



Approvals:

City Manager JM
Dept. Head BR
Attorney SS
Finance JV

AGENDA REPORT

SAN CLEMENTE CITY COUNCIL MEETING
Meeting Date: June 2, 2015

Department: Public Works / Engineering
Prepared By: Tom Bonigut, Assistant City Engineer OB

Subject: **APPROVAL OF AN AGREEMENT BETWEEN THE CITY OF SAN CLEMENTE AND SDG&E FOR LED STREET LIGHT CONVERSION FINANCING.**

Fiscal Impact: Yes. Approval of the proposed Agreement will result in an ongoing annual cost savings of about \$40,000 after the no-cost loan is repaid.

Summary: This action is to request City Council approval of an On-Bill Financing Agreement with San Diego Gas & Electric (SDG&E) to provide no-cost financing for the conversion of street lights on selected City streets from High Pressure Sodium (HPS) to Light Emitting Diode (LED) technology. This report provides a brief background on the City's street lights and LED street light technology, discusses alternative approaches for financing conversion of street lights, and summarizes the recommended approach for converting City street lights and other facility lighting to energy efficient LED technology.

Background: The City owns and maintains about 2,900 street lights and spends about \$251,000 annually on electricity for these lights. The City pays an additional \$78,000 annually to SDG&E to operate and maintain about 430 SDG&E-owned street lights. Almost all of the street lights are HPS lights, which have been the standard for many years. However, converting HPS street lights to LED technology will significantly reduce energy consumption, which supports General Plan energy conservation goals and policies while reducing costs to the City.

Over the past several years LED technology has been refined and extensively tested, and has emerged as the leading lighting technology for street lighting and other applications. LEDs offer a number of benefits compared to traditional technologies such as HPS, including:

- *Reduced energy consumption:* LEDs achieve equivalent light output while using 50-70% less electricity, which conserves electricity, reduces greenhouse gas emissions, and lowers operating costs.
- *Lower maintenance costs:* The LED lights proposed for the City's street lights will last 20 years compared to about 5 years for HPS lights, resulting in much fewer lamp replacements.
- *Improved light quality:* LEDs provide more uniform light distribution and better color rendering (i.e. how realistic an object's colors appear under a given light source).

- *Reduced light trespass:* LEDs reduce the amount of light in unwanted directions. The proposed LED fixtures for the City's street lights are "Dark Skies compliant" to minimize light pollution.

Although LED street lights offer many benefits as noted above, some people may be concerned by the color of light generated by LED street lights, which is significantly different than the orange light emitted by HPS street lights currently used throughout the City. Earlier generation LED lights emitted light with a color temperature between 5000-6500 Kelvin, which is a blue-white "cool" light which some considered harsh. However, today most agencies are using LED street lights that emit light with a color temperature of 4000 Kelvin, which is considered a "natural" or "neutral" white (i.e. not too much yellow or too much blue light) similar to moonlight. Still, the higher color temperature of LEDs can make them appear brighter than lower color temperature HPS street lights, even though the LED lights operate at lower wattages and generate less light.

Discussion:

The greater efficiency and lifespan of LEDs makes them very cost effective compared to HPS lights when considering a life-cycle perspective. However, even though the price of LEDs has been declining, the upfront capital cost to convert existing street lights can be significant. For example, the estimated cost to convert all of the City-owned street lights is about \$1.3M. There are several potential alternatives to fund purchase and installation of LED street lights including:

- *Self funding:* Use of City funds if available, which would be recovered over several years from the savings in lower electricity and maintenance costs.
- *Grants/loans:* Staff is not aware of any current grant funding opportunities for LED street light conversions. The California Energy Commission offers low-interest (1%) loans to cities, but this program is currently only accepting "wait list" applications for funding that won't be available until December 2016 at the earliest.
- *Bonds:* The City could consider various forms of bonds to finance conversion of street lights, although the issuance and interest costs might be prohibitive.
- *Energy Saving Contractors (ESCOs):* These firms offer turnkey installation programs and finance street light conversion projects, and the City pays the project cost (including contractor's fee/profit) over time from the savings in lower electricity and maintenance costs.
- *Manufacturer programs:* Some large street lighting manufacturers offer financing for LED street light conversions.
- *Utility programs:* SDG&E offers an On-Bill Financing program, which provides zero percent financing for qualifying energy-efficiency improvements, including LED street lights. SDG&E also offers rebates for LED street lighting, which can be combined with on-bill financing.

