
MEMORANDUM TO COUNCIL

To: Mayor and City Council Members
From: Dan Winters, Director of Public Utilities
Through: Erin Reinders, City Manager
Date: March 9, 2021
Re: Electric and Water Proprietary Funds Rate Increases

SUMMARY: At this evening's Council Meeting, Staff and Aldrich LLP presents three options to Council for the Electric and Water Proprietary Fund's rate increases. Staff is seeking direction from Council on which option or options to use to implement the rate increases. The Team is also seeking guidance from the Council on implementing the rate increases evenly across all customer classes or implementing the rate increases where the cost causer is the cost payer, following the Cost of Service Study. Staff will return to Council on April 27, 2021, with a Resolution to implement the rate increases. The rate increases will take effect on July 1, 2021.

PREVIOUS COUNCIL ACTION: At the February 28, 2017 Council Meeting, Council adopted Resolution 2017-14. Through Resolution 2017-14, Council approved a consecutive four-year rate increase in the Wastewater Proprietary Fund and a consecutive three-year rate increase in the Solid Waste Proprietary Fund.

At the June 9, 2020 Council Meeting, Council adopted Fiscal Year 2021 Operating and Capital Budget through Resolution 2020-10.

At the February 23, 2021 Council Meeting, James Keen, and Amber Miller of Aldrich LLP presented the FY2021 Rate Study to Council.

BACKGROUND: Department of Public Utilities Staff performs a rate study on each of the Utility Proprietary Funds every three years. In 2012, Staff contracted Mike Hubbard of the Financial Engineering Company to perform a High-Level Rate Study, which depicted a rate increase of 29% for the Water Fund, 68% for the Wastewater Fund, and 75% for the Solid Waste Fund was needed by 2016. Rates increased consecutively for three years starting in FY2013. The sum of these rate increases was 21.3% for Water, 42.3% for Wastewater, and 32.1% for Solid Waste. These rate increases brought the difference between expenses and revenues closer to the budget before the new Water, and Wastewater Plants became operational. However, the rate increases did little to make up for the budget shortfall after the new plants were online.

Staff performed the last rate study in 2016. A rate increase of 15% for the Wastewater Proprietary Fund over four years, and a rate increase of 13.5% for the Solid Waste Proprietary Fund, over three years, was initiated on July 1, 2017. During Staff's discussion with Council, there was a clear consensus that another monetary source was necessary

to reduce impacts on needed rate increases. Council decided that using a portion of the 1% Sales Tax Special Revenue Fund was the most logical approach. Council approved using an amount not to exceed \$1,300,000 to supplement the Water, Wastewater, and Solid Waste Proprietary Funds.

The Electrical Proprietary Fund has not experienced a rate increase in 18 years.

DISCUSSION: During February 23, 2021, Council Meeting, James Keen, and Amber Miller of Aldrich LLP presented the FY2021 Rate Study and Revenue Requirements to Council. The presentation was clear that the four Utility Proprietary Funds require rate increases to meet their revenue needs. Aldrich LLP and Staff have developed three options that we believe are the most logical for the rate. At this evening's Council Meeting, Staff is seeking direction from Council that is twofold. One, to provide direction on which option, or options, to implement the rate increases for the Electric and Water Proprietary Funds. Also, do we implement these chosen options evenly across all customer classes or implement the rate increases where the cost causer is the cost payer, following the Cost of Service Study (COSS)? These options are:

Option 1: Increase rates to meet a cash-based revenue requirement with a target DSC ratio for each utility. This option consists of increasing the rates to obtain the needed revenues required to complete the Debt Services Coverage Ratio (DSC) of 1.25 for each Proprietary Fund. The DSC ratio is the amount of net cash recovered from operations before debt service divided by debt service. As depicted in Ordinance 2010-09, approved by Council on August 10, 2010, the Electric Proprietary Fund must maintain a DSC of 1.25 or keep revenue of 125% (1.25 DSC ratio) of the average annual debt services. Currently, the Electric Proprietary fund's DSC ratio is 1.06, and the DSC ratio for the Water Proprietary Fund is 1.58.

If Council selects Option 1, the Electric Proprietary Fund rates will need to be increased by 6.1%. Staff recommends raising the Water Proprietary Fund rates to accomplish a 2.0 DSC Ratio. If approved, the Water Proprietary Fund rates will need to be increased by 3.1%. If Council desires this option, Staff recommends a onetime increase of 6.1% to the Electrical rates and a onetime Water rate increase of 3.6%, to take effect on July 1, 2021.

The Council could combine Option 1 and Option 3 to bring the Electrical and Water Proprietary Funds revenues closer to the revenue requirements. Tables 1 through 5, in Attachment 1, illustrate Option 1 Impact on Electrical and Water Customer Classifications.

Option 2: Increase rates to meet the full income-based revenue requirement. This option will increase the Electric and Water Proprietary Funds rates to complete the full revenue requirements. Also included is net revenue for capital expenditures.

The Electric Proprietary Fund requires a 34.7% rate increase to meet the full revenue requirements. The Water Proprietary Fund will require a 34.9% rate increase. Typically, these types of larger rate increases are implemented consecutively over three or four years. Tables 6 thorough 10, in Attachment 1, illustrate Option 2 impacts.

Option 3: Create a Utility Infrastructure Fund through a 1% Sales Tax increases. This option consists of increasing the sales tax by 1%. Doing so would create a Utility Infrastructure Fund that will supplement the Utility Proprietary Funds. An increase in the sales tax will require a vote of the residents of Unalaska.

Table 5 below illustrates the FY21 projected revenue generated from the 1% Sales Tax Special Revenue of \$2,666,667. It is the opinion of Staff that a 1% sale tax increase will generate the same revenue.

