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March 31, 2020

Regulatory Commission of Alaska 701 W. 8th Avenue, Suite 300 Anchorage, AK 99501

Subject: Tariff Advice No. 486-8; Chugach Electric Association, Inc. Charges for

Distribution Services

Commissioners:

The tariff filing described below is hereby transmitted to you for filing in compliance with the Alaska Public Utilities Regulatory Act and Sections 3 AAC 48.200 - 3 AAC 48.420 of the Alaska Administrative Code. The purpose of this filing is to update Chugach Electric Association, Inc.'s (Chugach) general service fees in its Rates, Rules and Regulations Operating Tariff relating to distribution services and to add a new charge to recover the costs of processing non-utility generation interconnection applications.

TARIFF SHE	EET NUMBER	CANCELS SHEE	<u>T NUMBER</u>	SCHEDULE OR
ORIGINAL	REVISED	ORIGINAL	REVISED	RULE NUMBER
77	23rd Revision	77	22nd Revision	Schedule of
, ,	20100110111011	• •		20110 100110 01
77.1	17th Revision	77.1	16th Revision	Fees

This filing complies with Commission Letter Order Nos. L0100417 and L0900194 requiring annual updates to rates for special service installations reflecting third party contributions for use of Chugach's trench in residential underground secondary service installations that exceed Chugach's standard allowance. The purpose of these updates is to ensure that changes in underlying costs and contribution amounts are equitably reflected in Chugach's charges. Chugach is requesting that the proposed rates and charges contained in this filing become effective June 1, 2020.

This filing is not for a new service, will not result in the termination of an existing service, conflict with any other schedule or rate contained in Chugach's operating tariff, or in any other way adversely impact customers or the public.

Summary

Chugach's charges for distribution service activities have been updated based on current costs. If approved, the proposed rate changes would increase annual retail revenue by \$25,572, or approximately 5.4 percent on Chugach's distribution services revenue of approximately \$0.47 million. Chugach's total revenues associated with electric service are projected to be \$224 million

in calendar year 2020. 1 Chugach has approximately 68,800 retail members (81,800 retail metered locations).

Distribution Services Fees

Supporting documentation for the proposed charges relating to distribution service fees are included in Exhibits 1 through 6 and a table of contents is also attached. Exhibit 1 contains a brief description of each fee activity. Exhibits 2 and 3 present the proposed charges, revenue impacts and number of services impacted by the changes. Exhibits 4, 5 and 6 present supporting labor, equipment and material costs. The charges are based on a fully allocated cost methodology and include applicable labor, equipment, material and overhead costs. Overall, the rates are increasing approximately 1.2 percent, driven primarily by higher equipment and material costs.

Raising or Lowering of Facilities

Exhibit 2 provides a summary of the updated costs associated with raising and lowering secondary pedestals, single phase padmounted transformers, and metal streetlights. Current charges are \$955 for secondary pedestals, \$2,300 for single phase padmounted transformers, and \$1,150 for metal streetlights. Chugach is proposing that these charges be increased, \$5.00 each, to \$960, \$2,305 and \$1,155, respectively.

In recognition of cost variances for certain activities, charges relating to the raising or lowering of three phase transformers, single and three phase junction cabinets, switching cabinets, and primary and secondary cable continue to be priced at cost on the basis of individual cost estimates on a per job basis.

Special Service Installations

The charge for residential secondary service inspections (excluding the initial inspection) remains unchanged at \$160.

Payments received from other utilities for use of Chugach trenches are based on negotiated contractual agreements between Chugach and Alaska Communications Systems Holdings, Inc. (ACS), General Communication, Inc. (GCI) and TelAlaska. Attached is the current agreement between Chugach and GCI (Attachment I). The joint trench contribution amounts are the same for all agreements. The current joint trench contributions are \$1.26 per foot for two-party installations and \$1.50 per foot for three-party installations (see page 4 of 5 of Attachment I). Chugach is continuing to negotiate updates to the joint trench agreements for 2020 and changes, if any, are expected to be finalized by May 1, 2020. If these updated amounts are materially different than the amounts contained in this filing, Chugach will revise its tariff to reflect the changed amounts.

For secondary service installations exceeding the 100-foot standard allowance, Chugach is proposing that the per-foot non-winter installation be increased from \$13.00 to \$13.10 for single

¹ Chugach's calendar year 2020 revenues are estimated to be \$224 million based on projected electric sales to Chugach's retail and wholesale members. This estimate does not include projected incremental revenues if the acquisition of ML&P is approved.

use trench and increased from \$11.70 to \$11.80 for two-party installations, and increased from \$11.50 to \$11.60 for three-party installations due to higher material costs. The cost for new overhead residential service, over 100 feet is increasing from \$4.30 per foot to \$4.40 per foot. The cost for residential overhead to underground service conversions is increasing approximately 2.6 percent from \$1,923.00 to \$1,973.10, and the cost to relocate residential overhead service remains unchanged at \$500.

Application Fee for Non-Utility Generation Interconnection

Chugach is requesting approval to add an application fee for members who install their own generation that will interconnect and operate in parallel with the Chugach system. The interconnection fee is for Class A and B installations with a name plate capacity up to 100 kW. The fee covers Chugach's time to review interconnection designs, conduct on-site inspections, and process each application. Chugach is proposing a fee of \$200 per application, based on the estimated cost for a typical installation. Exhibit 1 includes a summary description of the Non-Utility Generation Interconnection Application process. Chugach will update the charge on an annual basis, consistent with its current schedule for distribution service fee updates.

