



**CITY OF COLORADO SPRINGS  
OFFICE OF THE CITY AUDITOR**

**10-19 – COLORADO SPRINGS UTILITIES  
STREETLIGHT FEE CALCULATION**

**PUBLIC REPORT**

**OCTOBER 13, 2010**

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## Office of the City Auditor

### Public Report

Date: October 13, 2010

To: Honorable Mayor and Members of City Council

Re: 10-19 Streetlight Fee Calculation

The City's General Fund pays Colorado Springs Utilities an annual fee for streetlights located within the City. The fee was intended to cover all of the associated costs including energy usage, cost of infrastructure, and maintenance of the existing system. The objective of this audit was to determine if the methodology used to calculate this fee resulted in a fee that was fair compared to other electrical customers and compared to other streetlight customers. The period covered by this review focused on the Cost of Service Study (COSS) prepared in 2007 for the fee effective January 1, 2008 and included research into capital improvements and debt funding activities for the period 2002 through 2009.

We conclude that overall, the Streetlight fee paid by the City was fair. However, there were areas where improvements should be considered. Analysis of the City streetlight fee revealed several areas where refinement of the COSS allocations would result in more precise assignment of costs. Additionally, revenue received from developers for the construction of streetlights was not directly or fully applied, which was a requirement of City Code. Colorado Springs Utilities debt funded all Streetlight capital improvements. Several related issues were found concerning the calculation of power consumption. We identified three main findings and have listed our recommendations for each.

We appreciate the assistance provided by the Colorado Springs Utilities employees contacted for this audit. Their help was invaluable in understanding the complex issues surrounding the rate-making methodology. We also wish to thank the staff of the Field Service Department for their help in explaining the systems used to determine the inputs to the COSS.

As always, feel free to contact me if you have any questions.

Sincerely,

A handwritten signature in black ink that reads "Denny Nester".

Denny Nester  
Interim City Auditor

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### Major Abbreviations and Acronyms

- A&G – Administrative and General Expenses – Expenses incurred in providing Administrative and General support functions. This includes management salaries, accounting and IT support, which are allocated to each functional service.
- CIAC – Contribution in Aid of Construction – These are tariff based fees that offset construction costs and developer contributed plant. These can be cash and non-cash contributions from developers for specific projects.
- COSS – Cost of Service Study – The procedure for classifying or assigning the costs of service to functional cost components for subsequent distribution to respective customer classes. This is achieved through a complex financial model based on budgeted figures used to calculate the revenue requirement for each electrical rate class and establishes the rate for each Rate Class.
- Cost Center or Function – The distinct operational components of a utility to which separate cost groupings are typically assigned. The Electrical Cost Centers (Functions) are generation, transmission, distribution and customer. Streetlights represent a subset of the distribution function in the COSS.
- kWh – Kilowatt Hours – The work performed by one kilowatt of electrical power in one hour. A kWh is the unit on which the price of electricity is based. A 1000 watt light bulb operating for one hour would use one kWh.
- O&M – Operations and Maintenance Expenses – O&M are those expenses used for the day-to-day operation of Colorado Springs Utilities. The major categories are (1) Labor, (2) Purchased Fuel, Power and Gas, and (3) Operating and Maintenance Expense (all other non-fuel and non-labor expenses.).
- Rate Class – The grouping of customers into homogeneous classes. Through the COSS, costs are distributed to each Rate Class based on the group's unique demands on the system. Streetlights represent a Rate Class in the COSS.
- Streetlight Enterprise – A subset of the Streetlight system. The Streetlight Enterprise represents only lights paid for by the City. The Streetlight Enterprise represented 92.1% of the total Streetlight system in 2008, based on the inventory of lights.
- Streetlight system – All streetlights owned, operated and maintained by Colorado Springs Utilities. This includes all lights and their power sources for the entire Colorado springs Utilities service area.

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## Introduction

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### Authorization

We performed an audit of the methodology used to calculate the Streetlight fee charged to the City of Colorado Springs (City) by Colorado Springs Utilities. We conducted this audit under the authority of Chapter 1, Article 2, Part 7 of the City Code, and more specifically parts 703, 705 and 706 of the Code, which state:

#### 1.2.703: ENSURE PUBLIC ACCOUNTABILITY:

The City Auditor shall ensure that administrative officials are held publicly accountable for their use of public funds and the other resources at their disposal. The City Auditor shall investigate whether or not laws are being administered in the public interest, determine if there have been abuses of discretion, arbitrary actions or errors of judgment, and shall encourage diligence on the part of administrative officials.

