



ORDINANCE NO. 28689

1 AN ORDINANCE relating to water and power regulations; revising Title 12 of
2 the Tacoma Municipal Code, in support of the Advanced Metering
3 Project.

4 WHEREAS, the City of Tacoma, Department of Public Utilities, Water
5 Division (d.b.a. "Tacoma Water") and the City of Tacoma, Department of Public
6 Utilities, Power Division (d.b.a. "Tacoma Power") have requested proposed
7 changes to Chapter 12.06 ("Electric Energy – Regulations and Rates"),
8 Chapter 12.06A ("Electrical Code"), and Chapter 12.10 ("Water – Regulations
9 and Rates") of the Tacoma Municipal Code ("TMC"), and
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11 WHEREAS, the proposed changes are needed in relation to the
12 implementation of the Advanced Metering Infrastructure ("AMI") Project, to
13 provide clarity around demand meter billing for applicable electric meters, to
14 clarify physical disconnects related to unauthorized water use, and to update the
15 TMC in compliance with the 2020 edition of the National Electric Code, and
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17 WHEREAS, the AMI Project requires a significant effort across Tacoma
18 Public Utilities to implement new processes, applications, technologies and
19 integrations needed to fully enable the functions and features of the system, and
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21 WHEREAS, Tacoma Public Utilities' staff has reviewed existing utility
22 policies, procedures, and practices for essential changes required to implement
23 advanced metering and to make other updates as needed, and
24

25 WHEREAS, the proposed changes to subsections 215C, 225C, 260C
26 and 371E of TMC 12.06 are to remove four references to the demand meter
being reset monthly in order to more accurately reflect metering capabilities of



advanced metering which uses more granular interval data for billing

1 calculations, and

2 WHEREAS, the proposed changes to subsections 030, 035B, 240A,
3 240B, 250A, 250C and 380F of TMC 12.06A are proposed to update references
4 and bring the code into compliance with the 2020 National Electric Code, and
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6 WHEREAS, the proposed revision to TMC 12.10.110B adds specificity
7 that unauthorized water use is describing a physically disconnected service in
8 order to account for the future state of advanced metering when a water meter
9 may be virtually disconnected, meaning turned off for billing purposes but left
10 physically connected in the field, and
11

12 WHEREAS, the Public Utility Board approved the proposed changes on
13 August 12, 2020, through Amended Resolution No. U-11179, and

14 WHEREAS, revisions to the TMC applicable to Tacoma Public Utilities
15 require approval by the Public Utility Board and the Tacoma City Council; Now,
16 Therefore,
17

18 BE IT ORDAINED BY THE CITY OF TACOMA:

19 Section 1. That Chapter 12.06 of the Tacoma Municipal Code ("TMC"),
20 Electric Energy – Regulations and Rates, Chapter 12.06A of the Tacoma
21 Municipal Code ("TMC"), Electrical Code, and Chapter 12.10 of the Tacoma
22 Municipal Code ("TMC"), Water – Regulations and Rates are hereby amended
23 as set forth in the attached Exhibit "A."
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Section 2. That the City Clerk, in consultation with the City Attorney, is authorized to make necessary corrections to this ordinance, including, but not limited to, the correction of scrivener's/clerical errors, references, ordinance numbering, section/subsection numbers, and any references thereto.

Passed _____

Mayor

Attest:

City Clerk

Approved as to form:

Chief Deputy City Attorney

Requested by Public Utility Board
Amended Resolution No. U-11179



EXHIBIT "A"

Chapter 12.06 Electric Energy – Regulations and Rates

* * *

12.06.215 General service

A. Availability. For general power use where a demand meter is installed, for standby capacity to customers generating all or a part of their electric power requirements, and for intermittent use. The customer's actual demand as determined by Tacoma Power must exceed 50 kilovolt amperes or total connected load as estimated by Tacoma Power must exceed 65 kilowatts upon initial service energization.

For customers providing all their own transformation from Tacoma Power's distribution system voltage, a discount for transformer investment and maintenance will be provided by reducing the monthly bill by 0.8 percent. For customers metered on the primary side of a transformer, a discount for transformer losses will be provided by reducing the monthly bill by 1 percent. These discount percentages are additive, and not compounded.

B. Monthly Rate. The sum of the following energy, delivery, and customer charges:

1. Energy: All energy measured in kilowatt-hours at \$0.047317 per kWh.

2. Delivery: All kilowatts of Billing Demand delivered at \$8.43 per kW.

3. Customer Charge: Calculated on a monthly basis, invoiced, and collected pursuant to the applicable customer service policies: \$78.00 per month.

4. Exceptions:

(a) Within the City of Fife:

(1) Energy: All energy measured in kilowatt-hours at \$0.047317 per kWh.

(2) Delivery: All kilowatts of Billing Demand delivered at \$8.43 per kW.

(3) Customer Charge: Calculated on a monthly basis, invoiced, and collected pursuant to the applicable customer service policies: \$78.00 per month.

(b) Within the City of Fircrest:

(1) Energy: All energy measured in kilowatt-hours at \$0.047317 per kWh.

(2) Delivery: All kilowatts of Billing Demand delivered at \$8.43 per kW.

(3) Customer Charge: Calculated on a monthly basis, invoiced, and collected pursuant to the applicable customer service policies: \$78.00 per month.

(c) Within the City of Lakewood:

(1) Energy: All energy measured in kilowatt-hours at \$0.047317 per kWh.

(2) Delivery: All kilowatts of Billing Demand delivered at \$8.43 per kW.

(3) Customer Charge: Calculated on a monthly basis, invoiced, and collected pursuant to the applicable customer service policies: \$78.00 per month.

(d) Within the City of Steilacoom:

(1) Energy: All energy measured in kilowatt-hours at \$0.047317 per kWh.

(2) Delivery: All kilowatts of Billing Demand delivered at \$8.43 per kW.



(3) Customer Charge: Calculated on a monthly basis, invoiced, and collected pursuant to the applicable customer service policies: \$78.00 per month.

(e) Within the City of University Place:

(1) Energy: All energy measured in kilowatt-hours at \$0.047317 per kWh.