The majority of non-utility generation interconnection applications received by Chugach are for solar photovoltaic generation, and most are received from a small number of local installers who are consistent in their application process. The application process is standard and streamlined for most applications. Chugach has discussed the fee with the Alaska Solar Industry Association, a group of local solar installers who were supportive of a flat fee to cover the utility's expenses. The \$200 fee is 1.3 percent to 2.0 percent of the cost of a typical solar installation, which averages \$10,000 to \$15,000.

Description of Tariff Changes

Tariff Sheet Nos. 77 and 77.1: Contain the proposed rate adjustments to the individual charges for raising or lowering special service installations, and the addition of an Application Fee for Non-Utility Generation Interconnection.

Questions regarding the filing should be directed to Nick Brodie, Senior Regulatory and Business Development Analyst, at 907-762-4512 or nick brodie@chugachelectric.com.

Sincerely,

CHUGACH ELECTRIC ASSOCIATION, INC.

Arthur W. Miller

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Attachments

RCA N	No.: _	8	23 rd Revision	Sheet No.	77	
			Canceling			
			22 nd Revision	Sheet No.	77	
Chugac	h Electi	ric Asso	ciation, Inc.			
			SCHEDULE OF CHAR	GES AND FEES (Conti	inued)	
<u>Distrib</u>	ution S	ervices	Fees			
A.	Raisir	ng or Lo	owering of Facilities			
1.	Secon	dary Pe	destal			.\$960.00 I
2.	Single	Phase 1	Padmounted Transformer			\$2,305 I
3.	Three	Phase P	admounted Transformer		Chuga	ch Cost ¹
4.	Single	Phase J	Junction Cabinet		Chuga	ch Cost ¹
5.	Three	Phase J	unction Cabinet		Chuga	ch Cost 1
6.	Switch	hing Cal	oinet		Chuga	ch Cost ¹
7.	Metal	Street L	ight		\$	1,155.00 I
8.	Prima	ry and S	Secondary Cable		Chuga	ch Cost 1
В.	Specia	l Servic	e Installations			
1.	a) Initi	ial Inspe	vice Inspections (New or Upection			-
		ion 8.14 No.: <u>48</u> 0	, "Modification to Existing		tive: <u>June 1, 2020</u>	

Issued by:

Chugach Electric Association, Inc. P.O. Box 196300, Anchorage, Alaska 99519-6300

By: Title: Chief Executive Officer

RCA No.:	8	17 th Revision	Sheet No.	77.1	
		Canceling			
		16 th Revision	Sheet No.	77.1	

Chugach Electric Association, Inc.

		SCHEDULE OF CHARGES AND FEES (Continued)	
B.		Special Service Installations (Continued)	
	2.	New Underground Residential Service, Over 100 Ft. (applies to direct burial installation only)	
		Single Use Trench - Chugach Only a) Installation Without Temporary Corflo Placement	I
		Joint Use Trench – Two Party Installations ¹ c) Installation Without Temporary Corflo Placement	I
		Joint Use Trench – Three Party Installations ¹ e) Installation Without Temporary Corflo Placement	I I
	3.	New Overhead Residential Service, Over 100 Ft. \$4.40/Ft.	I
	4.	Residential Service Conversion, Overhead to Underground ² (applies to direct burial installation only) a) Conductor and Trenching \$13.10/Ft. b) Service Disconnect / Reconnect \$500.00 c) Secondary Riser, if Required \$1,460.00	I I
	5.	Relocate Residential Overhead Service Attachment ²	
	6.	Residential Service Pole\$1,270.00	I
	7.	Guard Post for Padmounted Transformer or Switch Cabinet	I
	8.	Down Guy Relocation, per Anchor\$1,225.00	I
C.		Application Fee for Non-Utility Generation Interconnection (Class A & B)	N
	1.	Application Fee for Non-Utility Generation Interconnection, per Application\$200.00	N
1 2	If a	vailable only when contributions are made from joint use party. a residential service is being upgraded in conjunction with the service work and must be replaced, e service replacement cost will be discounted at 50% but the discount shall not exceed \$1,550 (the lue of the single-family residential distribution line extension credit).	

Tariff Advice No.: 486-8 Effective: June 1, 2020

Issued by: Chugach Electric Association, Inc.

P.O. Box 196300, Anchorage, Alaska 99519-6300

By: Title: Chief Executive Officer
Lee D. Thibert

TABLE OF CONTENTS

Description	Reference	No. Pages
Description of Distribution Service Fees	Exhibit 1	5
Proposed Changes to Tariff Fees & Charges	Exhibit 2	4
Revenue Impact with Changes to Tariff Fees & Charges	Exhibit 3	4
Summary of Labor, Equipment and Material Costs	Exhibit 4	4
Calculation of Average Hourly Equipment and Labor Costs		
for Operations Service Crews	Exhibit 5	1
for Non-Utility Generation Interconnection Application	Exhibit 6	1
Letter of Agreement for Joint Trench Cost Sharing	Attachment I	5

EXHIBIT 1

Schedule of Fees Description of Distribution Service Fees

A. Raising or Lowering of Facilities

1) Secondary Pedestal

Secondary pedestals may need to be raised or lowered due to changes in grade or improper soil conditions. The operation requires the physical raising or lowering of the pedestal to the required height, splicing the conductor to extend or shorten the connection from the transformer and, if necessary, installing new conductor from the transformer.

The process also requires site inspection, identifying conductor destinations in older installations, and extending conduit (if raising) or digging (if lowering). The average time requirement for raising or lowering a secondary pedestal is 5.75 hours of labor and equipment from the Operations Service Crew.

