

# FORTIS ALBERTA



## Guide to Customer Contributions and FortisAlberta Investment

**January 1, 2019**

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# INTRODUCTION

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This Guide to Customer Contributions (the “Guide”) has been created to assist customers in the Alberta service territory of FortisAlberta to understand the application of FortisAlberta’s investment policy. The investment policy has been approved by the Alberta Utilities Commission as part of the Customer Terms and Conditions of Electric Distribution Service (the “Terms and Conditions”), which is available for viewing on FortisAlberta’s website at <http://www.fortisalberta.com>.

The Guide is intended for those customers with loads of 75 kW and greater, who generally sign Electric Service Agreements with FortisAlberta. The Guide illustrates the application of the investment policy and Customer Contributions under various scenarios, but does not, in any way, alter the Terms and Conditions or any formal calculations provided by FortisAlberta.

The Guide does not apply to Transmission Connected Service Rate 65 customers, who are subject to all provisions of the Alberta Electric System Operator’s tariff as it applies to FortisAlberta at the point of delivery to which the Transmission Connected customer’s service is connected.

The FortisAlberta investment policy is designed to provide a reasonable level of investment to customers, to offset their cost of new or upgraded supply facilities, when new load is added to the electric system. This investment will be included with other costs of the electric system and recovered through rates charged to all customers. In some situations, the customer will be required to make a Customer Contribution towards the cost of the supply facilities.

The Maximum Investment Level that FortisAlberta will provide is dependent upon the amount of the customer’s Expected Peak Demand and the Investment Term. For Rate 63 customers, the Maximum Investment Level available is also partially determined by the length of dedicated line required to construct the service.

This Guide also illustrates situations where, after an investment has been made, there is a change in a customer’s Expected Peak Demand, requiring a review of the customer’s original Customer Contribution. Similarly, another customer may subsequently connect to a facility, and the original customer may be eligible for a reduction in Customer Contribution through line sharing.

The Guide illustrates the application of the FortisAlberta investment policy in each of these situations with examples. A formal request must still be made by the Customer to FortisAlberta for any changes in the Expected Peak Demand.

Changes to this document may be introduced from time to time to address the changing Alberta electric industry environment, changes to the Alberta Utilities Commission approved Terms and Conditions, or changes to FortisAlberta’s business practices. This document and subsequent updates will be posted on the FortisAlberta website at <http://www.fortisalberta.com>.

# 1. CUSTOMER CONTRIBUTIONS

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FortisAlberta's investment policy is designed to provide a reasonable investment level to customers, to offset some or all of their cost of new or upgraded supply Facilities when new load is added to the electric system. In some situations, the customer will be required to make a *Customer Contribution* towards the cost of the supply facilities.

A Customer Contribution to FortisAlberta may be comprised of one or more of the following:

- a Customer Distribution Contribution towards the cost of Standard Service,
- the cost of Optional Supply Facilities, including prepaid Operation and Maintenance,
- a Temporary Facilities Charge,
- an Early System Cost, and
- a Customer Transmission Contribution charged by the Alberta Electric System Operator

An additional Customer Contribution may also arise from a reduction of Contract Minimum Demand or the Permanent Disconnection (salvage) of the service, and may be accompanied by any Payment in Lieu of Notice charge associated with a reduction of Contract Minimum Demand or the salvage.

Although the customer may pay a Customer Contribution, FortisAlberta retains ownership of and responsibility for all Facilities on the FortisAlberta side of the point of service. The customer pays the Customer Contribution before FortisAlberta begins design, ordering and construction unless other arrangements are made with, and to the satisfaction of, FortisAlberta

## 1.1. Customer Contributions

FortisAlberta invests only in Standard Service, and the investment level for a customer depends on both the Expected Peak Demand and the Investment Term sufficient to cover the construction cost (up to the Maximum Investment Level, based on a 15 year Investment Term). When the construction cost is greater than FortisAlberta's Maximum Investment Level available, the customer pays a Customer Contribution. The Customer Contribution is calculated by subtracting the amount FortisAlberta will invest in the new service from the construction cost.

The FortisAlberta investment is made with the expectation of a certain level of revenue every year for the duration of the Investment Term. A Contract Minimum Demand and Investment Term are specified in the Electric Service Agreement consistent with the expected revenue. The Contract Minimum Demand is two-thirds of the Expected Peak Demand. Minimum daily capacity charges can be calculated by applying the Contract Minimum Demand to the charges of the applicable distribution tariff rate sheet, unless otherwise specified in the Electric Service Agreement.

## 1.2. Optional Supply Facilities

If the customer requests Facilities that FortisAlberta deems to be different from or in excess of Standard Service or are expected to cause increased operation and maintenance expenses to FortisAlberta based on the Expected Peak Demand, the customer is charged the cost of the additional or *Optional Supply Facilities*, plus a prepaid operation and maintenance cost, generally as a non-refundable contribution. If the Optional Facilities are deemed by FortisAlberta to be Standard Service within 10 years of the payment, the Optional Facilities charge may be refunded.

### 1.3. Temporary Facilities

FortisAlberta does not invest in Facilities that will be in place for less than two years, but charges the customer a non-refundable *Temporary Facilities Charge*, equal to the cost of constructing and dismantling the Facilities, less the value of the salvageable material.

### 1.4. Early System Costs

If, in providing Standard Service to a customer, FortisAlberta must build or upgrade portions of the distribution system, generally, in accordance with FortisAlberta's load growth plans, the costs will be deemed system costs and not charged to the new customer. However, if the upgrade is required earlier than planned, the customer is charged the carrying costs on the advancement of system expenditures; these are referred to as *Early System Costs*. Moreover, if the upgrade is determined to be for the sole use of the new customer, all the costs will be assigned to that customer, in addition to the dedicated Facilities costs. Many factors are considered before system upgrade costs are assigned to a customer, including area load forecasts, financial impacts on rate base, and the technical integrity of the distribution system.

### 1.5. Alberta Electric System Operator Contributions

When entering into contracts with the Alberta Electric System Operator in respect of a transmission Point of Delivery providing System Access Service to a customer or customers, FortisAlberta may incur costs if the transmission facilities are for temporary loads, Optional Transmission Facilities or transmission facilities in excess of what FortisAlberta would otherwise request, arrange for, or be provided from the Alberta Electric System Operator.

FortisAlberta will review each transmission extension application, with consultations with the Alberta Electric System Operator, Transmission Facility Operator and customer, on a case by case basis. Any refunds of contributions received by FortisAlberta from the Alberta Electric System Operator may be passed on to those customers to whom the contributions can be attributed.