Staff recommends use of SDG&E's On-Bill Financing program to fund the initial conversion of the City's street lights to LED as described below. Due to the On-Bill Financing funding cap, only a portion of the City's streets will be able to be converted at this time. Once the project cost is repaid, the City could pursue another project to convert additional street lights. The proposed project will convert about 740 standard "cobra head" street lights on most of the City's arterial streets, including Camino De

Los Mares, Camino Vera Cruz, Avenida Vista Hermosa (east of the I-5 freeway), Avenida La Pata, and Avenida Pico (except by Marblehead Coastal). The project will also convert all of the City street lights in the Rancho San Clemente Business Park. Subsequent phases would convert street lights on remaining arterial, collector and residential streets. This phased approach would allow the community to become accustomed to the LED street lights and help identify any potential issues or concerns before more widespread installation in residential areas. This approach would address the City’s unmetered street lights which make up most of the City-owned street lights. Some City-owned street lights (such as the 100 and 200 blocks of Avenida Del Mar) are metered, and a separate LED conversion project could be pursued when/if the City identifies a suitable LED light fixture for that area. The following table summarizes the proposed project financial details:

Item	Amount
Total Project Cost (est.)	\$244,358
SDG&E Rebate	\$48,420
On-Bill Financing Loan Amount	\$195,938
Annual Energy Cost Savings (est.)	\$39,777
Simple Payback Period (in years)	4.9

As shown above, the project cost will be recouped from lower electricity costs in just under five years, after which the City will save about \$40,000 annually just from converting this first portion of the City’s street light system. The City could then re-apply for additional On-Bill Financing to convert more street lights. If the City Council approved this project, the next steps would be:

- Update and execute SDG&E financing agreements
- Receive approval to proceed from SDG&E
- Solicit contractor bids for LED street light installation
- Inspect and verify project
- City pay contractor
- SDG&E verify final costs and update agreement if needed
- SDG&E provide payment to City of San Clemente
- City repays project cost via future street light bills until payback period is reached

An advantage of on-bill financing is that it reduces or eliminates “out-of-pocket” funding because the loan provided by the utility is repaid via the utility bill savings. However, since the City will need to hire a contractor to procure and install the LED lights, City funds must be available to pay the contractor and then the City will get reimbursed by SDG&E. The Facilities Maintenance Reserve Fund has an available balance that could be used as a short term funding source for the street light conversion project (i.e. the project expenditure would be fully repaid within several months via the SDG&E rebate and financing).

Since On-Bill Financing is a tool that can be used for other metered electricity accounts, once this project is underway staff would formulate additional LED conversion projects for City Council consideration. Potential projects include

conversion of area, pathway and parking lot lighting in parks and at City facilities, as well as conversion of metered street lights on Avenida Del Mar.

Recommended

Action: STAFF RECOMMENDS THAT the City Council:

1. Direct staff to move forward with the first phase of converting the City's street lights from High Pressure Sodium to Light Emitting Diode technology;
2. Authorize the City Manager to execute the SDG&E On-Bill Financing Agreement and any related documents required by SDG&E;
3. Approve a supplemental appropriation of \$250,000 from the Facilities Maintenance Reserve undesignated fund balance to Account No. 014-811-45300-000-00000; and
4. Accept revenue of up to \$250,000 from SDG&E to Account No. 014-000-36855-000-00000.

Attachment: Draft SDG&E On-Bill Financing Agreement

Notification: None.

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A  Sempra Energy utility

ON-BILL FINANCING LOAN AGREEMENT FOR SELF INSTALLER

The undersigned customer ("Customer") will obtain and perform energy efficiency equipment and services (the "Work"). Subject to the conditions (including the process for Adjustment) set forth in the next paragraph, San Diego Gas & Electric Company ("SDG&E") shall extend a loan (the "Loan") to Customer in the amount of the loan balance (the "Loan Balance") pursuant to the terms of this On-Bill Financing Loan Agreement ("Loan Agreement") and Rule No. 40 (the "Rule"). Customer shall provide the Work as described in the On-Bill Financing Application ("Application").

