



## Office of the City Auditor

Date: November 15, 2007  
To: Honorable Mayor and Members of City Council  
Kathy Young, City Clerk  
Re: 07-230 - 2008 Rate Case Review Report

We have reviewed the Rate Cases, charge studies and tariffs submitted to you by Colorado Springs Utilities (Springs Utilities). These Rate Cases included the Wastewater Cost of Service, Gas Cost of Service, Wastewater and Water Development Charge, and Wastewater and Water Reconnection Charges. The filings are scheduled to be heard during a Public Hearing on November 20<sup>th</sup>. This report contains our comments on the information we reviewed.

### EXECUTIVE SUMMARY

The purpose of our review (audit) is to evaluate whether Springs Utilities prepared the submitted Rate Cases in an accurate and consistent manner. Our review for accuracy generally focuses on the calculations within the models, i.e., is the math correct. Our review for consistency compares data submitted this year with that submitted in prior years as well as data submitted within this year's cases.

We found the Wastewater Cost of Service, Gas Cost of Service and Wastewater Development Charge Cases to contain accurate calculations and be presented in a consistent manner.

A summary of our findings for the other Cases are as follows:

#### A. Findings relating to consistency from year to year:

Changes to historical data caused by:

- new data extractions being run each year (Findings 1a, 1b, 1c, 2a, 2c, 3),
- changes in philosophy (Finding 4),
- correction of errors in a previous Rate Case (Finding 2b) and
- shifting from trended to historical values for older plant data (Finding 5)

#### B. General

Finding 6 relates to the overall rate process. We are recommending Springs Utilities develop a process control policy that assures changes in methodology are authorized and documented.

Overall, the filings appear to be in line with the direction provided by the Executive Limitations and are fairly consistent with prior filings.

## **AUTHORIZATION**

We conducted this examination under the authority of Chapter 12, Article 1, Part 107 and Rules and Procedures of City Council as adopted by Resolution 20-00. These documents state:

“12.1.107: REGULATION OF ELECTRIC, STREETLIGHT, NATURAL GAS, WATER AND WASTEWATER RATES, CHARGES AND REGULATIONS:

C. Adopted By Resolution; Hearing: Base rates or regulations or any change shall be adopted by resolution, which shall adopt by reference the appropriate tariff sheet or sheets to be established or revised.

1. Preliminary Information For The City Auditor And City Attorney: When Utilities proposes to change base rates, and the proposed change will result in the determination of a new revenue requirement supported by a cost of service study, Utilities will provide a draft of the proposal and cost of service study to the City Auditor and the City Attorney at least thirty (30) days prior to filing the proposed resolution with City Council. When changes to base rates are proposed, but do not involve a cost of service study, a draft of the proposal will be provided to the City Auditor and the City Attorney seven (7) days prior to the filing of a proposed resolution. Any request for additional information by the City Auditor and any response by Utilities, will be in writing. Drafts of the proposed resolution and tariff sheets will be provided to the City Attorney seven (7) days prior to filing of the final proposed resolution with City Council.“

Rules and Procedures of City Council, adopted by Resolution 20-00:

“PART 4 - UTILITIES PRICING AND TARIFF HEARING PROCEDURE

### 1. HEARING PROCESS

#### A. Pre-hearing Procedures

4) If the change in pricing is supported by a cost of service study, Utilities shall provide a draft copy of the proposal and cost of service study to the City Auditor at least thirty (30) calendar days prior to the filing. If the proposed changes do not require a supporting cost of service study, Utilities shall provide a draft of the proposal to the City Auditor seven (7) calendar days prior to the filing of the proposed resolution. If the City Auditor chooses to file a report on the proposal, such report shall be filed with the City Clerk and Utilities at least five (5) calendar days prior to the public hearing.”

## **BACKGROUND AND SCOPE**

Springs Utilities periodically files rate adjustments with the City Council. These rates become the basis for bills produced by Springs Utilities and are its primary revenue source. When rate changes are proposed, they are reviewed by the City Auditor.