(2) Delivery: All kilowatts of Billing Demand delivered at \$8.43 per kW.

(3) Customer Charge: Calculated on a monthly basis, invoiced, and collected pursuant to the applicable customer service policies: \$78.00 per month.

C. Billing Demand. Determined by means of a demand meter, 30-minute interval, ~~reset monthly~~. The Billing Demand shall be the highest of:

1. The highest measured demand for the month adjusted for power factor;

2. 60 percent of the highest measured demand occurring during any of the preceding 11 months after adjustment for power factor; or

3. 100 percent of the standby capacity.

For purposes of the determination of Billing Demand in subsection 2 above, the 11 months of history shall be carried forward from the customer's previous account(s).

D. Standby Capacity. That amount of power requested by written application or estimated by the Director to be made continuously available for exclusive use of the customer.

E. Service Conditions.

1. At the option of Tacoma Power, primary metering may be installed where the service transformers aggregate 500 kVA or more.

2. At the option of Tacoma Power, a customer may be transferred to a non-demand metered rate if the customer's actual demand has not exceeded 50 kilovolt amperes in the prior 24-month period.

3. Power factor provision applicable.

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

* * *

12.06.225 High voltage general service

A. Availability. For general power use where a demand meter is installed and where a customer served does not require the use of Tacoma Power's distribution facilities other than substation transformation. Customers over 8 Megawatts who do not have a Power Service Agreement (Contract) with Tacoma Power will take service under TMC 12.06.215, General service. A Power Service Agreement (Contract) with Tacoma Power is required for customers who begin taking service under TMC 12.06.225 High voltage general service after April 16, 2017. For customers who provide all of their own transformation from Tacoma Power's transmission system voltage, a credit of 20.00 percent will be applicable to the delivery charge.

B. Monthly Rate. The sum of the following energy, delivery, and customer charges:

1. Energy: All energy measured in kilowatt-hours at \$0.042915 per kWh.

2. Delivery: All kilowatts of Billing Demand delivered at \$4.89 per kW.

3. Customer Charge: Calculated on a monthly basis, invoiced, and collected pursuant to the applicable customer service policies: \$1,590.00 per month.

4. Exceptions:

(a) Within the City of Fife:

(1) Energy: All energy measured in kilowatt-hours at \$0.042915 per kWh.



(2) Delivery: All kilowatts of Billing Demand delivered at \$4.89 per kW.

(3) Customer Charge: Calculated on a monthly basis, invoiced, and collected pursuant to the applicable customer service policies: \$1,590.00 per month.

(b) Within the City of Fircrest:

(1) Energy: All energy measured in kilowatt-hours at \$0.042915 per kWh.

(2) Delivery: All kilowatts of Billing Demand delivered at \$4.89 per kW.

(3) Customer Charge: Calculated on a monthly basis, invoiced, and collected pursuant to the applicable customer service policies: \$1,590.00 per month.

(c) Within the City of Lakewood:

(1) Energy: All energy measured in kilowatt-hours at \$0.042915 per kWh.

(2) Delivery: All kilowatts of Billing Demand delivered at \$4.89 per kW.

(3) Customer Charge: Calculated on a monthly basis, invoiced, and collected pursuant to the applicable customer service policies: \$1,590.00 per month.

(d) Within the City of Steilacoom:

(1) Energy: All energy measured in kilowatt-hours at \$0.042915 per kWh.

(2) Delivery: All kilowatts of Billing Demand delivered at \$4.89 per kW.

(3) Customer Charge: Calculated on a monthly basis, invoiced, and collected pursuant to the applicable customer service policies: \$1,590.00 per month.

(e) Within the City of University Place:

(1) Energy: All energy measured in kilowatt-hours at \$0.042915 per kWh.

(2) Delivery: All kilowatts of Billing Demand delivered at \$4.89 per kW.

(3) Customer Charge: Calculated on a monthly basis, invoiced, and collected pursuant to the applicable customer service policies: \$1,590.00 per month.

C. Billing Demand. Determined by means of a demand meter, 30-minute interval, ~~reset monthly~~. The billing demand shall be the higher of:

1. The highest measured demand for the month adjusted for power factor, or

2. 60 percent of the highest measured demand occurring during any of the preceding 11 months after adjustment for power factor.

For purposes of the determination of Billing Demand in subsection 2 above, the 11 months of history shall be carried forward from the customer's previous account(s).

D. Service Conditions.

1. Power factor provision applicable.

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

* * *



12.06.260 Contract industrial service

A. Availability. For major industrial power use upon the execution of a written Power Service Agreement (Contract) with Tacoma Power, which shall require among other conditions:

1. A minimum Contract Demand (as set forth in the Contract) of not less than 8,000 kilowatts;
2. Delivery of power at one primary voltage;
3. Metering at primary voltage but in no case at less than nominal 4,160 volts;
4. Power factor adjustment to 95 percent lagging or better; and
5. Service is subject to curtailment and certain notice provisions are applicable.

B. Monthly Rate. The sum of the following power service, delivery, customer and other charges:

1. Power Service Charges:

(a) Energy: All Contract Energy (as set forth in the Contract) measured in kilowatt-hours at \$0.033038 per kWh.

(b) Demand: All kilowatts of Billing Demand delivered at \$4.68 per kW.

(c) Minimum Charge: The Demand Charge.

(d) Contract Energy Overrun: All energy measured in excess of the Contract Energy (as set forth in the Contract) is subject to a Contract Energy Overrun charge, pursuant to the following formula:

Contract Energy Overrun Charge = (MWh + Losses) x (THI + Tx) x 120%.

Where: MWh = the aggregate MWh over the day the customer's total measured daily load was above the Contract Energy amount; Losses = MWh x 1.9%; THI = the highest hourly price observed on the Tacoma Hourly Index within the day of overrun; Tx = applicable BPA or successor organization, transmission rate in \$ per MWh.

(e) Contract Demand Overrun: A Contract Demand Overrun charge shall be imposed when the total measured demand (highest 30-minute integrated demand) exceeds the Contract Demand (as set forth in the Contract). Said charge is pursuant to the following formula:

Contract Demand Overrun Charge = MW x 300% x DC

Where: MW = MW of metered Demand in excess of the Contract Demand; DC = Demand Charge.