TABLE 1

	FY2017 Actual	FY2018 Actual	FY2019 Actual	FY2020 Budget	Adopted Budget
1% Sales Tax Special Revenue					
REVENUES					
11010040 - 41310 1% Capital Sales tax	3,705,737	3,522,767	3,629,169	3,500,000	2,666,667

ALTERNATIVES: Staff and Aldrich LLP have researched all options concerning the needed rate increases and believe the options brought forward to Council are the most logical approach. However, the staff is always willing to research other options that Council may consider are viable.

FINANCIAL IMPLICATIONS: The economic implications vary between the different options to increase the utility rates. Currently, the Electrical Rates achieves revenues of \$7,248,373. The revenue requirements for the Electrical Proprietary Fund are \$9,762,823. This leaves a deficiency in revenue (\$2,514,450) which depicts a deficiency in the electrical rates of 34.7%, as Table 2 below illustrates.

TABLE 2

Budgeted Customer Revenues:	\$	7,248,373
Revenue Requirement:	\$	9,762,823
Surplus/(Deficiency):	\$	(2,514,450)
Overall % Increase/(Decrease):		34.7%

Currently, the water rates realize revenues of \$2,616,686. The revenue requirements for the Water Proprietary Fund are \$3,530,573. This leaves a revenue deficit of (\$913,877) and a water rate deficiency of 34.9%, as Table 3 below depicts.

TABLE 3

Budgeted Customer Revenues	\$ 2,616,686
Full Revenue Requirement	\$ 3,530,573
Deficit	\$ (913,887)
Revenue Increase Required	34.90%

If Council selects Option 1, this will increase electrical rates by 6.1% and water rates by 3.6%. Option 1 will meet the DSC ratio of 1.25 for the Electrical Proprietary Fund and 2.0 for the Water Proprietary Fund. This rate increase option will achieve a \$444,436 increase in electrical revenue and \$94,532 in water revenue. The first table in Table 4 below illustrates this.

TABLE 4

	Electric	Water	Wastewater	Solid Waste	Total
Target DSC:	1.25	2.00	TBD	TBD	N/A
Cash-Based Revenue Requirement:	\$ 7,692,809	\$ 2,711,218	TBD	TBD	TBD
Current Revenues:	\$ 7,248,373	\$ 2,616,686	\$ 2,468,212	\$ 2,562,531	\$ 14,895,802
Revenue Increase:	\$ 444,436	\$ 94,532	TBD	TBD	TBD
Overall % Increase:	6.1%	3.6%	TBD	TBD	TBD
Deficit of Current Revenues to Income-Based Revenue Requirement:	\$ (2,514,450)	\$ (913,887)	\$ (1,851,293)	\$ (1,540,289)	\$ (6,819,919)
Increased Revenues from Option 1:	\$ 444,436	\$ 94,532	TBD	TBD	TBD
Income from 1% Infrastructure Tax:	\$ 666,667	\$ 666,667	\$ 666,667	\$ 666,667	\$ 2,666,667 *
Outstanding Deficit:	\$ (1,403,347)	\$ (152,688)	TBD	TBD	TBD

* Assumes even distribution of infrastructure tax for the purpose of illustration

If Council decides to combine Option 1 and Option 3, the second table in Table 4 shows the projected revenue collected from Option 1 and a 1% sales tax. This will leave a deficit of (\$1,403,347) in the Electrical Proprietary Fund and a deficit of (\$152,688) in the Water Proprietary Fund. However, it will move both proprietary funds closer to realizing their full revenue requirements.

LEGAL: None needed at this time.

STAFF RECOMMENDATION: Staff recommends Council adopt Option 1, a one-time 6.1% increase in electrical rates to all customer classes, and a one-time 3.6% increase in water rates to all customer classifications. Staff also recommends Council adopt Option 3, increasing the sales tax by 1%, which will create a Utility Infrastructure Fund, supplementing the Utility Proprietary Funds.

PROPOSED MOTION: I move to adopt Option 1 of the 2021 Rate Study. Implementing a one-time 6.1% rate increase to the Electric Proprietary Fund rates and a one-time 3.6% rate increase to the Water Proprietary Fund, distributed evenly to all customer classifications. I also move to adopt Option 3 of the 2021 Rate Study.

CITY MANAGER COMMENTS: I again thank Aldrich LLP and City Staff for their hard work on these rate and cost of service, and with evaluating options to meet the revenue requirements. The last meeting, Council heard an overview of the rate study and revenue requirements. Tonight's meeting focuses on the cost of service and approaches for Electrical and Water. On April 13, Council is scheduled to have a focused work session on Waste Water and Solid Waste. Council will be asked to take formal action impacting the utility rates in the meetings following that discussion. The consultant team and staff remain committed work with Council to identify a path forward.

ATTACHMENTS:

- Attachment 1: Impact to Electrical and Water Customer Classifications Tables.
- City of Unalaska Electric and Water Utilities Cost of Service Study Results & Recommendations Council Presentation

ATTACHMENT 1

Impact to Electrical and Water Customer Classifications Tables.