The purpose of the audit is to evaluate whether Springs Utilities had prepared the submitted Rate Cases in an accurate and consistent manner.

The audit was conducted in accordance with the International Standards of 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 we deemed necessary in the circumstance.

### **COMMENDABLE PRACTICES**

Rate Cases are very detail oriented and can contain thousands of numbers and as many as 18 to 20 tabs of data. Many of the numbers are linked and a change in one number can affect many other areas of the calculations. We acknowledge the models have improved over the years and believe our comments in this report will help improve the process.

While conducting our review, we noticed two of the Rate Cases contained a list of changes from the prior years. We thought these were very helpful in understanding the model.

### **Our comments are based on information submitted to our office as of 8:00 p.m. November 15, 2007.**

#### **WATER RECONNECTION CHARGE**

##### **1. The Water Reconnection Charge Study is based on historical meter data that is inconsistent from year to year.**

The Water Reconnection Charge Study Schedule 1 shows the proposed rate for 2008 but does not show the existing (2007) rate as a comparison. The charges are proposed to change by -14.45 to 59.74%, as shown below:

Meter Size	Existing	Proposed	% Change
¾ inch or less	\$ 208	\$ 222	6.73
1 inch	455	481	5.71
1 ½ inch	871	921	5.74
2 inch	1,502	1,587	5.66
3 inch	3,267	3,483	6.61
4 inch	5,848	6,211	6.21
6 inch	14,634	23,377	59.74
8 inch or greater	94,729	81,044	-14.45

We explored the reason why changes in the 6 inch and 8 inch or greater meter categories were not in line with the changes in the other meter sizes and found the historical consumption and meter count data submitted with last year's study were substantially different than the data submitted with this year's study.

Because this finding was reported to you last year, we are including data from the 2006 Rate Case because it magnifies the impact of changing historical data.

The Rate Case (RC) is based on a five year history of actual activity, as follows:

Rate Case	Years of Historical Data Included in the Case					
2006 RC	2000	2001	2002	2003	2004	
2007 RC		2001	2002	2003	2004	2005
2008 RC			2002	2003	2004	2005 2006

Since 2004 data is common to all three Rate Cases, we are providing comparison data for that year to show the impact of the changes on the rates.

a. Data for 6 inch meter category

In looking at the 6 inch meter category, we found the number of meters and sales volume in cubic feet of water submitted for 2004 activity included in each Rate Case was:

Rate Case	Number of Meters	Total Sales Volume (cf)	Average Sales Volume (cf)	Change from Prior Rate Case
2006 RC	46	229,090,959	4,980,238	
2007 RC	41	100,107,809	2,441,654	-50.97%
2008 RC	41	224,223,859	5,468,875	123.98%

To expand, in 2006, the 6 inch rate was based on 2004 actual amounts of 46 meters using 229,090,959 cf of water. In the 2007 Rate Case, those actual amounts dropped to 41 meters using 100,107,809 cf of water. In the most recent case, the number of meters remained at 41 yet the amount of water used rose to 224,223,859 cf. The table shows how these changes in historical numbers impacted the Average Sales Volume per cf per meter.

Since the reconnection charges are a function of cost per unit times average volume use, the changes in these averages have a direct impact on the rate for the category.

In visiting with Springs Utilities, we were told the reason the historical amounts for the 6 inch meter categories changed so drastically was the 2007 Rate Case excluded consumption data for five inter-company meters they thought were non-potable but subsequently determined were potable.

b. Data for 8 inch or greater meter category

In looking at the 8 inch or greater meter category, we found the number of meters and sales volume in cubic feet of water submitted for 2004 activity included in each Rate Case was:

Rate Case	Number of Meters	Total Sales Volume (cf)	Average Sales Volume (cf)	Change from Prior Rate Case
2006 RC	10	115,334,957	11,533,495	
2007 RC	4	107,995,617	26,998,904	134.09%
2008 RC	6	108,959,217	18,159,870	-32.74%

To expand, in 2006, the 8 inch or greater rate was based on 2004 actual amounts of 10 meters using 115,334,957 cf of water. In the 2007 Rate Case, those actual amounts dropped to four meters using 107,995,617 cf of water. In the most recent case, the actual number of meters increased to six and the amount of water used rose to 108,959,217 cf. The table shows how these changes in historical numbers impacted the Average Sales Volume per cf per meter.