2) Single Phase Padmounted Transformer

Transformers may need to be raised or lowered due to grade changes or improper soil conditions. The process involves de-energization and removal of the transformer followed by lifting the concrete pad, pouring gravel fill, leveling, re-installing pad and transformer, reconnecting the conductors, and finally, re-energizing the transformer. Transformer installations require an average of 13.80 hours of labor and equipment from the Operations Service Crew. Estimated time is 9.20 hours for the transformer and 4.60 hours for the concrete envelope.

- 3) Three Phase Padmounted Transformer
 This work is priced at cost by individual cost estimate.
- 4) Single Phase Junction Cabinet
 This work is priced at cost by individual cost estimate.
- 5) Three Phase Junction Cabinet
 This work is priced at cost by individual cost estimate.
- 6) Switching Cabinet
 This work is priced at cost by individual cost estimate.

Schedule of Fees Description of Distribution Service Fees

7) Metal Street Light

Street lights may be removed for safety or for convenience during construction and reinstalled at a later time. This process involves disconnection of the lighting unit from the energy source, storage of the unit, and later reinstallation of a direct burial of wood or metal pole, and reconnection to the energy source. The process requires 6.90 hours of labor and equipment from the Operations Service Crew.

8) Primary and Secondary Cable
This work is priced at cost by individual cost estimate.

B. Special Service Installations

1) Secondary Service Inspections (New or Upgrade Service)

Prior to connection of electric service, Chugach inspects all retail secondary service upgrades and installations on Chugach's Side of the meter to ensure compliance with Chugach service standards. The vast majority of the inspections are provided to building contractors for initial service installations.

At the first inspection, the building contractor (or consumer) is advised of any required modifications or conditions that require correction. If necessary, Chugach will re-inspect the work for compliance with safety standards before the connection of electric service.

- A. Initial inspections are provided without charge.
- B. Per inspection charge, other than initial inspection

Chugach imposes a fee for each inspection after the initial inspection. The intent of this charge is to curtail the number of unwarranted re-inspections at the expense of other members.

Job Order Service Clerk: The time requirement for the Job Order Service clerk to prepare, submit and track each order is 30 minutes.

Journeyman Foreman: The time requirement for the Journeyman Foreman to complete the inspection is 60 minutes. Equipment costs are based on the cost of a meter technician vehicle rather than a loopwagon.

Schedule of Fees Description of Distribution Service Fees

2) New Underground Residential Service, Over 100 Feet

This charge provides recovery of new underground service connections to either a pedestal or a transformer (padmounted or overhead) for service installations that exceed Chugach's standard 100 foot allowance. A riser may be required if the closest connection is overhead.

Labor is calculated based on the required hours on a per-foot basis to dig the trench and install the conductor. Boring underneath driveways may be required. If the installation is done during winter months, an additional cost for corflo is added. This installation may be completed on a: 1) Single Use Trench - Chugach Only; 2) Joint Use Trench - Two Party Installations; or 3) Joint Use Trench - Three Party Installations. Cost adjustments for installations involving joint use of a Chugach trench are based on current Letters of Agreement For Joint Trench Cost Sharing between Chugach and other participating utilities.

3) New Overhead Residential Service, Over 100 Feet, Non-winter installation

This charge provides recovery of new overhead service connections for service installations that exceed Chugach's standard 100 foot allowance. Labor is calculated based on the required hours on a per-foot basis to connect electric service to the nearest overhead transformer. In addition, a lift pole and anchor installation may be required to maintain clearance to comply with safety standards.

4) Residential Service Conversion, Overhead to Underground

A conversion from overhead to underground service occurs during customer remodeling or because of customer preference. The customer is responsible for the cost of the conversion.

This service requires connection to either a pedestal or a transformer (padmounted or overhead). A riser may be required if the closest connection is overhead. Labor and equipment is calculated based on the required hours on a per-foot basis to install the conductor and dig the trench. Boring underneath driveways may be required.

When secondary services are converted from overhead to underground, or when services are upgraded, Chugach must first disconnect service to allow the customer or the customer's contractor to complete the electrical work on the customer's side of the meter. After the work is completed and inspected, Chugach must reconnect the service. The additional time required for disconnection and subsequent service reconnection, including travel and on-site time, is approximately 3 to 4 hours.

Schedule of Fees Description of Distribution Service Fees

5) Relocate Residential Overhead Service Attachment

The process of relocating residential overhead service involves the relocation of customer service entrance equipment to a new location, primarily attributed to code upgrades, increased capacity requirements, and damages to facilities. The average time requirement is 3.00 hours of labor and equipment from the Operations Service Crew.

6) Residential Service Pole

The installation of a residential service pole involves installing the pole to which overhead service connects. The average time requirement is 4.60 hours of labor and equipment from the Operations Service Crew.

7) Guard Post for Padmounted Transformer or Switch Cabinet

Guard posts are concrete-filled metal pipes, eight inches in diameter, that are used to protect transformers, switch cabinets, or poles from vehicle damage.

The average time requirement for installing a guard post is 2.88 hours of labor and equipment from the Operations Service Crew. Work involves digging a four-foot vertical hole, installing the metal pipe, backfilling and filling the pipe with concrete. The project may also require breaking up asphalt (such as in parking lots) or digging the four-foot vertical hole by hand due to utility conflicts.

