***ELECTRONICALLY FILED WITH RCA***

March 12, 2024

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

***Subject: Tariff Advice No. 430-121; Annual Update to the G&T Loss Factor***

Commissioners:

The tariff filing described below is hereby transmitted to you for filing in compliance with the Alaska Public Utilities Commission 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) generation and transmission (G&T) loss factor based on calendar-year 2023 operating results. The following tariff sheets are submitted for approval:

| TARIFF SHEET NUMBER | | CANCELS SHEET NUMBER | | SCHEDULE OR |
|---|---|---|---|---|
| ORIGINAL | REVISED | ORIGINAL | REVISED | RULE NUMBER |
| 122 | 3rd Revision | 122 | 2nd Revision | Calculation of |
| 123 | 3rd Revision | 123 | 2nd Revision | G&T Losses |

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. Chugach provides electric service to approximately 93,000 retail members with 113,000 retail metered locations and wholesale customer Seward Electric System (Seward). Chugach is projecting annual revenues of approximately $357.1 million for calendar-year 2024.

**Summary**

The annual update of the G&T loss factors is calculated at delivery and generation levels on a percentage basis. These percentages are used for the allocation of system costs between G&T and Distribution functions in Chugach's cost of service studies, cost of power rate adjustment processes, and the determination of losses applied to transmission wheeling transactions.

The updated G&T loss factor proposed in this filing is 1.615 percent as measured at generation. Prior to Chugach's acquisition of Municipal Light & Power (ML&P), Chugach's average G&T loss factor was approximately 2.5 percent. Chugach's post-acquisition system includes the addition of nearby generation facilities and an expanded customer base that is concentrated in the Anchorage downtown area. These system changes have contributed to the reduction in the calculated losses. The proposed G&T loss factor reflects the updated measurement points and

transmission system boundaries resulting from Chugach's acquisition of ML&P, without changing the underlying methodology that has been approved for the calculation of the G&T loss factor. Consistent with prior year calculations, losses from Bradley Lake to Quartz Creek are not included in the loss factor calculation. If approved, the updated loss factor will increase Seward's G&T cost responsibility by approximately $1,002 and decrease the G&T cost responsibility to Chugach's retail members by an equivalent amount. In this update, there is no rate impact on third party transmission customers because Chugach is not changing its transmission wheeling rates.

**Compliance with U-99-106(12)**

The G&T loss factor was calculated in accordance with the methodology contained in the stipulation between Chugach, Homer Electric Association, Inc. (HEA) and Matanuska Electric Association, Inc. (MEA) and accepted by the Commission in Order U-99-106(12). Pursuant to this order, preliminary 2023 test year loss factor calculations and supporting work papers were provided to HEA, MEA and the Regulatory Affairs and Public Advocacy Section of the Attorney General's Office for review and comment. Preliminary calculations and work papers were also provided to Golden Valley Electric Association, Inc. (GVEA), and Seward.

A meeting was held on February 22, 2024, to review the calculations and discuss preliminary results. The meeting was attended by representatives from Chugach, GVEA, MEA, and the Regulatory Affairs and Public Advocacy Section of the Attorney General's Office. The discussion resulted in no changes to the preliminary results and Chugach is not aware of any outstanding issues associated with this year's update.

**Description of Tariff Sheets Changes and Supporting Attachments**

***Tariff Sheet No. 122:*** Updated to delete IGT Power Plant, IGT station service and Teeland 34.5 kV Breaker 332 from this sheet.

***Tariff Sheet No. 123:*** Updated to include Chugach's 2023 energy flows and calculated losses. The proposed Chugach G&T loss factors are measured at both generation and delivery.

***Attachment I:*** Provides the calculations for Chugach's electrical system monthly G&T loss factors at Delivery and generation. Loss calculations in this attachment are based on specific boundary points where energy enters or leaves the G&T system and are adjusted for house power and transformer losses.

***Attachment II***: Provides calculated transformer losses for the transformers that do not have a low voltage side measurement point. In accordance with the Black and Veatch G&T Line Loss Study, for the metering points where only low voltage side measurements are available, the calculated transformer losses are removed from the G&T loss calculation and added into the distribution loss calculation. Four of the North District transformers provided on this attachment are still undergoing IEEE C57 standard testing and the results are expected to be available in a future update.

Please contact Jean Kornmuller, Sr. Manager, Regulatory Affairs at (907) 762-4184 or Jean_Kornmuller@chugachelectric.com if additional information is needed.

Sincerely,

CHUGACH ELECTRIC ASSOCIATION, INC.

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Attachments

cc: K. Sorenson, City of Seward (electronic)
D. Heckman, Golden Valley Electric Association, Inc. (electronic)
T. Clark, Matanuska Electric Association, Inc. (electronic)
J. Draves, Homer Electric Association, Inc. (electronic)
J. Waller, Attorney General of Regulatory Affairs & Public Advocacy (electronic)

**CALCULATION OF CHUGACH G&T LOSSES**
**2023 Test Year**

| Description | Q1-23 | Q2-23 | Q3-23 | Q4-23 | Total | |
|---|---|---|---|---|---|---|
| **Energy Entering System** | | | | | | |
| Beluga Power Plant | 182.3 | 1,460.9 | 1,738.5 | 2,849.1 | 6,230.8 | |
| Fire Island Wind (IGT Bkr 532) | 12,704.0 | 14,041.5 | 7,808.2 | 12,814.1 | 47,367.8 | D |
| Southcentral Power Project | 316,817.3 | 255,860.0 | 128,861.9 | 229,106.2 | 930,645.3 | |
| Plant 1 | 7,890.2 | 5,558.0 | 5,920.4 | 20,906.7 | 40,275.4 | |
| Plant 2 | 1,259.4 | 3,568.9 | 2,173.0 | 41,349.2 | 48,350.5 | |
| Plant 2A | 230,513.6 | 155,609.5 | 239,112.0 | 228,651.0 | 853,886.0 | |
| Quartz Creek Substation | 114,595.3 | 53,743.8 | 80,473.5 | 77,967.2 | 326,779.8 | |
| Teeland Substation | 57,663.9 | 35,882.0 | 60,656.9 | 105,162.1 | 259,364.9 | |
| Plant 2 230 Yard | 0.0 | 39,644.3 | 45,097.6 | 34,658.8 | 119,400.7 | |
| Eklutna Substation | 5,902.1 | 0.0 | 2,135.2 | 0.0 | 8,037.3 | |
| International Substation | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Cooper Lake Power Plant | 11,959.3 | 10,098.8 | 16,998.3 | 8,803.9 | 47,860.4 | |
| Eklutna Hydro Electric Power Plant | 31,555.9 | 43,819.7 | 65,968.5 | 58,378.5 | 199,722.5 | |
| Total Energy Entering System | 791,043.2 | 619,287.4 | 656,944.0 | 820,646.8 | 2,887,921.3 | |
| **Energy Leaving System** | | | | | | |
| Quartz Creek Substation | | | | | | |
| Daves Creek Substation | 14,959.6 | 14,676.2 | 15,431.8 | 13,680.4 | 58,748.0 | |
| Eklutna Substation | 36,980.0 | 43,334.7 | 67,455.2 | 57,746.6 | 205,516.6 | |
| Teeland Substation | 166,674.8 | 81,627.7 | 95,951.7 | 200,768.7 | 545,022.9 | |
| Plant 2 230 Yard | 23,226.0 | 0.0 | 0.0 | 0.0 | 23,226.0 | |
| International Substation | 104.9 | 100.9 | 105.0 | 107.2 | 418.0 | |
| Power Plant Station Service Totals | 20,538.3 | 16,075.1 | 15,615.2 | 18,162.6 | 70,391.2 | |
| South - Distribution Substation Deliveries | 288,524.1 | 248,666.3 | 246,784.5 | 292,597.2 | 1,076,572.2 | |
| North - Distribution Substation Deliveries | 228,636.5 | 207,377.6 | 207,939.1 | 228,213.1 | 872,166.3 | |
| Total Energy Leaving System | 779,644.1 | 611,858.5 | 649,282.7 | 811,275.8 | 2,852,061.1 | |
| Gross Energy Losses | 11,399.0 | 7,428.9 | 7,661.3 | 9,371.0 | 35,860.2 | |
| Less Transformer Losses | 1,591.4 | 1,591.4 | 1,591.4 | 1,591.4 | 6,365.5 | |
| Net G&T Losses | 9,807.7 | 5,837.5 | 6,069.9 | 7,779.6 | 29,494.7 | |

