Title: Utility Rule 29 Changes

Subject: Adoption of a Resolution Amending Utility Rule and Regulation 29 (Net Energy Metering Service and Interconnection)

From: City Manager

Lead Department: Utilities

RECOMMENDATION
Staff recommends that the City Council adopt a resolution amending Utility Rule and Regulation 29 as attached. The amended rule, if approved, would become effective March 1, 2011.

EXECUTIVE SUMMARY
Assembly Bill 920 (AB 920) (2009) modified the Public Utilities Code’s terms and conditions for Net Energy Metering (PUC Section 2827). Staff identified revisions to the billing system to implement AB920-related changes as they are currently described in Utility Rule and Regulation 29. During the Council’s review of the required changes on December 6, 2010, and with the understanding of the minimal customer benefits involved (estimated to be $51 annually for each of the current 42 customers, or $2,154 in total) and potentially significant costs (estimated over $300,000 for a fully automated billing solution), the Council directed staff to limit implementation costs to $10,000 or 100 hours of staff time, whichever occurs first. The proposed revisions to Utility Rule and Regulation 29 achieve this objective by continuing the current practice of billing customers monthly and allowing customers to carry forward bill credits valued at the retail rate. This avoids the need for the expensive reconfiguration of the billing system. Staff will make manual adjustments for customers who do not want to carry forward their bill credits at the end of the year.

BACKGROUND
AB 920 modified the Public Utilities Code’s terms and conditions for Net Energy Metering (PUC Section 2827). AB 920 requires electric utilities to compensate customers with a solar photovoltaic system or a wind turbine, who generate electricity in excess of their use for their net excess generation in a 12-month period.

In December 2010, the City Council established a Net Surplus Electricity Compensation Rate Schedule (E-NSE-1), and revised Utility Rule and Regulation (Rule) 29 governing Net Energy Metering Service and Interconnection for qualifying customer-generators (CMR 425:10). At the same time, the Council directed staff to limit implementation costs to not exceed $10,000 or
100 hours of staff time, whichever first occurs.

DISCUSSION
While it is feasible to implement all of the requirements to comply with AB 920 through a comprehensive and fully automated billing solution, the external SAP consultant estimated its cost to be $327,000. This cost is clearly not justified for the small number of customers affected and the small dollar value of the total amount of net generation citywide. Staff has identified a simplified solution that leaves most existing billing procedures in place. As staff estimates the number of eligible customers and applicable compensation amounts to be small, the proposed approach is expected to have no negative resource impact. The impact to Net Energy Metering customers is also expected to be minimal. The elements of the solution include the following:

1. Annual vs Monthly Billing
California laws and regulations pertaining to Net Energy Metering require CPAU to bill residential and small commercial customers annually and provide monthly information regarding their net consumption and charges owed. The law also states that utilities shall permit customers to pay monthly for net energy consumed. Currently, CPAU bills its Net Energy Metering Customers monthly, and provides information regarding their credits, if any, in a separate letter to the customers. The reason is that the CPAU billing system is currently not configured to show monthly credits as part of the bills issued. The implementation of annual billing will require considerable staff time and resources that are not now supported by the limited budget. Therefore staff recommends continuing with the current monthly billing approach for all Net Energy Metering customers. Staff also proposes to continue with issuing monthly statements to provide customers with information regarding cumulative bill credits.

2. Annual Settlement
California law requires annual settlements for each customer, but currently CPAU does not perform annual settlement. Instead, CPAU carries forward customer bill credits indefinitely or until customers use up such credits. While bills will continue to be issued monthly, settlement of any net generation will be conducted annually starting January 2011. This will be done by adding certain information into the billing system for Net Energy Metering customers. CPAU will then manually make the necessary adjustments to correct for monthly billing and calculate the credit for the small subset of net surplus generator customers, who have billing credits that remain at the end of the customer’s annual cycle and who have elected the compensation option.

3. Compensation of Net Surplus Energy
Starting January 1, 2011, and in compliance with AB 920, Net Energy Metering customers, who have generated more electricity than they have consumed, have the option of being compensated for annual net surplus electricity at the new E-NSE-1 rate, or electing to carry forward excess kWh into the new settlement period to offset future electric charges.
While implementing the monetary compensation option is feasible and relatively straightforward, carrying forward negative kWh values from one settlement period into the next is complex and requires significant staff time for configuration and testing. Staff proposes to monetize the kWh to be carried forward as a dollar value and offer it as a bill credit for eligible customers. All Net Energy Metering customers choosing the carry forward option will retain the dollar value of their bill credits towards future electric kWh charges. Customers who chose compensation (cash out) will be compensated at the published E-NSE-1 rate. The first option (carry forward) is currently more favorable for Net Energy Metering customers as it values kWh credits at retail rates instead of the E-NSE-1 rate.