8) Down Guy Relocation, per Anchor

A down guy wire may need to be relocated when increased wire size requires additional lead distance to maintain the correct tension. This relocation requires an average of 6.33 hours of labor and equipment from the Operations Service Crew. Estimated time is 1.15 hours for the down guy and 5.18 hours for each anchor. Anchors can be buried up to nine feet deep using an excavator or may be installed with a hydraulic machine depending on site conditions and expected tension to maintain.

C. Application Fee for Non-Utility Generation Interconnection

1) Application Fee for Non-Utility Generation Interconnection, Per Application

The average time requirement for the processing and inspection of a Class A or B interconnection application is 2.25 hours. The processing and approval of the application requires an average of 0.50 hours of labor from a Distribution Planning Engineer. The on-site inspection of the

Schedule of Fees Description of Distribution Service Fees

installation requires 0.50 hours of labor from a Senior Meter Tech. The finalization of the interconnection agreement requires 0.25 hours of labor from an Administrative Secretary. The signing of the finalized interconnection agreement and permission to energize requires 0.25 hours of labor for a Distribution Planning Engineer. The updating of Chugach's database, uploading of site photos, and notification to Member Services of the installation requires 0.50 hours of labor from a Distribution Planning Engineer. The changes to a members account type in Chugach's Customer Information System requires 0.25 hours of labor from a Customer Services Representative II.

EXHIBIT 2

		Equipment and Material			Joint Trench	Total	Proposed		Percent
Description of Charge	(Exhibit 4)	` ` ` ` ` ` ` ` ` ` ` ` ` ` ` ` ` ` ` `	Direct Cost		Contribution		Charge		Change
a	b	c	d	e	Ī	g	h	1	J
A. Raising or Lowering of Facilities									
1. Secondary Pedestal	\$486.37	\$282.75	\$769.12	\$192.28		\$961.40	\$960	\$955	0.5%
2. Single Phase Padmounted Transformer	\$1,167.28	\$678.60	\$1,845.88	\$461.47		\$2,307.35	\$2,305	\$2,300	0.2%
3. Three Phase Padmounted Transformer								Chugach Cost	
4. Single Phase Junction Cabinet								Chugach Cost	
5. Three Phase Junction Cabinet								Chugach Cost	
6. Switching Cabinet								Chugach Cost	
7. Metal Street Light	\$583.64	\$339.30	\$922.94	\$230.74		\$1,153.68	\$1,155	\$1,150	0.4%
8. Primary and Secondary Cable								Chugach Cost	

	Labor Cost	Equipment and Material	Total	Distribution	Joint Trench	Total	Proposed	Current	Percent
Description of Charge	(Exhibit 4)	Cost (Exhibit 4)	Direct Cost	Overhead	Contribution	Cost	Charge	Charge	Change
a	b	c	d	e	f	g	h	i	j
B. Special Service Installations									
1. Secondary Service Inspections (New or Upgrade Service)									
a) Initial Inspection									
b) Per Inspection Charge, Other than Initial Inspection	\$118.84	\$9.25	\$128.09	\$32.02		\$160.11	\$160.00	\$160.00	0.0%
2. New Underground Residential Service, Over 100 Fee									
Single Use Trench - Chugach Only									
a) Installation Without Temporary Corflo Placement	\$5.67	\$4.82	\$10.48	\$2.62		\$13.11	\$13.10	\$13.00	0.8%
b) Installation Requiring Temporary Corflo Placemen	\$9.30	\$5.41	\$14.71	\$3.68		\$18.39	\$18.40	\$18.30	0.5%

	Labor Cost	Equipment and Material	Total	Distribution	Joint Trench	Total	Proposed	Current	Percent
Description of Charge	(Exhibit 4)	Cost (Exhibit 4)	Direct Cost	Overhead	Contribution	Cost	Charge	Charge	Change
a	b	c	d	e	f	g	h	i	j
Joint Use Trench - Two Party Installations									
c) Installation Without Temporary Corflo Placemen	\$5.67	\$4.82	\$10.48	\$2.62	(\$1.26)	\$11.85	\$11.80	\$11.70	0.9%
d) Installation Requiring Temporary Corflo Placement	\$9.30	\$5.41	\$14.71	\$3.68	(\$1.26)	\$17.13	\$17.10	\$17.10	0.0%
Joint Use Trench - Three Party Installations									
e) Installation Without Temporary Corflo Placement	\$5.67	\$4.82	\$10.48	\$2.62	(\$1.50)	\$11.61	\$11.60	\$11.50	0.9%
f) Installation Requiring Temporary Corflo Placement	\$9.30	\$5.41	\$14.71	\$3.68	(\$1.50)	\$16.89	\$16.90	\$16.80	0.6%
3. New Overhead Residential Service, Over 100 Fee	\$1.52	\$1.99	\$3.51	\$0.88		\$4.38	\$4.40	\$4.30	2.3%
4. Residential Service Conversion, Overhead to Underground	0.5.5	04.00	010.46	02.62		012.15	010.10	012.00	0.007
a) Conductor and Trenching	\$5.67	\$4.82	\$10.48	\$2.62		\$13.11	\$13.10	\$13.00	0.8%
b) Service Disconnect / Reconnect	\$253.76 \$583.64	\$147.52 \$585.76	\$401.28 \$1,169.40	\$100.32 \$292.35		\$501.60	\$500.00	\$500.00	0.0% 3.5%
c) Secondary Riser, if Required Subtotal	\$383.04	\$303.70	\$1,109.40	\$292.33		\$1,461.75	\$1,460.00 \$1,973.10	\$1,410.00 \$1,923.00	_ 3.3%