#### 1.2.705: DETERMINE EFFECTIVENESS AND EFFICIENCY OF PROGRAMS:

The City Auditor shall determine the extent to which legislative policies are being efficiently and effectively implemented by administrative officials. The City Auditor shall determine whether City programs are achieving desired objectives. The City Auditor shall review the administrative control systems established by the enterprises, department or group managers and by the City Manager, Colorado Springs Utilities's Executive Director and Memorial Hospital Executive Director and determine whether these control systems are adequate and effective in accomplishing their objectives.

#### 1.2.706: EXAMINE BOOKS, RECORDS:

The City Auditor shall examine and inspect all books, records, files, papers, documents and information stored on computer records or in other files or records relating to all financial affairs of every office, department, group, enterprise, political subdivision and organization which receives funds from the City or under the direct or indirect control of the City Council. The Auditor may require any person to appear at any time upon proper notice and to produce any accounts, books, records, files and other papers pertaining to the receipt or expenditure of City funds, whether general or special. If that person fails to produce the papers, then the Auditor may request Council approval to search for and take any book, paper or record in the custody of that person or public official.

### Organization Placement

The Colorado Springs Office of the City Auditor (OCA) is structured in a manner to provide organizational independence from the entities it audits. This independence is accomplished by the City Auditor being appointed by and reporting directly to the City Council. The audited entity in this audit reports to the Chief Executive Officer of Colorado Springs Utilities, who is also appointed by the City Council.

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## Introduction

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### Executive Summary

The City's General Fund pays a fee to Colorado Springs Utilities to provide streetlights in the City. This fee is set each year by Colorado Springs Utilities using a technique called the Cost of Service Study (COSS) and the amount is approved by City Council as part of the budget process. The COSS is commonly used in the utility industry to develop costs for rate cases. The COSS utilizes several key inputs, including the estimated kilowatts (kWh) of electricity consumed, the budgeted costs for Operations and Maintenance expense (O&M), debt service, and the cost of capital projects. These costs were allocated across the various cost centers (functions) to distribute them to the rate classes, i.e., residential customers, commercial customers, industrial, etc. Streetlights were unique because they were treated as both a cost center (function) and a rate class.

In reading this report, it is important to understand that the lights the City pays for were a subset of the entire Streetlight system, which is owned and operated by Colorado Springs Utilities. The City was the only customer for which the annual charge was updated each year based on the Electric System COSS. There were approximately 230 other streetlight customers, but these customers paid a monthly fee based on a per-light charge. The per-light fee is recalculated periodically via a Streetlight COSS.

Our review identified three main findings:

1. Analysis of the City streetlight fee revealed several areas where refinement of the Cost of Service Study (COSS) allocations would result in more precise assignment of costs.
2. The City Code required that funds received from developers be applied directly to Streetlight installations; however, the developer fees were not directly or fully applied. Colorado Springs Utilities debt funded all Streetlight capital improvements.
3. Actual power consumption by streetlights could not be determined because the lights were not metered. The estimates used for power consumption were inconsistent and varied from electrical engineering standards in use at Colorado Springs Utilities.

Beginning in 2010, selected streetlights were deactivated in the City to help balance the City's budget. The projected cost savings based on power saved was \$1.245 million. A review of the inventory of deactivated lights and associated energy usage determined that the projected savings will be realized in 2010.

### Scope and Methodology

The City's General Fund pays Colorado Springs Utilities an annual fee for streetlights located within the City. The fee was intended to cover all of the associated costs including energy usage, cost of infrastructure, and maintenance of the existing system. The objective of this audit was to determine if the methodology used to calculate this fee resulted in a fee that was fair compared to other electrical customers and compared to other streetlight customers. The period covered by this review focused on the COSS prepared in 2007 for the fee effective

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## Introduction

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January 1, 2008 and included research into capital improvements and debt funding activities for the period 2002 through 2009.