The estimated Loan Balance is set forth below. However, the total cost of the Work as installed, Incentive, Loan Balance, monthly payment, and loan term specified in this Loan Agreement may be adjusted, if necessary, after the Work and the post-installation inspection described in the Application and/or herein are completed (the "Adjustment"). The Adjustment will be calculated using the actual total cost of the Work, as installed and estimated energy savings (as described in the Application) of such Work. In no event will the Loan Balance be increased without Customer's written consent, even if Customer is eligible for such increased Loan Balance. Moreover, in no event will the Loan Balance exceed the maximum loan amount stipulated in the Application. Customer understands that in order to be eligible for an on-bill financing loan, the initial Loan Balance for Work may not fall below the minimum loan amount, nor may the payback period exceed the maximum payback period. **Accordingly, if after the Adjustment, the Loan Balance falls below the minimum loan amount or if the simple payback period exceeds the program maximum payback period, each as described in the Application, SDG&E shall have no obligation to extend the Loan, as the Work would not meet program requirements.** The Adjustment described in this paragraph will be communicated to the Customer in writing and will automatically become part of this Loan Agreement, except that any proposed increase in the Loan Balance will only become part of this Loan Agreement upon Customer's written consent to such increase. Collectively the Application, this Loan Agreement (including any Adjustment hereunder) and the Rule comprise the "Agreement". In the event of any conflict among the foregoing components of the Agreement, the following order of priority shall apply: 1. the Rule; 2. this Loan Agreement; 3. the Application.

SDG&E shall have no liability in connection with, and makes no warranties, expressed or implied, regarding the Work. Customer shall indemnify and hold harmless SDG&E, its affiliates, and their respective owners, officers, directors, employees and agents thereof, from and against all claims, demands, liabilities, damages, fines, settlements or judgments which directly arise from or are caused by (a) any breach of the Agreement or (b) the wrongful or negligent acts of omissions of any party in the conduct or performance of the Work or Customer's duties under the terms of this Agreement.

Customer represents and warrants that (a) Customer is receiving this Loan for Work obtained in connection with Customer's business, and not for personal, family or household purposes; (b) Customer, if not an individual, is duly organized, validly existing and in good standing under the laws of its state of formation, and has full power and authority to enter into this Agreement and to carry out the provisions of this Agreement. Customer is duly qualified and in good standing to do business in all jurisdictions where such qualification is required; (c) this Loan Agreement has been duly authorized by all necessary proceedings, has been duly executed and delivered by Customer and is a valid and legally binding agreement of Customer duly enforceable in accordance with its terms; (d) no consent, approval, authorization, order, registration or qualification of or with any court or regulatory authority or other governmental body having jurisdiction over Customer is required for, and the absence of which would adversely affect, the legal and valid execution and delivery of this Loan Agreement, and the performance of the transactions contemplated by this Loan Agreement; (e) the execution and delivery of this Loan Agreement by Customer hereunder and the compliance by Customer with all provisions of this Loan Agreement: (i) will not conflict with or violate any Applicable Law; and (ii) will not conflict with or result in a breach of or default under any of the terms or provisions of any loan agreement or other contract or agreement under which Customer is an obligor or by which its

property is bound; (f) all factual information furnished by Customer to SDG&E is true and accurate; and (g) the On-Bill Financing Program ("Program") was a determining factor in its decision to have the Work performed.

The Application must include the Federal Tax Identification Number or Social Security Number of the party who will be the recipient of the check for the loan amount. Checks will be issued directly to the Customer. Customer understands that SDG&E will not be responsible for any tax liability imposed on the Customer or any third party in connection with the transactions contemplated under the Agreement, whether by virtue of the Loan contemplated under the Agreement, or otherwise, and Customer shall indemnify SDG&E for any tax liability imposed upon SDG&E as a result of the transactions contemplated under the Agreement.

Within sixty (60) days of Customer's written confirmation sent to SDG&E On-Bill Financing Program Administrator at address listed below of completion of the Work, SDG&E will (a) conduct a post installation inspection and project verification; (b) adjust, if necessary, the total cost, Incentive, Loan Balance, monthly payment, and loan term as stated above; and (c) issue a check (the "Check") for all amounts SDG&E approves for payment in accordance with the Agreement. The date of such issuance is the "Issuance Date". The Check shall be issued if the Work conforms to all requirements of the Agreement including, without limitation, the Application. If the Check is less than the amount due from Customer to any third party in respect of the Work, Customer shall be responsible for the excess. Customer shall repay the Loan Balance to SDG&E as provided in this Loan Agreement irrespective of whether or when the Work is completed, or whether the Work is in any way defective or deficient.