## CALCULATION OF CHUGACH G&T LOSSES
## 2023 Test Year [1]

| Description | Q1-23 | Q2-23 | Q3-23 | Q4-23 | Total | |
|---|---|---|---|---|---|---|
| **Chugach Retail Distribution Losses** | | | | | | |
| Retail Receipts at Transmission Substation | 517,160.6 | 456,043.9 | 454,723.7 | 520,810.3 | 1,948,738.4 | |
| Less: Chugach House Power | 2,696.9 | 1,470.9 | 1,278.2 | 1,501.9 | 6,947.9 | |
| Net Receipts | 514,463.7 | 454,573.0 | 453,445.5 | 519,308.4 | 1,941,790.6 | |
| Retail Sales at Delivery | 501,145.8 | 442,110.6 | 440,614.5 | 507,217.3 | 1,891,088.2 | |
| Losses | 13,317.9 | 12,462.4 | 12,831.0 | 12,091.1 | 50,702.4 | |
| Add: 1/2 House Power | 1,348.4 | 735.5 | 639.1 | 751.0 | 3,473.9 | |
| Adj. Retail Dist. Losses | 14,666.4 | 13,197.8 | 13,470.1 | 12,842.0 | 54,176.3 | |
| At Delivery | 2.927% | 2.985% | 3.057% | 2.532% | 2.865% | |
| At Transmission Substation | 2.851% | 2.903% | 2.971% | 2.473% | 2.790% | |
| **Adjustment of G&T Losses for House Power** | | | | | | |
| G&T Deliveries | 532,212.0 | 470,809.0 | 470,228.8 | 534,578.0 | 2,007,827.9 | |
| Net G&T Losses | 9,807.7 | 5,837.5 | 6,069.9 | 7,779.6 | 29,494.7 | |
| Add: 1/2 House Power | 1,348.4 | 735.5 | 639.1 | 751.0 | 3,473.9 | |
| Adjusted G&T Losses | 11,156.1 | 6,573.0 | 6,709.0 | 8,530.6 | 32,968.6 | |
| At Delivery | 2.096% | 1.396% | 1.427% | 1.596% | 1.642% | R |
| At Generation | 2.053% | 1.377% | 1.407% | 1.571% | 1.615% | R |

[1] G&T loss factor effective for the allocation of actual costs beginning January 1, 2024.

# Attachment I

Chugach Electric Association, Inc.
Monthly G&T Line Loss Calculation; U-99-106
In Accordance with Section 7, April 12, 2002
Tariff Advice Nos. 552-8 / 430-121

Values used in calculation not rounded; data formatted to show the nearest tenth of a MWh.