The audit was conducted in accordance with the International Standards for the Professional Practice of Internal Auditing, a part of the Professional Practices Framework promulgated by the Institute of Internal Auditors. The audit included such tests of records and other supporting documentation as deemed necessary in the circumstances. Sufficient competent evidential matter was gathered to support our conclusions.

## Background

From January 2003 through June 30, 2006, a streetlight fee was charged to residential and commercial electrical rate payers within the City. Prior to this, the City's General Fund paid for streetlight service. To coincide with the change in payee from the General Fund to the rate payers, a separate Streetlight Enterprise was created within Colorado Springs Utilities in 2003. Since then, Colorado Springs Utilities has reported on streetlights as a distinct line of service, with separate financial statements.

In May 2006, City Council voted to return responsibility for the payment of streetlight expense to the City's General Fund Budget effective July 1, 2006. Sections 12.9.103 and 7.7.801 of the City Code authorize Colorado Springs Utilities to charge the City for streetlight service and require Colorado Springs Utilities be reimbursed for providing streetlight services. The Streetlight Enterprise represents only those lights that are paid for by the City. For the period January – December 2008, the fee for the Streetlight Enterprise was set at \$4,548,151, per City Council Resolution 266-07.

This fee was based on a COSS that included costs of the electrical system and costs of providing streetlights to all customers. The portion attributable to the City (92.1% of the entire streetlight system) was applied to the total revenue requirements to arrive at the City's final streetlight fee. See Appendix A for more details on the cost components.

Allocations were used extensively in the COSS to group the anticipated costs of providing electrical service into cost components (functions) such as Generation, Distribution and Transmission. The functions were then allocated out to the rate payers according to classes of service (Residential, Commercial and Industrial). Streetlights were both a cost center (function) and a rate class in the COSS.

Allocations are generally used to make estimates when an actual cost is unknown or not easily obtained, and when the resulting allocation would not make a material difference in the outcome of the analysis. As is standard industry practice, the rate making process utilized allocations because it was not always possible to identify the actual costs associated with delivering service to each customer rate class.

In 2007, Colorado Springs Utilities proposed a modification to the factors used to calculate the cost allocations in the COSS. Two industry consultants independently reviewed this change. One consultant was engaged by Colorado Springs Utilities to help establish the allocation technique and the other by the City to review the proposed method. The City's consultant deemed the proposed method to be acceptable and typical of those used in the utilities industry.

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## Introduction

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However, the consultant recommended that the City closely monitor the key inputs to the COSS. The methodology change was approved by City Council on May 27, 2008 when resolution 101-08 was passed setting the electrical rates.

The COSS inputs and allocations were closely reviewed for this audit in order to render an opinion on the resulting rate set using the new methodology and to compare the allocations to the actual costs of the system.

### Commendable Practices

In the City's consulting report from the Prime Group issued in 2007, the consultant recommended, "the City should consider requiring Colorado Springs Utilities to conduct an outside audit to confirm the value of the Street Light investment, to validate the actual number of lights by type actually installed, and to demonstrate that the operation and maintenance expenses reflected in the budget for Street Lights are representative of the operation and maintenance actually performed for Street Lights."

We commend the actions taken by the Field Service staff to validate and improve the data in the database application Colorado Springs Utilities uses to track the inventory of streetlights. While there are still some discrepancies in the data, attention has been given to this database application and the data is much more accurate today than it was two years ago. We also wish to recognize the swift and accurate effort to deactivate streetlights in 2010 to produce savings in the current year.

The staff of the Pricing Department has been especially helpful in aiding our office in researching this subject and in the completion of this report.

### Overall Conclusion

We conclude that overall, the Streetlight fee paid by the City was fair. However, there were areas where improvements should be considered. Analysis of the City streetlight fee revealed several areas where refinement of the COSS allocations would result in a more precise assignment of costs. Additionally, revenue received from developers for the construction of streetlights was not directly or fully applied, which was a requirement of City Code. In addition, Colorado Springs Utilities debt funded all Streetlight capital improvements. Several related issues were found concerning the calculation of power consumption. We identified three main findings and have listed our recommendations for each.