## 2. FORTISALBERTA MAXIMUM INVESTMENT LEVELS

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The Maximum Investment Level FortisAlberta makes in a new service, as provided for in the Terms and Conditions, is shown in the following table.

Type of Service	2019 Maximum Investment Level
General Service Rate 61	\$5,799, plus \$923 per kW for the first 150 kW, plus \$116 per kW for additional kW of Peak Demand
Large General Service Rate 63 (Distribution Connected)	\$104 per kW of Peak Demand, plus \$115 per metre of Customer Extension

## **2.1. Maximum Investment Level When Investment Term is Less Than 15 Years**

The Investment Level is established by FortisAlberta based on the lesser of:

- (i) the viable technical life of the Facilities provided by FortisAlberta,
- (ii) the economic life of the customer's operation,
- (iii) and the minimum Investment Term, where applicable, that will provide an investment amount sufficient to cover the full construction cost of the customer's service.

If the lesser of these is less than 15 years, the FortisAlberta Investment Term is reduced according to the following table on the next page.

For Facilities that will be in place for less than 2 years, the customer will pay a non-refundable Temporary Facilities Charge comprising of:

- (i) the cost of constructing and dismantling the Facilities, and
- (ii) less the value of the salvageable material.

In the event that the allowable investment exceeds the customer construction costs, the excess amount is not available to the same or another customer to apply for another service.

In addition, for a larger customer whose temporary load has a material impact at the transmission Point of Delivery, FortisAlberta may charge an amount equal to the present value of the Alberta Electric System Operator's ratcheted transmission charges, associated with the Expected Peak Demand, to FortisAlberta.

Investment Term	Service Life Factor	General Service Rate 61			Large General Service Rate 63	
		Base Investment	Base Investment plus the First 150 kW of Peak Demand	Additional kW of Peak Demand over 150kW	kW of Peak Demand	Metre of Customer Extension
Years	%	\$ per kW	\$ per kW	\$ per kW	\$ per kW	\$ per m
1	0.00%	\$0	\$0	\$0	\$0	\$0
2	19.81%	\$1,148	\$183	\$23	\$21	\$23
3	28.75%	\$1,667	\$265	\$33	\$30	\$33
4	37.12%	\$2,153	\$343	\$43	\$39	\$43
5	44.94%	\$2,606	\$415	\$52	\$47	\$52
6	52.25%	\$3,030	\$482	\$61	\$54	\$60
7	59.09%	\$3,427	\$545	\$69	\$61	\$68
8	65.49%	\$3,798	\$604	\$76	\$68	\$75
9	71.46%	\$4,144	\$660	\$83	\$74	\$82
10	77.05%	\$4,468	\$711	\$89	\$80	\$89
11	82.28%	\$4,771	\$759	\$95	\$86	\$95
12	87.17%	\$5,055	\$805	\$101	\$91	\$100
13	91.73%	\$5,320	\$847	\$106	\$95	\$105
14	96.01%	\$5,567	\$886	\$111	\$100	\$110
15 or more	100.00%	\$5,799	\$923	\$116	\$104	\$115

### 3. CUSTOMER CONTRIBUTIONS FOR NEW INSTALLATIONS

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FortisAlberta invests in Standard Services, in an amount reflecting both the Expected Peak Demand and an Investment Term established by FortisAlberta. When the construction cost is greater than FortisAlberta's Maximum Investment Level, the customer pays a Customer Contribution calculated as the difference between construction cost and FortisAlberta's available investment.

FortisAlberta does not invest in Optional Supply Facilities or temporary services.

#### 3.1. Customer Contribution for New Load

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##### *Example A —Expected Peak Demand of 2,000 kW or Less with Optional Facilities - Rate 61 General Service*

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An Expected Peak Demand of 300 kW with some Optional Facilities.

FortisAlberta Maximum Investment Level based on 15 year Investment Term	=	150 kW	x	\$923 per kW	
	+	150 kW	x	\$116 per kW	
Base Investment	+	\$5,799			
Total Investment Available					= \$161,649
Construction Cost of Standard Service	=	\$175,000			
Construction Cost of Optional Facilities	=	\$25,000			
Customer Contribution for Standard Service	=	\$175,000	-	\$161,649	= \$13,351
Customer Contribution for Optional Facilities	=	\$25,000	+	20% O&M	= <u>\$30,000</u>
Total Customer Contribution					<b>\$43,351</b>



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**Example B—Expected Peak Demand Greater Than 2,000 kW  
Rate 63 Large General Service**

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An Expected Peak Demand of 3,000 kW with no Optional Facilities and a Customer Extension of 800 m.

FortisAlberta Maximum Investment Level based on 15 year Investment Term	=	3,000 kW	x	\$104 per kW	
Metres of Customer Extension	+	800 m	x	\$115 per m	
Total Investment Available					= \$404,000
Construction Cost of Standard Service	=	\$500,000			
Construction Cost of Optional Facilities	=	none			
Customer Contribution for Standard Service	=	\$500,000	–	\$404,000	= \$96,000
Customer Contribution for Optional Facilities					= none
Total Customer Contribution					<b>\$96,000</b>

### **3.2. Customer Contribution for Staged Load**

When a customer plans a staged load, where the load will increase or decrease within two years after the initial load is connected, FortisAlberta calculates its total investment based on each distinct portion of the load as per the Terms and Conditions Appendix “B: Customer Contributions Schedule. Load increases beyond 2 years are not predictable for contract staging purposes and will be administered as per the Terms and Conditions 7.3.2 Impact of Changes on a Customer’s Electric Service Agreement. A service can only be staged within the rate class that the service was built for.

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**Example C— Increase of Load Rate 61 General Service**

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An Expected Peak Demand of 200 kW initially connects for a period of 6 months, increases to 600 kW for the next 6 months and at 1 year the total Expected Peak Demand connected is 1000kW. FortisAlberta’s investment reflects 200kW for 10 years, 400kW for 9 ½ years (rounded up to 10 years) and remaining 400kW for 9 years.

