

# Loveland Water and Power

## LUC June Meeting

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International consulting firm providing cost of service,  
financial plans and financial services to utilities

## Summary of Services

- Financial Projection
  - Project Revenues, Expenses and power supply costs
- Cost of Service Study
  - Identify the cost to provide service to each class of customers
- Rate Design
  - Input from LUC provides guidance on rate designs
  - Large Residential Class

## Utility Rate Design Objective Considerations

- Fairness to Customers
  - Cost of service based rates
  - Send appropriate cost-based price signals
  - Rate Simplicity
- Promote Economic Development
- Community Social Objectives:
  - Impacts on Low Income Users
- Environmental Objectives
  - Promote Carbon Free Resources
    - Utility Scale Renewable projects
    - Roof Top Solar
    - Reduce Energy Consumption
  - Promote Electric Vehicles
- Maintain a Financial Stability of Utility
- Stable rates for customers
- Provide customers greater control over bills

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## Three Key Financial Factors

- Debt Coverage Ratio
- Minimum Cash Reserves
- Optimal Operating Income Target



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## Factors that Influence Cash Reserves

- Timing differences between when expenses are incurred and revenues received from customers
- Age of Assets
- Future capital improvement program
- Annual debt service payments
- Utilities control over rates



## Minimum Cash Reserve With Projected Rate Track

Recommended Minimum Cash Reserve	Percent Allocated	Projected 2020	Projected 2021	Projected 2022	Projected 2023	Projected 2024
O&M Less Depreciation & Purchased Power Expense	8.2%	\$ 1,396,292	\$ 1,442,717	\$ 1,486,005	\$ 1,529,936	\$ 1,574,528
Historical Value of Assets (Rate Base)	1.0%	2,220,761	2,335,989	2,464,122	2,578,106	2,712,973
Five Year Capital Plan (less PIF) - Net of bond proceeds	10%	6,012,345	6,012,345	6,012,345	6,012,345	6,012,345
Annual Purchased Power	4.7%	2,152,561	2,200,836	2,272,315	2,343,175	2,413,415
<b>Recommended Minimum Cash Reserve</b>		<b>\$ 11,781,959</b>	<b>\$ 11,991,887</b>	<b>\$ 12,234,787</b>	<b>\$ 12,463,562</b>	<b>\$ 12,713,261</b>
<b>Projected Cash Reserves (less PIF reserve)</b>		<b>\$ 12,066,007</b>	<b>\$ 14,249,021</b>	<b>\$ 15,857,756</b>	<b>\$ 19,422,502</b>	<b>\$ 21,436,872</b>
<b>Loveland Desired Balance (18% - 25% of Oper Exp excl'g deprn)</b>		<b>\$ 11,444,571</b>	<b>\$ 13,754,002</b>	<b>\$ 14,236,036</b>	<b>\$ 16,115,080</b>	<b>\$ 18,095,493</b>



# Target Operating Income

An appropriate Rate of Return:

- Funds Interest Expense
- Funds inflationary increase on assets invested in the system
- Fully funds depreciation expense

*An adequate rate of return on investment helps ensure current customers are paying their fair share of the use of infrastructure and not deferring costs to future customers*



# Rate of Return with Rate Track change this one

Target Operating Income	Percent Allocated	Projected 2020	Projected 2021	Projected 2022	Projected 2023	Projected 2024
Contributed Capital Estimated	3.1%	\$ 1,314,054	\$ 1,314,054	\$ 1,314,054	\$ 1,314,054	\$ 1,314,054
System Equity	4.8%	4,828,643	5,156,758	5,525,829	5,837,965	6,220,216
<b>Return Base Customers</b>		<b>5,142,698</b>	<b>5,970,812</b>	<b>6,339,883</b>	<b>6,652,020</b>	<b>7,034,271</b>
<b>Projected Operating Income</b>		<b>\$ 5,244,224</b>	<b>\$ 6,289,771</b>	<b>\$ 6,163,092</b>	<b>\$ 6,025,081</b>	<b>\$ 5,862,159</b>
Rate of Return in %		3.6%	4.1%	4.1%	4.2%	4.3%
Percent Plant Depreciated		36.1%	37.0%	37.8%	39.0%	40.0%
Debt to Equity Ratio		n/a	n/a	n/a	n/a	n/a