We appreciate the assistance provided by the Colorado Springs Utilities employees contacted for this audit. Their help was invaluable in understanding the complex issues surrounding the rate-making methodology. We also wish to thank the staff of the Field Service Department for their help in explaining the systems used to determine the inputs to the COSS.

**We have made no determination as to which findings are more important than others. Therefore, the findings are not necessarily listed in order of importance.**

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## Findings, Recommendations and Responses

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### **1. Analysis of the City streetlight fee revealed several areas where refinement of the Cost of Service Study (COSS) allocations would result in more precise assignment of costs.**

To arrive at the cost for each customer class, the standard practice was to allocate costs using a technique called a COSS. Allocations were used because it was not always possible to determine the actual costs associated with each rate class. This approach was the typical method used in the utility industry to assign costs and determine rates. This review found that the COSS methodology was being consistently applied by the Pricing Department.

The City streetlight customer was a unique customer in several ways:

- It was the only unit in the Electric COSS where costs were annually assigned both as a function of the distribution system and as a rate class.
- The City streetlight system had operating and maintenance (O&M) costs that a typical electric customer did not have.

The staff of the OCA worked very closely with the Pricing department to understand the COSS process and to investigate the impact of the specific allocations to the City streetlight customer. The electric system infrastructure includes generation plants, transmission lines, and distribution system, which were designed to meet peak demand as well as annual kWh usage for streetlights. Consequently, the cost per kWh was higher for Streetlights than other rate classes.

Multiple factors impacted the cost of Streetlights. Finding #2 addresses the impact of contributions made by developers. Streetlights were treated as both a cost center (function) and as a rate class. This practice may have resulted in a larger share of costs being allocated to Streetlights. For example, our analysis indicated Administrative and General (A&G) allocated expenditures represented 17.2% of the revenue requirements for Streetlights, while A&G for the other Electrical rate classes averaged only 12.5% of their revenue requirements.

During the audit process, the staff of the OCA identified several areas where more precise data was available, or could be determined with additional analysis. All involved agreed that by refining these cost components, the resulting fee would be more precise. The OCA did not view this as a change in methodology or an inconsistency in rate making, but rather as a process improvement.

Due to the timing of this report and the close proximity to the 2011 Electric Rate Case Filing, the OCA determined it was appropriate to incorporate the agreed upon improvements into the Electric Rate Case. Wherever possible, these improvements have been incorporated into the current Rate Case COSS and are reflected on the proposed City streetlight fee for 2011.

Some of the identified areas warrant additional study that could not be completed in time to be fully utilized in the 2011 Rate Case. For these items, the Pricing Department and the OCA have agreed that there may be additional refinements to the City streetlight fee calculation for future years. Continued participation by the Colorado Springs Utilities Pricing, Accounting, Treasury and Field Service Departments will be required to complete all study items. We acknowledge and appreciate the continued support from these departments in completing this study.

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## Findings, Recommendations and Responses

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**Auditor's Recommendations:** We recommend Colorado Springs Utilities complete work on the items identified. The goal of this study would be to further refine the assignment of costs in the COSS to the Streetlight system and to the City streetlight customer. The study items would include:

- a. Identification and assignment of cost and revenue sources for the Streetlight system and the City streetlight customer.
- b. Identification of capital improvement costs, plant in service values and debt assignment for both the streetlight system and the City streetlight customer. See Finding #2 for more information on this subject.
- c. Analysis of the actual energy used by streetlights and incorporation of these facts into the COSS load and energy related calculations. See Finding # 3 for more information.
- d. Inclusion of other relevant data identified by Colorado Springs Utilities into refining the assignment of costs that would result in more precise pricing.

**Colorado Springs Utilities' Response:**

Colorado Springs Utilities agrees with the City Auditor's recommendation to further refine the assignment of costs in the COSS.

Colorado Springs Utilities also agrees with the City Auditor's comment that the City streetlight customer is unique as it is both a rate class and a function in the COSS. The primary result is that the streetlights class receives both a direct A&G allocation, as well as its rate class share of the A&G assigned to each of the other functions. This structure (function and rate class) is appropriate.