| Measurement Point | Source[1] | Jan-23 | Feb-23 | Mar-23 | Apr-23 | May-23 | Jun-23 | Jul-23 | Aug-23 | Sep-23 | Oct-23 | Nov-23 | Dec-23 | Total 2023 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Energy Entering System** | | | | | | | | | | | | | | |
| **Beluga Power Plant** | | | | | | | | | | | | | | |
| Beluga 13.8 BKR 126 | S | 0.0 | 0.0 | 0.0 | 153.4 | 0.0 | 0.0 | 125.2 | 0.0 | 0.0 | 60.3 | 0.0 | 0.0 | 338.9 |
| Beluga 13.8 BKR 226 | S | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Beluga 13.8 BKR 326 | S | 0.0 | 182.3 | 0.0 | 0.0 | 486.9 | 0.0 | 0.0 | 422.8 | 444.0 | 0.0 | 548.9 | 2,068.6 | 4,153.6 |
| Beluga 13.8 BKR 526 | S | 0.0 | 0.0 | 0.0 | 80.6 | 0.0 | 313.6 | 197.8 | 258.9 | 0.0 | 33.4 | 0.0 | 0.0 | 884.2 |
| Beluga 13.8 BKR 626 | S | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Beluga 13.8 BKR 726 | S | 0.0 | 0.0 | 0.0 | 210.6 | 0.0 | 215.8 | 0.0 | 0.0 | 289.8 | 137.8 | 0.0 | 0.0 | 854.1 |
| Beluga 13.8 BKR 826 | S | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Beluga Power Plant | | 0.0 | 182.3 | 0.0 | 444.5 | 486.9 | 529.4 | 323.0 | 681.7 | 733.8 | 231.5 | 548.9 | 2,068.6 | 6,230.8 |
| **Fire Island Wind** | | | | | | | | | | | | | | |
| Fire Island Wind (FISS Bkr 532) | M | 5,263.0 | 2,664.3 | 4,776.7 | 3,984.3 | 5,446.2 | 4,611.0 | 2,062.3 | 2,940.0 | 2,805.9 | 3,361.0 | 4,949.1 | 4,504.1 | 47,367.8 |
| Total Fire Island Wind | | 5,263.0 | 2,664.3 | 4,776.7 | 3,984.3 | 5,446.2 | 4,611.0 | 2,062.3 | 2,940.0 | 2,805.9 | 3,361.0 | 4,949.1 | 4,504.1 | 47,367.8 |
| **SPP** | | | | | | | | | | | | | | |
| Unit No. 1 / 10 | S | 25,207.0 | 24,062.7 | 21,737.3 | 21,346.4 | 25,014.4 | 2,466.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 119,834.3 |
| Unit No. 2 / 11 | S | 29,236.7 | 27,824.6 | 26,956.5 | 27,884.9 | 29,302.6 | 5,754.1 | 19,715.1 | 20,234.7 | 21,981.7 | 14,737.3 | 29,766.0 | 33,362.0 | 286,756.1 |
| Unit No. 3 / 12 | S | 28,065.7 | 27,412.2 | 20,481.0 | 25,983.2 | 29,089.7 | 15,932.7 | 13,099.8 | 12,042.6 | 6,652.5 | 14,140.3 | 29,047.6 | 32,166.1 | 254,113.5 |
| Unit No. 4 / 13 | S | 29,159.8 | 27,433.8 | 29,239.9 | 25,422.7 | 29,027.2 | 18,635.6 | 19,102.9 | 12,548.3 | 3,484.3 | 19,885.0 | 23,771.9 | 32,230.0 | 269,941.5 |
| Total SPP | | 111,669.2 | 106,733.3 | 98,414.7 | 100,637.3 | 112,433.9 | 42,788.8 | 51,917.8 | 44,825.7 | 32,118.4 | 48,762.6 | 82,585.6 | 97,758.0 | 930,645.3 |
| **Plant 1** | | | | | | | | | | | | | | |
| Unit No. 3 | S | 720.4 | 5,458.4 | 1,711.5 | 573.9 | 3,783.1 | 1,201.0 | 2,629.1 | 656.7 | 2,634.7 | 15,356.7 | 4,401.8 | 1,148.1 | 40,275.4 |
| Unit No. 4 | S | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Plant 1 | | 720.4 | 5,458.4 | 1,711.5 | 573.9 | 3,783.1 | 1,201.0 | 2,629.1 | 656.7 | 2,634.7 | 15,356.7 | 4,401.8 | 1,148.1 | 40,275.4 |
| **Plant 2** | | | | | | | | | | | | | | |
| Unit No. 7 | S | 427.5 | 585.4 | 81.7 | 79.2 | 698.4 | 2,709.7 | 1,756.1 | 170.9 | 91.6 | 6,722.4 | 15,403.1 | 18,204.0 | 46,930.1 |
| Unit No. 8 | S | 0.0 | 0.0 | 164.7 | 0.0 | 0.0 | 81.6 | 154.3 | 0.0 | 0.0 | 772.3 | 247.5 | 0.0 | 1,420.4 |
| Total Plant 2 | | 427.5 | 585.4 | 246.5 | 79.2 | 698.4 | 2,791.3 | 1,910.5 | 170.9 | 91.6 | 7,494.7 | 15,650.6 | 18,204.0 | 48,350.5 |
| **Plant 2A** | | | | | | | | | | | | | | |
| Unit No. 9 | S | 29,041.1 | 30,672.8 | 33,303.4 | 24,664.8 | 16,276.4 | 26,981.5 | 32,565.7 | 30,918.1 | 30,860.9 | 24,947.7 | 26,896.3 | 34,903.1 | 342,031.7 |
| Unit No. 10 | S | 26,780.3 | 28,042.5 | 28,045.1 | 22,419.7 | 7,729.4 | 23,387.5 | 29,837.6 | 27,955.7 | 28,735.3 | 24,251.7 | 32,341.9 | 33,656.2 | 313,182.8 |
| Unit No. 11 (Steam) | S | 18,367.7 | 17,803.5 | 18,457.2 | 14,651.0 | 3,042.4 | 16,456.9 | 19,955.3 | 19,368.9 | 18,914.6 | 14,414.6 | 17,311.7 | 19,927.7 | 198,671.5 |
| Total Plant 2A | | 74,189.0 | 76,518.9 | 79,805.7 | 61,735.5 | 27,048.2 | 66,825.9 | 82,358.5 | 78,242.7 | 78,510.8 | 63,614.1 | 76,549.8 | 88,487.1 | 853,886.0 |
| **Cooper Lake Power Plant** | | | | | | | | | | | | | | |
| Chugach CLPP | S | 5,279.9 | 6,658.4 | 21.0 | 37.0 | 2,188.8 | 7,873.0 | 8,509.7 | 4,648.3 | 3,840.4 | 5,771.0 | 2,826.5 | 206.5 | 47,860.4 |
| Total Cooper Lake Power Plant | | 5,279.9 | 6,658.4 | 21.0 | 37.0 | 2,188.8 | 7,873.0 | 8,509.7 | 4,648.3 | 3,840.4 | 5,771.0 | 2,826.5 | 206.5 | 47,860.4 |
| **Eklutna Hydro Electric Power Plant** | | | | | | | | | | | | | | |
| Eklutna Hydro | S | 9,094.9 | 11,707.0 | 10,754.0 | 16,970.5 | 13,487.9 | 13,361.3 | 10,489.1 | 26,870.9 | 28,608.5 | 25,326.2 | 16,323.6 | 16,728.7 | 199,722.5 |
| Total Eklutna Hydro Electric Power Plant | | 9,094.9 | 11,707.0 | 10,754.0 | 16,970.5 | 13,487.9 | 13,361.3 | 10,489.1 | 26,870.9 | 28,608.5 | 25,326.2 | 16,323.6 | 16,728.7 | 199,722.5 |
| **Total Energy Entering System** | | **258,367.3** | **278,869.2** | **253,806.7** | **221,479.1** | **210,933.2** | **186,875.0** | **217,516.1** | **223,248.4** | **216,179.5** | **245,080.5** | **271,210.8** | **304,355.5** | **2,887,921.3** |
| **Energy Entering or Leaving System** | | | | | | | | | | | | | | |
| **International Substation** | | | | | | | | | | | | | | |
| INSS BKR 532 (MSESS) | S | 35.5 | 33.0 | 36.4 | 34.7 | 35.0 | 31.1 | 35.8 | 35.0 | 34.2 | 36.2 | 35.0 | 36.0 | 418.0 |
| Total International Substation Entering the G&T System | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total International Substation Leaving the G&T System | | 35.5 | 33.0 | 36.4 | 34.7 | 35.0 | 31.1 | 35.8 | 35.0 | 34.2 | 36.2 | 35.0 | 36.0 | 418.0 |

Chugach Electric Association, Inc.
Monthly G&T Line Loss Calculation; U-99-106
In Accordance with Section 7, April 12, 2002
Tariff Advice Nos. 552-8 / 430-121

Values used in calculation not rounded; data formatted to show the nearest tenth of a MWh.