## Projection Summary

Fiscal Year	Projected Rate Adjustments	Projected Revenues	10yr Budget Rev less ATC	Projected Expenses	10yr Budget Expenses + Depr	Adjusted Operating Income <sup>(1)</sup>	Projected Cash Balances	Capital Improvements (less PIF)
2020	5.00%	\$ 73,231,888	\$ 74,101,332	\$ 68,734,800	\$ 67,943,712	\$ 5,244,224	\$ 12,066,007	\$ 10,902,250
2021	3.00%	76,322,948	\$ 77,560,760	70,850,355	\$ 70,297,069	6,289,771	14,249,021	11,522,760
2022	2.00%	78,737,984	\$ 80,343,200	73,470,107	\$ 73,157,716	6,163,092	15,857,756	12,813,290
2023	2.00%	81,133,771	\$ 83,120,310	76,091,292	\$ 75,908,925	6,025,081	19,422,502	11,398,382
2024	2.00%	83,512,896	\$ 85,900,990	78,726,433	\$ 79,503,464	5,862,159	21,436,872	13,486,769
<b>Recommended Target in 2020</b>						<b>\$ 5,642,698</b>		
<b>Recommended Target in 2024</b>						<b>\$ 7,534,271</b>		
<b>Recommended MINIMUM Target in 2020</b>							<b>\$ 11,781,959</b>	
<b>Recommended MINIMUM Target in 2024</b>							<b>\$ 12,713,261</b>	



## Cost of Service Summary Results

Customer Class	Cost of Service	Projected Revenues	% Change
Residential	\$ 30,485,905	\$ 29,260,219	4.2%
Small General Service	12,260,728	11,756,965	4.3%
Wholesale	887,095	557,733	59.1%
Area Lighting, Flat Rates	17,161	24,551	-30.1%
Interruptible Service	4,887,463	4,828,496	1.2%
Residential Demand	6,370	6,854	-7.1%
Large General Service >50kW	17,605,514	16,538,103	6.5%
Primary Service <4,000kW	656,181	590,966	11.0%
Coincidental Peak	5,339,003	4,766,194	12.0%
<b>Total</b>	<b>\$ 72,145,420</b>	<b>\$ 68,330,081</b>	<b>5.58%</b>







## Fixed Charges (Customer Charges)

Recovers cost for connection to Grid at zero kWh consumption

- Meter operation, maintenance and replacement costs
- Meter reading costs or AMR installation costs
- Billing Costs
- Customer Service Department
- Service into customers facilities
- **Portion of Distribution System**
  - Cost to get a wire from the sub-transmission system to customer
  - Based on minimum sizing (If all customers only used a single kWh)

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## Residential Customer (Facilities) Charges

-  Stabilizes revenue
-  Reduces seasonal subsidies
-  May impact low use customers
-  Low income may not be low use

## Monthly Customer Charges

Customer Class	Cost of Service	Current Charges
Residential - 200 AMPS or Less	\$ 15.34	\$ 15.54
Residential - Over 200 AMPS Service	23.74	24.68
Small General Service <25 kW	24.87	28.35
Large General Service >50kW	150.49	145.53
Primary Service <4,000kW	166.82	164.22
Coincidental Peak	284.06	236.69
Small General Service >25kW	49.37	28.35

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## Residential Fixed Distribution Costs

<b>Fixed Costs</b>	
Distribution Costs - Total	\$ 12,924,712
Less PILOT	2,351,359
Total Distribution net of PILOT	\$ 10,573,353
Customers	32,500
<b>Monthly Rates</b>	<b>\$ 27.11</b>

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# Fixed Distribution Charges in Customer Charge

Current Rates		2020 Review	
Customer Charge	\$ 15.54	Customer Charge	\$ 27.11
Winter - All kWh	\$ 0.07616	Winter Block 1 (0 - All kWh)	\$ 0.05943
Summer - All kWh	\$ 0.09224	Summer Block 1 (0 - All kWh)	\$ 0.07197
<i>Seasonality spread--&gt;</i>		<i>21%</i>	
PILT Winter - All kWh	\$ 0.00737	PILT Winter - All kWh	\$ 0.00737
PILT Summer - All kWh	\$ 0.00881	PILT Summer - All kWh	\$ 0.00881
Revenues from Current Rates	\$ 28,439,592	Revenues from Proposed Rates	\$ 28,439,194
Percentage Change from Current		Percentage Change from Current	0.00%

R Annual Bill Comparison				
Usage ( kWh )	Current Bill (\$)	Proposed Bill (\$)	Dollar Change (\$)	Percent Change (%)
300	\$ 39.59	\$ 45.88	\$ 6.29	15.88%
400	\$ 47.61	\$ 52.14	\$ 4.53	9.50%
500	\$ 55.63	\$ 58.39	\$ 2.76	4.97%
570	\$ 61.24	\$ 62.77	\$ 1.53	2.50%
690	\$ 70.86	\$ 70.28	\$ (0.58)	-0.82%
800	\$ 79.68	\$ 77.16	\$ (2.52)	-3.16%
1000	\$ 95.72	\$ 89.68	\$ (6.04)	-6.31%
1160	\$ 108.55	\$ 99.69	\$ (8.86)	-8.16%
1250	\$ 115.77	\$ 105.32	\$ (10.45)	-9.03%

