



City of San Antonio

Agenda Memorandum

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Agenda Date: 5/11/2016

In Control: Transportation, Technology and Utilities Committee

DEPARTMENT: Finance

DEPARTMENT HEAD: Troy Elliott, Finance Director

COUNCIL DISTRICTS IMPACTED: City Wide

SUBJECT: Streetlight Program

SUMMARY:

Staff will provide a briefing on the city wide streetlight program, proposed new CPS Energy LED streetlight rates, and updates to the CPS Energy LED Retrofit streetlight rates at the Transportation, Technology, and Utilities (TTU) Committee.

BACKGROUND:

City staff has worked with CPS Energy to make improvements to existing city wide streetlight infrastructure. The City's current streetlight inventory consists of approximately 72,500 lights. These streetlights can be grouped into the following wattage/size categories: 100Watt (W) streetlights for residential neighborhoods; 250W streetlights for the City's major thoroughfares; and, 400W streetlights for some major six lane roads with center turning lanes, and areas that require a high level of lighting, such as downtown. The City has completed the retrofit of approximately 23,500 250W streetlights replacing existing High Pressure Sodium (HPS) streetlights with Light Emitting Diode (LED) streetlights.

The major benefits of LED streetlights are: reduced energy usage; reduced maintenance and replacement costs due to longer life expectancy; and reduced fuel costs due to lower energy usage. These benefits are projected to produce significant energy, maintenance, and fuel savings over the useful life of the LED streetlights.

Staff will be bringing forward an ordinance for consideration that would authorize approval of CPS Energy LED rates for five new streetlight rate classes as well as updated prices on the existing LED Retrofit streetlight tariff. The proposed ordinance will facilitate the progression of certain streetlight improvement projects including the Residential LED Streetlight Retrofit Project and the District 5 Additional Streetlight Improvement Project.

Major Thoroughfare LED Streetlight Retrofit Project

On September 20, 2012, City Council approved an ordinance authorizing new LED streetlight rates that

allowed the City to proceed with a major streetlight improvement project. The project implemented the replacement of 25,000 large wattage HPS streetlights with LED streetlights. Of these 25,000 streetlights, 23,500 are located along major thoroughfares throughout the City and were completed in October 2014. The remaining 1,500 streetlights are located in the Downtown area, with expected completion by October 2016.

The estimated energy savings of the Major Thoroughfare LED Streetlight Retrofit Project are 5.1 megawatts (MW) per year, the equivalent of providing power to 1,595 homes per year. These energy savings help the City and CPS Energy reach the Save for Tomorrow Energy Plan (STEP) goal of achieving 771 MW of energy savings by 2020. In addition to energy savings, the resulting financial savings to the City's utility billing for these streetlights were sufficient to cover the cost of the project.

Residential LED Streetlight Retrofit Project

The Residential LED Streetlight Retrofit project would allow for the replacement of approximately 30,212 100W HPS residential streetlights with LED streetlights. The estimated energy savings associated with this Residential Project are 2.6 MW per year, the equivalent of providing power to 806 homes per year. These energy savings will also go toward the STEP goal of 771 MW of energy savings by 2020. As such, the project qualifies for \$1.1M of STEP funding from CPS Energy.

The City will fund the purchase of the new LED streetlights with bonds to be issued in the summer of 2016. The funding from the CPS Energy STEP program along with the financial savings from the City's ongoing costs for the LED streetlights are sufficient to cover the capital costs to include debt service costs to acquire the new LED streetlights. Over the seventeen years that the bonds are to be paid for, the City will net projected cumulative savings of \$867,000 on its utility bill for streetlights while allowing for the implementation of enhanced and more energy efficient LED lighting.

The Residential Project is currently underway in District 5 as part of the District 5 Additional Streetlight Improvement Project as described below. The City will begin city wide implementation of the project in October 2016 and should take approximately 18 months to complete.

District 5 Additional Streetlight Improvement Project

Included in the FY16 budget were funds to target improved streetlighting in District 5. City Staff is currently working with CPS Energy to roll out the District 5 Additional Streetlight Improvement Project. This project will add additional LED streetlights in areas where existing infrastructure allows, providing further lighting above the current residential streetlight standard to increase safety and security in these areas.

In addition to providing more streetlights, the project will also retrofit approximately 3,160 existing HPS streetlights with LEDs along the project's construction route. This will align the D5 Project with the upcoming rollout of the City's Residential Project as discussed above. The D5 Project is currently in construction and should be completed, subject to budget limitations, within approximately 6 months, with estimated completion by October 2016.

Additional LED Rates

The existing LED rates, as approved on September 20, 2012, apply only when existing HPS streetlights are retrofitted with LED technology. Currently, there are no rates in effect that allow for new LED streetlight installations or for streetlights that are converted to LED as part of CPS Energy's maintenance program (e.g., burn out, knock down). The proposed ordinance will update prices on the existing retrofit tariff, and will provide prices that are applicable for new installations and LED lights resulting from

maintenance efforts. In total, CPS Energy has proposed updated pricing for the LED-Retrofit rate class tariff and LED rate additions to five streetlight rate classes including: Streetlight Service Public Streetlighting (SSP); All Night Security Light (ANSL); Streetlight Service State Expressway Lighting (SSE); Public Streetlighting Service Unincorporated (SSP-UN); and Decorative Streetlighting Service (SSD).

These proposed rates along with a comparison to their current HPS counterpart are summarized in Exhibit A.

Additional LED Streetlight Technology Considerations

Some LED manufacturers are designing their LED street lights with replaceable modules that can be swapped out as technology improves to ease concerns about rapidly changing technology becoming obsolete or incompatible with future upgrades. CPS Energy's current LED streetlight contractor, Greenstar Products, Inc., located in San Antonio, has designed its latest generation of LED lights with these replaceable modules.

These newer generation Greenstar LED streetlights have the potential for smart technology adders that will allow for various amenities to the streetlight system. These amenities/options include: the ability to monitor streetlight outages in real time in order to better repair the system; the ability to monitor streetlight consumption; the ability to dim the streetlights; and other additional features. While the new LED streetlights have the capability to add these types of features, there would be additional costs, which CPS is currently evaluating. CPS Energy and City staff will continue to monitor and evaluate these features and costs as the technology evolves.

ISSUE:

In order for the City to realize the projected savings and pay for the Residential LED Streetlight Retrofit Project, updated LED retrofit rates would need to be adopted.

ALTERNATIVES:

The City could postpone or not move forward with the proposed LED rates or the conversion of high pressure sodium streetlights to LED streetlights.

FISCAL IMPACT:

The City's FY 2016 streetlight budget is \$14.2M. For the proposed Residential LED Streetlight Retrofit Project, the City will net projected cumulative savings of \$867,000 on its utility bill for streetlights over the seventeen years that bonds for the project are to be paid for while allowing for the implementation of enhanced and more energy efficient LED lighting.

RECOMMENDATION:

Staff recommends approval and the Council Subcommittee's endorsement to move the proposed new LED streetlight rates and the updates to the LED Retrofit streetlight rates to the full City Council for consideration.