| Measurement Point | Source[1] | Jan-23 | Feb-23 | Mar-23 | Apr-23 | May-23 | Jun-23 | Jul-23 | Aug-23 | Sep-23 | Oct-23 | Nov-23 | Dec-23 | Total 2023 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Quartz Creek Substation** | | | | | | | | | | | | | | |
| Soldotna 115 SldQtzLn | S | (39,167.5) | (37,174.2) | (38,253.6) | (20,097.8) | (9,205.3) | (24,440.7) | (28,468.6) | (25,441.4) | (26,563.5) | (26,940.0) | (23,381.8) | (27,645.4) | (326,779.8) |
| Total Quartz Creek Substation Entering the G&T System | | 39,167.5 | 37,174.2 | 38,253.6 | 20,097.8 | 9,205.3 | 24,440.7 | 28,468.6 | 25,441.4 | 26,563.5 | 26,940.0 | 23,381.8 | 27,645.4 | 326,779.8 |
| Total Quartz Creek Substation Leaving the G&T System | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| **Plant 2 Yard** | | | | | | | | | | | | | | |
| Plant 2 Bus M EklNorth MW (MEA Tie) | S | 7,184.8 | 12,338.7 | 3,702.5 | (4,905.9) | (20,860.2) | (13,878.3) | (5,733.8) | (19,638.2) | (19,725.6) | (20,059.8) | (7,873.8) | (6,725.3) | (96,174.7) |
| Total Plant 2 Yard Entering the G&T System | | 0.0 | 0.0 | 0.0 | 4,905.9 | 20,860.2 | 13,878.3 | 5,733.8 | 19,638.2 | 19,725.6 | 20,059.8 | 7,873.8 | 6,725.3 | 119,400.7 |
| Total Plant 2 Yard Leaving the G&T System | | 7,184.8 | 12,338.7 | 3,702.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 23,226.0 |
| **Eklutna Substation** | | | | | | | | | | | | | | |
| Eklutna BKR 362 MW | S | 11,840.8 | 12,563.9 | 12,575.4 | 12,764.3 | 12,775.5 | 12,218.1 | 12,488.8 | 17,279.7 | 18,080.3 | 18,918.8 | 8,141.8 | 2,093.3 | 151,740.4 |
| Eklutna BKR 462 MW | S | (2,903.2) | (1,016.6) | (1,982.3) | 4,025.4 | 567.7 | 983.8 | (2,135.2) | 9,348.3 | 10,258.2 | 6,156.9 | 7,999.1 | 14,436.7 | 45,738.9 |
| Total Eklutna Substation Entering the G&T System | | 2,903.2 | 1,016.6 | 1,982.3 | 0.0 | 0.0 | 0.0 | 2,135.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 8,037.3 |
| Total Eklutna Substation Leaving the G&T System | | 11,840.8 | 12,563.9 | 12,575.4 | 16,789.7 | 13,343.1 | 13,201.9 | 12,488.8 | 26,628.0 | 28,338.5 | 25,075.7 | 16,141.0 | 16,530.0 | 205,516.6 |
| **Teeland Substation** | | | | | | | | | | | | | | |
| Teeland 115 kV T1 | S | 23,587.9 | 34,642.3 | 24,192.4 | 17,018.7 | 12,840.4 | 5,400.4 | 13,855.9 | 6,100.8 | 5,110.5 | 10,790.4 | 26,666.4 | 33,061.7 | 213,267.7 |
| Teeland 115 1452 (T3) | S | 9,652.8 | 30,170.4 | 17,840.7 | 12,013.2 | 15,294.4 | 8,574.4 | 20,978.6 | 19,131.9 | 20,546.4 | 28,163.0 | 36,119.4 | 40,879.7 | 259,364.9 |
| Teeland 138 BKR 538 (T2) | S | 18,395.7 | 40,911.2 | 24,945.3 | 16,804.9 | 19,267.8 | 10,295.5 | 25,784.2 | 21,881.5 | 23,218.9 | 32,828.5 | 45,361.9 | 52,059.8 | 331,755.2 |
| Total Teeland Substation Entering the G&T System | | 9,652.8 | 30,170.4 | 17,840.7 | 12,013.2 | 15,294.4 | 8,574.4 | 20,978.6 | 19,131.9 | 20,546.4 | 28,163.0 | 36,119.4 | 40,879.7 | 259,364.9 |
| Total Teeland Substation Leaving the G&T System | | 41,983.6 | 75,553.5 | 49,137.7 | 33,823.6 | 32,108.2 | 15,695.9 | 39,640.0 | 27,982.3 | 28,329.4 | 43,618.9 | 72,028.3 | 85,121.5 | 545,022.9 |
| **Energy Leaving System** | | | | | | | | | | | | | | |
| **Daves Creek Substation** | | | | | | | | | | | | | | |
| Daves Ck 115 BKR 952 | S | 5,065.5 | 4,793.5 | 5,100.6 | 4,820.2 | 5,109.7 | 4,746.3 | 5,234.3 | 5,390.4 | 4,807.1 | 4,584.2 | 4,105.1 | 4,991.1 | 58,748.0 |
| Total Daves Creek Substation | | 5,065.5 | 4,793.5 | 5,100.6 | 4,820.2 | 5,109.7 | 4,746.3 | 5,234.3 | 5,390.4 | 4,807.1 | 4,584.2 | 4,105.1 | 4,991.1 | 58,748.0 |