	Labor Cost	Equipment and Material	Total	Distribution	Joint Trench	Total	Proposed	Current	Percent
Description of Charge	(Exhibit 4)	Cost (Exhibit 4)	Direct Cost	Overhead	Contribution	Cost	Charge	Charge	Change
<u>a</u>	b	c	d	e	f	g	h	i	j
5. Relocate Residential Overhead Service Attachmen	\$253.76	\$147.52	\$401.28	\$100.32		\$501.60	\$500	\$500	0.0%
6. Residential Service Pole	\$389.09	\$627.60	\$1,016.69	\$254.17		\$1,270.87	\$1,270.00	\$1,200	5.8%
7. Guard Post for Padmounted Transformer or Switch Cabinet	\$243.18	\$672.24	\$915.43	\$228.86		\$1,144.29	\$1,145	\$1,100	4.1%
8. Down Guy Relocation, per Anchoi	\$535.43	\$445.94	\$981.37	\$245.34		\$1,226.71	\$1,225	\$1,220	0.4%
C. Application Fee for Non-Utility Generation Interconnection									
1. Application Fee for Non-Utility Generation Interconnection, per Application	\$158.88		\$158.88	\$39.72		\$198.60	\$200		

EXHIBIT 3

Estimated Total Feet Current		Propos	sed	Difference			
Services	> 100	Charge	Revenue	Charge	Revenue	Charge	Revenue
b	c	d	e	f	g	h	i
120		\$955	\$114,600	\$960	\$115,200	\$5	\$600
10		\$2,300	\$23,000	\$2,305	\$23,050	\$5	\$50
		Chugach Cost		Chugach Cost		Chugach Cost	
		Chugach Cost		Chugach Cost		Chugach Cost	
		Chugach Cost		Chugach Cost		Chugach Cost	
		Chugach Cost		Chugach Cost		Chugach Cost	
18		\$1,150	\$20,700	\$1,155	\$20,790	\$5	\$90
	Services b 120 10	Services > 100 b c 120 10	Services > 100 Charge b c d 120 \$955 10 \$2,300 Chugach Cost Chugach Cost Chugach Cost Chugach Cost Chugach Cost	Services > 100 Charge Revenue b c d e 120 \$955 \$114,600 10 \$2,300 \$23,000 Chugach Cost Chugach Cost Chugach Cost Chugach Cost	Services > 100 Charge Revenue Charge b c d e f 120 \$955 \$114,600 \$960 10 \$2,300 \$23,000 \$2,305 Chugach Cost Chugach Cost Chugach Cost Chugach Cost Chugach Cost Chugach Cost Chugach Cost Chugach Cost	Services > 100 Charge Revenue Charge Revenue b c d e f g 120 \$955 \$114,600 \$960 \$115,200 10 \$2,300 \$23,000 \$2,305 \$23,050 Chugach Cost Chugach Cost Chugach Cost Chugach Cost Chugach Cost Chugach Cost Chugach Cost Chugach Cost	Services > 100 Charge Revenue Charge Revenue Charge b c d e f g h 120 \$955 \$114,600 \$960 \$115,200 \$5 10 \$2,300 \$23,000 \$2,305 \$23,050 \$5 Chugach Cost Chugach Cost Chugach Cost Chugach Cost Chugach Cost Chugach Cost Chugach Cost Chugach Cost Chugach Cost Chugach Cost Chugach Cost Chugach Cost

	Estimated	Total Feet			Proposed		Differe	nce
Description of Charge	Services	> 100	Charge	Revenue	Charge	Revenue	Charge	Revenue
a	b	c	d	e	f	g	h	i
8. Primary and Secondary Cable			Chugach Cost		Chugach Cost		Chugach Cost	
B. Special Service Installations								
1. Secondary Service Inspections (New or Upgrade Service)								
a) Initial Inspection								
b) Per Inspection Charge, Other Than Initial Inspection	25		\$160.00	\$4,000	\$160.00	\$4,000	\$0.00	\$0
2. New Underground Residential Service, Over 100 Feet								
Single Use Trench - Chugach Only								
a) Installation Without Temporary Corflo Placement	39	2,340	\$13.00	\$30,420	\$13.10	\$30,654	\$0.10	\$234
b) Installation Requiring Temporary Corflo Placement	37	2,220	\$18.30	\$40,626	\$18.40	\$40,848	\$0.10	\$222

	Estimated	Estimated Total Feet		Current		osed	Differ	rence
Description of Charge	Services	> 100	Charge	Revenue	Charge	Revenue	Charge	Revenue
a	b	c	d	e	f	g	h	i
Joint Use Trench - Two Party Installations								
c) Installation Without Temporary Corflo Placement	29	1,740	\$11.70	\$20,358	\$11.80	\$20,532	\$0.10	\$174
d) Installation Requiring Temporary Corflo Placement	18	1,080	\$17.10	\$18,468	\$17.10	\$18,468	\$0.00	\$0
Joint Use Trench - Three Party Installations								
e) Installation Without Temporary Corflo Placement	27	1,620	\$11.50	\$18,630	\$11.60	\$18,792	\$0.10	\$162
f) Installation Requiring Temporary Corflo Placement	15	900	\$16.80	\$15,120	\$16.90	\$15,210	\$0.10	\$90
3. New Overhead Residential Service, Over 100 Feet	21	1,260	\$4.30	\$5,418	\$4.40	\$5,544	\$0.10	\$126
4. Residential Service Conversion, Overhead to Undergrounda) Conductor and Trenching	29	1,740	\$13.00	\$22,620	\$13.10	\$22,794	\$0.10	\$174
b) Service Disconnect / Reconnect	22		\$500	\$11,000	\$500	\$11,000	\$0	\$0
c) Secondary Riser, if Required	26		\$1,410	\$36,660	\$1,460	\$37,960	\$50	\$1,300