Colorado Springs Utilities concurs with the City Auditor that Streetlight is allocated its shares of the electric system infrastructure includes generation plants, transmission lines, and distribution system which are designed to meet peak demand as well as average demand. Streetlight class has a lower load factor (the ratio of average demand to peak demand) compared with the other rate classes thus produces a high cost per kWh.

Colorado Springs Utilities has already begun refinement to the COSS as recommended by the City Auditor and will incorporate the following improvements into the 2011 Electric Rate Case and the proposed City streetlight fee for 2011.

- a. Identification of debt assignment for both the Streetlight system and the City streetlight customer.

See Colorado Springs Utilities' response to Finding #2.

- b. Analysis of the actual energy used by streetlights and incorporation of these facts into the COSS load and energy related calculations.

The 2011 Electric Rate Case and the 2011 proposed City streetlight fee will both reflect the corrected electricity used by double fixtures, ballast losses and an inclusion for

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## Findings, Recommendations and Responses

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burned out bulbs. See Colorado Springs Utilities' response to Finding #3 for more information.

The City Auditor commented that the A&G in the 2008 COSS was 17.2% of the revenue requirement for Streetlight. The preliminary 2011 COSS study shows that the A&G allocated expenditures represents about 14% of the non-fuel revenue requirements for City streetlight as compared to 16% of the non-fuel revenue requirement for Residential class primarily as a result of lower direct Streetlight O&M expenses.

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## Findings, Recommendations and Responses

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2. **The City Code required that funds received from developers be applied directly to Streetlight installations; however, the developer fees were not directly or fully applied. Colorado Springs Utilities debt funded all Streetlight capital improvements.**

Colorado Springs Utilities' website states "The streetlight program is funded through the City of Colorado Springs' annual budget. Developers pay for 100 percent of the capital costs for streetlights in new residential developments and 60 percent of the cost of streetlights on new arterial roadways." In the COSS we reviewed, the budgeted, allocated and actual Contributions in Aid of Construction, or CIAC, for streetlights was as follows:

	<b>Total Electric CIAC</b>	<b>Streetlight CIAC</b>	<b>Ratio of Streetlight CIAC to Total Electric CIAC</b>
<b>2008 CIAC</b>			
Budgeted	\$6,411,805	\$970,062	15.13%
Allocated in COSS	\$6,012,000	\$206,763	3.44%
Actual	\$4,179,868	\$451,717	10.81%

Further, the requirements stated in City Code Sections 12.9.103 and 7.7.801 below, indicate that the fee for Streetlighting should be reduced by the revenue received from developers. It appears the current practice of allocating CIAC funds may not be in agreement with Colorado Springs Utilities' statements or in compliance with City Code. The relevant sections of the City Code are as follows:

**12.9.103: STREET LIGHTING SERVICE CHARGE:**

*Utilities is authorized and directed to assess and collect a service charge, denominated as the street lighting service charge, from the Municipal government of the City of Colorado Springs. The revenues received from the street lighting service charge shall be sufficient to defray the costs of street lighting service within the City of Colorado Springs, such costs may include, but are not limited to, the operations and maintenance expenses, inclusive of power consumption, and all capital costs associated with arterial and residential street lighting infrastructure not recovered<sup>1</sup> through section 7.7.801 of this Code. (Ord. 02-203; Ord. 06-97 2)*

**7.7.801: INSTALLATION AND COMPLETION OF IMPROVEMENTS:**

*The improvements required below shall be constructed and installed by the subdivider or provisions made therefore, prior to the final approval of the subdivision and the final plat thereof. In lieu of the completion of such improvements, the subdivider may provide acceptable assurance to secure to the City the actual construction of the improvements within such period as shall be determined by the City Engineer or the Utilities Executive Director. Said assurance shall be in an amount adequate to cover the cost of the improvements as determined by the City Engineer or the Utilities Executive Director. The*

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<sup>1</sup> Emphasis added.