The Customer agrees to repay to SDG&E the Loan Balance, in the number of payments listed below and in equal installments (with the final installment adjusted to account for rounding), by the due date set forth in each SDG&E utility bill rendered in connection with Customer's account (identified by the number set forth below) ("Account"), commencing with the bill which has a due date falling at least 30 days after the Issuance Date. Amounts due under this Loan Agreement shall be deemed to be amounts due under each bill to the Account, and a default under this Loan Agreement shall be treated as a default under the Account. Although a late payment fee may be assessed for delinquent payment of a utility bill, however, no late payment fee will be assessed for delinquent Loan repayment. If the Customer is unable to make a full utility bill payment in a given month, payment arrangements may be made at SDG&E's discretion. Any partial utility bill payments will be applied to energy charges before payment of the Loan Balance. Further payment details are set forth below. Any notice from SDG&E to Customer regarding the Program or the transactions contemplated under the Loan Agreement may be provided within any such bill, and any such notices may also be provided to Customer at the addresses below or as elsewhere specified in the Loan Agreement, and shall be effective five (5) days after they have been mailed. The monthly payments will be included by SDG&E on the Account's regular energy service bills. The Loan Balance shall not bear interest. There are no pre-payment penalties; however, Customer agrees to notify the On-Bill Financing Program Staff of pre-payment amounts at the time of payment by telephoning the toll free phone number listed on the bill and by sending written notice to SDG&E On-Bill Financing Program Administrator at the address listed below. In the event the Account is closed or terminated for any reason, or Customer defaults under the Agreement, the Customer will be required to repay the entire then-unpaid Loan Balance within 30 days. Customer understands that without limiting any other remedy available to SDG&E against Customer, failure to repay the Loan Balance in accordance with the terms of the Agreement could result in shut-off of utility energy service, adverse credit reporting, and collection procedures, including, without limitation, legal action.

\$ 244,358.00	\$ 48,420.00	\$ 195,938.00	\$ 3,265.63	59	60
Total Cost	Incentive	Loan Balance	Monthly Payment	Term (Months)	Number of Payments

City of San Clemente
Name on Account (Customer of Record)
9965953154
SDG&E Account Number
City of SC LS2A D
Service Address
San Clemente, CA 92672
City, State, Zip
Name and Title of Authorized Representative of customer
Relationship to Customer of Record
95-6000775
Federal Tax ID or Social Security #
Signature of authorized representative of Customer
/ /
Date
Accepted: San Diego Gas & Electric Company

Accepted: San Diego Gas & Electric Company

By: _____

Date _____

Michelle Costello, Energy Programs Manager

Printed Name, Title

Address: PO Box 129831, CP 12D, CA 92112-9831

SDG&E ON-BILL FINANCING - LOAN SUMMARY

ACCOUNT 9965953154

List all measures

Lighting Low Cost Measures HVAC Food Service Motors Refrigeration Agricultural Other

10 year - Taxpayer-Funded

TOTAL COST OF MEASURE INSTALLATION & FEES ASSOCIATED	TOTAL REBATE AMOUNT	TOTAL INCENTIVE AMOUNT	TOTAL REBATE AND INCENTIVE TO BE APPLIED TO PROJECT COST	CUSTOMER CONTRIBUTION (IF APPLICABLE)	CUSTOMER TOTAL LOAN AMOUNT	CUSTOMER AVERAGE RATE	ENGINEER APPROVED ENERGY SAVINGS	ESTIMATED ANNUAL ENERGY COST SAVINGS	SIMPLE PAYBACK IN YEARS
\$244,358.00	\$48,420.00	\$0.00	\$48,420.00	\$0.00	\$195,938.00	\$0.10	397,774.2	\$39,777.42	4.93
REBATE EQUIPMENT ENERGY SAVINGS (EEBR)	INCENTIVE EQUIPMENT ENERGY SAVINGS (EEBI)	INCENTIVE EQUIPMENT ENERGY SAVINGS (ESB)	3RD PARTY PROGRAM SAVINGS	DEMAND REDUCTION (EEBI)	\$195,938.00	Amount for loan term payback			
397,774.16	0.00	0.00	0.00	0.00					
REBATE RESERVED	INCENTIVE (EEBI)	INCENTIVE (ESB)	3rd PARTY PROGRAM REBATES	DEMAND REDUCTION INCENTIVE					
\$48,420.00	\$0.00	\$0.00	\$0.00	\$0.00					
PAYBACK IN MONTHS	LOAN TERM MONTHS	CUSTOMER FIXED MONTHLY LOAN PAYMENT	EXPECTED MONTHLY ENERGY SAVINGS						
59	60	\$3,265.63	\$3,314.78						

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