We were told the changes in the historical amounts for the 8 inch or greater category was because of the way the system handled cancel/rebills.

c. Data for all meter categories

In viewing the 2002, 2003 and 2004 historical data submitted in the 2006, 2007 and 2008 Rate Cases, of the 48 numbers submitted, we found that all of the numbers changed between 2006 and 2007 and 47 numbers changed between 2007 and 2008 (the unchanging number was the meter count for 6 inch meters).

We were told the changes for the majority of the historical amounts were because of the way the system handled cancel/rebills.

The Water Service Report included in the 2008 Rate Case filing contained the following sentence describing the changes in Inactive Service – Water Reconnection Charges:

“In this filing, we proposed updating the Water Reconnection Charge with 2006 cost and billing data”

**Recommendation**

Historical (actual) numbers for meter counts and water consumption should not change from year to year unless previous numbers were calculated incorrectly or there is a change in calculation methodology. When historical numbers change from those reported in a previous case, we recommend the reason for the change be provided in the report filed with the City Council when the Rate Cases are submitted.

We also repeat our recommendation from last year that Springs Utilities establish a Single Data Source for historical data used in rate studies.

Springs Utilities has informed us they have created a Data Warehouse containing the numbers presented in this year’s cases and will be using them in future cases. In further discussions with Springs Utilities, they informed us they interpreted our recommendation from last year to mean we wanted the historical numbers run one more time before they were placed in the Data Warehouse.

In addition, Springs Utilities recently replaced their Customer Information System, meaning the old system will not be available for program runs against older data (such as 2003) so next year's model will include the same historical information as this year's model.

**WASTEWATER RECONNECTION CHARGE**

**2. The Wastewater Reconnection Charge Study is based on historical meter data that is inconsistent from year to year.**

The Wastewater Reconnection Study Schedule 1 shows the proposed rate for 2008 but does not show the existing (2007) rate as a comparison. The charges are proposed to change by -12.46 to 38.74%, as shown below:

Meter Size	Existing	Proposed	% Change
¾ inch or less	\$ 111	\$ 154	38.74
1 inch	144	194	34.72
1 ½ inch	215	278	29.30
2 inch	301	383	27.24
3 inch	560	685	22.32
4 inch	808	1,042	28.96
6 inch	1,736	2,161	24.48
8 inch or greater	25,296	22,143	-12.46

We explored the reason why changes in the 8 inch or greater meter category was not in line with the changes in the other meter sizes and found the historical meter count data submitted with last year's study was substantially different than the data submitted with this year's study. We also reviewed the reasons for the change in the ¾ inch or less category.

Because this finding was reported to you last year, we are including data from the 2006 Rate Case. Since 2004 data is common to all three Rate Cases (similar to the Water Reconnection Case), we are providing comparison data for that year.

a. Data for 8 inch or greater meter category

In looking at the 8 inch or greater meter category, we found the number of meters and sales volume in cubic feet of water (wastewater is not metered, it is based on water consumption) submitted for 2004 activity as presented in each Rate Case was:

Rate Case	Number of Meters	Total Sales Volume (cf)	Average Sales Volume (cf)	Change from Prior Rate Case
2006 RC	2	33,689,790	16,844,895	
2007 RC	2	31,165,770	16,260,402	-3.47%
2008 RC	3	31,165,770	10,388,590	-36.11%

To expand, in 2006, the 8 inch or greater rate was based on 2004 actual amounts of two meters using 33,689,790 cf of water. In 2007, while the meter count stayed the same, the amount of water dropped to 31,165,770 cf. In the most recent case, the number of meters increased to three, yet the amount of water used stayed the same at 31,165,770

cf. The table shows how these changes impacted the average Sales Volume per cf per meter.