2. Delivery: All kilowatts of Billing Demand delivered at \$4.22 per kW.

3. Customer Charge: Calculated on a monthly basis, invoiced, and collected pursuant to the applicable customer service policies: \$3,980.00 per month.

4. Exceptions:

(a) Within the City of Fife:

(1) Power Service Charges:

(i) Energy: All Contract Energy (as set forth in the Contract) measured in kilowatt-hours at \$0.033038 per kWh.

(ii) Demand: All kilowatts of Billing Demand delivered at \$4.68 per kW.

(iii) Minimum Charge: The Demand Charge.

(iv) Contract Energy Overrun: All energy measured in excess of the Contract Energy (as set forth in the Contract) is subject to a Contract Energy Overrun charge, pursuant to the following formula:

Contract Energy Overrun Charge = (MWh + Losses) x (THI + Tx) x 120%

Where: MWh = the aggregate MWh over the day the customer's total measured daily load was above the Contract Energy amount; Losses = MWh x 1.9%; THI = the highest hourly price observed on the Tacoma



Hourly Index within the day of overrun; Tx = applicable BPA or successor organization, transmission rate in \$ per MWh.

(v) Contract Demand Overrun: A Contract Demand Overrun charge shall be imposed when the total measured demand (highest 30-minute integrated demand) exceeds the Contract Demand (as set forth in the Contract). Said charge is pursuant to the following formula:

Contract Demand Overrun Charge = MW x 300% x DC

Where: MW = MW of metered Demand in excess of the Contract Demand; DC = Demand Charge.

(2) Delivery: All kilowatts of Billing Demand delivered at \$4.22 per kW.

(3) Customer Charge: Calculated on a monthly basis, invoiced, and collected pursuant to the applicable customer service policies: \$3,980.00 per month.

C. Billing Demand. Determined by means of a demand meter, 30-minute interval, ~~reset monthly~~.

1. The Billing Demand shall be the highest of:

(a) The highest measured demand for the month, adjusted for power factor;

(b) 60 percent of the highest measured demand occurring during any of the preceding 11 months after adjustment for power factor;

(c) A demand level equal to the Contract Energy, in average megawatt (as set forth in the Contract); or

(d) 60 percent of the highest Contract Demand (as set forth in the Contract) during any of the preceding 11 months.

D. Service Conditions.

1. Power factor provision applicable; and

2. Applicable provisions of the Tacoma Municipal Code, General Provisions, and Customer Service Policies governing the sale of electric energy and delivery services shall apply.

* * *

12.06.371 Electric Vehicle Fast Charge

A. Definitions. The following definitions will apply:

1. Electric Vehicle – A vehicle that uses at least one method of propulsion that is capable of being reenergized by an external source of electricity, is designed to have the capability to drive at a speed of more than 35 miles per hour, and is licensed to drive on state and federal highways.

2. Electric Vehicle Charging Site – A site that hosts the equipment used to deliver electricity to an Electric Vehicle. Hosted equipment must meet all applicable electrical requirements for interconnection and nationally recognized testing laboratory standards.

3. Direct Current (DC) Fast Charger – Electric Vehicle charging equipment with a Direct Current connection that is designed to recharge the battery of an Electric Vehicle.

B. Availability. No more than 25 installations may concurrently participate in this schedule, which will be available for a period of 13 years. Participation in this schedule will be on a first-come, first-served basis.

C. Applicability. Service under this schedule is applicable to non-residential Electric Vehicle Charging Sites supplied through one point of delivery and measured separately from all other commercial loads through one meter. Electric Vehicle Charging Sites must be broadly available to the general public and must include at least one Direct Current (DC) Fast Charger. Ancillary uses, limited to no more than 5 kilovolt amperes (5 kVA) and specifically related to the provision of Electric Vehicle charging (such as lighting), are permitted under this schedule. Actual demand, as determined by Tacoma Power, must not exceed 1 megavolt-amperes (1 MVA).

For customers providing all their own transformation from Tacoma Power's distribution-system voltage, a discount for transformer investment and maintenance will be provided by reducing the monthly bill by 0.8 percent. For customers metered on the primary side of a transformer, a discount for transformer losses



will be provided by reducing the monthly bill by 1 percent. These discount percentages are additive, and not compounded.

Unless extended by City Council resolution or ordinance, this schedule will conclude on December 31, 2031. On this date, customers enrolled in Schedule FC will transition their service in accordance with the applicable published rate schedules set forth in Chapter 12.06. Nothing shall prevent the City from adjusting this schedule as it may determine necessary or appropriate.

D. Monthly Rate: The sum of the following energy, delivery, and customer charges:

1. Energy: All energy, measured in kilowatt-hours, charged per kWh at:
all Energy charges of the otherwise applicable published rate schedule set forth in Chapter 12.06 +
Energy Adder Discount x Energy Adder.

Where Energy Adder Discount is applied in the year shown:

Effective Year	Energy Adder Discount
2019	1.0
2020	1.0
2021	1.0
2022	0.9
2023	0.8
2024	0.7
2025	0.6
2026	0.5
2027	0.4
2028	0.3
2029	0.2
2030	0.1
2031	0.0

And where Energy Adder is calculated per kWh at:
all applicable Energy charges of Section 12.06.170 + all applicable Delivery charges of Section 12.06.170
- all Energy charges of the otherwise applicable published rate schedule set forth in Chapter 12.06

2. Delivery: All Billing Demand, measured in kilowatts, charged per kW at:
Delivery Charge Discount x all Delivery charges of the otherwise applicable published rate schedule set forth in Chapter 12.06.

Where Delivery Charge Discount is applied in the year shown:



Effective Year	Delivery Charge Discount
2019	0.0
2020	0.0
2021	0.0
2022	0.1
2023	0.2
2024	0.3
2025	0.4
2026	0.5
2027	0.6
2028	0.7
2029	0.8
2030	0.9
2031	1.0

3. Customer Charge: Customer Charge of the otherwise applicable published rate schedule set forth in Chapter 12.06.

E. Billing Demand. Determined by means of a demand meter, 30-minute interval, ~~reset monthly~~. The Billing Demand shall be the highest of:

1. The highest measured demand for the month adjusted for power factor; or
2. Sixty percent of the highest measured demand occurring during any of the preceding 11 months after adjustment for power factor.