Table 1
Option 1: Residential Impact Comparison

<u>Residential Bill</u> <u>(500 kWh Energy)</u>	<u>Current Rates</u>	<u>Option 1a:</u> <u>Cost-Based</u>	<u>Options 1b:</u> <u>Across-the-Board</u>
Customer	\$ 8.00	\$ 69.25	\$ 8.49
Energy	116.98	80.91	124.15
COPA	55.00	55.00	55.00
PCE Credit	(40.55)	(40.55)	(40.55)
	<u>\$ 139.43</u>	<u>\$ 164.61</u>	<u>\$ 147.09</u>
% Change:	0.0%	18.1%	5.5%

Table 2
Option 1: Small Commercial Impact Comparison

<u>Small General Service</u> <u>(1,534 kWh Energy)</u>	<u>Current Rates</u>	<u>Option 1a:</u> <u>Cost-Based Rates</u>	<u>Options 1b</u> <u>Across-the-Board</u> <u>Increase</u>
Customer	\$ 10.00	\$ 71.01	\$ 10.61
Energy	315.16	238.29	334.48
COPA	168.74	168.74	168.74
	<u>\$ 493.90</u>	<u>\$ 478.04</u>	<u>\$ 513.84</u>
% Change:	0.0%	-3.2%	4.0%

Table 3
Option 1: Large Commercial Impact Comparison

Large General Service (10,993 kWh Energy & 29 kW Demand)	Option 1a:		Options 1b
	Current Rates	Cost-Based Rates	Across-the-Board Increase
Customer	\$ 50.00	\$ 79.75	\$ 53.07
Demand	194.30	1,547.89	206.21
Energy	1,912.23	245.92	2,029.48
COPA	1,209.23	1,209.23	1,209.23
	<u>\$ 3,365.76</u>	<u>\$ 3,082.80</u>	<u>\$ 3,497.99</u>
% Change:	0.0%	-8.4%	3.9%

**Table 4
Option 1: Industrial Impact Comparison**

Industrial (170,993 kWh Energy & 446 kW Demand)	Option 1a:		Options 1b
	Current Rates	Cost-Based Rates	Across-the-Board Increase
Customer	\$ 100.00	\$ 92.10	\$ 106.13
Demand	3,568.00	24,550.14	3,786.77
Energy	24,597.34	3,825.27	26,105.54
COPA	18,809.23	18,809.23	18,809.23
	<u>\$ 47,074.57</u>	<u>\$ 47,276.73</u>	<u>\$ 48,807.67</u>
% Change:	0.0%	0.4%	3.7%

**Table 5
Option 1: Streetlight Impact Comparison**

Streetlights (1,024 kWh Energy)	Option 1a:		Options 1b
	Current Rates	Cost-Based Rates	Across-the-Board Increase
Customer	\$ 10.00	\$ 68.64	\$ 10.61
Energy	210.38	218.15	223.28
COPA	112.64	112.64	112.64
	<u>\$ 333.02</u>	<u>\$ 399.42</u>	<u>\$ 346.53</u>
% Change:	0.0%	19.9%	4.1%

**Table 6
Option 2: Residential Impact Comparison**

Residential Bill (500 kWh Energy)	Current Rates	Option 2: Cost-Based
Customer	\$ 8.00	\$ 87.89
Energy	116.98	102.68
COPA	55.00	55.00
PCE Credit	(40.55)	(40.55)
	<u>\$ 139.43</u>	<u>\$ 205.02</u>
% Change:	0.0%	47.0%

Table 7
Option 2: Small Commercial Impact Comparison

Small General Service (1,534 kWh Energy)	Current Rates	Option 2: Cost-Based Rates
Customer	\$ 10.00	\$ 90.12
Energy	315.16	302.41
COPA	168.74	168.74
	<u>\$ 493.90</u>	<u>\$ 561.27</u>
% Change:	0.0%	13.6%

Table 8
Option 2: Large Commercial Impact Comparison

Large General Service (10,993 kWh Energy & 29 kW Demand)	Current Rates	Option 2: Cost-Based Rates
Customer	\$ 50.00	\$ 101.21
Demand	194.30	1,964.41
Energy	1,912.23	312.10
COPA	1,209.23	1,209.23
	<u>\$ 3,365.76</u>	<u>\$ 3,586.95</u>
% Change:	0.0%	6.6%

Table 9
Option 2: Industrial Impact Comparison

Industrial (170,993 kWh Energy & 446 kW Demand)	Current Rates	Option 2: Cost-Based Rates
Customer	\$ 100.00	\$ 116.88
Demand	3,568.00	31,156.19
Energy	24,597.34	4,854.58
COPA	18,809.23	18,809.23
	<u>\$ 47,074.57</u>	<u>\$ 54,936.88</u>
% Change:	0.0%	16.7%

Table 10
Option 2: Streetlight Impact Comparison

Streetlights (1,024 kWh Energy)	Current Rates	Option 2: Cost-Based Rates
Customer	\$ 10.00	\$ 87.11
Energy	210.38	276.85
COPA	112.64	112.64
	<u>\$ 333.02</u>	<u>\$ 476.59</u>
% Change:	0.0%	43.1%

City of Unalaska

Electric and Water Utilities Cost of Service Study Results & Recommendations

March 9, 2021

James Keen, CDP & Amber Miller, CPA - Aldrich Advisors + CPAs

Our Scope of Work

- Rate Review for Electric, Water & Wastewater and Solid Waste Utilities
- Phase 1: Determine the appropriate Revenue Requirement for each utility.
 - FY2021 Budget was used as the basis for the study
 - ✓ • Results were presented on February 23rd
- Phase 2: Develop cost-based rates for each utility and perform rate design
 - ➔ • Electric & Water: Presented today – March 9th
 - Wastewater & Solid Waste: Tentatively scheduled for April 13th

Recap of the February 23rd Presentation

- General reviews performed periodically, most recently in 2012 and 2016.
- There are two different ways to develop a revenue requirement:
 1. Income Basis (a bottom-up approach)
 - Used in traditional ratemaking
 - Includes all operating expenses and interest on debt and depreciation (a non-cash expense)
 2. Cash Basis (a top-down approach)
 - Includes all operating expenses, interest on debt, principal payments, and an additional cash requirement defined by a Debt Service Coverage (DSC) ratio.