Since the reconnection charges are a function of cost per unit times average volume use, the changes in these averages have a direct impact on the rate for the category. In visiting with Springs Utilities, we were told the reason the historical meter counts in the 2008 study changed so drastically was because of the way the system handled cancel/rebills.

b. Data for  $\frac{3}{4}$  inch or less meter category

The rate for the  $\frac{3}{4}$  inch or less meter category is proposed to increase by 38.56%.

Our analysis of this increase showed approximately 20.9% of the increase was caused by the five year average. This year, the historical data for expenses, meter consumption and meter counts for 2001 will be removed from the model and replaced by similar data for 2006. We consider this part of the rate increase logical because the 2006 costs were greater than the 2001 costs they were replacing.

Our analysis also showed approximately 15.5% of the increase was caused by a reduction in meter counts. Generally, the historical counts for meters rose from the 2006 to the 2007 Rate Case and then dropped from the 2007 to the 2008 Rate Case. Using 2004 data as an example, in the 2006 Rate Case, it was reported there were 137,900 meters. In the 2007 Rate Case, it was reported there were 143,238 meters (an increase of 3.87%). In the 2008 Rate Case, it was reported there were 120,679 meters (a decrease of 15.74%).

In visiting with Springs Utilities, we were told the reason the historical meter counts in the 2008 study changed so drastically was prior years numbers included sub meter counts and the current year included only base meter counts. Therefore, this appears to be the correction of an error.

c. Data for all meter categories

In viewing the 2002, 2003 and 2004 historical data submitted in the 2006, 2007 and 2008 Rate Cases, of the 48 numbers submitted, we found that 44 of the numbers changed between 2006 and 2007 and 43 of the numbers changed between 2007 and 2008.

The Wastewater Service Report included in the 2008 Rate Case Filing contained the following sentence describing the changes in Inactive Service – Wastewater Reconnection Charges:

“In this filing, we proposed updating the Wastewater Reconnection Charge with 2006 cost and billing data”

## **Recommendation**

Our recommendation for this Finding is the same as Finding 1.

## **WATER DEVELOPMENT CHARGE**

### **3. The Water Development Charge Study is based on historical meter data that is inconsistent from year to year.**

During our review, we noticed significant changes in historical consumption and meter data. Since we have already covered this in the Water and Wastewater Reconnection Charge areas, we will provide an abbreviated analysis of the data.

In reviewing the consumption and meter count data used in the Large Meter Ratio calculation, we noticed every meter size and year had a value change. Here is the data on one of the 32 different meter size/year combinations:

Rate Case	Number of Meters	Total Sales Volume (cf)	Average Sales Volume (cf)	Change from Prior Rate Case
2007 RC	113	83,393,050	737,991	
2008 RC	106	86,158,550	812,816	10.14%

In this example, for 4 inch meters data for the year 2002, the consumption went up while the number of meters decreased, which resulted in a 10.14% change in the average use per meter.

In visiting with Springs Utilities, we were told the reason the historical meter counts in the 2008 study changed so drastically was because of the way the system handled cancel/rebills.

## **Recommendation**

Our recommendation for this Finding is also the same as Finding 1.

## **WATER DEVELOPMENT CHARGE STUDY**

As part of our consistency review, we analyze changes between the current and future cases. This year, we analyzed the reasons for the increase in the total value of the system (plant in service plus projected capital and normal additions for the next five years). The value of the system increased by \$504,687,845 (16.7%) from last year to this. While most of the change was caused by items inherent to a Rate Case, such as the value of water rights increasing by 14.2%, (\$194,166,000) or the projected capital and normal additions for the next five years increasing by 32.1% (\$192,844,494), we did find other areas we believe are not inherent to a typical Rate Case.