| **Power Plant Station Service - Includes Generation Step-up (GSU) transformers losses** | | | | | | | | | | | | | | |
| Beluga Station Service | O | 592.5 | 580.9 | 583.7 | 527.0 | 409.5 | 332.5 | 337.7 | 351.7 | 379.9 | 447.9 | 529.3 | 632.0 | 5,704.5 |
| CLPP Station Service | O | 151.4 | 162.1 | 107.0 | 102.8 | 104.7 | 135.3 | 130.0 | 84.5 | 92.1 | 146.1 | 133.9 | 122.0 | 1,471.9 |
| Eklutna Station Service | O | 30.3 | 26.4 | 28.9 | 23.5 | 22.0 | 19.0 | 22.0 | 21.0 | 20.0 | 21.0 | 20.0 | 21.0 | 275.1 |
| Plant 1 | O | 152.1 | 381.2 | 204.5 | 143.2 | 288.3 | 158.4 | 202.8 | 131.2 | 221.6 | 825.6 | 316.2 | 183.0 | 3,208.0 |
| Plant 2 | O | 437.8 | 397.0 | 428.8 | 391.0 | 382.6 | 368.2 | 380.1 | 352.8 | 350.5 | 425.8 | 515.9 | 541.0 | 4,971.5 |
| Plant 2A | O | 2,598.4 | 2,534.5 | 2,695.4 | 2,147.2 | 1,020.0 | 2,402.3 | 2,871.1 | 2,875.1 | 2,626.3 | 2,189.3 | 2,513.4 | 2,945.6 | 29,418.5 |
| SPP Station Service | O | 2,968.8 | 2,732.2 | 2,744.5 | 2,720.3 | 2,963.2 | 1,414.1 | 1,521.9 | 1,444.2 | 1,198.8 | 1,498.1 | 1,949.4 | 2,186.0 | 25,341.6 |
| Total Station Service | | 6,931.2 | 6,814.2 | 6,792.9 | 6,055.0 | 5,190.4 | 4,829.7 | 5,465.6 | 5,260.4 | 4,889.2 | 5,553.8 | 5,978.2 | 6,630.6 | 70,391.2 |
| **South District - Distribution Substation Deliveries** | | | | | | | | | | | | | | |
| BEL_PH_1022 | S | 1,935.5 | 1,838.0 | 1,935.3 | 762.1 | 1,864.5 | 1,698.4 | 1,693.1 | 1,709.5 | 1,814.5 | 1,927.6 | 1,899.6 | 2,102.2 | 21,180.2 |
| BEL_TY_6126 | S | 527.4 | 499.7 | 515.6 | 1,518.8 | 349.5 | 283.9 | 261.0 | 270.6 | 380.0 | 501.8 | 504.6 | 630.3 | 6,243.1 |
| DC_352_452 | S | 573.7 | 540.6 | 655.1 | 622.4 | 640.2 | 662.8 | 658.5 | 623.2 | 647.9 | 613.3 | 575.9 | 638.6 | 7,452.1 |
| GIRDWD_322 | S | 1,317.1 | 1,139.0 | 1,234.0 | 1,040.2 | 886.8 | 885.4 | 789.7 | 625.4 | 764.0 | 889.6 | 1,676.9 | 2,325.6 | 13,573.7 |
| GIRDWD_422 | S | 1,174.6 | 1,078.6 | 1,164.1 | 973.7 | 818.1 | 720.3 | 730.9 | 865.3 | 779.5 | 908.7 | 611.8 | 1,011.4 | 10,837.0 |
| HANE_T1 | S | 2,311.6 | 2,075.5 | 2,184.9 | 1,987.5 | 1,916.9 | 1,805.9 | 2,328.7 | 2,180.7 | 1,908.6 | 2,105.8 | 2,171.3 | 2,494.6 | 25,472.0 |
| HOPE_322B | S | 167.0 | 156.0 | 168.5 | 149.9 | 157.5 | 150.2 | 154.1 | 147.6 | 148.3 | 152.8 | 140.7 | 167.3 | 1,859.8 |
| INSS_1232 | S | 8,031.6 | 7,099.6 | 7,516.4 | 6,796.1 | 6,432.8 | 6,012.5 | 6,510.2 | 7,260.7 | 7,334.1 | 8,343.3 | 7,550.0 | 8,547.0 | 87,434.2 |
| INSS_1332 | S | 6,048.6 | 5,402.7 | 5,657.0 | 6,018.5 | 5,275.3 | 4,220.0 | 3,851.5 | 2,381.4 | 2,408.5 | 2,812.8 | 5,522.5 | 6,317.6 | 55,916.4 |
| INSS_1532 | S | 5,461.7 | 4,880.5 | 5,243.6 | 5,545.1 | 5,055.0 | 4,423.7 | 4,863.1 | 5,732.7 | 5,415.6 | 5,980.4 | 5,076.8 | 5,570.1 | 63,248.3 |
| INSS_332 | S | 351.6 | 292.9 | 326.3 | 304.5 | 278.1 | 244.0 | 232.3 | 244.6 | 256.3 | 301.6 | 310.6 | 327.2 | 3,470.0 |
| INSS_732 | S | 9,612.7 | 12,553.3 | 8,282.9 | 6,104.7 | 5,128.0 | 3,924.9 | 3,528.8 | 4,326.8 | 4,927.3 | 4,506.6 | 4,708.4 | 5,226.5 | 72,830.6 |
| INSS_832 | S | 6,552.8 | (1.8) | 4,934.3 | 4,447.7 | 5,840.6 | 7,462.3 | 8,073.5 | 7,100.2 | 7,114.8 | 8,249.7 | 8,251.4 | 9,191.3 | 77,216.9 |
| INDIAN_212 | S | 228.1 | 202.4 | 212.8 | 193.2 | 188.7 | 181.0 | 184.6 | 185.2 | 190.5 | 216.0 | 193.9 | 239.1 | 2,415.4 |
| PASS_162 | S | 1,461.8 | 1,291.5 | 1,405.3 | 1,302.6 | 1,264.6 | 1,106.3 | 1,185.6 | 1,504.5 | 1,424.9 | 1,514.4 | 1,391.7 | 1,524.2 | 16,377.2 |
| PASS_262 | S | 2,917.9 | 2,607.4 | 2,838.4 | 2,694.6 | 2,788.2 | 2,824.2 | 3,015.4 | 3,099.9 | 2,740.0 | 2,827.8 | 2,828.1 | 2,903.8 | 34,085.6 |

