

TACOMA POWER

**SCHEDULE P**

**POWER FACTOR PROVISIONS**

12.06.310

**A. APPLICATION:**

The provisions of this schedule shall be applicable to all electrical service, unless and until specific arrangements are made in writing with Tacoma Power to the contrary.

**B. EQUIPMENT:**

Except for portable equipment of less than three kVA rating and arc furnace loads as set forth in Adjustment Provision (2) below, all installations of neon, mercury vapor, fluorescent or other gaseous tube lighting, as well as welding transformers, X-ray machines, motors and any other electrical equipment having low power factor characteristics, which are hereafter installed, replaced, relocated or rearranged, shall include proper equipment to correct the power factor of such installations to not less than 95 percent lagging for each unit or separately controlled group of units, or 90 percent lagging for each separate service whose load primarily consists of an arc furnace(s).

Existing nonconforming electrical installations shall be subject to all provisions of this chapter and the installation of corrective equipment may be required by Tacoma Power.

All power factor corrective equipment installed or operated by the customer shall be so used as to further the objectives of this chapter without causing adverse voltage conditions upon Tacoma Power's system. Tacoma Power shall have the right to require the installation of suitable switching facilities and to disconnect or to refuse to furnish electric energy to any installation that, in the opinion of Tacoma Power, is detrimental to the rendering of satisfactory service to its other customers.

**C. ADJUSTMENT PROVISIONS:**

If the average power factor at which electric energy is delivered to the customer during the billing period is 95 percent or more, no adjustment will be made in the customer's billing for that period, unless otherwise provided in written contract.

If such average power factor is less than 95 percent, the customer's billing shall be adjusted as follows:

1. For demand type rate schedules which serve other than arc furnace loads, the measured demand in kilowatts shall be adjusted by multiplying by 0.95 and dividing the result by the average power factor. Such adjusted demands shall then become and thereafter be used as a basis for billing.
2. For demand type rate schedules which serve arc furnace loads, the measured demand in kilowatts shall be adjusted by multiplying by 0.90 and dividing the result by the average power factor. Such adjusted demands shall then become and thereafter be used as a basis for billing.

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**C. ADJUSTMENT PROVISIONS (continued)**

3. Minimum charges shall be determined on the basis of 1 or 2 above, as applicable.
4. For loads up to 75 kilowatts connected, Tacoma Power may elect not to apply the adjustment provisions herein established.

**D. MINIMUM AND AVERAGE POWER FACTOR:**

Unless otherwise specifically agreed, Tacoma Power shall not be obligated to deliver electrical energy to the customer at any time at a power factor below 80 percent lagging.

The Average Power Factor (APF) is determined as follows:

As determined with a watt-hour meter and a var-hour meter:

$$APF = \frac{kiloWatt\text{hours}}{\sqrt{kiloWatt\text{hours}^2 + reactive\ kiloAmpere\text{hours}^2}}$$

The var-hour meters for measurement of reactive power shall be ratcheted to prevent reverse registration.

**E. SERVICE CONDITIONS:**

Applicable provisions of the City Code, Applicable provisions of the City Code, General Provisions, and Customer Service Policies governing the sale of electric energy shall apply.