

FORTIS ALBERTA



Guide to Customer Contributions and FortisAlberta Investment

2017

TABLE OF CONTENTS

Introduction	3
1. Customer contributions	4
1.1. Customer Contributions	4
1.2. Optional Supply Facilities	4
1.3. Temporary Facilities	5
1.4. Early System Costs	5
1.5. Alberta Electric System Operator Contributions	5
2. FortisAlberta maximum investment levels	6
2.1. Maximum Investment Level When Investment Term is Less Than 15 Years	6
3. Customer contributions for new installations	8
3.1. Customer Contribution for Constant Load	8
3.2. Customer Contribution for Staged Load	9
4. Customer contribution payable for a reduction of contract minimum demand (Buy-Down) .	10
4.1. Line Share	24
4.2. Prepaid Line Share for Expected Peak Demands Less Than 100 kW	24
4.3. Line Share Calculation for Expected Peak Demands of 100 kW or More	25

INTRODUCTION

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 which is the period of time for which that load will contribute revenue to the operation of the system. 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 an unexpected 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 numerical 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

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

A Customer Contribution may also arise from a reduction of Contract Minimum Demand, and may be accompanied by any Payment in Lieu of Notice charge associated with a reduction of Contract Minimum Demand.

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

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	2017 Maximum Investment Level
General Service Rate 61	\$5,706, plus \$908 per kW for the first 150 kW, plus \$114per kW for additional kW of Peak Demand
Large General Service Rate 63 (Distribution Connected)	\$103 per kW of Peak Demand, plus \$113 per metre of Customer Extension

These investment levels are available when the new Facilities are expected to produce revenue over an Investment Term of 15 years.

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

When establishing the investment level, FortisAlberta will consider the viable technical life of the Facilities provided by FortisAlberta, the economic life of the customer's operation, 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. Based on experience with similar customer operations, and the customer's own investment and operational expectations, FortisAlberta would expect to reach agreement with a customer on the Investment Term. If agreement cannot be reached, FortisAlberta will use its judgement in assessing the Investment Term, bearing in mind the interests of all customers. The customer may appeal to the Alberta Utilities Commission to determine if a higher Investment Term of FortisAlberta investment is justified

For Facilities that will be in place for less than 2 years, FortisAlberta 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. 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%	\$1,130	\$180	\$23	\$20	\$22
3	28.75%	\$1,641	\$261	\$33	\$30	\$32
4	37.12%	\$2,118	\$337	\$42	\$38	\$42
5	44.94%	\$2,564	\$408	\$51	\$46	\$51
6	52.25%	\$2,982	\$474	\$60	\$54	\$59
7	59.09%	\$3,272	\$537	\$67	\$61	\$67
8	65.49%	\$3,737	\$596	\$75	\$67	\$74
9	71.46%	\$4,078	\$649	\$81	\$74	\$81
10	77.05%	\$4,397	\$700	\$88	\$79	\$87
11	82.28%	\$4,695	\$747	\$94	\$85	\$93
12	87.17%	\$4,974	\$791	\$99	\$90	\$98
13	91.73%	\$5,234	\$833	\$105	\$94	\$104
14	96.01%	\$5,478	\$872	\$109	\$99	\$108
15 or more	100.00%	\$5,706	\$908	\$114	\$103	\$113

3. CUSTOMER CONTRIBUTIONS FOR NEW INSTALLATIONS

FortisAlberta invests in Standard Services, in an amount reflecting both the Expected Peak Demand and an Investment Term. 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 maximum available investment.

FortisAlberta does not invest in Optional Supply Facilities.

3.1. Customer Contribution for Constant Load

FortisAlberta frequently invests in a service with a constant Expected Peak Demand that will continue for 15 years or more.

Example A — Constant Expected Peak Demand of 2,000 kW or Less

An Expected Peak Demand of 300 kW (i.e., Rate 61- General Service) eligible for an Investment Term of 15 years, with some optional facilities.

FortisAlberta Maximum Investment Level	=	150 kW	x	\$908 per kW	
	+	150 kW	x	\$114 per kW	
Base Investment	+	\$5,706			
Total Investment					= \$159,006
Construction Cost of Standard Service	=	\$175,000			
Construction Cost of Optional Facilities	=	\$25,000			
Customer Contribution for Standard Service	=	\$175,000	-	\$159,006	= \$15,994
Customer Contribution for Optional Facilities	=	\$25,000	+	20% O&M	= <u>\$30,000</u>
Total Customer Contribution					\$45,994

Example B — Constant Expected Peak Demand Greater Than 2,000 kW

An Expected Peak Demand of 3,000 kW (i.e., Rate 63- Large General Service) connects for a period of 15 years or more. The service includes a Customer Extension of 800 m.