F. Service Conditions.

1. Upon reasonable notice, customers participating in this schedule shall allow Tacoma Power access to the site in order to inspect, install, maintain, upgrade, replace, or remove Tacoma Power equipment, or to confirm compliance with the applicability conditions set forth hereinabove. If, upon inspection, Tacoma Power discovers any one of the applicability conditions are not met, service will be immediately transferred in accordance with the applicable published rate schedules set forth in Chapter 12.06.

3. Customers participating in this schedule retain the right to cancel service under this rate schedule and transfer to another applicable published rate schedule set forth in Chapter 12.06. The customer may not subsequently elect service under this rate schedule for at least one year after the effective date of cancellation.

4. An Electric Vehicle Charging Site is considered broadly available to the general public for the purposes of eligibility on this rate schedule if it is accessible by any driver. Eligibility and acceptance of a customer for service under this rate schedule is subject to review and approval by Tacoma Power.

G. Reporting and Limitation on Use of Customer Usage Information: Tacoma Power may publish reports related to this schedule, except when the report would result in publication of information attributable to a single individual customer.

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Chapter 12.06A Electrical Code

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12.06A.030 Scope of chapter.

The provisions of this chapter shall apply to all electrical conductors and equipment installed, used, rented, offered for sale, or distributed for use in areas served by the City, by and through its Department of Public Utilities, Light Division, and its franchised entities, except as shown in Article 90.2(B) of the 2017/2020 Edition of the NEC and as such exemptions for installations under the exclusive control of an electric utility may be identified in future published editions of the NEC.

12.06A.035 Adoption.

A. RCW and WAC adoption and incorporation by reference. Except as otherwise specified in this chapter, the City hereby adopts and incorporates into this chapter, the Tacoma Electrical Code, those provisions of the Revised Code of Washington ("RCW") contained in Chapter 19.28, and the Washington Administrative Code ("WAC"), Chapter 296 46B, that relate to electrical installations including, but not limited to, methods of construction, repair, maintenance, use of materials, and approval of such installations intended to insure the safety of life and property.

B. NEC adoption. Except as otherwise stated herein The City hereby adopts and incorporates into this chapter, the Tacoma Electrical Code, the provisions of the then current 2017 Edition of the NEC in its entirety. Enforcement of the most current edition of the NEC shall begin June 1st of the year in which the latest edition is published.

C. In the event any NEC, RCW or WAC provision adopted pursuant to this section is hereafter amended, said amended provision shall be deemed adopted and incorporated into this chapter as of the effective date of such amendment unless the amended provision establishes standards of electrical installations that are not equal to, higher, or better than that required by any other NEC, RCW or WAC provision then in effect. It is the intent of this section that, except as otherwise expressly required or provided under this chapter, the highest standard of electrical installations specified in the NEC, RCW and/or WAC is adopted and shall be enforced per the Tacoma Electrical Code.

12.06A.240 Filing of drawings and specifications.

A. A completed plan review application shall be submitted with information required to complete the review process including, but not limited to, documentation specified in the Plan Review Application Instructions. Submitted plans for projects identified in subsection (B)(1) and (2) of this Section shall be in accordance with WAC 296 46B 900 and must be stamped by a Professional Electrical Engineer registered with the State of Washington.

B. Electrical Permit applicants are required to submit electrical plans, load calculations, and specifications for work to be performed on:

1. Schools, hospitals, institutions, and other projects as specified in the WAC;

2. All systems that have emergency generators (NEC Articles 517, 700, 701);

3. Downtown network services and feeders over 200 amps;

4. Systems operating over 600 volts;

5. Commercial and industrial services greater than 400 amps; and downtown network services and feeders over 200 amps;

6. Commercial projects with a scope that covers more than 2,500 square feet; or

7. Residential services and feeders over 400 amps;



3. Commercial projects with a scope that covers more than 2,500 square feet;

4. All systems that have emergency generators (NEC Articles 517, 700, 701);

5. Systems operating over 600 volts; or

6. Schools, hospitals, institutions, and other projects as specified in the WAC.

C. Electrical plans must be submitted to Tacoma Power's Electrical Inspection Office for review, giving sufficient time to complete the review prior to beginning electrical construction. A Tacoma Power approved set of drawings must be on the job site for the electrical inspector's use. No inspection will be performed unless the approved plans are on the job site or special written permission is granted by the Chief Electrical Inspector or his designee. Where inspections are performed by Tacoma Power prior to plan approval, electrical materials or equipment may be required to be re-installed to meet the requirements of this chapter once plan review is complete. Electrical service will not be provided unless approved plans are on site and the electrical service equipment installation is approved.

D. Plan review fees are included in the commercial Permit fees. When no Permit has been purchased and the project has been canceled, or excessive time is required to review plans submitted with incomplete information or extensive errors, a fee of \$80 per hour will be charged. Shipping and handling fees of \$25 will be charged on all plans requested to be mailed back to the submitter.

12.06A.250 Permit fees.

Current standard fees for connecting electrical services to the Tacoma Power system, as well as the Permit fees and any penalties previously assessed, must be paid before an Electrical Permit application will be processed. The Permit applicant is responsible to arrange for payment. Permit applications for which insufficient or no payment has been received will not be processed. Unpaid Permit applications will be discarded by Tacoma Power if payment has not been received within 10 business days of receipt of application. Unless otherwise noted, when multiple inspections are required, the Permit fee shall not be less than \$40 per 1/2 hour of inspection time. No inspection will be performed until the Permit application process is completed.

Current standard fees for Electrical Permits and inspections by Tacoma Power are as follows:

A. Residential.

1. Table A. Single-family dwelling and mobile home services, service changes, service upgrades, and solar photovoltaic (PV) system fees are set forth in Table A below, and include branch circuit wiring from the service(s) or feeder(s). All wiring by the same Permit Holder on single family dwellings of 400 amps/4000 sq. ft. or less is included under the fees from Table A unless otherwise noted below.