#### FortisAlberta Maximum Investment Level

Initial load @ 200kW with a 10 year Investment Term	=	150 kW	x	\$711 per kW		
	+	50 kW	x	\$89 per kW		
Base Investment	+	\$4,468				
Investment Available					=	\$115,568
@ 400kW with a 10 year Investment Term (rounded up from 9 ½ years)		400 kW	x	\$89 per kW	=	\$35,600
@ 400kW with a 9 year Investment Term		400 kW	x	\$83 per kW	=	<u>\$33,200</u>
Total Investment Available					=	<b>\$184,368</b>
Construction Cost of Standard Service	=	\$230,000				
Construction Cost of Optional Facilities	=	none				
Customer Contribution for Standard Service	=	\$230,000	–	\$184,368	=	\$45,632
Customer Contribution for Optional Facilities					=	none
Total Customer Contribution					=	<b>\$45,632</b>

## 4. CUSTOMER CONTRIBUTION PAYABLE FOR A REDUCTION OF CONTRACT MINIMUM DEMAND (BUY-DOWN CHARGE AND NOTICE)

The basis for the minimum monthly charges for a service is either specified in the Electric Service Agreement, the Minimum Demand of a rate tariff or a Contract Minimum Demand calculated as two-thirds of the Expected Peak Demand. If a customer's Expected Peak Demand has decreased, the customer may find the Contract Minimum Demand is being billed every month. The customer may elect to reduce the Contract Minimum Demand, in which case the FortisAlberta maximum Investment Level is reduced and the customer may be required to pay an additional Customer Contribution. This is referred to as the "Buy-down Charge".

A customer is required to give one month's notice for every 30 kW reduction to the customer's Contract Minimum Demand. If the customer wishes to reduce the Contract Minimum Demand before the required notice period, a Payment in Lieu of Notice (PILON) is required. The notice period commences upon the customer's written acceptance and payment of additional customer contribution if applicable.

The Payment in Lieu of Notice is calculated as the difference between the minimum Charge based on the original Contract Minimum Demand and the Minimum charge based on the reduced new Contract Minimum Demand, multiplied by the number of months for the required notice period.

The Investment Term is further reduced by the sum of the notice period required for transmission (up to 60 months) and the actual notice provided, regardless of whether the customer gives notice or chooses to pay PILON.

With respect to the distribution component of FortisAlberta's distribution tariff charges, the number of months used to calculate the customer's Payment in Lieu of Notice is limited to 24 months. With respect to the transmission component of FortisAlberta's distribution tariff charges, the number of months used to calculate the customer's Payment in Lieu of Notice is limited to 60 months. For calculation purposes, FortisAlberta will round the number of months required for notice to the closest whole year.

If the Customer chooses to pay the PILON instead of providing the required notice period, the demand ratchet history will be reduced for billing purposes. The billing demand is set at the new Contract Minimum Demand or the Rate Minimum upon the customer's written acceptance and payment of additional customer contribution if applicable.

Note that for Large General Service Rate 63 customers, the Contract Kilometres portion of the bill is included in the Payment in Lieu of Notice calculation. The Contract Kilometres is the length of distribution line from the substation (Point of Delivery) to the customer's meter (Point of Service). However, it impacts the Payment in Lieu of Notice only if the Customer reduces the Expected Peak Demand to the point where the service belongs to another rate class which does not include a monthly Contract Kilometres charge.

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### ***Example D — Reduction of Contract Minimum Demand Rate 61 General Service***

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FortisAlberta originally invested in an Expected Peak Demand of 300 kW based on an Investment Term of 15 years. The Expected Peak Demand is decreased to 125 kW.

The service was initially on Rate 61 General Service and will remain on Rate 61 General Service.

FortisAlberta Maximum Investment Level based on a 15 year Investment Term	=	150 kW	x	\$923 per kW	
Base Investment	+	150 kW	x	\$116 per kW	
					+ \$5,799
Total Investment Available					= <b>\$161,649</b>

When the Expected Peak Demand decreases to 125 kW, the customer will continue to be billed on the Contract Minimum Demand of 200 kW (two-thirds of the original Expected Peak Demand of 300 kW). The customer may request a reduction of the Contract Minimum Demand, at which time FortisAlberta will evaluate the un-recovered investment due to the decrease in the Expected Peak Demand, and an additional Customer Contribution may be required .

The un-recovered investment at the end of year 5, in this example, would reflect:

- the 175 kW decreased from the original 300 kW Expected Peak Demand for years 6-15 to the new Expected Peak Demand level of 125 kW; and
- the remaining period of 10 years for which the Expected Peak Demand did not meet the criteria on which the original investment was based.

At the end of year 5, the investment amount for the remaining 10 years would be decreased to \$711/kW for the first 25 kW and \$89/kW for the remaining 150 kW of the 175 kW decreased in Expected Peak Demand. (See Rate 61 General Service investment amounts for an Investment Term Life of 10 years in Investment Table in Section 3.1.)

FortisAlberta un-recovered Investment for 175kW based on 10 year Investment Term	=	25 kW	x	\$711 per kW	
					+ 150 kW x \$89 per kW
Total Investment Un-recovered					= \$31,125

The Customer Contribution for the original 300kW load

FortisAlberta Maximum Investment Level based on a 15 year Investment Term	=	\$161,649
Construction Cost of Standard Service	=	<u>\$230,000</u>
Customer Contribution	=	\$68,351

### Additional Customer Contribution for Expected Peak Demand reduction (end of year 5)

Un-recovered Investment (above) = \$31,125

Therefore:

Additional Customer Contribution = **\$31,125**

In addition, if the appropriate notice is **not** provided, FortisAlberta will also require a Payment in Lieu of Notice as described above and illustrated in the following examples.

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### **Example E — Decrease of Contract Minimum Demand Rate 63 Large General Service**

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FortisAlberta originally invests in an Expected Peak Demand of 5,000 kW (i.e., Large General Service Rate 63) based on an Investment Term of 15 years or more. The Expected Peak Demand eventually is decreased to 3,000 kW. The service will remain on Large General Service Rate 63.

### **ORIGINAL SCENARIO**

A Large General Service (Rate 63) customer connects an Expected Peak Demand of 5,000 kW with an Investment Term of 15 years. The customer requires a 4,000 m extension for interconnection (Metres of Customer Extension), and the service is provided through 6 km of distribution line from the Point of Delivery (the Contract Kilometres). The expected and minimum monthly charges (excluding kWh-based charges, options, riders, Generation and Retailer charges, and applicable taxes) would be as follows:

#### **Original Expected Peak Demand (5,000 kW) Original Contract Minimum Demand (3,333 kW)**

	Units	Transmission Component	Distribution Component	Units	Transmission Component	Distribution Component
Service Charge	30.4167 days		\$20.35	30.4167 days		\$20.35
Demand (/kW/day)	5,000 kW	\$0.10636	\$0.02045	3,333 kW	\$0.10636	\$0.02045
Distance (/km/day)	6 km		\$17.79	6 km		\$17.79
Non-Energy Charges for 30 days		\$16,175.58	\$6,975.76		\$10,782.64	\$5,938.85