FortisAlberta Maximum Investment Level	=	3,000 kW	x	\$103 per kW	
Metres of Customer Extension	+	800 m	x	\$113 per m	
Total Investment					= \$399,400
Construction Cost of Standard Service	=	\$500,000			
Construction Cost of Optional Facilities	=	none			
Customer Contribution for Standard Service	=	\$500,000	–	\$399,400	= \$100,600
Customer Contribution for Optional Facilities					= none
Total Customer Contribution					\$100,600

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.

Example C — Increasing Load

An Expected Peak Demand of 200 kW (i.e., General Service Rate 61) 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 for 10 year Investment Term	=	150 kW	x	\$700 per kW	
		+ 50 kW	x	\$88 per kW	
Base Investment		+ \$4,397			
Total Investment				=	\$113,797
@ 6 months for 9 ½ year Investment Term (10 years used)		400 kW	x	\$88 per kW	=
					\$35,200
@ 1year for 9 year Investment Term		400 kW	x	\$81 per kW	=
					<u>\$32,400</u>
Total Investment				=	\$181,397
Construction Cost of Standard Service	=	\$230,000			
Construction Cost of Optional Facilities	=	none			
Customer Contribution for Standard Service	=	\$230,000	–	\$181,397	=
					\$48,603
Customer Contribution for Optional Facilities				=	none
Total Customer Contribution				=	\$48,603

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

FortisAlberta's investment is made with the expectation of a certain level of revenue every year for the Investment Term. 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 declined, 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.

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 is required. The Payment in Lieu of Notice is calculated by multiplying the difference between the non-energy portions of the monthly bill based on the existing Contract Minimum Demand and the non-energy portions of the monthly bill based on the new Contract Minimum Demand, by the number of months comprising the notice period required by FortisAlberta. 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.

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. 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.

Example D — Reduction of Contract Minimum Demand Within Rate 61

FortisAlberta originally invests in an Expected Peak Demand of 300 kW (i.e., General Service Rate 61) based on an Investment Term of 15 years or more. The Expected Peak Demand eventually drops to 125 kW.

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

FortisAlberta Maximum Investment Level	=	150 kW	x	\$908 per kW	
Base Investment	+	150 kW	x	\$114 per kW	
			+	\$5,706	
Total Investment					= \$159,006

When the Expected Peak Demand drops to 125 kW, the customer will eventually experience frequent billing based 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 reduction in the Expected Peak Demand, and may request an additional Customer Contribution.

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

- the 175 kW reduction from the 300 kW originally 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 reduced to \$700/kW for the first 25 kW and \$88/kW for the remaining 150 kW of the 175 kW reduction in Expected Peak Demand. (See General Service Rate 61 investment amounts for an Investment Term Life of 10 years in Investment Table in Section 3.1.)

Un-recovered Investment (end of year 5)	=	25 kW	x	\$700 per kW	
		+ 150 kW	x	\$88 per kW	
Total Investment					= \$30,700

The Additional Customer Contribution is as follows:

Original Economics

FortisAlberta Maximum Investment Level (above)	=	\$159,006
Construction Cost of Standard Service	=	<u>\$230,000</u>
Construction Contribution	=	\$70,994

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

Un-recovered Investment (above)	=	\$30,700
Therefore:		
Additional Customer Contribution	=	\$30,700

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.

Example E — Reduction of Contract Minimum Demand Within Rate 63

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 drops to 3,000 kW. The service was initially on Large General Service Rate 63 and 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 transmission 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 (2,000kW)

	Units	Transmission Component	Distribution Component	Units	Transmission Component	Distribution Component
Service Charge	30.4167 days		\$22.84	30.4167 days		\$22.84
Demand (/kW/day)	5,000 kW	\$0.10424	\$0.02294	3,333 kW	\$0.10424	\$0.02294
Distance (/km/day)	6 km		\$19.9526	6 km		\$19.9526
Non-Energy Charges for 30 days		\$15,853.17	\$7,824.86		\$10,567.72	\$6,661.69