The resource impact of this proposal is small. For the twelve-month period ending June 2010, there were 409 Net Energy Metering customers and only 42 of these had bill credits totaling combined net surplus electricity of 36,871 kWh. The value of the 36,871 kWh at the E-NSE-1 rate of $0.05841 per kWh is $2,154. The valuation of the same net surplus electricity at the average retail rate of $0.116 per kWh amounts to $4,277. This represents a gross resource impact of $2,123 if all customers choose to carry forward the credit instead of the cash-out option. This increased annual cost to CPAU of $2,123 is more than compensated for the elimination of the requirement for an expensive billing solution compensated by the elimination of the more costly implementation requirements.

Staff plans to evaluate the level of program participation and the value of carry forward credits annually. If and when the resource impact for the proposed option reaches a cross-over point between value offered to program participants versus implementation costs saved for non-participants, staff will propose additional revisions to Rule 29.

Proposed changes to Rule 29 were not taken to the Finance Committee since the overall changes due to AB 920 had already been reviewed by the Finance Committee before being approved by the City Council in December 2010. Furthermore, the implementation of the net surplus compensation must become effective with customer bills issued in March. This additional change to Rule 29 is in response to the Council direction to limit implementation costs to $10,000 of hours of staff time.

RESOURCE IMPACT
No material negative resource impact is expected due to the proposed changes to Rule 29.

POLICY IMPLICATIONS
This recommendation does not represent a change to current City policies.

ENVIRONMENTAL REVIEW
Adoption of this resolution does not meet the California Environmental Quality Act's definition of a project, pursuant to California Public Resources Code Section 21065. Therefore, no environmental assessment is required.
Attachments:
- Attachment A: Resolution for Rule and Regulation 29  (DOC)
- Attachment B: Utility Rule and Regulation 29  (DOC)

Prepared By: Ipek Connolly, Sr. Resource Planner
Department Head: Valerie Fong, Director
City Manager Approval: James Keene, City Manager
Resolution No. __________
Resolution of the Council of the City of Palo Alto Amending Utility Rule and Regulation 29 (Net Energy Metering Service and Interconnection) Governing Electric Service

The Council of the City of Palo Alto does hereby RESOLVE as follows:

SECTION 1. Pursuant to Section 12.20.010 of the Palo Alto Municipal Code, Rule and Regulation 29 (Net Energy Metering Service and Interconnection) is hereby amended to read as set forth in the amended Rule and Regulation 29, attached hereto and incorporated herein by reference. The foregoing Rule and Regulation, as amended, shall become effective March 8, 2011.

SECTION 2. The Council finds that the adoption of this resolution does not meet the definition of a project under California Public Resources Code Section 21065. Thus, no environmental review is required.

INTRODUCED AND PASSED:
AYES:
NOES:
ABSENT:
ABSTENTIONS:
ATTEST:

___________________________         ___________________________
City Clerk                    Mayor

APPROVED AS TO FORM:         APPROVED:

___________________________         ___________________________
Acting Deputy City Attorney   City Manager

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Director of Utilities

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Director of Administrative Services
ATTACHMENT B

NET ENERGY METERING SERVICE AND INTERCONNECTION

RULE AND REGULATION 29

A. APPLICABILITY

1. This Rule and Regulation 29 is applicable to any customer-generator of CPAU who signs the Net Energy Metering and Interconnection Agreement. A customer-generator includes:

   (1) an “eligible customer-generator,” as that term is defined in Section 331(h) of the California Public Utilities Code to refer to a residential or small commercial Customer, and,

   (2) a customer-generator who is other than a residential or small commercial Customer, as defined, of CPAU, which includes a medium commercial and a large commercial (industrial) Customer, who uses a solar or wind turbine electrical Generating Facility, or a hybrid system of both.

   The facility must be located on the customer-generator’s owned, leased or rented Premises, must have a capacity of not more than one (1) megawatt (or 1,000 Kilowatts), must be Interconnected and operated in parallel with CPAU’s Electric utility Distribution System, and must be intended primarily to offset part or all of the customer-generator’s own Electric Service requirements.

2. The customer-generator will be required to sign a Net Energy Metering and Interconnection Agreement (NEMIA) or an agreement containing substantially the terms and conditions of the referenced NEMIA and agree to be subject to applicable Utility Rates and Charges and Utility Rules and Regulations in order to be eligible for Net Energy Metering Service provided by CPAU. CPAU will make available all necessary forms and contracts for Net Energy Metering Service for download from the Internet.