FortisAlberta's investment and the customer's contribution in this service would be as follows:

FortisAlberta Maximum Investment Level based on a 15 year Investment Term	=	5,000 kW	x	\$104 per kW	=	
Metres of Customer Extension	+	4,000 m	x	\$115 per m	=	
Total Investment Available						\$980,000
Construction Cost of Standard Service	=	\$1,200,000				
Construction Cost of Optional Facilities	=	none				
Customer Contribution for Standard Service	=	\$1,200,000	-	\$980,000	=	\$220,000
Customer Contribution for Optional Facilities	=					none
Total Customer Contribution						<b>\$220,000</b>

## NEW SCENARIO

At the end of year 5, due to the decrease in the customer's Expected Peak Demand to 3,000 kW and as a result of the bill being based on the existing Contract Minimum Demand of 3,333 kW, the customer chooses to reduce the Contract Minimum Demand from an Expected Peak Demand from 5,000 kW to 3,000 kW. That is, the customer requests a buy-down of the Contract Minimum Demand to reflect the new Expected Peak Demand levels. The new Expected Peak Demand and minimum monthly charges would be as follows:

### New Expected Peak Demand (3,000 kW)      New Contract Minimum Demand (2,000kW)

	Units	Transmission Component	Distribution Component	Units	Transmission Component	Distribution Component
Service Charge	30.4167 days		\$20.35	30.4167 days		\$20.35
Demand (/kW/day)	3,000 kW	\$0.10636	\$0.02045	2,000 kW	\$0.10636	\$0.02045
Distance (/km/day)	6 km		\$17.79	6 km		\$17.79
Non-Energy Charges for 30 days		\$9,705.35	\$5,731.72		\$6,470.23	\$5,109.70

FortisAlberta reviews the amount of investment that will not be recovered due to the reduction in Expected Peak Demand. In this example, the Investment Term for the New Expected Peak Demand of 3,000 kW has been decreased to 10 years from the original Investment Term of 15 years.

For the PILON calculation, the Investment Term of 10 years was further reduced by 44 months (4 years) notice period as calculated.. The Investment Term for the New Expected Peak Demand of 3,000kW is now 6 years. Hence, the additional Customer Contribution required is calculated as follows:

$$\begin{array}{l} \text{Un-recovered Investment based on 2,000kW} \\ \text{with an Investment term of 6 years} \end{array} = 2,000 \text{ kW} \times \$54 \text{ per kW} = \$108,000$$

Therefore:

$$\text{Buy-Down Charge} = \$108,000$$

FortisAlberta also reviews the notice given by the customer for the reduction in Contract Minimum Demand to 2,000kW. In this example, the required notice period is 44 months, determined as follows:

$$\begin{array}{l} \text{Reduction to Contract Minimum Demand} \\ \text{Notice Period} \end{array} = \begin{array}{l} 3,333 \\ 1,333 \end{array} \text{ kW} - \begin{array}{l} 2,000 \\ 30 \end{array} \text{ kW} = \begin{array}{l} 1,333 \text{ kW} \\ 44 \text{ months (60 maximum)} \end{array}$$

If the customer gives 44 months' notice, no Payment in Lieu of Notice is required by FortisAlberta. However, if the customer chooses for an immediate reduction in the Contract Minimum Demand, the Payment in Lieu of Notice would be calculated as follows:

$$\begin{array}{l} \text{Payment in Lieu of Notice} \\ \text{(Distribution Component)} \end{array} = 24 \times ( \$5,938.85 - \$5,109.70 ) = \$19,899.60$$

$$\begin{array}{l} \text{Payment in Lieu of Notice} \\ \text{(Transmission Component)} \end{array} = 44 \times ( \$10,782.64 - \$6,470.23 ) = \underline{\underline{\$189,746.04}}$$

$$\text{Total Payment in Lieu of Notice} = \underline{\underline{\$209,645.64}}$$

### Customer Contribution Required

In this example, the total buy-down charge will differ depending on whether the customer chooses to give the required notice or to implement the reduction to the Contract Minimum Demand immediately (i.e., at the end of year 5). The Customer Contribution, at the end of year 5, for a reduction to the Contract Minimum Demand, **with** the required notice given by the customer:

$$\begin{array}{l} \text{Buy-Down Charge} \\ \text{Add: Payment In Lieu of Notice} \\ \text{Customer Contribution} \end{array} = \begin{array}{l} \$108,000 \\ \$ \underline{\quad 0} \\ \$108,000 \end{array}$$

The customer contribution, at the end of year 5, for a reduction to the Contract Minimum Demand, **without** the required notice given by the customer:

Buy-Down Charge	=	\$108,000.00
Add: Payment In Lieu of Notice	=	<u>\$209,645.64</u>
Total Customer Contribution	=	<b>\$317,645.64</b>

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**Example F — Decrease of Contract Minimum Demand  
Rate 63 Large General Service to Rate 61 General Service**

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A similar customer to that in Example E, is consistently below their Expected Peak Demand of 2,000 kW at the end of year 5. The customer chooses to decrease the Contract Minimum Demand based on an expected reduced Expected Peak Demand of 1,000 kW, which would move the service onto Rate 61 General Service. The monthly charges will subsequently be based on the Rate 61 General Service rate sheet, either after the notice period has expired or immediately upon paying the Payment in Lieu of Notice.

**Original Expected Peak Demand (5,000 kW)    Original Contract Minimum Demand (3,333kW)**

	Units	Transmission Component	Distribution Component	Units	Transmission Component	Distribution Component
Service Charge	30.4167 days		\$20.35	30.4167 days		\$20.35
Demand (/kW/day)	5,000 kW	\$0.10636	\$0.02045	3,333 kW	\$0.10636	\$0.02045
Distance (/km/day)	6 km		\$17.79	6 km		\$17.79
Non-Energy Charges for 30 days		\$16,175.58	\$6,975.76		\$10,782.64	\$5,938.85



**New Expected Peak Demand (1,000 kW)      New Contract Minimum Demand (667kW)**

	Units	Transmission Component	Distribution Component	Units	Transmission Component	Distribution Component
Demand	50 kW	\$0.12305	\$0.24768	50 kW	\$0.12305	\$0.24768
(/kW/day)	450 kW	\$0.12305	\$0.11115	450 kW	\$0.12305	\$0.11115
	500 kW	\$0.12305	\$0.08493	167 kW	\$0.12305	\$0.08493
Non-Energy Charges for 30 days		\$3,742.77	\$3,189.69	667 kW	\$2,496.43	\$2,329.45

FortisAlberta reviews the impact on investment recovery resulting from the reduction in Expected Peak Demand and the move to a different rate class. In this example, the Investment Term for the Expected Peak Demand of 1,000kW has been decreased to 10 years.