Chugach Electric Association, Inc.
Monthly G&T Line Loss Calculation; U-99-106
In Accordance with Section 7, April 12, 2002
Tariff Advice Nos. 552-8 / 430-121

Values used in calculation not rounded; data formatted to show the nearest tenth of a MWh.

| Measurement Point | Source[1] | Jan-23 | Feb-23 | Mar-23 | Apr-23 | May-23 | Jun-23 | Jul-23 | Aug-23 | Sep-23 | Oct-23 | Nov-23 | Dec-23 | Total 2023 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PORTAGE_422 | S | 794.4 | 728.7 | 805.3 | 786.2 | 768.5 | 840.7 | 1,118.6 | 992.7 | 628.3 | 631.7 | 736.1 | 828.8 | 9,659.9 |
| RR_XFMR_T1 | S | 16,168.6 | 14,391.1 | 15,162.1 | 13,581.5 | 12,986.5 | 12,325.8 | 12,515.3 | 13,804.9 | 12,514.8 | 14,430.2 | 15,166.0 | 16,967.6 | 170,014.3 |
| RR_XFMR_T2 | S | 16,321.6 | 14,536.8 | 15,320.7 | 13,746.3 | 13,159.1 | 12,454.0 | 12,684.5 | 14,037.4 | 12,705.6 | 14,609.8 | 15,283.9 | 17,107.3 | 171,966.9 |
| SUMMIT LK | M | 35.0 | 37.7 | 42.1 | 51.5 | 121.1 | 192.6 | 191.9 | 183.1 | 77.0 | 39.1 | 45.2 | 23.2 | 1,039.4 |
| UVSS_1132 | S | 7,897.6 | 9,666.7 | 10,281.6 | 9,238.6 | 8,776.1 | 8,207.1 | 8,566.7 | 8,744.3 | 8,643.8 | 9,663.1 | 9,941.2 | 10,856.3 | 110,483.0 |
| UVSS_1232 | S | 4,616.8 | 6,184.5 | 6,503.2 | 5,822.9 | 5,402.8 | 4,971.4 | 5,326.5 | 4,974.0 | 5,291.7 | 6,066.8 | 6,393.9 | 7,203.3 | 68,757.8 |
| UVSS_1332 | S | 7,173.3 | 3,599.2 | 3,707.7 | 3,282.9 | 3,132.5 | 2,912.0 | 3,025.8 | 3,125.4 | 3,091.0 | 3,503.7 | 3,936.9 | 4,733.5 | 45,223.9 |
| UVSS_1536 | S | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| FIW Station Service | S | (20.6) | (15.3) | (18.5) | (15.9) | (16.3) | (13.2) | (10.3) | (9.9) | (12.2) | (14.9) | (17.8) | (20.8) | (185.8) |
| Total South District - Distribution Substation | | 101,660.0 | 90,785.3 | 96,078.7 | 86,955.5 | 83,215.0 | 78,495.9 | 81,479.8 | 84,110.2 | 81,194.5 | 90,781.5 | 94,899.8 | 106,915.9 | 1,076,572.2 |
| **North District - Distribution Substation Deliveries** | | | | | | | | | | | | | | |
| Sub 6 12.47 Bus MW | S | 5,601.6 | 4,974.9 | 5,093.3 | 4,709.8 | 4,485.5 | 4,616.0 | 4,377.3 | 4,636.7 | 4,473.0 | 5,221.6 | 4,757.4 | 5,290.1 | 58,237.1 |
| Sub 6 34.5 Bus MW | S | 4,130.2 | 3,768.4 | 4,118.2 | 3,871.8 | 4,081.1 | 4,067.2 | 4,263.8 | 4,360.1 | 3,851.4 | 4,012.6 | 3,926.7 | 4,169.0 | 48,620.4 |
| Sub 7 12.47 Bus Station Megawatts MW | S | 4,249.7 | 3,830.9 | 4,020.3 | 3,663.9 | 3,543.7 | 2,860.2 | 3,493.5 | 3,604.1 | 3,405.1 | 3,762.5 | 3,877.8 | 4,246.9 | 44,558.5 |
| Sub 8 Main Bkr 14 MW | S | 5,826.3 | 5,318.2 | 5,740.2 | 5,621.4 | 5,669.1 | 5,845.3 | 6,416.7 | 6,427.2 | 5,623.1 | 5,811.5 | 5,592.4 | 5,745.4 | 69,636.8 |
| Sub 8 Main Bkr 4 Watts | S | 4,122.0 | 3,674.0 | 3,640.9 | 3,677.4 | 3,397.5 | 3,183.6 | 3,376.8 | 3,512.4 | 3,298.5 | 3,635.6 | 3,844.2 | 4,274.1 | 43,637.1 |
| Sub 10 12.47 Bus Station MegaWatts MW | S | 5,619.2 | 5,055.0 | 5,556.1 | 5,153.0 | 4,584.6 | 4,314.8 | 4,498.0 | 4,601.7 | 4,322.6 | 4,542.2 | 3,921.6 | 4,065.7 | 56,234.5 |
| Sub 12 SouthBus MW | S | 12,879.7 | 10,616.3 | 14,236.8 | 13,367.5 | 10,497.9 | 15,945.7 | 16,730.2 | 20,121.6 | 18,734.4 | 14,955.5 | 17,630.6 | 20,735.0 | 186,451.1 |
| Sub 12 NorthBus MW | S | (22,168.5) | (18,912.1) | (23,265.5) | (21,337.0) | (18,611.9) | (23,279.7) | (23,513.8) | (26,616.0) | (25,646.4) | (22,507.7) | (26,407.8) | (30,431.5) | (282,697.8) |
| Sub 12 Total Deliveries MW | | 9,288.9 | 8,295.8 | 9,028.7 | 7,969.5 | 8,114.0 | 7,334.0 | 6,783.6 | 6,494.4 | 6,911.9 | 7,552.2 | 8,777.2 | 9,696.5 | 96,246.7 |
| Sub 14 115 Sub10Bus Watts | S | 14,854.5 | 12,068.2 | 14,126.0 | 11,698.4 | 8,109.2 | 13,920.1 | 13,364.0 | 14,801.7 | 13,730.3 | 10,711.8 | 13,296.9 | 15,220.1 | 155,901.2 |
| Sub 14 115 Anch Bus Watts | S | (5,738.1) | (4,469.1) | (2,865.4) | 228.6 | 656.4 | (849.3) | 867.9 | 3,106.8 | 3,286.5 | 2,370.2 | 1,754.2 | 2,780.1 | 1,128.7 |