	Estimated	Total Feet	Cur	rent	Prop	osed	Differ	rence
Description of Charge	Services	> 100	Charge	Revenue	Charge	Revenue	Charge	Revenue
a	b	c	d	e	f	g	h	i
5. Relocate Residential Overhead Service Attachment	21		\$465	\$9,765	\$500	\$10,500	\$35	\$735
6. Residential Service Pole	7		\$1,200	\$8,400	\$1,270	\$8,890	\$70	\$490
7. Guard Post for Padmounted Transformer or Switch Cabinet	18		\$1,100	\$19,800	\$1,145	\$20,610	\$45	\$810
8. Down Guy Relocation, per Anchor	23		\$1,220	\$28,060	\$1,225	\$28,175	\$5	\$115
C. Application Fee for Non-Utility Generation Interconnection								
1. Application Fee for Non-Utility Generation Interconnection, per Application	101				\$200	\$20,200		\$20,200
Total	606	-		\$447,645		\$473,217		\$25,572

EXHIBIT 4

	Required	l Labor	Cost	Equipment Cost		Material	Cost (unit or	per foot)	
Description of Charge	Hours	Hourly Rate	Total	Hourly Rate	Total	Unit Cost	No. Units	Total	Total Cost
a	b	c	d	e	f	g	h	i	j
A. Raising or Lowering Facilities									
1. Secondary Pedestal	5.75	\$84.59	\$486.37	\$49.17	\$282.75				\$769.12
2. Single Phase Padmounted Transformer									
a) Transformer	9.20	\$84.59	\$778.19	\$49.17	\$452.40				\$1,230.59
b) Concrete	4.60	\$84.59	\$389.09	\$49.17	\$226.20				\$615.29
Total	13.80		\$1,167.28		\$678.60				\$1,845.88
3. Three Phase Padmounted Transformer									Chugach Cost
4. Single Phase Junction Cabinet									Chugach Cost
5. Three Phase Junction Cabinet									Chugach Cost
6. Switching Cabinet									Chugach Cost
7. Metal Street Light	6.90	\$84.59	\$583.64	\$49.17	\$339.30				\$922.94

	Required	l Labor	Cost	Equipmen	t Cost	Material (Cost (unit or	per foot)	
Description of Charge	Hours	Hourly Rate	Total	Hourly Rate	Total	Unit Cost	No. Units	Total	Total Cost
a	b	с	d	e	f	g	h	i	j
8. Primary and Secondary Cable									Chugach Cost
B. Special Service Installations									
1. Secondary Service Inspections (New or Upgrade Service)									
a) Initial Inspection									
b) Per Inspection Charge, Other Than Initial Inspection *	1.000	\$90.83	\$90.83	\$9.25	\$9.25				\$100.08
(labor cost: foreman = 1 hr, job order clerk = 0.5 hrs)	0.500	\$56.01	\$28.00	\$0.00	\$0.00				\$28.00
	1.500		\$118.84		\$9.25				\$128.09
* Supporting documentation for the equipment hourly rate calculation was included in TA24	7-8, Exhibit 5, page 3.								
2. New Underground Residential Service, Over 100 Feet									
Single Use Trench - Chugach Only									
a) Installation Without Temporary Corflo Placement									
1. Conductor (4/0 3-wire)	0.015	\$84.59	\$1.27	\$49.17	\$0.74	\$1.52	1.00	\$1.52	\$3.53
2. Trenching	0.052	\$84.59	\$4.40	\$49.17	\$2.56				\$6.96
Total	0.067		\$5.67		\$3.29	\$1.52	1.00	\$1.52	\$10.48

	Required	Labor (Cost	Equipmen	t Cost	Material (Cost (unit or	per foot)	
Description of Charge	Hours	Hourly Rate	Total	Hourly Rate	Total	Unit Cost	No. Units	Total	Total Cost
a	b	c	d	e	f	g	h	i	j
b) Installation Requiring Temporary Corflo Placement									
1. Winter Corflo	0.026	\$84.59	\$2.20	\$49.17	\$1.28	\$2.00	1.00	\$2.00	\$5.48
2. Conductor (4/0 3-wire)	0.032	\$84.59	\$2.71	\$49.17	\$1.57	\$1.52	1.00	\$1.52	\$5.80
3. Trenching	0.052	\$84.59	\$4.40	\$49.17	\$2.56				\$6.96
Total	0.110		\$9.30		\$5.41	\$3.53	2.00		\$18.24
Joint Use Trench - Two Party Installations									
c) Installation Without Temporary Corflo Placement	0.067	\$84.59	\$5.67	\$49.17	\$3.29	\$1.52	1.00	\$1.52	\$10.48
d) Installation Requiring Temporary Corflo Placement	0.110	\$84.59	\$9.30	\$49.17	\$5.41	\$3.53	2.00	\$0.00	\$18.24
Joint Use Trench - Three Party Installations									
e) Installation Without Temporary Corflo Placement	0.067	\$84.59	\$5.67	\$49.17	\$3.29	\$1.52	1.00	\$1.52	\$10.48
f) Installation Requiring Temporary Corflo Placement	0.110	\$84.59	\$9.30	\$49.17	\$5.41	\$3.53	2.00	\$0.00	\$18.24
3. New Overhead Residential Service, Over 100 Feet (1/0 TPX)	0.018	\$84.59	\$1.52	\$49.17	\$0.89	\$1.10	1.00	\$1.10	\$3.51