3. CPAU shall process a request for the establishment of Net Energy Metering and Interconnection from the customer-generator within the time period not exceeding that for Customers requesting new Electric Service. Such time period will not exceed thirty (30) days from the date of (1) receipt of a completed Application form for Net Energy Metering Service and Interconnection from the customer-generator, (2) Electric inspection clearance from CPAU, and (3) building inspection clearance from the City of Palo Alto Building Inspection Division. If CPAU is unable to process the request within the thirty-day period or other applicable period, then CPAU shall notify the customer-generator of the reason for its inability to process the request and the expected completion date.
B. TERRITORY:

Within the jurisdictional boundaries of the City of Palo Alto.

C. SPECIAL CONDITIONS:

1. Net Energy Metering

Net Energy Metering means measuring the difference between the electricity supplied through CPAU’s Electric utility Distribution System and the electricity generated by the customer-generator’s facility and delivered to CPAU’s Electric utility Distribution System over a specified twelve-month period.

2. Metering Equipment

Net Energy Metering shall be accomplished by using a single Meter capable of registering the flow of electricity in two different directions. If the customer-generator’s existing Meter is not capable of measuring the flow of electricity in two directions, then the customer-generator shall be responsible for all expenses involved in purchasing and installing a Meter that is able to measure electricity flow in two directions. In lieu of one Meter, an additional Meter to monitor the flow of electricity in each direction may be installed with the consent of the customer-generator, at the expense of CPAU. The additional Meter shall be used only to provide the information necessary to accurately bill or credit the customer-generator and/or to collect solar or wind Electric generating system performance information for research purposes.


a. At the end of each twelve-month period following the date of Interconnection of the facility, or for a Customer with a date of Interconnection of the facility commencing prior to February 1, 2010, the day after CPAU’s receipt of the Customer’s net surplus electricity election form, and at each annual settlement anniversary date thereafter,
CPAU will determine whether the customer-generator is a net electricity consumer or a net surplus customer-generator, as such terms are defined in California Public Utilities Code sections 2827(h)(2) and 2827(h)(3) during that period. CPAU will bill the customer-generator for the electricity used during that twelve-month period, whether the customer-generator is considered a net electricity consumer or a net surplus customer-generator.

b. At the end of the twelve-month period, where the electricity supplied by CPAU during that period exceeds the electricity generated by the customer-generator’s facility during that same period, the customer-generator is a net electricity consumer during that period, and the customer-generator will owe compensation to CPAU. The compensation shall be calculated according to the terms and conditions of the NEMIA or other applicable contract referred to in Section A above and/or to the applicable utility rates and Charges for baseline quantity of electricity, to which class of utility Customers the customer-generator would be assigned. The net balance of money owed by the net electricity consumer to CPAU will be carried forward as a monetary value until the end of the twelve-month period in the case of a residential or small commercial Customer, or the residential or small commercial Customer may elect to pay the balance due at the end of the month immediately following the twelve-month period. If the customer-generator is a medium commercial or large commercial (industrial) Customer, then payment of any net balance due shall be made on a monthly basis.

c. At the end of the twelve-month period, where the electricity supplied by the customer-generator’s facility during that period exceeds the electricity supplied by CPAU during that period, the customer-generator is a net surplus customer-generator during that period. Upon the City’s receipt of the customer-generator’s affirmative election, CPAU either will provide net surplus electricity compensation, as such term is defined in California Public Utilities Code section 2827(b)(8), in accordance with Electric Utility Rate Schedule E-NSE-1, for any net surplus electricity generated during the prior twelve-month period, or will allow bill credits due to the net surplus electricity to be applied as a credit for electricity (expressed in Kilowatt-hours) related charges subsequently supplied by CPAU to the customer-generator. If the customer-generator fails to make an affirmative election to receive Service pursuant
to net surplus electricity compensation, then CPAU shall retain any excess electricity (expressed in Kilowatt-hours) generated during the prior twelve-month period, and it shall not be obligated to pay net surplus electricity compensation nor shall it be obligated to allow the application of net surplus electricity to be used as a credit for Energy subsequently supplied by CPAU.

d. CPAU will allow a Customer to change the election option once each settlement period provided that the Customer provides notice to CPAU one month prior to the beginning of new settlement period.

e. CPAU shall provide the customer-generator with net electricity consumption information with each monthly bill; that information shall include either the current monetary balance owed to CPAU or the current amount of excess electricity produced since the last twelve-month period.