| Sub 14 115 Plt2 Bus Watts | S | (15,575.2) | (13,368.1) | (17,474.6) | (16,908.2) | (14,561.5) | (18,692.2) | (20,140.7) | (24,022.9) | (22,585.6) | (19,028.3) | (21,574.3) | (25,164.3) | (229,095.8) |
| Sub 14 Total Deliveries MW | | 6,458.8 | 5,769.0 | 6,214.1 | 4,981.2 | 5,796.0 | 5,621.4 | 5,908.9 | 6,114.3 | 5,568.8 | 5,946.4 | 6,523.2 | 7,164.1 | 72,065.9 |
| Sub 15 12.47 Bus Station MWatts MW | S | 8,820.3 | 7,868.6 | 8,572.4 | 7,481.8 | 7,423.8 | 7,119.9 | 7,626.4 | 7,876.5 | 7,359.1 | 7,999.9 | 8,252.3 | 8,971.0 | 95,371.9 |
| Sub 16 12.47 Bus MW | S | 6,487.2 | 5,834.9 | 6,598.7 | 5,803.5 | 5,749.7 | 5,934.5 | 6,425.9 | 6,558.1 | 5,715.8 | 6,100.1 | 6,127.6 | 6,569.3 | 73,905.0 |
| Sub 22 115 Sub 7 Bus Watts | S | 2,842.8 | 328.6 | 123.8 | 1,980.1 | 4,871.6 | (5,410.8) | (5,615.6) | (7,943.4) | (9,590.3) | (11,704.0) | (5,970.9) | (5,458.3) | (41,546.5) |
| Sub 22 115 Sub 16 Bus Watts | S | (5,938.5) | (5,940.3) | (5,542.9) | (1,511.2) | 3,296.0 | (7,999.8) | (9,393.4) | (7,896.0) | (10,256.7) | (9,703.0) | (6,996.9) | (6,857.9) | (74,740.4) |
| Sub 22 115 ITSS Bus Watts | S | (1,137.5) | 1,744.6 | 1,119.9 | (4,536.4) | (12,177.5) | 9,366.0 | 10,664.8 | 11,385.5 | 16,069.0 | 17,409.6 | 9,016.2 | 8,132.0 | 67,056.3 |
| Sub 22 Total Deliveries MW | | 4,233.2 | 3,867.1 | 4,299.2 | 4,067.5 | 4,010.0 | 4,044.5 | 4,344.3 | 4,453.8 | 3,777.9 | 3,997.4 | 3,951.6 | 4,184.2 | 49,230.6 |
| Sub 20 12.47 Bus Station MegaWatts MW | S | 3,416.7 | 3,051.8 | 3,308.1 | 3,388.3 | 2,791.7 | 2,658.3 | 2,801.0 | 2,823.4 | 2,768.8 | 3,140.8 | 2,870.8 | 3,225.5 | 36,245.2 |
| Plant 1 Bkr 830 MW | S | 1,723.9 | 1,579.6 | 1,683.2 | 1,527.5 | 1,527.0 | 1,549.3 | 1,650.0 | 1,674.7 | 1,472.1 | 2,395.5 | 3,971.0 | 4,337.8 | 25,091.6 |
| Plant 1 Bkr 930 MW | S | 1,861.6 | 1,705.1 | 1,862.5 | 1,775.8 | 1,945.5 | 1,879.2 | 2,018.4 | 1,981.3 | 1,462.9 | 1,736.7 | 1,788.2 | 1,880.5 | 21,897.7 |
| Plant 1 Bkr 1130 MW | S | 6,491.9 | 5,818.3 | 6,219.8 | 5,473.0 | 5,392.0 | 4,860.3 | 5,159.1 | 5,586.2 | 5,150.8 | 6,022.6 | 6,171.7 | 6,762.6 | 69,108.2 |
| Plant 1 Bkr 1030 MW | S | 880.9 | 802.5 | 864.3 | 799.7 | 781.1 | 789.1 | 817.1 | 831.4 | 743.0 | 63.7 | (22.3) | (22.4) | 7,328.0 |
| Plant 1 Bkr 630 MW | S | 485.3 | 453.7 | 451.6 | 420.8 | 526.6 | 495.4 | 394.0 | (7.0) | 150.4 | 470.7 | 431.2 | 478.6 | 4,751.3 |
| Total North District - Distribution Substation | | 79,697.5 | 71,667.6 | 77,271.4 | 70,386.0 | 69,818.8 | 67,172.8 | 70,354.7 | 71,529.2 | 66,055.2 | 72,411.8 | 74,762.6 | 81,038.7 | 872,166.3 |
| **Total Energy Leaving System** | | **254,398.7** | **274,549.7** | **250,695.7** | **218,864.7** | **208,820.2** | **184,173.6** | **214,698.9** | **220,935.6** | **213,648.2** | **242,062.1** | **267,949.9** | **301,263.8** | **2,852,061.1** |
| **Gross Energy Losses** | | **3,968.6** | **4,319.5** | **3,111.0** | **2,614.5** | **2,113.0** | **2,701.4** | **2,817.2** | **2,312.8** | **2,531.3** | **3,018.4** | **3,260.9** | **3,091.7** | **35,860.2** |
| **Less Transformer Losses** | | | | | | | | | | | | | | |
| University (w/ Station Load) | O | 161.2 | 161.2 | 161.2 | 161.2 | 161.2 | 161.2 | 161.2 | 161.2 | 161.2 | 161.2 | 161.2 | 161.2 | 1,934.8 |
| Beluga | O | 35.9 | 35.9 | 35.9 | 35.9 | 35.9 | 35.9 | 35.9 | 35.9 | 35.9 | 35.9 | 35.9 | 35.9 | 430.7 |
| Indian | O | 5.9 | 5.9 | 5.9 | 5.9 | 5.9 | 5.9 | 5.9 | 5.9 | 5.9 | 5.9 | 5.9 | 5.9 | 71.2 |
| Girdwood | O | 30.6 | 30.6 | 30.6 | 30.6 | 30.6 | 30.6 | 30.6 | 30.6 | 30.6 | 30.6 | 30.6 | 30.6 | 366.8 |
| Portage | O | 23.9 | 23.9 | 23.9 | 23.9 | 23.9 | 23.9 | 23.9 | 23.9 | 23.9 | 23.9 | 23.9 | 23.9 | 286.5 |
| Hope | O | 2.3 | 2.3 | 2.3 | 2.3 | 2.3 | 2.3 | 2.3 | 2.3 | 2.3 | 2.3 | 2.3 | 2.3 | 27.2 |
| Summit Lake | O | 2.1 | 2.1 | 2.1 | 2.1 | 2.1 | 2.1 | 2.1 | 2.1 | 2.1 | 2.1 | 2.1 | 2.1 | 25.1 |