Overview of Results (Income Basis Revenue Requirement)

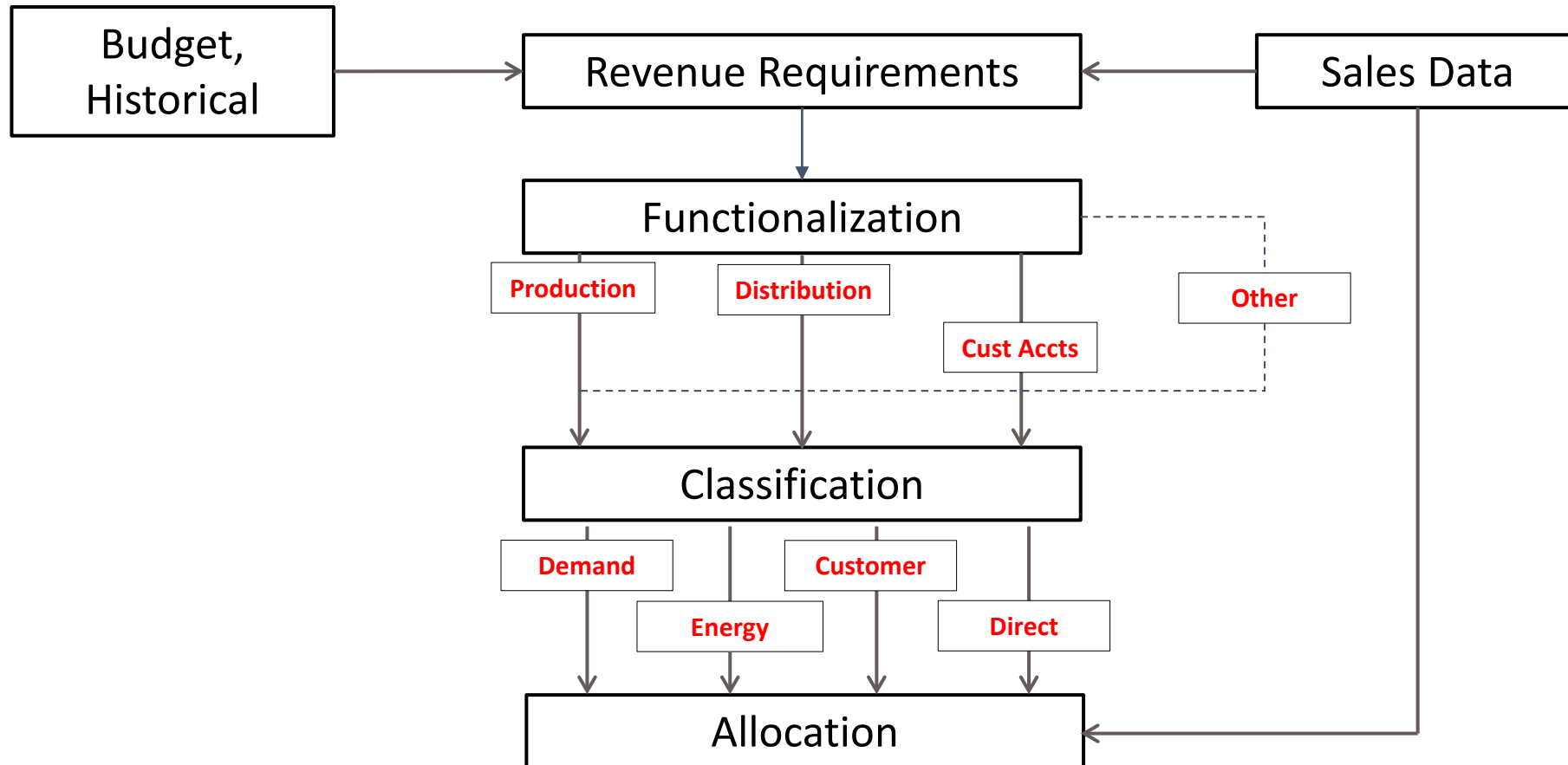
	Electric	Water	Wastewater	Solid Waste
Budgeted Customer Revenues:	\$ 7,248,373	\$ 2,616,686	\$ 2,468,212	\$ 2,562,531
Full Revenue Requirement:	<u>9,762,823</u>	<u>3,530,573</u>	<u>4,319,505</u>	<u>4,102,820</u>
Surplus/(Deficit):	\$ (2,514,450)	\$ (913,887)	\$ (1,851,293)	\$ (1,540,289)
Revenue Increase/(Decrease) Required:	34.7%	34.9%	75.0%	60.1%

What is a Cost of Service Study (COSS)?

- How to slice the “Revenue Requirement Pie”
- An analytical method of allocating costs between groups of customers and determining how those costs will be collected in rate elements.



Cost of Service Study Concepts



Results and Recommendations may be presented two ways:

1. Applying the revenue requirement to the Cost of Service Study results.
 - An overall revenue increase of 34.7% will be split differently between customer groups, based upon cost-causation.

2. Applying the revenue requirement equally to all customer groups.
 - A rate increase will be shared equally by all customer classes (across-the-board) and be reflected equally in each billing component (e.g. customer charge, demand charge, volumetric charge)

Overview of Recommended Options

1. Increase rates to meet a cash-based revenue requirement with a target DSC ratio for each utility.
 2. Increase rates to meet the full income-based revenue requirement.
 3. Create a Utility Infrastructure Fund through a 1% Sales Tax increase.
- NOTE:** Options 1 and 3 could be combined.

Overview:

- **Income-Based:** includes \$300,000 in margins.