	Required	l Labor Cost		Equipment Cost		Material (Cost (unit o	per foot)	
Description of Charge	Hours	Hourly Rate	Total	Hourly Rate	Total	Unit Cost	No. Units	Total	Total Cost
a	b	c	d	e	f	g	h	i	j
4. Residential Service Conversion, Overhead to Underground									
a) Conductor and Trenching	0.067	\$84.59	\$5.67	\$49.17	\$3.29	\$1.52	1.00	\$1.52	\$10.48
b) Service Disconnect / Reconnect	3.000	\$84.59	\$253.76	\$49.17	\$147.52	\$0.00	0.00	\$0.00	\$401.28
c) Secondary Riser, if Required	6.900	\$84.59	\$583.64	\$49.17	\$339.30	\$246.46	1.00	\$246.46	\$1,169.40
5. Relocate Residential Overhead Service Attachment	3.000	\$84.59	\$253.76	\$49.17	\$147.52	\$0.00	0.00	\$0.00	\$401.28
6. Residential Service Pole	4.600	\$84.59	\$389.09	\$49.17	\$226.20	\$401.40	1.00	\$401.40	\$1,016.69
7. Guard Post for Padmounted Transformer or Switch Cabinet	2.875	\$84.59	\$243.18	\$49.17	\$141.37	\$530.87	1.00	\$530.87	\$915.43
8. Down Guy Relocation, per Anchor									
a) Down Guy	1.150	\$84.59	\$97.27	\$49.17	\$56.55	\$51.46	1.00	\$51.46	\$205.28
b) Anchor	5.180	\$84.59	\$438.15	\$49.17	\$254.72	\$83.21	1.00	\$83.21	\$776.08
Total	6.330		\$535.43		\$311.27	\$134.67	1.00	\$134.67	\$981.37
C. Application Fee for Non-Utility Generation Interconnection									
1. Application Fee for Non-Utility Generation Interconnection, per Application	3.000	\$70.61	\$158.88						\$158.88
Total	3.000	\$70.61	\$158.88						\$158.88

EXHIBIT 5

Calculation of Average Hourly Equipment and Labor Costs for Operations Service Crews

	Two-Person	Three-Person	Four-Person		Average
Description	Loopwagon	UG Service Crew	Heavy Crew	Total	per hour 1
a	b	c	d	e	f
Equipment Cost					
Loopwagon	\$55.17			\$55.17	
Line Truck		\$110.39	\$110.39	\$220.78	
Crane/Digger/Other Truck			\$86.66	\$86.66	
Back Hoe		\$30.62		\$30.62	
Back Hoe Trailer		\$18.71		\$18.71	
Manhaul			\$30.62	\$30.62	
Total	\$55.17	\$159.72	\$227.67	\$442.57	\$49.17
Labor Cost					
Foreman Lineman		\$90.83	\$90.83	\$181.66	
Leadman	\$85.26			\$85.26	
Journeyman Lineman	\$82.39	\$164.78	\$247.17	\$494.35	
Total	\$167.65	\$255.62	\$338.01	\$761.27	\$84.59

¹ Based on total service crew of 9.

EXHIBIT 6

Calculation of Average Hourly Labor Costs for Non-Utility Generation Interconnection Application

		Direct	Indirect	Hourly	Total	Average
Description	Hours	Labor	Labor	Rate	Labor	Hourly Labor
Planning Engineer Distribution	1.25	\$42.08	\$29.04	\$71.12	\$88.89	
Senior Meter Tech 5%	0.50	\$58.38	\$33.86	\$92.24	\$46.12	
Administrative Secretary	0.25	\$31.86	\$18.48	\$50.34	\$12.58	
CSR II	0.25	\$28.56	\$16.56	\$45.12	\$11.28	
	2.25				\$158.88	\$70.61

ATTACHMENT I

LETTER OF AGREEMENT FOR JOINT TRENCH COST SHARING BETWEEN CHUGACH ELECTRIC ASSOCIATION, INC. AND GENERAL COMMUNICATION INC.

Effective January 1, 2017

This letter of agreement is to implement an arrangement for joint trench and joint service trench assessment charges. By signature below, General Communication Inc. (GCI) and Chugach Electric Association, Inc. (Chugach) agree to the following:

A. Joint Trench (excluding Residential Service Trench and Service Wire Installation)

- 1. Projects involving trunk or mainline distribution cables shall be defined on a project-by-project basis by the Design Engineers for both utilities. During the design phase of a project, each party agrees to make reasonable effort to advise the other party of proposed work that might afford joint trenching opportunity.
- 2. Chugach will follow the same procedures for all GCI projects that Chugach seeks to participate in joint trench. Project construction schedules shall be set by the utility administering the work.
- 3. Unless other arrangements are made with the contractor or Chugach line crew prior to the work, the contractor or Chugach line crew shall provide all labor to install GCI supplied communications materials.
- 4. The rate for conventional trenching and road crossings are identified in Appendix A and are subject to updates on an annual basis no later than May of each year to be effective the first day of June. Chugach shall notify GCI at least thirty (30) days before formalizing revised rates. The division of trenching costs for each party is based on the number of parties participating in the trench.
 - Two-Party Installations: GCI pays for 45% of the trench costs
 - Three-Party Installations: GCI pays for 30% of the trench costs

In the event directional drilling, winter thawing, removal/replacement of curb and gutter or additional requirements are needed, the participating utilities will pay an agreed upon amount based on the work.