### **4. The Water Development Charge Study contains a change in pricing philosophy**

During our review, we noticed the historical value of the historical cost category titled “Mains, Reservoirs and Other” went up considerably between this and last year’s Rate Case. Further review revealed last year’s (and prior year’s) Rate Cases had the total value of this category adjusted for systems that were installed by Developers. The current Rate Case does not have this adjustment. In looking at last year’s Rate Case, the amount of the

adjustment was \$126,948,426. Adding this amount to the total value of the system increased the rate an estimated 1.4%

It is our understanding that in prior Rate Cases, the thought was new customers should be buying into the system at the rate existing customers invested, which meant that costs contributed by developers would be excluded from historical plant in service.

It is our understanding that for the current Rate Case, the thought is that even though the costs were contributed by developers, current and future customers have to pay to maintain and replace the systems so the value for historical plant in service should be included in the cost new customers pay. Future capital costs that will be reimbursed by developers are excluded from the calculation.

We believe both methods are used by other City's in their application of development charges. Our purpose for bringing this before you is not to say one method is better than the other for we believe the choosing of the method is the art portion of rate making and, as long as the method is logical, should be implemented. However, we also believe that a change of this type is a change in pricing philosophy and should be reported to you.

**5. The Water Development Charge Study contains a shift from trended value to historical (book) value for costs prior to 1993.**

In reviewing the calculation, we noticed an inconsistency in how the value of the system is calculated. The Water Development Charge Study has historically used the trended value of historical costs to project the total value of the system. The calculation includes taking the book value of the system and trending it to current replacement costs using the Handy-Whitman Trend factor.

As background, the model being used to calculate the Water Development Charge changed with the 2007 Rate Case. The change included a refinement by breaking system costs into more categories, i.e., the previous Rate Case (2005), present one number for Source of Supply and the 2007 and 2008 Rate Case breaks the Source of Supply into seven subcategories.

In the 2005 and prior Rate Cases, the beginning number used by Springs Utilities was presented as representing the trended value of all historical costs prior to 1993. The trended number was then trended to the end of the period presented in the Rate Case. The notes in our file for the 1997 Rate Case indicate the trended value of \$752,802,410 was taken from a 1994 report prepared by the consulting firm Black & Veatch. In the 2005 Rate Case, the beginning number used by Springs Utilities for the trended value of all historical costs prior to 1993 was \$626,232,161. A note in the 2005 Rate Case states that we accepted these start points since they were historically based.

In this year's study, we noticed the trended numbers were replaced with the book value of the system as recorded in their financial records. The book value was \$345,439,149. As a side note, we found they used the book value in last year's Rate Case. However, we did not notice the change until this year.

By using the book value numbers as the beginning point of the model, it lowers the 1992 value of the system by \$280,793,012 (\$626,232,161 less \$345,439,149).

## **Recommendation**

We recommend changes to the methodology used in the calculation of Rate Cases, as reported in Findings 4 and 5 above, be reported when the case is presented to you for your review.

In visiting with Springs Utilities on this finding, they indicated they are considering a study on trended values. It is expected such a study would solve this inconsistency.

## **GENERAL**

### **6. Development of a process control policy would ensure changes in methodology are documented and authorized.**

Now that the various models have been established, a mechanism to memorialize the data to be included and the methods of calculation need to be established. If changes to the established methods were approved by appropriate Springs Utilities management and communicated with the submission of the Rate Case, it would facilitate the users recognition and understanding of changes.

## **Recommendation**

We recommend Springs Utilities develop a process control policy which documents decisions surrounding the design and composition of data used in the Rate Cases.

## **OVERALL CONCLUSION**

Overall, the filings appear to be in line with the direction provided by the Executive Limitations and are fairly consistent with prior filings.

We thank Springs Utilities and especially their Pricing Department for their cooperation during this review.

Please contact me if you have any questions regarding this report.

Sincerely,



Jeff Litchfield  
City Auditor

cc: Jerry Forte, Utilities Executive Director  
Edward Easterlin, Chief Planning & Finance Officer  
Stella Chan, Manager Pricing and Forecasting  
Cathy Rezendes, Corporate Economist  
Jeanne Brown, Utilities Continuous Improvement Manager  
Sandi Yukman, Integrated Resources Division Officer  
Henry Henderson, Principal Pricing Analyst