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## Findings, Recommendations and Responses

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*assurance and all conditions thereof must meet the satisfaction of the City Council. The following improvements shall be provided by the subdivider:*

*E. Streetlights: The subdivider shall pay for costs associated with the installation and construction of all necessary streetlights<sup>2</sup> in accord with Utilities' regulations and in compliance with this Code regarding the installation of streetlights. (Ord. 96-44; Ord. 98-173; Ord. 98-185; Ord. 01-42; Ord. 02-187)*

Capital streetlight projects have been 100% debt-funded since 2003. Accordingly, this practice of debt-funding the total amount of streetlight capital projects has resulted in a significant debt burden on the City. Currently, outstanding debt attributed to streetlights has exceeded \$14 million. This review determined that the amount of streetlight debt would have been reduced if Colorado Springs Utilities had applied the CIAC revenue received from developers for streetlight installation.

If the COSS includes "Cash Funded Capital" for Streetlight specific infrastructure, then the amount of CIAC budgeted for that infrastructure should be used to offset such costs. However, in 2008, it appears the Cash Funded Capital infrastructure listed in the COSS was only an allocation of Electrical Infrastructure and did not include funds for Streetlight Infrastructure.

**Auditor's Recommendations:** We recommend Colorado Springs Utilities take the following steps:

- A. We recommend Colorado Springs Utilities revise the methodology for applying streetlight CIAC funds toward offsetting the streetlight debt in accordance with the requirements in City Code and Colorado Springs Utilities' statements. Consideration should be given to applying all received streetlight CIAC revenue toward the capital costs currently attributed to the Streetlight system. We recommend any discrepancy resulting from the historical application of CIAC revenue be used to adjust the outstanding debt and debt service to be reflected in future COSS.
- B. Going forward, modify the practice of 100% debt-funding all streetlight capital projects. Commit to debt funding only after developer-funded streetlight CIAC revenue has been applied.

**Colorado Springs Utilities' Response:**

- A. Colorado Springs Utilities agrees with the City Auditor's recommendation. The discrepancy resulting from the historical application of CIAC revenue has been rectified and is reflected in debt service included in the 2011 streetlight revenue requirement. It is recognized that business processes will be changed to debt fund streetlight capital expenditures after developer-funded streetlight CIAC revenue has been applied; however, it should be noted that under Colorado Springs Utilities' Bond Ordinances, Colorado Springs Utilities ownership of streetlight assets and the collection of revenues, including CIAC revenue, are considered Gross Pledged Revenues of the utility.

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<sup>2</sup> Emphasis Added

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## Findings, Recommendations and Responses

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Accordingly, in the event that gross pledged revenues are not sufficient to fund capital expenditures after application of the following, in priority order, CIAC funds cannot be a guaranteed source in offsetting streetlight capital projects:

- (i) payment of operation and maintenance expenses,
  - (ii) payment of principal and interest on the City's Utilities System Revenue Bonds,
  - (iii) payment of amounts into Reserve Funds established for each of the Bond issues if a deficiency exists therein,
  - (iv) payment to Rebate Funds established for each Bond issue,
  - (v) payment of any amounts owed to providers of debt service reserve fund surety bonds,
  - (vi) payment of amounts due on any subordinate securities issued by the City (payable from Utilities revenues), and
  - (vii) use for any other legal purposes permitted by the bond ordinances.
- B. Colorado Springs Utilities agrees with the City Auditor's recommendation based on the response to 2.A above. In the future, debt funding will apply after developer-funded streetlight CIAC revenue has been credited. Therefore, the streetlight fee will include the direct streetlight debt service which recognizes an adjustment to streetlight capital expenditures for CIAC and its allocated share of the general electric system debt based on its demand and usage of the system.

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## Findings, Recommendations and Responses

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### 3. Actual power consumption by streetlights could not be determined because streetlights were not metered. The estimates used for power consumption were inconsistent and varied from electrical engineering standards in use at Colorado Springs Utilities.

The City's streetlights were not metered. Therefore, the actual kWh of electricity consumed each year was not known and an estimate was used in calculating the City's usage. Our review discovered that the estimate is based upon a reference table located in the Customer Care and Billing (CC&B) computer system.

Analysis of this table revealed:

- The formulas used to calculate the hours included some numerical rounding issues and cell formats that affected the calculation of streetlight operation hours, which resulted in inconsistencies in estimated kWh used for various types of lights.
- The total electricity used when the ballast losses were included was not consistent with other standards in use by Colorado Springs Utilities.
- The CC&B system did not correctly calculate the energy used by double fixtures (2 lights attached to a single pole) nor did it include the effect of burned out lights.