- **Cash-Based:** 1.25 DSC Target

Electric

Income-Based Revenue Requirement

Budgeted Customer Revenues:	\$	7,248,373
Revenue Requirement:	\$	9,762,823
Surplus/(Deficiency):	\$	(2,514,450)
Overall % Increase/(Decrease):		34.7%

Cash-Based Revenue Requirement

Budgeted Customer Revenues:	\$	7,248,373
Revenue Requirement:	\$	7,692,809
Surplus/(Deficiency):	\$	(444,436)
Overall % Increase/(Decrease):		6.1%

Electric Option 1: Cash-Based Revenue Requirement with 1.25 DSC

Option 1: Cash-Based Revenue Requirement with 1.25 DSC

- Why 1.25 DSC?
 - Municipal ordinance requires meeting a minimum 1.25 DSC
 - Industrial customer sensitivity to rate increases
- Advantages:
 - The minimum DSC requirement would be met through rates.
 - Rate increase is mitigated.
- Disadvantages:
 - It remains almost \$2.1 million below the income-based revenue requirement

COU Electric Cost of Service Study

Electric Utility Option 1: Cash-Based with 1.25 DSC

Option 1a: Cost of Service Study Based Rates Revenue Requirement Results

	Total	Residential	Small General Service	Large General Service	Industrial	Street Lights
Current:	\$ 7,248,373	\$ 955,606	\$ 696,808	\$ 1,015,800	\$ 4,540,507	\$ 39,652
Proposed:	\$ 7,692,809	\$ 1,245,223	\$ 662,832	\$ 883,062	\$ 4,850,088	\$ 51,604
Surplus/Deficit:	\$ (444,436)	\$ (289,616)	\$ 33,976	\$ 132,738	\$ (309,581)	\$ (11,952)
% Increase/(Decrease):	6.1%	30.3%	-4.9%	-13.1%	6.8%	30.1%

COU Electric Cost of Service Study

Electric Utility Option 1: Cash-Based with 1.25 DSC

Option 1a: Cost of Service Study Based Rates

**Current
Rates:**

Charge	Unit	Residential	Small General Service	Large General Service	Industrial	Street Lights
Customer	\$/month	\$ 8.00	\$ 10.00	\$ 50.00	\$ 100.00	\$ 10.00
Energy	\$/kWh	0.2340	0.2055	0.1740	0.1439	0.2055
Demand	\$/kW	-	-	6.70	8.00	-

**Option 1a
Rates:**

Charge	Unit	Residential	Small General Service	Large General Service	Industrial	Street Lights
Customer	\$/month	\$ 69.25	\$ 71.01	\$ 79.75	\$ 92.10	\$ 68.64
Energy	\$/kWh	0.1618	0.1553	0.0224	0.0224	0.2130
Demand	\$/kW	-	-	53.38	55.05	-

COU Electric Cost of Service Study

Electric Utility Option 1: Cash-Based with 1.25 DSC

Option 1b: Across-the-Board Rate Increase Revenue Requirement Results

	Total	Residential	Small General Service	Large General Service	Industrial	Street Lights
Current:	\$ 7,248,373	\$ 955,606	\$ 696,808	\$ 1,015,800	\$ 4,540,507	\$ 39,652
Proposed:	\$ 7,692,809	\$ 1,014,199	\$ 739,533	\$ 1,078,084	\$ 4,818,909	\$ 42,084
Surplus/Deficit:	\$ (444,436)	\$ (58,593)	\$ (42,725)	\$ (62,284)	\$ (278,402)	\$ (2,431)
% Increase/(Decrease):	6.1%	6.1%	6.1%	6.1%	6.1%	6.1%

COU Electric Cost of Service Study

Electric Utility Option 1: Cash-Based with 1.25 DSC

Option 1b: Across-the-Board Rate Increase

**Current
Rates:**

Charge	Unit	Residential	Small General Service	Large General Service	Industrial	Street Lights
Customer	\$/month	\$ 8.00	\$ 10.00	\$ 50.00	\$ 100.00	\$ 10.00
Energy	\$/kWh	0.2340	0.2055	0.1740	0.1439	0.2055
Demand	\$/kW	-	-	6.70	8.00	-

**Option 1b
Rates:**

Charge	Unit	Residential	Small General Service	Large General Service	Industrial	Street Lights
Customer	\$/month	\$ 8.49	\$ 10.61	\$ 53.07	\$ 106.13	\$ 10.61
Energy	\$/kWh	0.2483	0.2180	0.1846	0.1527	0.2180
Demand	\$/kW	-	-	7.11	8.49	-

COU Electric Cost of Service Study

Electric Utility Option 1: Cash-Based with 1.25 DSC

Option 1: Residential Impact Comparison

Residential Bill (500 kWh Energy)	Current Rates	Option 1a: Cost-Based	Options 1b: Across-the-Board
Customer	\$ 8.00	\$ 69.25	\$ 8.49
Energy	116.98	80.91	124.15
COPA	55.00	55.00	55.00
PCE Credit	(40.55)	(40.55)	(40.55)
	\$ 139.43	\$ 164.61	\$ 147.09
% Change:	0.0%	18.1%	5.5%

COU Electric Cost of Service Study

Electric Utility Option 1: Cash-Based with 1.25 DSC

Option 1: Small Commercial Impact Comparison

Small General Service (1,534 kWh Energy)	Option 1a: Cost-Based Rates		Options 1b Across-the-Board Increase
	Current Rates		
Customer	\$ 10.00	\$ 71.01	\$ 10.61
Energy	315.16	238.29	334.48
COPA	168.74	168.74	168.74
	\$ 493.90	\$ 478.04	\$ 513.84
% Change:	0.0%	-3.2%	4.0%

COU Electric Cost of Service Study

Electric Utility Option 1: Cash-Based with 1.25 DSC

Option 1: Large Commercial Impact Comparison

Large General Service (10,993 kWh Energy & 29 kW Demand)	Option 1a:		Options 1b
	Current Rates	Cost-Based Rates	Across-the-Board Increase
Customer	\$ 50.00	\$ 79.75	\$ 53.07
Demand	194.30	1,547.89	206.21
Energy	1,912.23	245.92	2,029.48
COPA	1,209.23	1,209.23	1,209.23
	\$ 3,365.76	\$ 3,082.80	\$ 3,497.99
% Change:	0.0%	-8.4%	3.9%

