

1.5 Identification of Costs Associated with Expansion and Connection to Electric System

Line extension policies are used to ensure fairness and equity among all customers in a rate class. The purpose of a line extension policy is to make new customers look “average” for rate purposes. Line extension policies that do not achieve this goal will result in a utility’s financial position degrading as new customers are added to the system or that customers don’t receive adequate facilities without a Contribution in Aid of Construction (CIAC). Rates are averages and they recover the carrying costs associated with the average plant investment that applies to a particular rate class. Without line extension policy, growth can cause the need for rate increases. Not only does line extension policy promote fairness and equity but it also promotes rate stability.

Rates should include some “standard” level of service facilities that are built into base rates but should not include non-standard facilities. The cost of non-standard facilities should be borne by customers that receive the benefit from their installation. Line extension policy should ensure that all customers receive a standard set of facilities and that customers who need, or want, additional facilities beyond those built into base rates, pay for those facilities through a contribution in aid of construction.

The Prime Group evaluated the economics of CWL’s current line extension policy. The results are shown in the tables below. The first table shows the amount of investment that can be supported by CWL’s rates. The amount of investment is calculated as a multiple of net revenue. Net revenue is total revenue less purchased power revenue. 6.87 times net revenue represents the maximum amount of revenue that CWL can give as a revenue credit. It is generally recommended that utilities do not give the full amount because customers receiving the full amount would not be making any contribution to the utility’s fixed costs. Under that scenario, there is no benefit to other customers from growth. As a result, utilities generally use approximately half the calculated factor in line extension policies. Many times, residential line extension policies will provide a dollar revenue credit and commercial policies will use a revenue test based on projected revenue on a case-by-case basis. For example, if a factor of 3 is used to calculate the residential credit, commercial policies will calculate the credit on an individual case by case basis, using 3 times the estimated net revenue the customer is expected to produce.

Assumptions:			
Investment		\$ 1,000,000	
Book Life		30	
Tax Life		20	
Composite Tax Rate		0.00%	
Property Tax Rate		2.53%	
Levelized Revenue Requirement Years		30	
O&M as Percent of Investment		5.26%	
Escalation Rate for O&M		3.00%	
Results:			
Present Value Revenue Requirement		\$ 2,516,141	
Levelized Revenue Requirement		\$145,509	
Levelized Carrying Charge Rate		14.55%	
Level of Investment that can be Supported by Revenue		6.87	Times Net Revenue

The second table shows the amount of line extension per residential class that CWL’s rates will support using a factor of 3 times net revenue:

	Residential Service Gas Heat	Residential Service Electric Heat	Residential Service Heat Pump	Residential Service Combined
Test Year Base Rate Revenue	\$ 29,812,309.24	\$ 16,776,248.37	\$ 4,134,766.58	\$ 50,723,324.19
Less: Purchase Power Cost	\$ 15,812,521.03	\$ 10,146,940.35	\$ 2,558,080.57	\$ 28,517,541.95
Net Revenue	\$ 13,999,788.21	\$ 6,629,308.02	\$ 1,576,686.01	\$ 22,205,782.24
Average Number of Customers	28,117	13,211	2,573	43,900
Average Non-Fuel Revenue Per Customer	\$ 497.91	\$ 501.82	\$ 612.88	\$ 505.83
Less: Average Annual Meter Reading and Billing Cost	\$ 114.94	\$ 114.94	\$ 114.94	\$ 114.94
Carrying Cost on Meter, Service, & Transformer	\$ 103.60	\$ 137.26	\$ 149.20	\$ 116.40
Average Net Revenue Per Customer	\$ 279.37	\$ 249.62	\$ 348.74	\$ 274.48
Amount Times Net Revenue Rate will Support	6.87	6.87	6.87	6.87
Amount Times Net Revenue Selected to Ensure Contribution to Fixed Cost	3.00	3.00	3.00	3.00
Cost of Line Extension Provided With No Contribution	\$ 838.12	\$ 748.86	\$ 1,046.23	\$ 823.45

The third table shows the amount of line extension per small general service class that CWL’s rates will support using a factor of 3 times net revenue:

	Small General Service Gas Heat	Small General Service Electric Heat	Small Commercial Heat Pump	Small General Service / Comm. Combined
Test Year Base Rate Revenue	\$ 9,250,571.08	\$ 3,108,042.56	\$ 63,762.64	\$ 12,422,376.28
Less: Purchase Power Cost	\$ 4,573,498.41	\$ 1,666,006.06	\$ 35,334.34	\$ 6,274,838.81
Net Revenue	\$ 4,677,072.67	\$ 1,442,036.50	\$ 28,428.30	\$ 6,147,537.47
Average Number of Customers	4,362	1,216	29	5,607
Average Non-Fuel Revenue Per Customer	\$ 1,072.23	\$ 1,185.89	\$ 980.29	\$ 1,096.40
Less: Average Annual Meter Reading and Billing Cost	\$ 114.94	\$ 114.94	\$ 114.94	\$ 114.94
Carrying Cost on Meter, Service, & Transformer	\$ 135.59	\$ 159.05	\$ 144.35	\$ 140.73
Average Net Revenue Per Customer	\$ 821.70	\$ 911.90	\$ 721.00	\$ 840.74
Amount Times Net Revenue Rate will Support	6.87	6.87	6.87	6.87
Amount Times Net Revenue Selected to Ensure Contribution to Fixed Cost	3.00	3.00	3.00	3.00
Cost of Line Extension Provided With No Contribution	\$ 2,465.10	\$ 2,735.69	\$ 2,162.99	\$ 2,522.22

1.6 Evaluation of Revenue at Risk

The goal of cost-based rate design is to recover fixed and variable costs as fairly as possible from both large and smaller usage customers. Oftentimes, rates deviate from this principle by having monthly fixed charges that are too low and energy charges that are too high. This leads to the utility being more sensitive to weather patterns. During periods of mild weather, the utility is not selling enough electricity to recover its fixed costs meaning that the utility’s revenue is at risk. The Prime Group put together a table showing