The Investment Term of 10 years used for the PILON calculation, was further reduced by 60 months (5 years) to reflect the notice period requirement of 60 months<sup>1</sup> as calculated. The Investment Term for the New Expected Peak Demand of 1,000kW is now 5 years.

FortisAlberta originally invested according to the investment level and structure applicable to Rate 63 customers. However, the investment should now reflect the move to Rate 61. FortisAlberta must determine the difference between the amount that was originally invested at the Expected Peak Demand under Rate 63, and that which would have been invested at the decreased new Expected Peak Demand under Rate 61, with an adjustment for the number of years the service has been in place to date. The additional Customer Contribution required is calculated as follows:

Maximum Investment Term at Rate 63 with 15 year Investment Term	=	5,000 kW	x	\$104 per kW	
Metres of Customer Extension	+	4,000 m	x	\$115 per m	
Total Investment Available	=				\$980,000
Construction Cost of Standard Service	=				<u>\$1,200,000</u>
Original Customer Contribution under Rate 63	=				\$220,000

Prorated Using Service Life Factor			x	44.94%	
Original Customer Contribution under Rate 63			=	\$98,868	
Maximum Investment at Rate 61 with 5 year Investment Term	=	150 kW	x	\$415 per kW	
	+	850 kW	x	\$52 per kW	
Base Investment	+	\$2,606			
Total Investment Available			=	\$109,056	
Construction Cost of Standard Service	=	\$1,200,000			
Prorated Using Service Life Factor (from above)	x	44.94%		=	<u>\$539,280</u>
Calculated Customer Contribution at Rate 61			=	\$430,224	
<b>Buy-Down Charge</b>	=	\$430,224	–	\$98,868	= <b>\$331,356</b>
Reduction to Contract Minimum Demand	=	3,333 kW	–	667 kW	= 2,666 kW
Notice Period (60 Months Maximum)	=	2,666 kW	÷	30 kW	= 60 months
Payment in Lieu of Notice (Distribution Component)	=	24	x	( \$5,938.85 – \$2,329.45 )	= \$86,625.60
Payment in Lieu of Notice (Transmission Component)	=	60	x	( \$10,782.64 – \$2,496.43 )	= <u>\$497,172.60</u>
<b>Total Payment in Lieu of Notice</b>					<b>\$583,798.20</b>

## Customer Contribution Required

In this example, the customer contribution charge will differ depending on whether the customer chooses to give the required notice or to implement the reduction to Contract Minimum Demand immediately (i.e., at the end of year 5).

The Customer Contribution, at the end of year 5, for a reduction to Contract Minimum Demand, **with** the required notice given by the customer:

Buy-Down Charge = \$331,356

Therefore:

Customer Contribution = \$331,356

The Customer Contribution, at the end of year 5, for a reduction to Contract Minimum Demand, **without** the required notice given by the customer:

Buy-Down Charge = \$331,356.00

Add: Payment In Lieu of Notice = \$583,798.20

Total Customer Contribution = **\$915,154.20**

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***Example G — Reduction of Contract Minimum Demand Rate 63 Large General Service to Rate 41 Small General Service***

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A similar customer to that in Example F, at the end of year 5, is consistently below the 75 kW of Expected Peak Demand. The customer chooses to decrease their Contract Minimum Demand based on a New Expected Peak Demand of 50 kW, which would move the service onto Rate 41 Small General Service. The monthly charges will subsequently be based on the Small General Service Rate 41 rate sheet, either after the Notice Period has expired or immediately upon paying an additional Customer Contribution.

**Original Expected Peak Demand (5,000 kW) Original Contract Minimum Demand (3,333kW)**

	Units	Transmission Component	Distribution Component	Units	Transmission Component	Distribution Component
Service Charge	30.4167 days		\$20.35	30.4167 days		\$20.35
Demand (/kW/day)	5,000 kW	\$0.10636	\$0.02045	3,333 kW	\$0.10636	\$0.02045
Distance (/km/day)	6 km		\$17.79	6 km		\$17.79
Non-Energy Charges for 30 days		\$16,175.58	\$6,975.76		\$10,782.64	\$5,938.85

**New Expected Peak Demand (50 kW)**

**New Contract Minimum Demand (33.3kW)**

	Units	Transmission Component	Distribution Component	Units	Transmission Component	Distribution Component
Demand	2 kW	\$0.2407	\$0.53738	First 2 kW	\$0.2407	\$0.53738
(/km/day)	48 kW	\$0.2407	\$0.27355	31.3 kW	\$0.2407	\$0.27355
Non-Energy Charges for 30 days		\$ 365.86	\$ 431.63		\$ 243.60	\$ 292.67

FortisAlberta reviews the impact on investment recovery resulting from the reduction in Expected Peak Demand and move to a different rate class. In this example, the Investment Term for the New Expected Peak Demand of 50kW has been decreased to 10 years.

For the calculation of PILON, the Investment Term of 10 years was further reduced by 60 months (5 years) to reflect the notice period requirement of 60 months as calculated. The Investment Term for the New Expected Peak Demand of 50kW is now 5 years.

FortisAlberta originally invested according to the Investment Level and structure applicable to Rate 63 customers. However, the investment should now reflect the move to Rate 41. FortisAlberta must determine the difference between the amount that was originally invested at the Rate 63 Expected Peak Demand, and that which would have been invested at the Rate 41 Expected Peak Demand, with an adjustment for the number of years the service has been in place to date. The additional Customer Contribution required is calculated as follows:

Maximum Investment at Rate 63 Expected Peak Demand based on 15 year Investment Term	=	5,000 kW	x	\$104 per kW	
Metres of Customer Extension	+	4,000 m	x	\$115 per m	
Total Investment	=				\$980,000
Construction Cost of Standard Service	=				<u>\$1,200,000</u>
Original Customer Contribution at Rate 63 Expected Peak Demand	=				\$220,000
Prorated Using Service Life Factor	x			44.94%	
Adjusted Original Customer Contribution at Rate 63	=				\$98,868

Maximum Investment at Rate 41 Expected Peak Demand based on 5 year Investment Term	=	50 kW	x	\$415 per kW	
Base Investment	+	\$2,606			
Total Investment					= \$23,356
Adjusted Construction Cost of Standard Service	=	\$1,200,000			
Prorated Using Service Life Factor (from above)	x	44.94%			= \$539,280
Adjusted Calculated Customer Contribution at Rate 41 Expected Peak Demand	=				\$515,924
Buy-Down Charge	=	\$515,924	-	\$98,868	= <b>\$417,056</b>
Reduction to Contract Minimum Demand	=	3,333 kW	-	33.3 kW	= 3,300 kW
Notice Period (60 Months Maximum) <sup>1</sup>	=	3,300 kW	÷	30 kW	= 60 months
Payment in Lieu of Notice (Distribution Component)	=	24	x	( \$5,938.85 - \$ 292.67 )	= \$135,508.32
Payment in Lieu of Notice (Transmission Component)	=	60	x	( \$10,782.64 - \$ 243.60 )	= <u>\$632,342.40</u>
<b>Total Payment in Lieu of Notice</b>					<b>\$767,850.72</b>

## Customer Contribution

In this example, the total Buy-Down Charge will differ depending on whether the customer chooses to give the required notice or to implement the reduction to Expected Peak Demand immediately (i.e., at the end of year 5).