COU Electric Cost of Service Study

Electric Utility Option 1: Cash-Based with 1.25 DSC

Option 1: Industrial Impact Comparison

Industrial (170,993 kWh Energy & 446 kW Demand)	Option 1a:		Options 1b
	Current Rates	Cost-Based Rates	Across-the-Board Increase
Customer	\$ 100.00	\$ 92.10	\$ 106.13
Demand	3,568.00	24,550.14	3,786.77
Energy	24,597.34	3,825.27	26,105.54
COPA	18,809.23	18,809.23	18,809.23
	\$ 47,074.57	\$ 47,276.73	\$ 48,807.67
% Change:	0.0%	0.4%	3.7%

COU Electric Cost of Service Study

Electric Utility Option 1: Cash-Based with 1.25 DSC

Option 1: Streetlight Impact Comparison

Streetlights (1,024 kWh Energy)	Option 1a:		Options 1b
	Current Rates	Cost-Based Rates	Across-the-Board Increase
Customer	\$ 10.00	\$ 68.64	\$ 10.61
Energy	210.38	218.15	223.28
COPA	112.64	112.64	112.64
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	\$ 333.02	\$ 399.42	\$ 346.53
% Change:	0.0%	19.9%	4.1%

Electric Option 2: **Income-Based Revenue Requirement**

Option 2: Income-Based Revenue Requirement

- Advantages:
 - It is the traditional, nationally-accepted approach to ratemaking
 - It will more than amply meet all DSC requirements
 - It will provide a cash flow that can be used to reinvest in new projects
- Disadvantages:
 - It is a significant rate increase overall (34.7%)
 - It would hit some classes of customers harder than others
 - It would likely need to be phased-in
 - It could discourage industrial customers from remaining on the system

COU Electric Cost of Service Study

Electric Utility Option 2: Income-Based

Option 2: Cost of Service Study Based Rates Revenue Requirement Results

	Total	Residential	Small General Service	Large General Service	Industrial	Street Lights
Current:	\$ 7,248,373	\$ 955,606	\$ 696,808	\$ 1,015,800	\$ 4,540,507	\$ 39,652
Proposed:	\$ 9,762,822	\$ 1,580,292	\$ 841,190	\$ 1,120,680	\$ 6,155,170	\$ 65,490
Surplus/Deficit:	\$ (2,514,449)	\$ (624,686)	\$ (144,382)	\$ (104,880)	\$ (1,614,663)	\$ (25,838)
% Increase/(Decrease):	34.7%	65.4%	20.7%	10.3%	35.6%	65.2%

COU Electric Cost of Service Study

Electric Utility Option 2: Income-Based

Option 1a: Cost of Service Study Based Rates

**Current
Rates:**

Charge	Unit	Residential	Small General Service	Large General Service	Industrial	Street Lights
Customer	\$/month	\$ 8.00	\$ 10.00	\$ 50.00	\$ 100.00	\$ 10.00
Energy	\$/kWh	0.2340	0.2055	0.1740	0.1439	0.2055
Demand	\$/kW	-	-	6.70	8.00	-

**Option 2
Rates:**

Charge	Unit	Residential	Small General Service	Large General Service	Industrial	Street Lights
Customer	\$/month	\$ 87.89	\$ 90.12	\$ 101.21	\$ 116.88	\$ 87.11
Energy	\$/kWh	0.2054	0.1971	0.0284	0.0284	0.2704
Demand	\$/kW	-	-	67.74	69.86	-

COU Electric Cost of Service Study

Electric Utility Option 2: Income-Based

Option 2: Residential Impact Comparison

Residential Bill (500 kWh Energy)	Option 2: Cost-Based	
	Current Rates	
Customer	\$ 8.00	\$ 87.89
Energy	116.98	102.68
COPA	55.00	55.00
PCE Credit	(40.55)	(40.55)
	<hr/>	<hr/>
	\$ 139.43	\$ 205.02
	<hr/>	<hr/>
% Change:	0.0%	47.0%

COU Electric Cost of Service Study

Electric Utility Option 2: Income-Based

Option 2: Small Commercial Impact Comparison

Small General Service (1,534 kWh Energy)	Current Rates	Option 2: Cost-Based Rates
Customer	\$ 10.00	\$ 90.12
Energy	315.16	302.41
COPA	168.74	168.74
	<hr/>	<hr/>
	\$ 493.90	\$ 561.27
% Change:	0.0%	13.6%

COU Electric Cost of Service Study

Electric Utility Option 2: Income-Based

Option 2: Large Commercial Impact Comparison

Large General Service (10,993 kWh Energy & 29 kW Demand)	Option 2:	
	Current Rates	Cost-Based Rates
Customer	\$ 50.00	\$ 101.21
Demand	194.30	1,964.41
Energy	1,912.23	312.10
COPA	1,209.23	1,209.23
	<hr/>	<hr/>
	\$ 3,365.76	\$ 3,586.95
% Change:	0.0%	6.6%

COU Electric Cost of Service Study

Electric Utility Option 2: Income-Based

Option 2: Industrial Impact Comparison

Industrial (170,993 kWh Energy & 446 kW Demand)	Current Rates	Option 2: Cost-Based Rates
Customer	\$ 100.00	\$ 116.88
Demand	3,568.00	31,156.19
Energy	24,597.34	4,854.58
COPA	18,809.23	18,809.23
	<hr/>	<hr/>
	\$ 47,074.57	\$ 54,936.88
	<hr/>	<hr/>
% Change:	0.0%	16.7%