f. A Residential or Small Commercial Customer may elect to pay the electricity Charge (measured in Kilowatt-hours) portion of the billing statement each month, or at the annual settlement. For a Residential or Small Commercial Customer who does not elect billing at the annual settlement or medium commercial or large commercial (industrial) Customer, electricity Charges are due and payable per applicable monthly billing schedules. For the customers electing billing at the annual settlement, the customer-generator’s bill payment will not be considered delinquent, unless the customer-generator does not pay a final billing statement within twenty (20) days of the date of issuance of that final billing statement.

g. For Residential Customers electing single billing for the twelve-month settlement period, for each monthly period, the net balance of moneys owed to the electric service provider for net consumption of electricity or credits owed to the customer-generator for net generation of electricity shall be carried forward until the end of each twelve-month period. Any excess kilowatt-hours generated during the billing cycle shall be carried over to the following billing period, calculated according to the procedures set forth in this section, and appear as a credit on the customer-generator's account, until the end of the annual period when paragraph (3) of subdivision (b) shall apply.
h. For all customer-generators on monthly billing, and for each monthly period, the net
balance of moneys owed to the electric service provider for net consumption of
electricity shall be paid in accordance with the electric service provider’s normal
billing cycle, except that if the residential and small commercial customer-generator
is a net electricity producer over a normal billing cycle, any excess kilowatt-hours
generated during the billing cycle shall be carried over to the following billing period,
calculated according to the procedures set forth in this section, and appear as a credit
on the customer-generator’s account, until the end of the annual period when
paragraph (3) of subdivision (b) shall apply.

h. If an electric service provider providing net metering to a residential or small
commercial customer-generator ceases providing that electrical service to that
customer during any twelve-month period, and the customer-generator enters into a
new net metering contract or tariff with a new electric service provider, the twelve-
month period, with respect to that new electric service provider, shall commence on
the date on which the new electric service provider first supplies electric service to
the customer-generator.

i. If the customer-generator terminates the contractual relationship with CPAU, then
CPAU shall reconcile the customer-generator’s consumption and production of
electricity during any part of the twelve-month period following the last annual
settlement and reconciliation. If the electricity supplied by the customer-generator’s
facility during that period exceeds the electricity supplied by CPAU during that
period, the customer-generator will be deemed a net surplus customer-generator
during that period, and compensation will be provided in accordance with Electric
Utility Rate Schedule E-NSE-1. If the electricity supplied by CPAU during that
period exceeds the electricity generated by the customer-generator’s facility during
that same period, the customer-generator is a net electricity consumer during that
period, and the customer-generator will owe compensation to CPAU based upon the
applicable Electric Rate Schedule.

4. Safety Standards
ATTACHMENT B

NET ENERGY METERING SERVICE AND INTERCONNECTION

RULE AND REGULATION 29

The facility will meet all applicable federal, state and local safety and performance standards, including those established by the National Electrical Code, the Institute of Electrical and Electronic Engineers, and accredited testing laboratories such as Underwriters Laboratories and, as applicable, the rules of the California Public Utilities Commission regarding safety and reliability. The customer-generator whose facility meets those standards and rules will not be required to install additional controls, perform or pay for additional tests, or purchase additional liability insurance.

5. Interconnection Standards (Design)

a. Customer-Generator will conform to the applicable National Electric Code (NEC) Standards [NEC 690] and applicable building codes.

b. Customer-Generator will have a dedicated circuit from the inverter to the Service panel with a circuit breaker or fuse [NEC 690-64(b)(1)].

c. Customer-Generator's overcurrent device at the Service panel will be marked to indicate solar power source [NEC 690-64(b)(4)].

d. Customer-Generator's inverter will establish the following minimum specifications for Parallel Operation with CPAU’s Electric utility Distribution System.

e. Customer-Generator will install a visible break, lockable AC disconnect switch in the dedicated circuit to the inverter. This switch will be located where it is easily accessible by CPAU personnel and will be equipped with a CPAU padlock [CPAU Rule and Regulation 27].

f. Customer-Generator’s inverter will be UL 1741-approved and have the following specifications for Parallel Operation with CPAU’s Electric utility Distribution System:

1. Inverter output will automatically disconnect from CPAU’s utility source upon the loss of CPAU’s utility voltage and will not be reconnected until at least five (5) minutes after normal utility voltage and frequency have been restored [UL 1741].

2. Inverter will automatically disconnect from CPAU’s utility source within 120
cycles (2 seconds) if CPAU’s utility voltage is less than 106 volts or greater than 132 volts on a 120-volt base [UL 1741].

3. Inverter will automatically disconnect from CPAU’s utility source within 10 cycles (0.17 seconds) if CPAU’s utility frequency fluctuations is less than 59.3 hertz or greater than 60.5 hertz [UL 1741] cycle.

4. Inverter output will comply with IEEE 519 standards for harmonic distortion [CPAU Rule and Regulation 27].