

Date: December 14, 2021

To: Mayor Jensen and Assembly

From: Karl Hagerman, Utility Director

Re: Draft Ordinance Language

14.16.725 Rates – Diesel Generation Adjustment Charge

A. Applicability. At the Assembly's discretion, an adjustment may be applied to each kilowatt-hour billed under all schedules for fuel, engine oil and staff overtime expenses incurred when unplanned and unbudgeted diesel generation is required in support of insufficient supply of purchased power, or to supplant purchased power due to an emergency situation. This shall not apply to diesel generation required during scheduled maintenance periods of the wholesale power supplier, which are covered under section 14.16.720.

B. Method of Calculation. The adjustment (in cents/kilowatt-hour applied to prior month's usage) shall be calculated as follows:

$$\text{Diesel Generation Adjustment} = ((B+O+OT)/D) \times (D/G) \times 100$$

Where:

B = Total prior month's cost of fuel burned during diesel generation event in dollars.

O = Total prior month's cost of oil consumed during diesel generation event in dollars.

OT = Total prior month's cost of staff operations overtime during diesel generation event in dollars.

D = Kilowatt-hours generated during prior month by diesel plant.

G = Total generation during prior month, including purchased power, in kilowatt-hours.

The following page is an example for the Assembly and public's use. It is not meant to be included in the ordinance.

Diesel Generation Adjustment

Example: A diesel run of 7 days is needed to supplant SEAPA power due to a transmission line issue. Petersburg's load averages 7 megawatts during the entire month. The diesel plant produced 1,176,000 kwh during the 7 day run. Overall generation for the month equaled 5,040,000 kwh. Fuel burn costs equaled \$126,000. Oil consumption equaled \$4,000. Staff overtime equaled \$2,500.

$$B = \$126,000$$

$$O = \$4,000$$

$$OT = \$2,500$$

$$D = 1,176,000 \text{ kwh}$$

$$G = 5,040,000 \text{ kwh}$$

$$\begin{aligned} \text{Adjustment} &= (\$126,000 + \$4,000 + \$2,500) / 1,176,000 \times (1,176,000 / 5,040,000) \times 100 \\ &= (\$132,500 / 1,176,000) \times (1,176,000 / 5,040,000) \times 100 \\ &= (0.1127) \times (0.2333) \times 100 \\ &= 2.6293 \text{ cents per kilowatt-hour adjustment} \end{aligned}$$

Formula Check: 2.6293 cents per kilowatt-hour times total monthly billable generation (G) 5,040,000 kwh equals a recovery of \$132,251 for unbudgeted diesel operation. Target was \$132,500. Result is skewed by rounding issues.

Customer Impacts

Using the preceding example of an adjustment charge based on a **7-day (24/7) diesel run**, the following billing impacts would be seen by our customers:

<u>Customer Class</u>	<u>Monthly Usage*</u>	<u>Normal Billing**</u>	<u>Adjusted Billing</u>	<u>Difference</u>
Residential	1600 kwh	\$175.75	\$217.82	\$42.07
General Service	1900 kwh	\$231.85	\$281.81	\$49.96
Large Commercial	45,000 kwh	\$7,003.50	\$8,186.69	\$1,183.19
Harbor	500 kwh	\$72.00	\$85.15	\$13.15
Municipal	68,000 kwh	\$6,487.50	\$8,275.42	\$1,787.92

*Based on customer class average usage per month for November 2021.

**Using proposed rates effective January 1, 2022.

These impacts are only to be used as an example as impacts will increase or decrease depending on the number of days of any given diesel run, the system load, the fuel, oil and OT expenses incurred and of course the actual usage by any given customer.