Total buy-down charge, at the end of year 5, for a reduction to Expected Peak Demand, **with** the required notice of 60 months given by the customer:

Buy-Down Charge = \$417,056

Therefore:

Total Buy-Down Charge = \$417,056

Total buy-down charge, at the end of year 5, for a reduction to Expected Peak Demand, **without** the required notice given by the customer:

Buy-Down Charge	=	\$417,056.00
Add: Payment In Lieu of Notice	=	<u>\$767,850.72</u>
Total Customer Contribution	=	<b>\$1,184,906.72</b>

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***Example G1 — Reduction of Contract Minimum Demand  
Rate 61 General Service to Rate 41 Small General Service***

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FortisAlberta originally invests in an Expected Peak Demand of 100 kW based on an Investment Term of 15 years. At the end of year 6, the customer chooses to decrease the Contract Minimum Demand based on a New Expected Peak Demand of 50 kW, which would move the service onto FortisAlberta’s Small General Service Rate 41. The monthly charges will subsequently be based on the Small General Service Rate 41 rate sheet, either after the Notice Period has expired or immediately upon paying the Payment in Lieu of Notice.

**Original Expected Peak Demand (100 kW)      Original Contract Minimum Demand (67 kW)**

	Units	Transmission Component	Distribution Component	Units	Transmission Component	Distribution Component
Demand	50 kW	\$0.12305	\$0.24768	50 kW	\$0.12305	\$0.24768
(/kW/day)	50 kW	\$0.12305	\$0.11115	17 kW	\$0.12305	\$0.11115
	0 kW	\$0.12305	\$0.08493	0 kW	\$0.12305	\$0.08493
Non-Energy Charges for 30 days		\$ 374.28	\$ 545.72	67 kW	\$ 250.77	\$ 434.15

**New Expected Peak Demand (50 kW)**

**New Contract Minimum Demand (33.3 kW)**

	Units	Transmission Component	Distribution Component	Units	Transmission Component	Distribution Component
Demand	2 kW	\$0.2407	\$0.53738	First 2 kW	\$0.2407	\$0.53738
(/km/day)	48 kW	\$0.2407	\$0.27355	31.3 kW	\$0.2407	\$0.27355
Non-Energy Charges for 30 days		\$ 365.86	\$ 431.63		\$ 243.60	\$ 292.67

FortisAlberta reviews the impact on investment recovery resulting from the decrease in Expected Peak Demand and move to a different rate class. In this example, the Investment Term has been re-calculated at 10 years for the reduced Expected Peak Demand.

As well, FortisAlberta originally invested according to the Investment Level and structure applicable to Rate 61 customers. However, the investment should now reflect the move to Rate 41. FortisAlberta must determine the difference between the amount that was originally invested at the Rate 61 Expected Peak Demand, and that which would have been invested at the Rate 41 Expected Peak Demand, with an adjustment for the number of years the service has been in service.

The additional Customer Contribution required is calculated as follows:

Maximum Investment at Original Expected Peak Demand (Rate 61)	=	100 kW	x	\$923 per kW	
Base Investment	+	\$5,799			
Total Investment					= \$98,099
Construction Cost of Standard Service					= <u>\$100,000</u>
Original Customer Contribution at Original Expected Peak Demand					= \$1,901
Prorated Using Service Life Factor			x	77.05%	
Adjusted Customer Contribution at Original Expected Peak Demand					= \$1,465
Maximum Investment at New Expected Peak Demand (Rate 41)	=	50 kW	x	\$711 per kW	
Base Investment	+	\$4,468			
Total Investment					= \$40,018

Adjusted Construction Cost of Standard Service	=	\$100,000		
Prorated Using Service Life Factor (from above)	x	77.05%	=	\$77,050
Adjusted Calculated Customer Contribution at New Expected Peak Demand			=	\$37,032
<b>Buy-Down Charge</b>	=	\$37,032	-	\$1,465 = <b>\$35,567<sup>1</sup></b>
Reduction to Contract Minimum Demand	=	67 kW	-	33.3 kW = 34 kW
Notice Period (60 Months Maximum)	=	34 kW	÷	30 kW = 1 month
Payment in Lieu of Notice (Distribution Component)	=	1	x	( \$ 434.15 - \$ 292.67 ) = \$ 141.48
Payment in Lieu of Notice (Transmission Component)	=	1	x	( \$ 250.77 - \$ 243.60 ) = <u>\$ 7.17</u>
<b>Total Payment in Lieu of Notice</b>				<b>\$ 148.65<sup>2</sup></b>

## Customer Contribution

In this example, the total customer contribution will differ depending on whether the customer chooses to give the required notice or to implement the reduction to Expected Peak Demand immediately (i.e., at the end of year 5).

Total customer contribution, at the end of year 5, for a reduction to Expected Peak Demand, **with** the required notice given by the customer:

Buy-Down Charge = \$35,567<sup>1</sup>

Therefore:

Customer Contribution = \$35,567

Total buy-down charge, at the end of year 5, for a reduction to Expected Peak Demand, **without** the required notice given by the customer:

Buy-Down Charge = \$35,567.00<sup>1</sup>

Add: Payment In Lieu of Notice = \$ 148.65<sup>2</sup>

Total Customer Contribution = **\$35,715.65**



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**Example H — Permanent Disconnection of Electric Service (Salvage)**

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A similar customer to that in Example F, at the end of year 5, is has no load, and chooses to terminate the Electric Service Agreement with FortisAlberta and effectively buy down the Contract Minimum Demand to zero. The physical facilities will be salvaged.