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

FortisAlberta Maximum Investment Level	=	5,000 kW	x	\$103 per kW	
Metres of Customer Extension	+	4,000 m	x	\$113 per m	=
Total Investment					\$967,000
Construction Cost of Standard Service	=	\$1,200,000			
Construction Cost of Optional Facilities	=	none			
Customer Contribution for Standard Service	=	\$1,200,000	-	\$967,000	= \$233,000
Customer Contribution for Optional Facilities	=	none			
Total Customer Contribution					\$233,000

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 opts to reduce the Contract Minimum Demand according to a reduction of the 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		\$22.84	30.4167 days		\$22.84
Demand (/kW/day)	3,000 kW	\$0.10424	\$0.02294	2,000 kW	\$0.10424	\$0.02294
Distance (/km/day)	6 km		\$19.9526	6 km		\$19.9526
Non-Energy Charges for 30 days		\$9,511.90	\$6,429.34		\$6,341.27	\$5,731.58

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 Expected Peak Demand of 2,000 kW has been re-calculated at 6 years. Hence, the additional Customer Contribution required is calculated as follows:

$$\text{Un-recovered Investment} = 2,000 \text{ kW} \times \$54 \text{ per kW} = \$108,000$$

Therefore:

$$\text{Additional Customer Contribution Required} = \$108,000$$

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:

$$\text{Reduction to Contract Minimum Demand} = 3,333 \text{ kW} - 2,000 \text{ kW} = 1,333 \text{ kW}$$

$$\text{Notice Period} = 1,333 \text{ kW} \div 30 \text{ kW} = 44 \text{ months (60 maximum)}$$

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

$$\text{Payment in Lieu of Notice (Distribution Component)} = 24 \times (\$6,661.69 - \$5,731.58) = \$22,322.64$$

$$\text{Payment in Lieu of Notice (Transmission Component)} = 44 \times (\$10,567.72 - \$6,341.27) = \underline{\$185,963.80}$$

$$\text{Total Payment in Lieu of Notice} = \underline{\underline{\$208,286.44}}$$

Resulting Buy-Down Charge

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

Additional Customer Contribution	= \$ 108,000
Add: Payment In Lieu of Notice =	\$ <u>0</u>
Total Buy-Down Charge =	\$ 108,000

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

Additional Customer Contribution	= \$108,000.00
Add: Payment In Lieu of Notice	= <u>\$208,286.44</u>
Total Buy-Down Charge	= \$316,286.44

Example F — Reduction of Contract Minimum Demand from Rate 63 to Rate 61

A similar customer to that in Example E, at the end of year 5, is taking load at a level consistently below the Expected Peak Demand of 2,000 kW (approximately 1,000 kW). The customer opts to buy down the Contract Minimum Demand based on an expected reduced Expected Peak Demand of 1,000 kW, which would move the service onto FortisAlberta's General Service Rate 61. The monthly charges will subsequently be based on the General Service Rate 61 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		\$22.84	30.4167 days		\$22.84
Demand (/kW/day)	5,000 kW	\$0.10424	\$0.02294	3,333 kW	\$0.10424	\$0.02294
Distance (/km/day)	6 km		\$19.9526	6 km		\$19.9526
Non-Energy Charges for 30 days		\$15,853.17	\$7,824.86		\$10,567.72	\$6,661.69

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	\$0.12081	\$0.23753	50 kW	\$0.12081	\$0.23753
(/kW/day)	450 kW	\$0.12081	\$0.10658	450 kW	\$0.12081	\$0.10658
	500 kW	\$0.12081	\$0.08145	167 kW	\$0.12081	\$0.08145
Non-Energy Charges for 30 days		\$3,674.64	\$3,058.78		\$2,450.98	\$2,233.79

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 has been re-calculated at 5 years for the reduced Expected Peak Demand.. As well, 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 higher Expected Peak Demand, and that which would have been invested at the lower Expected Peak Demand as a Rate 61 customer, 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 Higher Expected Peak Demand (Rate 63)	=	5,000 kW	x	\$103 per kW	
Metres of Customer Extension	+	4,000 m	x	\$113 per m	
Total Investment					= \$967,000
Construction Cost of Standard Service					= <u>\$1,200,000</u>
Original Customer Contribution at Higher Expected Peak Demand					= \$233,000
Prorated Using Service Life Factor					x 44.94%
Adjusted Original Customer Contribution at Higher Expected Peak Demand					= \$104,710
Maximum Investment at Lower Expected Peak Demand for Rate 61	=	150 kW	x	\$408 per kW	
Remaining Investment Term	+	850 kW	x	\$51 per kW	
Base Investment	+	\$2,564			