TABLE A			
Service/PV System/Feeder Ampacity and Square Footage	Permit Fees		
	Column 1	Column 2	Column 3
	Overhead Service or PV installation - up to 2 trips	Underground to Pole and Underground Service or PV installations with underground wiring - up to 4 trips	Feeder Only up to 2 trips
1-200A and up to 2500 sq. ft.	\$80	\$160	\$60
Up to 400A or up to 4000 sq. ft.	\$120	\$200	\$70
Over 400A or over 4000 sq. ft.	Use TABLE B		

2. Branch circuit alterations and repairs. The fee for 1 to 4 new circuits, circuit extensions, or alterations where the service or feeder is not modified, increased, relocated, or replaced.....\$50

Use Table A if service or feeder work is included.



Each additional circuit.....\$5

Fee includes two inspections.

3. Service and PV system alterations and repairs. Minor alterations and repairs to an electrical service or PV system, including, but not limited to, the repair or replacement of one of the following: the service mast, service entrance conductors, weather head, service attachment bracket, meter socket, main breaker, PV array, or production meter socket, or other service/PV system components.....\$40

See Use Table A Column 1 if more than one item listed above is altered or replaced, or if service panel, PV AC disconnect, or utility disconnect is repaired or replaced in combination with any of the above listed items.

Use Table A Column 2 if underground work is part of the repair or replacement work described above.

Fee includes one inspection.

4. Hardwired Low voltage.

Single-family Dwellings—Fees for low voltage control panels and devices, such as fire alarm systems, data systems, intrusion alarms, HVAC systems, thermostats, and similar systems.....\$40

Fee includes one inspection.

5. Temporary services 1-200 amps single phase\$40

Fee includes one inspection.

Temporary services over 200 amps or three phase and systems with feeders Table B

Temporary services are permitted for use up to 90 days or the duration of a permitted construction project.

6. Residential swimming pool (In addition to any other fees listed).\$120

Fee includes three inspections.

7. Generator transfer panel and equipment.....\$60

Fee includes one inspection.

B. Commercial and industrial.

1. Table B. The Permit fee for all commercial and industrial work, multifamily dwelling installations, and single family dwellings exceeding 400 amps or 4000 square feet shall be derived from Table B. Proof of electrical work value must be submitted at the time of application. Proof may be established by presenting a signed contract or a priced itemization of the work to be performed. The electrical work value shall be the reasonably documented value of all labor, material, fittings, apparatus, and the like, whether actually paid for or not, supplied by the Permit Holder and/or installed by the Permit Holder as a part of, or in connection with, a complete electrical system, but which does not include the cost of utilizing equipment connected to the electrical system. If a signed contract or other substantial proof of value is not submitted at the time of Permit application, the value may be established by Tacoma Power's Electrical Inspection Office using modern construction cost-estimating techniques. If the reported work value is determined by Tacoma Power's electrical inspection office to be significantly less than what was reported at the time the Permit was purchased, the Permit fee amount will be increased to reflect the corrected actual value and a charge for the time to determine such value will be assessed to the Permit fee. A fee adjustment shall be made for all change orders and field changes that increase the value. All fees must be paid before final electrical inspection approval of the project.



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TABLE B	
Value of Electrical Construction	Permit Fees
\$0-\$1,000	\$100 for the first \$1,000 or fraction thereof.
\$1,001-\$5,000	\$100 for the first \$1,000 plus \$4 for each additional \$100 or fraction thereof.
\$5,001-\$50,000	\$260 for the first \$5,000 plus \$2 for each additional \$100 or fraction thereof.
\$50,001-\$100,000	\$1,160 for the first \$50,000 plus \$1.50 for each additional \$100 or fraction thereof.
\$100,001-\$250,000	\$1,910 for the first \$100,000 plus \$9 for each additional \$1,000 or fraction thereof.
\$250,001-\$500,000	\$3,260 for the first \$250,000 plus \$8 for each additional \$1,000 or fraction thereof.
\$500,001-\$750,000	\$5,260 for the first \$500,000 plus \$7 for each additional \$1,000 or fraction thereof.
\$750,001-\$1,000,000	\$7,010 for the first \$750,000 plus \$6 for each additional \$1,000 or fraction thereof.
\$1,000,001-\$2,000,000	\$8,510 for the first \$1,000,000 plus \$5.50 for each additional \$1,000 or fraction thereof.
\$2,000,001-\$3,000,000	\$14,010 for the first \$2,000,000 plus \$5 for each additional \$1,000 or fraction thereof.
\$3,000,001-\$4,000,000	\$19,010 for the first \$3,000,000 plus \$4.50 for each additional \$1,000 or fraction thereof.
\$4,000,001-\$5,000,000	\$23,510 for the first \$4,000,000 plus \$4 for each additional \$1,000 or fraction thereof.
\$5,000,001-\$50,000,000	\$27,510 for the first \$5,000,000 plus \$3.50 for each additional \$1,000 or fraction thereof.
\$50,000,001-\$100,000,000	\$185,010 for the first \$50,000,000 plus \$3 for each additional \$1,000 or fraction thereof.
\$100,000,001 and up	\$335,010 for the first \$100,000,000 plus \$2.50 for each additional \$1,000 or fraction thereof.

2. Lighting retrofit projects limited to the exchange of fixtures and/or ballasts.
- Minimum fee per 5,000 sq. ft. of Building\$80
- Each additional 1,000 sq. ft. or fraction of\$8
3. Traffic signals.
- Traffic signal and street lighting service only
- (If street lighting is inspected by authorized cities or WSDOT)\$80
- All others..... Table B
4. Signs.
- Each sign or first field installed neon transformer\$40
- Each additional sign or field installed neon transformer\$15



Fee includes one inspection.