**Original Expected Peak Demand (5,000 kW)      Original Contract Minimum Demand (3,333kW)**

	Units	Transmission Component	Distribution Component	Units	Transmission Component	Distribution Component
Service Charge	30.4167 days		\$20.35	30.4167 days		\$20.35
Demand (/kW/day)	5,000 kW	\$0.10636	\$0.02045	3,333 kW	\$0.10636	\$0.02045
Distance (/km/day)	6 km		\$17.79	6 km		\$17.79
Non-Energy Charges for 30 days		\$16,175.58	\$6,975.76		\$10,782.64	\$5,938.85

**New Expected Peak Demand (0 kW)      New Contract Minimum Demand (0kW)**

	Units	Transmission Component	Distribution Component	Units	Transmission Component	Distribution Component
Service Charge			\$20.35			\$20.35
Demand (/kW/day)	0 kW	\$0.10636	\$0.02045	0 kW	\$0.10636	\$0.02045
Distance (/km/day)	0 km		\$17.79	0 km		\$17.79
Non-Energy Charges for 30 days		\$ 0.00	\$ 0.00		\$ 0.00	\$ 0.00

FortisAlberta reviews the amount of investment that will not be recovered due to the decrease in Expected Peak Demand to zero. In this example, the Investment Term has been re-calculated at 5 years for the decreased Expected Peak Demand. The additional Customer Contribution required is calculated as follows based on the 10 year Investment Level from the table in Section 3.1.

For the PILON calculation, the Investment Term was further decreased by 60 months (5 years) to adjust for the notice period requirement.

Un-recovered Investment	=	5,000 kW	x	\$47 per kW	
Metres of Customer Extension	+	4,000 m	x	\$52 per m	
Total Investment					= \$443,000
<b>Buy-Down Charge</b>					= <b>\$443,000</b>
Reduction to Contract Minimum Demand	=	3,333 kW	-	0 kW	= 3,333 kW
Notice Period (60 Months Maximum) <sup>1</sup>	=	3,333 kW	÷	30 kW	= 60 months
.....					
Payment in Lieu of Notice (Distribution Component)	=	24	x	( \$5,938.85 - \$ 0.00 )	= \$142,532.40
Payment in Lieu of Notice (Transmission Component)	=	60	x	( \$10,782.64 - \$ 0.00 )	= <u>\$646,958.40</u>
<b>Total Payment in Lieu of Notice</b>					<b>\$789,490.80</b>

## Customer Contribution

In this example, the total customer contribution will differ depending on whether the customer chooses to give the required notice or to terminate the Electric Service Agreement immediately and salvage the service (i.e., at the end of year 5).

Total customer contribution, at the end of year 5, for a reduction to Expected Peak Demand, **with** the required notice of 60 months given by the customer:

Buy-Down Charge = \$443,000  
 Therefore:  
 Customer Contribution = \$443,000

Total Customer Contribution, at the end of year 5, for a reduction to Expected Peak Demand, **without** the required notice of 60 months given by the customer:

Buy-Down Charge	=	\$443,000.00
Add: Payment In Lieu of Notice	=	<u>\$789,490.80</u>
Total Customer Contribution	=	<b>\$1,232,490.80</b>

## Customer Contribution Refund for an Increase of Contract Minimum Demand

It is the customer's responsibility to notify FortisAlberta if there is an increase to the customer's Expected Peak Demand whether or not Facilities have to be expanded to accommodate the load increase. A new signed Electric Service Agreement is required for the revised Contract Minimum Demand to reflect the Expected Peak Demand increase.

As explained in Section 7.2.3 of the Terms and Conditions, Customer Contributions are refundable for a period of 10 years following the date of payment. Refunds will not exceed the amount of the original Customer Contribution.

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### *Example 1 — Increase of Contract Minimum Demand Rate 61 General Service*

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Originally, FortisAlberta invested in a 125 kW of Expected Peak Demand with an Investment Term of 15 years. The customer was required at that time to make a Customer Contribution towards the capital cost of facilities that was not covered by investment.

Capital Cost of Standard Service				\$150,000
FortisAlberta Maximum Investment based on 15 year Investment Term	=	125 kW	x \$923 per kW	
Base Investment	+	\$5,799		
Total Investment				= <u>\$121,174</u>
<b>A: Customer Contribution</b>				\$28,826

If after 5 years the Expected Peak Demand increases to 300 kW, FortisAlberta will increase the Contract Minimum Demand (consistent with the new Expected Peak Demand) and the service is then eligible for a refund of a portion of the original Customer Contribution.

The original Customer Contribution calculation was based on an Expected Peak Demand of 125 kW based on an Investment Term of 15 years, and the new calculation is based on an additional 175 kW of Expected Peak Demand based on a 10 year Investment Term:

Capital Cost of Additional Facilities					\$25,000
FortisAlberta Maximum Investment Level based on a 10 year Investment Term	=	25 kW	x	\$711 per kW	
	+	150 kW	x	\$89 per kW	
Total investment available					= <u>\$31,125</u>
B: Additional Investment Available					\$6,125
<b>Refund of Customer Contribution, lesser of A and B</b>				<u>(\$1,050)</u>	= <b>\$6,125</b>

#### 4.1. Line Share

When a new customer connects to the distribution system and benefits from the existing infrastructure, paid for in part through Customer Contributions by earlier customers, it is generally appropriate for the new customer to contribute to the cost of the original Facilities and for the earlier customers to receive a commensurate refund. This is generally referred to as line share. A simplified method is applied for Expected Peak Demands less than 100 kW.

#### 4.2. Prepaid Line Share for Expected Peak Demands Less Than 100 kW

For smaller customers, construction costs vary mostly with distance. According to the FortisAlberta investment policy, customers requiring long (and therefore more expensive) extensions would generally have to make larger Customer Contribution than those with short extensions. Through Line Share, customers with lower than average costs (generally associated with short extensions) compensate customers who pioneered and paid for the longer extensions. For the many new customers with smaller Expected Peak Demands, to provide more certainty of costs at the time of connection and to reduce administration costs, FortisAlberta pre-calculates a one-time charge for short extensions or one-time credit for long extensions, which is applied (that is, "prepaid") at the time of the connection. The customer is then not subject to any further line share costs or refunds.

Under the Prepaid Line Share method, Customer Contributions are calculated as follows:

$$\text{Customer Contribution} = (\text{Capital Cost} \pm \text{Line Share}) - \text{FortisAlberta Investment}$$

For rural General Service and Oil & Gas Service under 100 kW:

$$\text{Line Share, Single Phase} = (\$6,200 - \text{Capital Cost}) \times 20\%$$

$$\text{Line Share, Three Phase} = (\$11,500 - \text{Capital Cost}) \times 20\%$$

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### **Example J — Prepaid Line Share with Higher-Than-Average Costs**

---

Customer has 90 kW of Expected Peak Demand, with an Investment Term of 12 years.