Total Investment				=	\$107,114
Adjusted Construction Cost of Standard Service	=	\$1,200,000			
Prorated Using Service Life Factor (from above)	x	44.94%		=	<u>\$539,280</u>
Adjusted Calculated Customer Contribution at Lower Expected Peak Demand	=	\$432,166			
Additional Calculated Contribution Required (Additional Calculated Investment Available)	=	\$432,166	-	\$104,710	= \$327,456
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	(\$6,661.69 - \$2,233.79)	= \$106,269.60
Payment in Lieu of Notice (Transmission Component)	=	60	x	(\$10,567.72 - \$2,450.98)	= <u>\$487,004.40</u>
Total Payment in Lieu of Notice					\$593,274.00

Resulting Buy-Down Charge

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

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

Additional Customer Contribution = \$327,456

Therefore:

Total Buy-Down Charge = \$327,456

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

Additional customer contribution	=	\$327,456.00
Add: Payment In Lieu of Notice	=	<u>\$593,274.00</u>
Total Buy-Down Charge	=	\$920,730.00

Example G — Reduction of Contract Minimum Demand from Rate 63 to Rate 41

A similar customer to that in Example F, at the end of year 5, is taking load at a level consistently below the 75 kW of Expected Peak Demand (approximately 50 kW). The customer opts to buy down the Contract Minimum Demand based on an 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 (5,000 kW) Original Contract Minimum Demand (3,333kW)

	Units	Transmission Component	Distribution Component	Units	Transmission Component	Distribution Component
Service Charge	30.4167 days		\$22.84	30.4167 days		\$22.84
Demand (/kW/day)	5,000 kW	\$0.10424	\$0.02294	3,333 kW	\$0.10424	\$0.02294
Distance (/km/day)	6 km		\$19.9526	6 km		\$19.9526
Non-Energy Charges for 30 days		\$15,853.17	\$7,824.86		\$10,567.72	\$6,661.69

New Expected Peak Demand (50 kW)

New Minimum Demand (3kW)

	Units	Transmission Component	Distribution Component	Units	Transmission Component	Distribution Component
Demand	2 kW	\$0.2322	\$0.49703	First 2 kW	\$0.2322	\$0.49703
(/km/day)	48 kW	\$0.2322	\$0.25301	1 kW	\$0.2322	\$0.25301
Non-Energy Charges		\$ 352.94	\$ 399.22		\$ 20.99	\$ 37.52

for 30 days					
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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 has been re-calculated at 5 years for the reduced Expected Peak Demand. As well, 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 higher Expected Peak Demand, and that which would have been invested at the lower Expected Peak Demands a Rate 41 customer, 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 Higher Expected Peak Demand (Rate 63)	=	5,000 kW	x	\$103 per kW	
Metres of Customer Extension	+	4,000 m	x	\$113 per m	
Total Investment					= \$967,000
Construction Cost of Standard Service					= <u>\$1,200,000</u>
Original Customer Contribution at Higher Expected Peak Demand					= \$233,000
Prorated Using Service Life Factor			x	44.94%	
Adjusted Original Customer Contribution at Higher Expected Peak Demand					= \$104,710
Maximum Investment at Lower Expected Peak Demand (Rate 41)	=	50 kW	x	\$408 per kW	
Base Investment	+	\$2,564			
Total Investment					= \$22,964
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 Lower Expected Peak Demand					= \$516,316
Additional Calculated Contribution Required (Additional Calculated Investment Available)	=	\$516,316	-	\$104,710	= \$411,606

Reduction to Contract Minimum Demand	=	3,333 kW	–	3 kW	=	3,330 kW
Notice Period (60 Months Maximum)	=	3,330 kW	÷	30 kW	=	60 months
Payment in Lieu of Notice (Distribution Component)	=	24	x	(\$6,661.69 – \$ 37.52)	=	\$158,980.08
Payment in Lieu of Notice (Transmission Component)	=	60	x	(\$10,567.72 – \$ 20.99)	=	<u>\$632,803.80</u>
Total Payment in Lieu of Notice						\$791,783.88

Resulting Buy-Down Charge

In this example, the total buy-down charge will differ depending on whether the customer opts 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 given by the customer:

Additional customer contribution = \$411,606

Therefore:

Total Buy-Down Charge = \$411,606

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:

Additional customer contribution = \$411,606.00

Add: Payment In Lieu of Notice = \$791,783.88

Total Buy-Down Charge = **\$1,203,389.88**

Example H — Termination of Electric Service Agreement

A similar customer to that in Example F, at the end of year 5, is taking no load, and opts to terminate the Electric Service Agreement with FortisAlberta and effectively buy down the Contract Minimum Demand to zero.