5. Carnival, circus, fair, trade shows, or similar events.

First ten of rides, generators, concessions, gaming shows, displays, or booths\$100

Each additional\$5

C. Hardwired Low voltage – Commercial/Industrial. Fees for low voltage control panels and devices, such as fire alarm systems, data systems, intrusion alarms, HVAC systems, thermostats, communication systems, emergency control systems, and similar systems are as follows:

Minimum fee per 10,000 sq. ft. of Building\$80

Each additional 1,000 sq. ft. or fraction of\$8

D. Overtime: Overtime inspections including, but not limited to, call outs, weekend inspections, and after hours work must be scheduled with Tacoma Power's Electrical Inspection Office a minimum of three business days in advance. In addition to the regular Permit fee, a fee for an overtime inspection is required as follows:

1. Unscheduled: Outside of an electrical inspector's regular working hours, the minimum fee for an inspection shall be \$480 for the first two hours, portal to portal, plus \$160 for each hour thereafter. The fee must be paid the next business day.

2. Scheduled: Outside of an electrical inspector's regular working hours, the minimum fee for an inspection shall be \$320 for the first two hours, portal to portal, plus \$160 for each hour thereafter. The fee of \$320 must be paid 48 hours in advance of the scheduled inspection, and any remaining fee must be paid the next business day.

3. Requested inspections that extend beyond the electrical inspector's regular working hours shall be at the minimum rate of \$160 per hour, portal to portal.

E. Annual Permit. Pursuant to section 12.06A.350, annual Permits are available to commercial and industrial customers employing their own electrical maintenance staff. An annual Permit may be purchased in lieu of individual Permits for maintenance on each job performed. Annual Permits may be purchased by an electrical contractor to perform maintenance work at a commercial and industrial location if, at the time of application, a valid copy of the electrical contractor's yearly maintenance contract with the customer is submitted to Tacoma Power and the term and nature of work under such contract is consistent, as determined in the sole discretion of Tacoma Power, with the term and purpose of the annual Permit. Applications for annual Permits submitted without proof of required employment status or a valid maintenance contract will not be accepted. Work performed under an annual Permit is limited to the installation of not more than two new feeders or circuits rated 100 amps or less, and the maintenance, repair, retrofit, or replacement of conductors and equipment. Annual Permits do not include the installation of new, exchanged, or upgraded service equipment, electrical work installed as part of new or added square footage, facility expansion, remodel, or where, except as noted above, load is increased. The annual Permit fee is calculated per Table C.

TABLE C	
Number of one-hour Inspection units	Fee
12	\$960
13-24	\$1,920
25-36	\$2,880
37-52	\$4,160

F. Miscellaneous fees.

1. Wrong meter address or location.



A Permit is required to correct or inspect incorrect meter addressing by the
Owner or Owner's agent \$40 per
1 1/2 hour

2 Overtime rates may apply.

3 2. Miscellaneous inspection (other)..... \$40 per 1/2 hour

4 3. Variance.

5 A processing fee for granting an electrical installation as outlined in Section 12.06A.155
of this chapter.....\$140

6 4. Required inspection on services off for one year or more.....\$40

7 Fee includes one inspection.

8 An additional Permit, fees, and inspections may be required if electrical deficiencies exist on the
Premises.

9 * * *

10 **12.06A.380 Classification of occupancies and wiring methods.**

11 A. 200 ampere service capacity shall be required for all new single-family and duplex residential units of
500 square feet or more. An entire service upgrade shall not be required when only replacing a meter
base, or mast, or panel, unless the load requirement is greater than the rating of the existing service and/or
specific electrical safety concerns associated with said equipment are detected.

12 B. Service entrance conductors for commercial occupancies shall have an ampacity not less than the
rating of the service equipment they supply. For multiple-dwelling occupancies, the minimum service
conductor ampacity shall not be less than the calculated service load.

13 C. Commissioning of all new Emergency Legally Required Standby, and/or Health Care systems fed by a
150 kw or larger generator shall be in compliance with NEC Sections 700, 701 and 517, respectively. A
copy of the commissioning report shall be presented to the electrical inspector prior to the final electrical
inspection.

14 D. Customer-owned systems that are metered at 12.5 kV or higher, known as primary metered systems,
shall be installed as outlined in NEC 215.2(B)(3) and Tacoma Power's Transmission & Distribution
Construction Standards. Such systems must be designed and certified by a Washington State Registered
Electrical Engineer and reviewed by Tacoma Power's Electrical Inspection Office. These systems must
be tested per manufacturers' published instructions and certified as free of short circuits and ground faults
prior to approval for energizing.

15 E. Each newly constructed or remodeled dwelling unit, as defined in NEC 100, shall be independently
metered by Tacoma Power.

16 ~~F. Use of Type SE cable is limited to feeders and branch circuits.~~



Chapter 12.10 Water – Regulations and Rates

* * *

12.10.110 Turn-on and/or Unauthorized use.

A. If water service, with an established service account, is turned off by the Division for cause and later the water service to said premises is turned on without Division approval, upon discovery, a penalty of \$100 shall be assessed and said water service may be disconnected by the Division at the water main in the street.

B. Unauthorized use [of a physically disconnected water service](#) and/or tampering with any division appurtenance (except for fire hydrants which are covered in Section 12.10.305) may result in, a penalty of \$500 being assessed. If unauthorized use or tampering involves a [physically disconnected](#) water service and/or meter then said service may be disconnected by the Division at the water main in the street. Penalty is in addition to any fees for repair of damages as noted in Section 12.10.125.

Water service will not be reconnected in either subsection A or subsection B above until: (1) payment for all water consumed to date and the monthly meter charges as established or estimated by the division are made to the City; (2) the Division costs incurred related to disconnecting and reconnecting the service pipe are paid; and (3) the Division costs incurred related to repairing customer-caused damages are paid per Section 12.10.125.

* * *



TO: Elizabeth Pauli, City Manager
FROM: Matt Hubbard, Power Engineer, Tacoma Public Utilities
Jackie Flowers, Utilities Director, Tacoma Public Utilities
COPY: City Council and City Clerk
SUBJECT: Request for Ordinance to Adopt Revisions to TMC Title 12 in Support of the Advanced Metering Project and Compliance with the 2020 National Electric Code / First Reading
August 25, 2020
DATE: July 31, 2020

SUMMARY AND PURPOSE:

Tacoma Public Utilities requests an ordinance to adopt proposed revisions to the Tacoma Municipal Code, Title 12-Utilities. These revisions are essential for implementation of the Advanced Metering Infrastructure Project, provide clarity around demand meter billing for applicable electric meters, clarify physical disconnects related to unauthorized water usage, and include updates to TMC Chapter 12.06A for compliance with the 2020 edition of the National Electric Code.