Capital Cost of Connection, Three-Phase					\$100,000
Less: Prepaid Line Share Credit	=	( \$11,500 – \$100,000 )	x	0.2	= \$17,700
Less: FortisAlberta Maximum Investment Level	=	90 kW	x	\$805 per kW	+ \$5,055 = \$77,505
Customer Contribution				\$4,795	= <b>\$4,795</b>

---

### **Example K — Prepaid Line Share with Lower-Than-Average Costs**

---

Customer has 76 kW of Expected Peak Demand, with an Investment Term of 2 years.

Capital Cost of Connection, Three-Phase					\$18,000
Less: Prepaid Line Share Charge	=	( \$11,500 – \$18,000 )	x	0.2	= \$1,300
Less: FortisAlberta Maximum Investment Level	=	76 kW	x	\$183 per kW	+ \$1,148 = \$15,056
Customer Contribution				\$1,644	= <b>\$1,644</b>

#### **4.3. Line Share Calculation for Expected Peak Demands of 100 kW or More**

There are two situations under which line share is calculated for customers with Expected Peak Demands greater than 100 kW.

- a) A new customer shares all or part of a new extension with other new customers. The cost of the shared facilities assigned to each customer is determined by prorating the total cost between the customers, on the basis of their Expected Peak Demands load.

A new customer connects to an existing extension for which an existing customer has made a Customer Contribution within the last 10 years. The new customer will be assigned a pro-rata share of the cost of the shared facilities, based on the customers' respective Expected Peak Demands. The amount contributed for the shared facilities by the new customer will be refunded to the original customer.

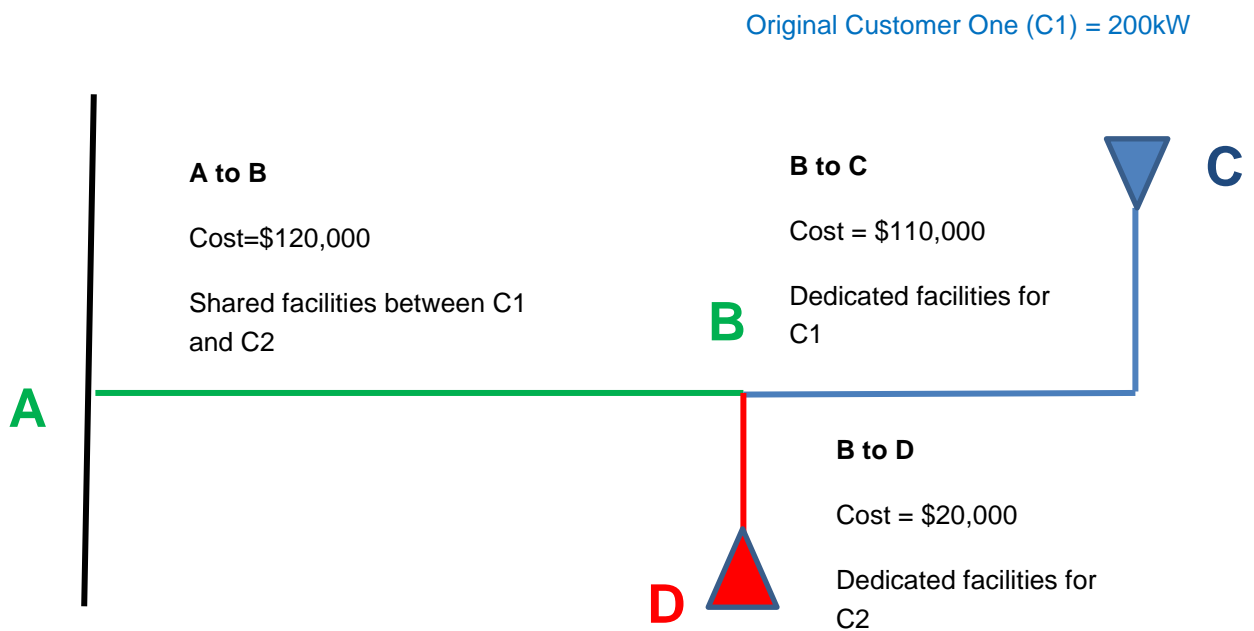
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**Example L — Line Share When Second Customer Connects to Existing System**

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**First Customer:** General Service Rate 61 Customer One connects to the system with 200 kW of Expected Peak Demand and using an Investment Term of 15 years.

**Second Customer:** General Service Rate 61 Customer Two connects to the system, subsequent to Customer One, with Expected Peak Demand of 100 kW of and using an Investment Term of 10 years. Customer Two uses 3 km of the 5 km line originally provided to Customer One.



Customer Two (C2) Tapped into original facilities built for C1 = 100kW

Customer One (C1) shared portion A-B

@ 200kW of Expected Peak Demand  $(200\text{kW}/300\text{kW}) * \$120,000 = \$80,000$

Customer Two (C2) shared portion A-B

@ 100kW of Expected Peak Demand  $(100\text{kW}/300\text{kW}) * \$120,000 = \$40,000$

## Investment

**Customer One (C1)** with 200kW of Expected Peak Demand with 15 year Investment Term

FortisAlberta Maximum Investment level = 150kW x \$923 per KW

+ 50kW x \$116 per kW

Base Investment +\$5,799

Total Investment **\$150,049**

**Customer Two (C2)** with 100kW of Expected Peak Demand with 10 year Investment Term

FortisAlberta Maximum Investment level = 100kW x \$711 per KW

Base Investment +\$4,468

Total Investment **\$75,568**

## Revised Capital Cost for Shared Facilities

### **Customer One (C1)**

#### *Original Capital Costs*

From A to B \$120,000

From B to C \$110,000

Total Capital Costs \$230,000

Less Investment \$150,049

Original Customer Contribution Paid \$79,951

#### *Revised Capital Costs with C2 Connected*

From A to B \$80,000

From B to C \$110,000

Total Revised Capital Costs \$190,000

Less Investment \$150,049

Revised Customer Contribution           \$39,951

Amount to be refunded to C1 (\$82,706-\$42,706) = (\$40,000)

**Customer Two (C2)**

Dedicated Facilities (B-D)               \$20,000

Shared Facilities (A-B)                   \$40,000

Total Capital Costs                       \$60,000

Less Investment                           \$75,568

**Total Customer Contribution Required   \$0**