The OCA would like to acknowledge that in the months since this audit was started, Colorado Springs Utilities has taken steps to begin addressing most of the issues mentioned above.

**Auditor's Recommendation:** We recommend Colorado Springs Utilities take the following steps:

- A. Ensure the correct formulas to include rounding and cell formatting is used when calculating the number of streetlight operating hours in the CC&B computer system.
- B. The CC&B table should be adjusted to accurately report electricity used by double fixtures, ballast losses, and include a factor for burned out bulbs
- C. Finally, consider installing meters on a sample of lights in order to collect actual data rather than relying on estimates.

**Colorado Springs Utilities' Response:**

- A. Colorado Springs Utilities agrees with the City Auditor's recommendation. During the internal review of the CC&B table, some minor numerical rounding and cell format issues were identified which slightly affected the calculation formulas. The overall impact was nominal; however, Colorado Springs Utilities will revise the numerical formatting and calculation formulas within the table to ensure power consumption calculation consistency. The expected completion date is January 1, 2011.
- B. Colorado Springs Utilities agrees with the City Auditor's statement that double davits were not accounted for accurately in the current CC&B billing process or in the COSS. Colorado Springs Utilities has re-calculated the consumption to include double davit lights, correct

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## Findings, Recommendations and Responses

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ballast losses for all fixture types, and previously omitted fixtures. The updates result in an increase in total power consumption of 5.4%. Colorado Springs Utilities will update the CC&B table accordingly; however, due to the 2010 Streetlight Deactivation program the power consumption increases by only 1.3% based on the current number of active double davit streetlights. The updates to the CC&B table will be completed by January 1, 2011.

Colorado Springs Utilities also completed a high level industry survey and determined that a majority of utilities do not include a burned out bulb factor in streetlight rate calculations. Only one utility was found to include a burned out bulb factor and they set the factor at 2%. Since streetlights are not metered, Colorado Springs Utilities has conservatively estimated the percentage of burned out bulbs to be 3.1%. To provide further refinement of the burned out bulb factor, a field sampling methodology and corresponding implementation cost would need to be developed and agreed upon by Colorado Springs Utilities and the City of Colorado Springs.

- C. Colorado Springs Utilities agrees with the City Auditor's recommendation to install meters on a sample of lights in order to collect actual data. As of October 1, Colorado Springs Utilities has installed six meters on the six highest volume light types which account for more than 80% of the inside city streetlights. Colorado Springs Utilities will gather data from the fourth quarter 2010 and throughout 2011. The measured actuals will be compared with calculated values. Colorado Springs Utilities will summarize and review the findings with key stakeholders and implement agreed upon adjustments to the power consumption calculation process, as necessary. The expected completion date for the end results summary and discussions with key stakeholders is March 31, 2012.

## Findings, Recommendations and Responses

### APPENDIX A

Cost Component	2008 Final Budget	Streetlight Rate Case COSS
<b>Operating and Maintenance Expense</b>		
Distribution Expenses - Operations	147,345	459,731
Adjustment for power moved to operations	312,146	
Distribution Expenses - Maintenance	852,739	878,491
<b>Total Operating Expense</b>	<b>\$ 1,312,230</b>	<b>\$ 1,338,222</b>
<b>Power and Capital Expense</b>		
Utilities Service	\$ 3,187,872	
Adjustment for power moved to operations	\$ (312,146)	
Direct A&G Expense Allocation	\$ 697,169	\$ 697,169
Generation		\$ 1,325,017
Distribution		\$ 243,311
PILT		\$ 113,337
Debt Service on Streetlight Plant		\$ 1,333,198
Cash Funded Capital on Streetlight Plant		\$ 1,120,175
Rebates		\$ 6,466
Less: Misc Revenues & Interest		\$ (1,031,857)
Less: Contribution in Aid of Construction		\$ (206,763)
<b>Total Power and Capital Expense</b>	<b>\$ 3,572,895</b>	<b>\$ 3,600,053</b>
<b>Grand Total</b>	<b>\$ 4,885,125</b>	<b>\$ 4,938,275</b>
<b>City's share (92.1%)</b>	<b>\$ 4,499,200</b>	<b>\$ 4,548,151</b>