BACKGROUND:

Tacoma Public Utilities (TPU) plans to deploy Advanced Metering Infrastructure (AMI) across its entire water and electric service territories, replacing or upgrading all non-communicating power and water meters with advanced two-way communicating technology. Advanced metering is a foundational element of Tacoma Public Utilities' Utility Modernization Strategy and will deliver customers new key benefits over time related to their power and water usage. Advanced metering technology will capture interval data, enable two-way communications, include remote capabilities, and provide advanced outage/issue detection, and verification. Advanced metering will modernize utility operations and be a cornerstone to deliver customers improved services and benefits.

As a transformative initiative, the Advanced Metering Project has and continues to require a significant effort across TPU to implement the new processes, applications, technologies, and integrations needed to fully enable the functions and features of the solution. As part of this initiative, TPU has reviewed existing utility policies, procedures, and practices for essential changes required to implement advanced metering or to make other essential updates as needed.

Proposed revisions to the Tacoma Municipal Code, Title 12-Utilities (attached, with explanatory comments) include removing four references in TMC Chapter 12.06 to a demand meter being reset monthly. This reflects the more accurate metering capabilities of advanced metering, which uses more granular interval data for billing calculations. In addition, numerous revisions within TMC Chapter 12.06A are proposed to update references and bring the code into compliance with the 2020 National Electric Code. Lastly, the proposed revision to 12.10.110 B adds specificity that unauthorized water use is describing a physically disconnected service. This proposed addition is required to account for the future state of advanced metering when a water meter may be virtually disconnected; turned off for billing purposes but left physically on in the field.



COMMUNITY ENGAGEMENT/ CUSTOMER RESEARCH:

The Advanced Metering Project will provide new benefits to residential and commercial utility customers. Before commencing on the project, market research was conducted across all customer groups and showed strong interest in new, modernized benefits, such as a web portal to view granular daily/hourly usage data, alert notifications, PrePay, and monthly billing. In addition, TPU continues ongoing community outreach with Tacoma's Neighborhood Council Meetings, Black Collective, Neighborhood Block Groups, Community Organizations (such as the Sunrise Rotary Club), Franchise Cities, Pierce County, and the Joint Municipal Action Committee.

ALTERNATIVES:

The alternative to this recommendation would be to **make no code changes**. Impacts of this alternative are that:

- Select sections of TMC Title 12 – Utilities would not reflect the updated operational state of TPU following implementation of advanced meters
- TMC 12.06A would not be in compliance with the 2020 National Electric Code

EVALUATION AND FOLLOW UP:

As the Advanced Meter program progresses, TPU will review necessary policy/code changes to ensure consistency between the TMC and TPU's new operational state. Recommended code revisions will be brought forward as needed.

TMC Chapter 12.06A, Electrical Code, will be compared to future editions of the National Electric Code and revisions will be recommended as needed.

STAFF/SPONSOR RECOMMENDATION:

TPU recommends adoption of the proposed revisions to the Tacoma Municipal Code Title 12 – Utilities. It is recommended that the proposed revisions be effective 9/1/2020, or as soon as reasonably feasible after adoption. These revisions include:

- Removing four references in TMC Chapter 12.06 to a demand meter being reset monthly. This reflects the more accurate metering capabilities of advanced metering, which uses more granular interval data for billing calculations.
- Numerous revisions within TMC Chapter 12.06A to update references and bring the code into compliance with the 2020 National Electric Code.
- Revise 12.10.110 B to add specificity that unauthorized water use is describing a physically disconnected service. This proposed addition is required to account for the future state of advanced metering when a water meter may be virtually disconnected; turned off for billing purposes but left physically on in the field.



FISCAL IMPACT:

None.

What Funding is being used to support the expense?

N/A

Are the expenditures and revenues planned and budgeted in this biennium's current budget?

N/A

Are there financial costs or other impacts of not implementing the legislation?

YES

Other impacts if not implemented:

- Select sections of TMC Title 12 – Utilities would not reflect the updated operational state of TPU following the implementation of advanced meters
- TMC 12.06A would not be in compliance with the 2020 National Electric Code

Will the legislation have an ongoing/recurring fiscal impact?

No

Will the legislation change the City's FTE/personnel counts?

No

ATTACHMENTS:

Proposed Tacoma Municipal Code Revisions and Explanatory Comments



AMENDED RESOLUTION NO. U-11179

1 A RESOLUTION relating to revisions of Title 12 of the Tacoma Municipal Code
2 ("TMC") regarding water and power regulations.

3 WHEREAS, the City of Tacoma, Department of Public Utilities, Water
4 Division (d.b.a. "Tacoma Water") and the City of Tacoma, Department of Public
5 Utilities, Power Division (d.b.a. "Tacoma Power") have requested proposed
6 changes to Chapter 12.06 ("Electric Energy – Regulations and Rates"), Chapter
7 12.06A ("Electrical Code"), and Chapter 12.10 ("Water – Regulations and
8 Rates") of Title 12 ("Utilities") of the Tacoma Municipal Code ("TMC"), and
9

10 WHEREAS, the proposed changes are needed in relation to the
11 implementation of the Advanced Metering Infrastructure ("AMI") Project, to
12 provide clarity around demand meter billing for applicable electric meters, to
13 clarify physical disconnects related to unauthorized water use, and updates in
14 compliance with the 2020 edition of the National Electric Code, and
15

16 WHEREAS, the AMI Project requires a significant effort across Tacoma
17 Public Utilities to implement new processes, applications, technologies and
18 integrations needed to fully enable the functions and features of the system, and

19 WHEREAS, Tacoma Public Utilities' staff has reviewed existing utility
20 policies, procedures, and practices for essential changes required to implement
21 advanced metering and to make other updates as needed, and
22