Chugach Electric Association, Inc.
Monthly G&T Line Loss Calculation; U-99-106
In Accordance with Section 7, April 12, 2002
Tariff Advice Nos. 552-8 / 430-121

Values used in calculation not rounded; data formatted to show the nearest tenth of a MWh.

| Measurement Point | Source[1] | Jan-23 | Feb-23 | Mar-23 | Apr-23 | May-23 | Jun-23 | Jul-23 | Aug-23 | Sep-23 | Oct-23 | Nov-23 | Dec-23 | Total 2023 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daves Creek | O | 16.6 | 16.6 | 16.6 | 16.6 | 16.6 | 16.6 | 16.6 | 16.6 | 16.6 | 16.6 | 16.6 | 16.6 | 199.1 |
| International | O | 163.8 | 163.8 | 163.8 | 163.8 | 163.8 | 163.8 | 163.8 | 163.8 | 163.8 | 163.8 | 163.8 | 163.8 | 1,965.0 |
| Sub 6 (Pending Study) | O | 18.2 | 18.2 | 18.2 | 18.2 | 18.2 | 18.2 | 18.2 | 18.2 | 18.2 | 18.2 | 18.2 | 18.2 | 218.8 |
| Sub 7 (Pending Study) | O | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Sub 8 | O | 30.8 | 30.8 | 30.8 | 30.8 | 30.8 | 30.8 | 30.8 | 30.8 | 30.8 | 30.8 | 30.8 | 30.8 | 369.6 |
| Sub 10 (Pending Study) | O | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Sub 15 | O | 25.8 | 25.8 | 25.8 | 25.8 | 25.8 | 25.8 | 25.8 | 25.8 | 25.8 | 25.8 | 25.8 | 25.8 | 309.4 |
| Sub 16 (Pending Study) | O | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Sub 20 | O | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 161.4 |
| Total Transformer Losses | | 530.5 | 530.5 | 530.5 | 530.5 | 530.5 | 530.5 | 530.5 | 530.5 | 530.5 | 530.5 | 530.5 | 530.5 | 6,365.5 |
| Net G&T Losses | | 3,438.1 | 3,789.0 | 2,580.5 | 2,084.0 | 1,582.5 | 2,171.0 | 2,286.7 | 1,782.4 | 2,000.8 | 2,487.9 | 2,730.5 | 2,561.3 | 29,494.7 |
| **Chugach Retail Distribution Losses** | | | | | | | | | | | | | | |
| Retail Receipts @ Trans SS | | 181,357.5 | 162,453.0 | 173,350.1 | 157,341.4 | 153,033.8 | 145,668.7 | 151,834.5 | 155,639.4 | 147,249.8 | 163,193.3 | 169,662.4 | 187,954.6 | 1,948,738.4 |
| Less: Chugach House Pwr. | O | 1,080.6 | 972.5 | 643.8 | 538.9 | 488.0 | 444.1 | 398.7 | 423.3 | 456.2 | 521.1 | 546.5 | 434.2 | 6,947.9 |
| Net Receipts | | 180,276.9 | 161,480.5 | 172,706.3 | 156,802.6 | 152,545.8 | 145,224.6 | 151,435.8 | 155,216.1 | 146,793.6 | 162,672.2 | 169,115.8 | 187,520.4 | 1,941,790.6 |
| Retail Sales @ Delivery | O | 175,297.5 | 157,213.4 | 168,634.9 | 152,678.9 | 147,902.8 | 141,529.0 | 146,521.2 | 150,945.6 | 143,147.7 | 157,616.0 | 164,321.7 | 185,279.5 | 1,891,088.2 |
| Losses | | 4,979.4 | 4,267.1 | 4,071.4 | 4,123.7 | 4,643.1 | 3,695.6 | 4,914.6 | 4,270.5 | 3,645.9 | 5,056.1 | 4,794.2 | 2,240.8 | 50,702.4 |
| Add: 1/2 House Power | | 540.3 | 486.2 | 321.9 | 269.4 | 244.0 | 222.0 | 199.3 | 211.6 | 228.1 | 260.6 | 273.3 | 217.1 | 3,473.9 |
| Adj. Retail Dist. Losses | | 5,519.7 | 4,753.4 | 4,393.3 | 4,393.1 | 4,887.0 | 3,917.7 | 5,114.0 | 4,482.2 | 3,874.0 | 5,316.7 | 5,067.4 | 2,457.9 | 54,176.3 |
| At Delivery | | 3.149% | 3.024% | 2.605% | 2.877% | 3.304% | 2.768% | 3.490% | 2.969% | 2.706% | 3.373% | 3.084% | 1.327% | 2.865% |
| At Transmission Substation | | 3.062% | 2.944% | 2.544% | 2.802% | 3.204% | 2.698% | 3.377% | 2.888% | 2.639% | 3.268% | 2.996% | 1.311% | 2.790% |
| **Adjustment of G&T Losses for House Power** | | | | | | | | | | | | | | |
| **G&T Deliveries** | | | | | | | | | | | | | | |
| SES | | 5,098.3 | 4,822.1 | 5,131.1 | 4,851.2 | 5,139.7 | 4,774.2 | 5,259.3 | 5,412.2 | 4,833.7 | 4,617.1 | 4,131.6 | 5,019.0 | 59,089.5 |
| RETAIL | | 181,357.5 | 162,453.0 | 173,350.1 | 157,341.4 | 153,033.8 | 145,668.7 | 151,834.5 | 155,639.4 | 147,249.8 | 163,193.3 | 169,662.4 | 187,954.6 | 1,948,738.4 |
| Total Deliveries | | 186,455.7 | 167,275.0 | 178,481.2 | 162,192.7 | 158,173.5 | 150,442.9 | 157,093.8 | 161,051.6 | 152,083.4 | 167,810.4 | 173,794.0 | 192,973.6 | 2,007,827.9 |
| Net G&T Losses | | 3,438.1 | 3,789.0 | 2,580.5 | 2,084.0 | 1,582.5 | 2,171.0 | 2,286.7 | 1,782.4 | 2,000.8 | 2,487.9 | 2,730.5 | 2,561.3 | 29,494.7 |
| Add: 1/2 House Power | | 540.3 | 486.2 | 321.9 | 269.4 | 244.0 | 222.0 | 199.3 | 211.6 | 228.1 | 260.6 | 273.3 | 217.1 | 3,473.9 |
| Adjusted G&T Losses | | 3,978.4 | 4,275.2 | 2,902.4 | 2,353.4 | 1,826.5 | 2,393.0 | 2,486.1 | 1,994.0 | 2,228.9 | 2,748.5 | 3,003.8 | 2,778.4 | 32,968.6 |
| At Delivery | | 2.134% | 2.556% | 1.626% | 1.451% | 1.155% | 1.591% | 1.583% | 1.238% | 1.466% | 1.638% | 1.728% | 1.440% | 1.642% |
| At Generation | | 2.089% | 2.492% | 1.600% | 1.430% | 1.142% | 1.566% | 1.558% | 1.223% | 1.444% | 1.611% | 1.699% | 1.419% | 1.615% |

[1]Source of Data:
M: Metered data.
S: SCADA interval data.
O: Non-interval data.

# Attachment II

Chugach Electric Association, Inc.
Monthly G&T Line Loss Calculation; U-99-106
In Accordance with Section 7, Black and Veatch G&T Line Loss Study
Tariff Advice Nos. 552-8 / 430-121

2023 Transformer Loss Calculations - Chugach Retail System

| Transformer | Size (MVA) | No Load Loss (MW) | Full Load Loss (MW) | Annual (MWh) | Load Factor | Transformer Losses at Load Factor (MW) | Annual Losses (MWh) |
|---|---|---|---|---|---|---|---|
| Beluga 1022 | 11.20 | 0.02200 | 0.10000 | 21,180.24 | 22% | 0.027 | 233.54 |
| Beluga 6126 | 10.00 | 0.02200 | 0.10000 | 6,243.14 | 7% | 0.023 | 197.17 |
| Daves Creek | 10.00 | 0.02200 | 0.10000 | 7,452.09 | 9% | 0.023 | 199.06 |
| Girdwood | 10.00 | 0.03100 | 0.14000 | 24,410.73 | 28% | 0.042 | 366.79 |
| Hope | 1.25 | 0.00275 | 0.01250 | 1,859.82 | 17% | 0.003 | 27.25 |
| Indian | 2.50 | 0.00770 | 0.03500 | 2,415.43 | 11% | 0.008 | 71.18 |
| Portage | 10.00 | 0.03100 | 0.14000 | 9,659.87 | 11% | 0.033 | 286.47 |
| Summit | 1.25 | 0.00275 | 0.01250 | 1,039.36 | 9% | 0.003 | 25.08 |
| UVSS | 45.00 | 0.06500 | 0.53500 | 224,464.73 | 28% | 0.108 | 949.29 |
| UVSS Station Service Load | 0.23 | -- | -- | -- | 50% | 0.113 | 985.50 |
| International T1[1] | 75.00 | 0.10204 | 0.13187 | 206,598.93 | 31% | 0.115 | 1,008.07 |
| International T2[1] | 75.00 | 0.10204 | 0.13187 | 153,517.56 | 23% | 0.109 | 956.94 |
| Sub 6 12KV Xfmr (Pending Study)[2] | 16.80 | | | 58,237.06 | 40% | - | - |
| Sub 6 34.5KV Xfmr | 28.00 | 0.02190 | 0.07830 | 48,620.36 | 20% | 0.025 | 218.80 |
| Sub 7 (Pending Study) | 16.80 | | | 44,558.46 | 30% | - | - |
| Sub 8 BKR 4 Xfmr | 16.80 | 0.01368 | 0.04788 | 43,637.11 | 30% | 0.018 | 156.71 |
| Sub 8 BKR 14 Xfmr | 16.80 | 0.01344 | 0.04852 | 69,636.82 | 47% | 0.024 | 212.90 |
| Sub 10 (Pending Study) | 16.80 | | | 56,234.45 | 38% | - | - |
| Sub 15 | 28.00 | 0.01686 | 0.12207 | 95,371.92 | 39% | 0.035 | 309.36 |
| Sub 16 (Pending Study) | 16.80 | | | 73,905.02 | 50% | - | - |
| Sub 20 | 16.80 | 0.01480 | 0.05980 | 36,245.17 | 25% | 0.018 | 161.42 |
| Total | | | | | | | 6,365.54 |

[1] MWh readings obtained from high side of the transformer. Excluded are MWh generated by IGT.
[2] Pending study to provide transformer data per IEEE C57 Standard testing