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		\$22.84	30.4167 days		\$22.84
Demand (/kW/day)	5,000 kW	\$0.10424	\$0.02294	3,333 kW	\$0.10424	\$0.02294
Distance (/km/day)	6 km		\$19.9526	6 km		\$19.9526
Non-Energy Charges for 30 days		\$15,853.17	\$7,824.86		\$10,567.72	\$6,661.69

New Expected Peak Demand (0 kW)

New Contract Minimum Demand (0kW)

	Units	Transmission Component	Distribution Component	Units	Transmission Component	Distribution Component
Service Charge			\$22.84			\$22.84
Demand (/kW/day)	0 kW	\$0.10424	\$0.02294	0 kW	\$0.10424	\$0.02294
Distance (/km/day)	0 km		\$19.9526	0 km		\$19.9526
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 reduction in Expected Peak Demand to zero. In this example, the Investment Term has been re-calculated at 5 years for the reduced Expected Peak Demand. The additional Customer Contribution required is calculated as follows based on the 5 year Investment Level from the table in Section 3.1:

$$\begin{aligned}
 \text{Un-recovered Investment} &= 5,000 \text{ kW} \times \$46 \text{ per kW} \\
 \text{Metres of Customer Extension} &+ 4,000 \text{ m} \times \$51 \text{ per m} \\
 \text{Total Investment} &= \$434,000
 \end{aligned}$$

Additional Customer Contribution Required				=	\$434,000
Reduction to Contract Minimum Demand	=	3,333 kW	–	0 kW	= 3,333 kW
Notice Period (60 Months Maximum)	=	3,333 kW	÷	30 kW	= 60 months
Payment in Lieu of Notice (Distribution Component)	=	24	x	(\$6,661.69 – \$ 0.00)	= \$159,880.56
Payment in Lieu of Notice (Transmission Component)	=	60	x	(\$10,567.72 – \$ 0.00)	= <u>\$634,063.20</u>
Total Payment in Lieu of Notice					\$793,943.76

Resulting Buy-Down Charge

In this example, the total buy-down charge will differ depending on whether the customer opts to give the required notice or to terminate the Electric Service Agreement 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 given by the customer:

Additional Customer Contribution = \$434,000

Therefore:

Total Buy-Down Charge = \$434,000

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:

Additional Customer Contribution = \$434,000.00

Add: Payment In Lieu of Notice = \$793,943.76

Total Buy-Down Charge = **\$1,227,943.76**

Customer Contribution Refund for an Increase of Contract Minimum Demand (Buy-Up)

Fortis Alberta's investment is made with the expectation of a certain level of revenue every year for the life of the service. If a customer's Expected Peak Demand has increased, Fortis Alberta may find it is receiving more revenue than expected and additional investment can be made in the service. It is the customer's responsibility to notify Fortis Alberta 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 shall not exceed the amount of the original Customer Contribution.

Example I — Increase of Contract Minimum Demand within Rate 61

Originally, FortisAlberta invested in a 125 kW of Expected Peak Demand (i.e., General Service Rate 61) for an Investment Term of 15 years, and the customer was required to make a Customer Contribution towards the capital cost of facilities.

Capital Cost of Standard Service				\$150,000
FortisAlberta Maximum Investment	=	125 kW	x \$908 per kW	
Base Investment	+	\$5,706		
Total Investment				= <u>\$119,206</u>
A: Customer Contribution				\$30,794

If after 5 years the Expected Peak Demand increases to 300 kW, the customer can increase the Contract Minimum Demand (consistent with the new Expected Peak Demand) and become 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 for an Investment Term of 15 years, and the new calculation is based on an additional 175 kW of Expected Peak Demand for a 10 year Investment Term:

Capital Cost of Additional Facilities				\$25,000
FortisAlberta Maximum Investment Level	=	25 kW	x \$700 per kW	
	+	150 kW	x \$88 per kW	
Base Investment				= <u>\$30,700</u>
B: Additional Investment Available				\$5,700

Refund of Customer Contribution, lesser of A and B = \$6,200

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:

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

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

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	\$791 per kW	+	\$4,974	=	\$76,164
Customer Contribution							=	\$6,136

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	\$180 per kW	+	\$1,130	=	\$14,810	
Customer Contribution							=	\$1,890	

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.