23 WHEREAS, the proposed changes to subsections 215C, 225C, 260C
24 and 371E of TMC 12.06 are to remove four references to the demand meter
25 being reset monthly in order to more accurately reflect metering capabilities of
26



advanced metering which uses a more granular interval data for billing
1 calculations, and

2 WHEREAS, the proposed changes to subsections 030, 035B, 240A,
3 240B, 250A, 250C and 380F of TMC 12.06A are proposed to update references
4 and bring the code into compliance with the 2020 National Electric Code, and

5 WHEREAS, the proposed revision to TMC 12.10.110B adds specificity
6 that unauthorized water use is describing a physically disconnected service in
7 order to account for the future state of advanced metering when a water meter
8 may be virtually disconnected, meaning turned off for billing purposes but left
9 physically connected in the field, and

10 WHEREAS, Tacoma Water's and Tacoma Power's proposed changes to
11 the Tacoma Municipal Code are attached as Exhibit A, and

12 WHEREAS, revisions to the Tacoma Municipal Code applicable to
13 Tacoma Public Utilities require approval by the Public Utility Board and the
14 Tacoma City Council, and

15 WHEREAS, the recommend changes are just, fair and reasonable and in
16 the best interests of the citizens of Tacoma and the customers of Tacoma Water
17 and Tacoma Power, and Tacoma Water and Tacoma Power request the Board
18 approve the changes; Now, Therefore,

19 BE IT RESOLVED BY THE PUBLIC UTILITY BOARD OF THE CITY OF TACOMA:

20 The proposed changes to Tacoma Water's and Tacoma Power's
21 regulations are hereby approved, and the Council of the City of Tacoma is
22 requested to pass an ordinance approving such revisions by amending Chapter
23
24
25
26



12.06, 12.06A, and 12.10 of the Tacoma Municipal Code as set forth in the
attached Exhibit "A."

Approved as to form:

151
Chief Deputy City Attorney

Clerk

Chair

Secretary

Adopted

8-12-20



Board Action Memorandum

TO: Jackie Flowers, Director of Utilities
COPY: Charleen Jacobs, Director and Board Offices
FROM: Chris Robinson, Power Superintendent/COO
Scott Dewhirst, Water Superintendent/COO
MEETING DATE: August 12, 2020
DATE: July 31, 2020

SUMMARY: Tacoma Public Utilities requests a resolution to adopt proposed revisions to the Tacoma Municipal Code, Title 12-Utilities. These revisions are essential for implementation of the Advanced Metering Infrastructure Project, provide clarity around demand meter billing for applicable electric meters, clarify physical disconnects related to unauthorized water usage, and include updates to TMC Chapter 12.06A for compliance with the 2020 edition of the National Electric Code.

BACKGROUND: Tacoma Public Utilities (TPU) plans to deploy Advanced Metering Infrastructure (AMI) across its entire water and electric service territories, replacing or upgrading all non-communicating power and water meters with advanced two-way communicating technology. Advanced metering is a foundational element of Tacoma Public Utilities' Utility Modernization Strategy and will deliver customers new key benefits over time related to their power and water usage. Advanced metering technology will capture interval data, enable two-way communications, include remote capabilities, and provide advanced outage/issue detection, and verification. Advanced metering will modernize utility operations and be a cornerstone to deliver customers improved services and benefits.

As a transformative initiative, the Advanced Metering Project has and continues to require a significant effort across TPU to implement the new processes, applications, technologies, and integrations needed to fully enable the functions and features of the solution. As part of this initiative, TPU has reviewed existing utility policies, procedures, and practices for essential changes required to implement advanced metering or to make other essential updates as needed.

Proposed revisions to the Tacoma Municipal Code, Title 12-Utilities (attached, with explanatory comments) include removing four references in TMC Chapter 12.06 to a demand meter being reset monthly. This reflects the more accurate metering capabilities of advanced metering, which uses more granular interval data for billing calculations. In addition, numerous revisions within TMC Chapter 12.06A are proposed to update references and bring the code into compliance with the 2020 National Electric Code. Lastly, the proposed revision to 12.10.110 B adds specificity that unauthorized water use is describing a physically disconnected service. This proposed addition is required to account for the future state of advanced metering when a water meter will be virtually disconnected; turned off for billing purposes but left physically on in the field.



Board Action Memorandum

ARE THE EXPENDITURES AND REVENUES PLANNED AND BUDGETED?

N/A.

IF THE EXPENSE IS NOT BUDGETED, PLEASE EXPLAIN HOW THEY ARE TO BE COVERED.

N/A.

IF THE ACTION REQUESTED IS APPROVAL OF A CONTRACT, INCLUDE LANGUAGE IN RESOLUTION AUTHORIZING \$200,000 INCREASE IN ADMINISTRATIVE AUTHORITY TO DIRECTOR?

N/A.

ATTACHMENTS: Proposed Tacoma Municipal Code Revisions and Explanatory Comments

CONTACT: Andre' Pedefferri, Utility Technology Services, Advanced Meter Program Manager, (253) 502-8997



Advanced Meter Program Policies Package 1 Proposed Changes

Tacoma Municipal Code Title 12-Utilities Explanatory Comments for Proposed Changes July 31, 2020

1. **Revision Date:** The final code as implemented following adoption will be updated to reflect the correct revision date. Placeholders are currently used.
2. **Sections 12.06.215 C, 12.06.225 C, 12.06.260 C, and 12.06.371 E:** References to a demand meter being reset monthly have been removed from the TMC. This reflects the more accurate metering capabilities of advanced metering, which uses more granular interval data for billing calculations. This is a required change for moving to advanced meters.
3. **Chapter 12.06A:** The references to the 2017 Edition of the National Electric Code (NEC) have been updated to reference and be in compliance with the 2020 Edition of the NEC. TPU is required to stay up to date and consistent with the NEC.
4. **Section 12.10.110 B:** This section references unauthorized use of water service but does not account for the future state when a water meter will be virtually disconnected; turned off for billing purposes but left physically on in the field. Language has been added to clarify that this section of the TMC will apply when there is unauthorized use of a physically disconnected water service. Virtual disconnect and reconnect is a new benefit TPU can utilize with advanced metering.