5. For line extensions where Chugach is reimbursed by a customer or applicant, Chugach will not charge GCI for the portion of the trench being reimbursed. This provision does not apply to joint service trench installations.

January I, 2017 Page 1 of 5

LETTER OF AGREEMENT FOR JOINT TRENCH COST SHARING BETWEEN CHUGACH ELECTRIC ASSOCIATION, INC. AND GENERAL COMMUNICATION INC. January 1, 2017

6. Upon each project completion, excluding service installations, and at a time mutually agreed to by both utility field inspectors, the utilities shall meet at the project site for final inspection of joint trench construction. Chugach shall fill out a Joint Trench Construction Report found in Appendix B, which shall be verified by the GCI Inspector on site.

B. Residential Service Trench and Service Wire Installation

- 1. Unless other arrangements are made with the contractor or Chugach line crew prior to the work, the contractor or Chugach line crew shall provide all labor to install GCI supplied communications materials.
- 2. The rate for service trenching is identified in Appendix A and is subject to updates on an annual basis no later than May of each year to be effective on the first day of June. The division of service trenching costs for each party is based on the number of parties participating in the trench.
 - Two-Party Installations: GCI pays for 25% of the service trench costs
 - Three-Party Installations: GCI pays for 15% of the service trench costs
- 3. The rate for installation of GCI coaxial or fiber optic service cable by Chugach crews is identified in Appendix A. This is for cable installation and is in addition to trenching costs.
- 4. The parties agree that service installations will not require individual site inspections and therefore a Joint Trench Construction Report is not required.

C. Billing and Invoicing

- 1. Chugach will bill GCI quarterly on a project-by-project basis. Invoices shall provide the project name, GCI work order number and Chugach's work order number for projects. For services, sufficient information will be provided for GCI to correlate billing to each service location.
- 2. GCI shall process Chugach billings for joint trench on a Net 30-day term upon receipt of invoice from Chugach.
- 3. Chugach invoices are to be directed to:

General Communication Inc. (GCI) 5151 Fairbanks Street Anchorage, AK 99503 Attn: Rick Williams

January 1, 2017 Page 2 of 5

LETTER OF AGREEMENT FOR JOINT TRENCH COST SHARING BETWEEN CHUGACH ELECTRIC ASSOCIATION, INC. AND GENERAL COMMUNICATION INC. January 1, 2017

4. Where GCI is billing, the reciprocal shall apply and invoices directed to:

Chugach Electric Association, Inc. 5601 Electron Drive Anchorage, AK 99518 Attn: Distribution Engineering

D. Access to Work Site

Either party may at any time have access to work sites for the purpose of inspection.

E. Application of Agreement to Projects

This Agreement shall apply to all new projects or those projects already in design, which will have line extension, and/or subdivision agreements executed by Chugach on January 1, 2017 or later. In addition, it shall apply to all new services installed after January 1, 2017.

F. Term of Agreement

This Agreement is effective starting January 1, 2017 and will automatically renew each year unless cancelled in writing by either party with ninety (90) days' notice.

Agreed Upon By:

CHUGACH ELECTRIC ASSOCIATION, INC.

Shill Schneitt	Date:	2	28	12017
helly R. Schmitt, P.E.				W. C.

Senior Manager, Distribution Engineering

GENERAL COMMUNICATION, INC.

Date: 3/22/2012

Demis Hardman

Vice President, Network Operations

Appendix A

Trenching Rates Effective January 1, 2016

A. Joint trench (excluding service trench)	\$6.44/foot
A1. GCI assessment for two party installation (45% of A)	\$2.90/foot
A2. GCI assessment for three party installation (30% of A)	\$1.93/foot
B. Joint road crossing – no asphalt	\$19.85/foot
B1. GCI assessment for two party installation (45% of B)	\$8.93/foot
B2. GCI assessment for three party installation (30% of B)	\$5.96/foot
C. Joint road crossing – with asphalt	\$44.02/foot
C1. GCI assessment for two party installation (45% of C)	\$19.81/foot
C2. GCI assessment for three party installation (30% of C)	\$13.21/foot
D. Joint service trench (excluding installation of GCI cable)	\$5.02/foot
D1. GCI assessment for two party installation (25% of D)	\$1.26/foot
D2. GCI assessment for three party installation (15% of D)	\$0.75/foot
E. Installation of GCI service cable in trench – not dependent on # of parties	\$1.18/foot

January 1, 2017 Page 4 of 5

Appendix B: JOINT TRENCH CONSTRUCTION REPORT

Project Name:				
Chugach Work Order:				
GCI Work Order:		1.4600000000		
Electrical Contractor:				
Completion Date:				
Joint Trench Participants	Chugach 🔲	GCI		
Joint Trench	Two party:	.45 x \$ 6.44 x	ft = \$	
	Three party:	.30 x \$ 6.44 x	ft = \$	
Road Crossing with Asphalt	Two party:	.45 x \$ 44.02 x	ft = \$	
	Three party:	.30 x \$ 44.02 x	ft = \$	
Road crossing with no Asphalt	Two party:	.45 x \$ 19.85 x	ft = \$	
	Three party:	.30 x \$ 19.85 x	ft = \$	lei – ez
Service Trench	Two party:	.25 x \$ 5.02 x	ft = \$	
	Three party:			
Service Cable (only Chugach C	rew installs)	\$ 1.18 x	ft = \$	
Additional Costs/Notes:				
Prepared by (Chugach):		Date:		_
Accepted by (GCI):	W	Date:		