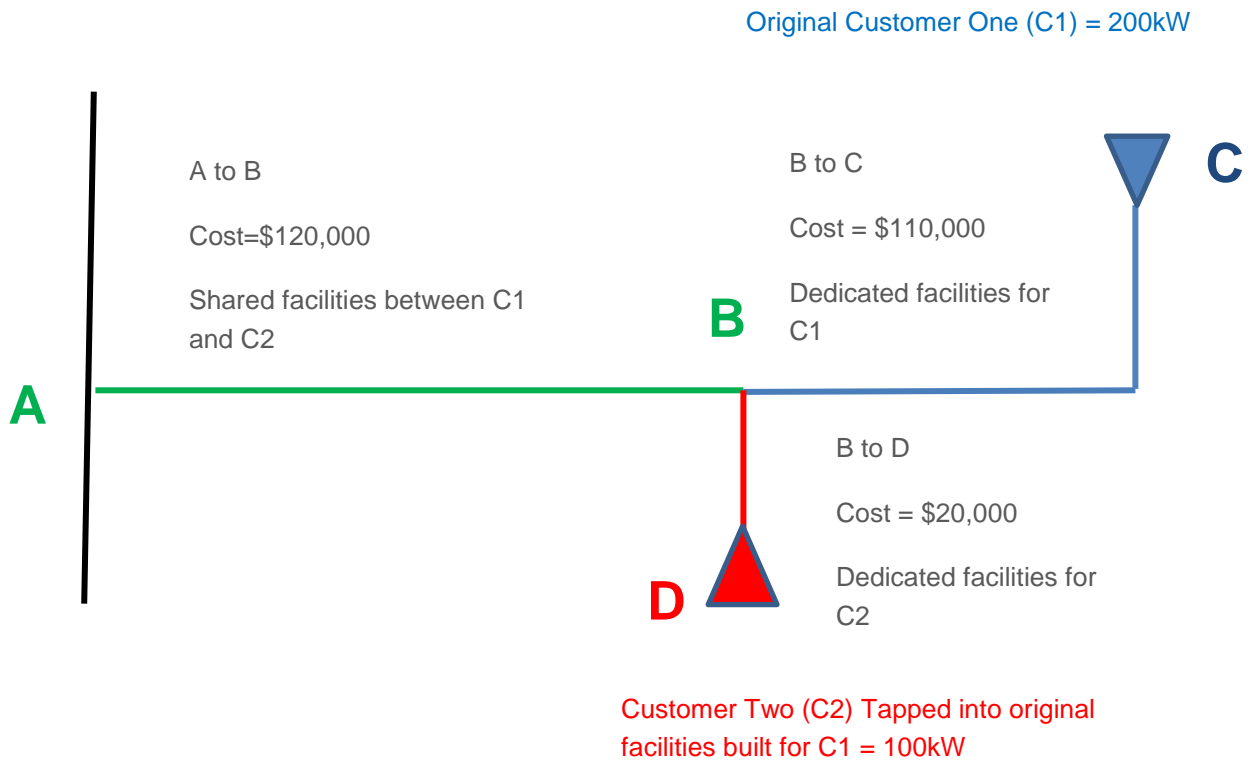
- a) A new customer shares all or part of a new extension with other new customers. The cost of the shared facilities assigned to each customer is determined by prorating the total cost between the customers, on the basis of their Expected Peak Demands load.

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.

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

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 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 \$908 per KW

+ 50kW x \$114 per kW

Base Investment +\$5,706

Total Investment **\$147,606**

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

FortisAlberta Maximum Investment level = 100kW x \$700 per KW

Base Investment +\$4,397

Total Investment **\$74,397**

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 \$147,606

Original Customer Contribution Paid \$82,394

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 \$147,606

Revised Customer Contribution \$42,394

Amount to be refunded to C1 (\$82,394-\$42,394) = (\$40,000)

Customer Two (C2)

Dedicated Facilities (B-D)	\$20,000
Shared Facilities (A-B)	<u>\$40,000</u>
Total Capital Costs	\$60,000
Less Investment	<u>\$74,397</u>
Total Customer Contribution Required	\$0