COU Electric Cost of Service Study

Electric Utility Option 2: Income-Based

Option 2: Streetlight Impact Comparison

Streetlights (1,024 kWh Energy)	Current Rates	Option 2: Cost-Based Rates
Customer	\$ 10.00	\$ 87.11
Energy	210.38	276.85
COPA	112.64	112.64
	<hr/>	<hr/>
	\$ 333.02	\$ 476.59
% Change:	0.0%	43.1%

Electric Option 3: **Implement Utility Infrastructure Tax**

Option 3: Utility Infrastructure Tax

- Receipts from a 1% increase in Sales Tax could provide a cash flow to be used for funding utility infrastructure needs and directed towards specific projects at the direction of the City Council

	FY2017 Actual	FY2018 Actual	FY2019 Actual	FY2020 Budget	Adopted Budget
1% Sales Tax Special Revenue					
REVENUES					
11010040 - 41310 1% Capital Sales tax	3,705,737	3,522,767	3,629,169	3,500,000	2,666,667

\$2,666,667 estimated
FY2021 receipts

Overview:

- **Income-Based:** includes \$100,000 in margins.
- **Cash-Based: 2.00**
DSC Target

Water

Income-Based Revenue Requirement

Budgeted Customer Revenues:	\$	2,616,686
Revenue Requirement:	\$	3,530,573
Surplus/(Deficiency):	\$	(913,887)
Overall % Increase/(Decrease):		34.9%

Cash-Based Revenue Requirement

Budgeted Customer Revenues:	\$	2,616,686
Cash-Based Revenue Requirement:	\$	2,711,218
Surplus/(Deficiency):	\$	(94,532)
Overall % Increase/(Decrease):		3.6%

Water Option 1: **Cash-Based Revenue Requirement with 2.00 DSC**

Option 1: Cash-Based Revenue Requirement with 2.00 DSC

- Why 2.00 DSC?
 - Municipal ordinance requires meeting a minimum 1.25 DSC
 - Achieved DSC is currently 1.58 and rate study results support a rate increase
 - Using a higher target DSC will provide more security and allow the utility to generate more cash towards capital expenditures
- Advantages:
 - The minimum DSC requirement would be met through rates.
 - Rate increase is mitigated.
- Disadvantages:
 - It remains almost \$820,000 below the income-based revenue requirement

COU Water Cost of Service Study

Water Utility Option 1: Cash-Based with 2.00 DSC

Option 1a: Cost of Service Study Based* Rates Revenue Requirement Results

	Total	Unmetered	Metered
Current:	\$ 2,616,686	\$ 147,521	\$ 2,469,165
Proposed:	\$ 2,710,514	\$ 147,521	\$ 2,562,993
Surplus/Deficit:	\$ (93,828)	\$ -	\$ (93,828)
% Increase/(Decrease):	3.6%	0.0%	3.8%

*Cost of Service Study results indicate unmetered rates are higher than the class's cost of service, however City Staff felt it would be more prudent to keep unmetered rates unchanged rather than reducing rates.

COU Water Cost of Service Study

Water Utility Option 1: Cash-Based with 2.00 DSC

Option 1a: Cost of Service Study Based Rates

Current Rates:

Charge	Unit	Unmetered	Metered										
			5/8" Service	3/4" Service	1" Service	1 1/2" Service	2" Service	3" Service	4" Service	6" Service	8" Service	10" Service	12" Service
Customer	\$/month	\$ 35.59	\$ 3.53	\$ 3.74	\$ 4.15	\$ 5.21	\$ 6.47	\$ 9.40	\$ 13.18	\$ 24.08	\$ 36.67	\$ 63.43	\$ 100.12
Volume	\$/000 Gal	-	2.51	2.51	2.51	2.51	2.51	2.51	2.51	2.51	2.51	2.51	2.51

Option 1a Rates:

Charge	Unit	Unmetered	Metered										
			5/8" Service	3/4" Service	1" Service	1 1/2" Service	2" Service	3" Service	4" Service	6" Service	8" Service	10" Service	12" Service
Customer	\$/month	\$ 35.59	\$ 3.66	\$ 3.88	\$ 4.31	\$ 5.41	\$ 6.72	\$ 9.76	\$ 13.68	\$ 25.00	\$ 38.06	\$ 65.84	\$ 103.92
Volume	\$/000 Gal	-	2.61	2.61	2.61	2.61	2.61	2.61	2.61	2.61	2.61	2.61	2.61

COU Water Cost of Service Study

Water Utility Option 1: Cash-Based with 2.00 DSC

Option 1b: Across-the-Board Rate Increase Revenue Requirement Results

	Total	Unmetered	Metered
Current:	\$ 2,616,686	\$ 147,521	\$ 2,469,165
Proposed:	\$ 2,711,218	\$ 152,850	\$ 2,558,368
Surplus/Deficit:	\$ (94,532)	\$ (5,329)	\$ (89,203)
% Increase/(Decrease):	3.6%	3.6%	3.6%

COU Water Cost of Service Study

Water Utility Option 1: Cash-Based with 2.00 DSC

Option 1b: Across-the-Board Rate Increase

Current Rates:

Charge	Unit	Unmetered	Metered										
			5/8" Service	3/4" Service	1" Service	1 1/2" Service	2" Service	3" Service	4" Service	6" Service	8" Service	10" Service	12" Service
Customer	\$/month	\$ 35.59	\$ 3.53	\$ 3.74	\$ 4.15	\$ 5.21	\$ 6.47	\$ 9.40	\$ 13.18	\$ 24.08	\$ 36.67	\$ 63.43	\$ 100.12
Volume	\$/000 Gal	-	2.51	2.51	2.51	2.51	2.51	2.51	2.51	2.51	2.51	2.51	2.51

Option 1b Rates:

