1% interest loan for cost effective energy efficiency projects. Per the terms of the loan, the energy savings realized through efficiency and conservation measures fund the repayment of the loan. For the LED street light replacement project, an estimated loan amount of \$310,360 will be sought. This will equate to an annual repayment of approximately \$24,000 over the 15-year term.

Attachments

1. PG&E LED Street Light Turnkey Replacement Service Proposal, October 26, 2009
2. Energy Efficiency Community Block Grant (EECBG) authorizing Resolution
3. California Energy Commission 1% loan authorizing Resolution
4. California Energy Commission 1% loan proposed amortization schedule