Charge	Unit	Unmetered	Metered										
			5/8" Service	3/4" Service	1" Service	1 1/2" Service	2" Service	3" Service	4" Service	6" Service	8" Service	10" Service	12" Service
Customer	\$/month	\$ 36.88	\$ 3.66	\$ 3.88	\$ 4.30	\$ 5.40	\$ 6.70	\$ 9.74	\$ 13.66	\$ 24.95	\$ 37.99	\$ 65.72	\$ 103.74
Volume	\$/000 Gal	-	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60

COU Water Cost of Service Study

Water Utility Option 1: Cash-Based with 2.00 DSC

Option 1: Average Customer Impact Comparison

	Current Rates	Option 1a: Cost-Based Rates	Options 1b Across-the- Board Increase
Metered	\$ 35.59	\$ 35.59	\$ 36.88
% Change:	0.0%	0.0%	3.6%
Unmetered	\$ 694.56	\$ 720.95	\$ 719.65
% Change:	0.0%	3.8%	3.6%

Water Option 2: **Income-Based Revenue Requirement**

Option 2: Income-Based Revenue Requirement

- Advantages:
 - It is the traditional, nationally-accepted approach to ratemaking
 - It will more than amply meet all DSC requirements
 - It will provide a cash flow that can be used to reinvest in new projects
- Disadvantages:
 - It is a significant rate increase overall (34.9%)
 - It would result in a decrease to unmetered rates and an increase to metered It would likely need to be phased-in

COU Water Cost of Service Study

Water Utility Option 2: Income-Based

Option 2: Cost of Service Study Based Rates Revenue Requirement Results

	Total	Unmetered	Metered
Current:	\$ 2,616,686	\$ 147,521	\$ 2,469,165
Proposed:	\$ 3,530,573	\$ 135,519	\$ 3,395,054
Surplus/Deficit:	\$ (913,887)	\$ 12,002	\$ (925,889)
% Increase/(Decrease):	34.9%	-8.1%	37.5%

COU Water Cost of Service Study

Water Utility Option 2: Income-Based

Option 2: Cost of Service Study Based Rates

Current Rates:

Charge	Unit	Unmetered	Metered										
			5/8" Service	3/4" Service	1" Service	1 1/2" Service	2" Service	3" Service	4" Service	6" Service	8" Service	10" Service	12" Service
Customer	\$/month	\$ 35.59	\$ 3.53	\$ 3.74	\$ 4.15	\$ 5.21	\$ 6.47	\$ 9.40	\$ 13.18	\$ 24.08	\$ 36.67	\$ 63.43	\$ 100.12
Volume	\$/000 Gal	-	2.51	2.51	2.51	2.51	2.51	2.51	2.51	2.51	2.51	2.51	2.51

Option 2 Rates:

Charge	Unit	Unmetered	Metered										
			5/8" Service	3/4" Service	1" Service	1 1/2" Service	2" Service	3" Service	4" Service	6" Service	8" Service	10" Service	12" Service
Customer	\$/month	\$ 32.69	\$ 4.85	\$ 5.14	\$ 5.71	\$ 7.16	\$ 8.90	\$ 12.92	\$ 18.12	\$ 33.11	\$ 50.42	\$ 87.22	\$ 137.66
Volume	\$/000 Gal	-	3.45	3.45	3.45	3.45	3.45	3.45	3.45	3.45	3.45	3.45	3.45

COU Water Cost of Service Study

Water Utility Option 2: Income-Based

Option 2: Average Customer Impact Comparison

	Current Rates	Option 2: Cost-Based Rates
Metered	\$ 35.59	\$ 32.69
% Change:	0.0%	-8.1%
Unmetered	\$ 694.56	\$ 955.01
% Change:	0.0%	37.5%

Water Option 3: **Implement Utility Infrastructure Tax**

Option 3: Utility Infrastructure Tax

- Receipts from a 1% increase in Sales Tax could provide a cash flow to be used for funding utility infrastructure needs and directed towards specific projects at the direction of the City Council

	FY2017 Actual	FY2018 Actual	FY2019 Actual	FY2020 Budget	Adopted Budget
1% Sales Tax Special Revenue					
REVENUES					
11010040 - 41310 1% Capital Sales tax	3,705,737	3,522,767	3,629,169	3,500,000	2,666,667

\$2,666,667 estimated
FY2021 receipts

Combining Options 1 & 3: **Overall Impact**

Combining Options 1 & 3

The table below estimates the impact of combining Option 1 (cash-based DSC target revenue requirement) and Option 3 (1% Utility Infrastructure Tax) in comparison to the income-based revenue requirement.

	Electric	Water	Wastewater	Solid Waste	Total
Target DSC:	1.25	2.00	TBD	TBD	N/A
Cash-Based Revenue Requirement:	\$ 7,692,809	\$ 2,711,218	TBD	TBD	TBD
Current Revenues:	\$ 7,248,373	\$ 2,616,686	\$ 2,468,212	\$ 2,562,531	\$ 14,895,802
Revenue Increase:	\$ 444,436	\$ 94,532	TBD	TBD	TBD
Overall % Increase:	6.1%	3.6%	TBD	TBD	TBD
Deficit of Current Revenues to Income-Based Revenue Requirement:	\$ (2,514,450)	\$ (913,887)	\$ (1,851,293)	\$ (1,540,289)	\$ (6,819,919)
Increased Revenues from Option 1:	\$ 444,436	\$ 94,532	TBD	TBD	TBD
Income from 1% Infrastructure Tax:	\$ 666,667	\$ 666,667	\$ 666,667	\$ 666,667	\$ 2,666,667 *
Outstanding Deficit:	\$ (1,403,347)	\$ (152,688)	TBD	TBD	TBD

* Assumes even distribution of infrastructure tax for the purpose of illustration