

ITEM#: 52
 DATE: 12-13-22

COUNCIL ACTION FORM

SUBJECT: ELECTRIC RATE MODIFICATIONS FOR ELECTRIC VEHICLE CHARGING OF COMMERCIAL VEHICLES AND INTERRUPTIBLE RATE

BACKGROUND:

City staff has prepared an ordinance to modify the Municipal Code regarding electric rates. The ordinance will address modifications in two areas: Commercial electric vehicle (EV) charging, and industrial user time-of-use. These rate changes were discussed at the EUORAB meeting in October 2022. EUORAB supports these changes and voted to send them to the City Council for approval.

Commercial EV Charging Rate:

This rate addition to the Ames Municipal Code is intended to promote off-peak charging to encourage broader adoption of electric vehicles, reduce impacts of on-peak energy demands, and capitalize on lower off-peak energy rates. Off-peak charging benefits all ratepayers by selling more energy during periods that do not contribute to overall system peak.

Currently, the existing rate structure charges 6.5 cents per kWh. This proposed rate offers a discount in the demand cost for energy used between 9 p.m. and 9 a.m., when energy prices per kWh are lower than market energy purchased during the daylight hours. Under this rate, energy used during the overnight off-peak hours is subject to an “Economy Rate” of 4 cents per kWh; On-peak energy is charged the full demand charge that is applied to all commercial electric customers and a “Premium Rate” of 12 cents per kWh.

An example of a potential customer that would benefit from a rate of this type is CyRide. CyRide is scheduled to take delivery of two new, all-electric buses at the beginning of 2023. Charging buses during the day would add to the utility’s peak demand. The rate proposed here will benefit both CyRide and the electric utility by encouraging off peak charging. Other commercial customers of Ames which desire to convert their fleet to electric can also apply for this rate and gain operational cost savings while reducing greenhouse gas emissions.

	Hour Ending																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Economy	█																						█	
Premium										█														

Economy Rates	Premium Rates
\$0.04 per kWh	\$0.12 per kWh
30% of peak demand charge	Full peak demand charge

Industrial Time-of-Use Electric Rate:

This rate is an alternative to the City’s Industrial Electric Rate. The proposed changes to the rate align the existing Industrial Time-of-Use (TOU) Electric Rate with an optional Interruptible Rate. The rate offers two mechanisms to help reduce the utility’s overall annual peak. First, the TOU rate encourages large industrial customers to shift their peak energy usage outside the utility’s peak window of 3 p.m. to 8 p.m. Second, customers on this rate have the additional option to elect a partial interruptible load agreement. This is where the utility may require the customer to reduce load further during times of peak demand.

Ames has one customer that has chosen this rate structure. The proposed changes to the Municipal Code language will align the Industrial Time-of-Use rate with the Interruptible Option Pilot, and convert the Pilot into a permanent part of the municipal code.

ALTERNATIVES:

1. Approve first reading of an ordinance making changes to Municipal Code, Chapter 28 as proposed by City Staff and recommend to Council for approval.
2. Do not approve changes to Municipal Code, Chapter 28.

CITY MANAGER’S RECOMMENDED ACTION:

The proposed rate updates will help promote off-peak load growth of electric sales and assist CyRide in transitioning its fleet to electric vehicles. Additionally, aligning the industrial time-of-use rate with the interruptible option will encourage large users to shape their load in a beneficial way for the utility while saving the customer money on its energy bill.

Therefore, it is the recommendation of the City Manager that the City Council adopt Alternative No. 1 as stated above.

ORDINANCE NO.

AN ORDINANCE TO AMEND CHAPTER 28, UTILITIES, DIVISION 1, ELECTRIC OF THE MUNICIPAL CODE OF THE CITY OF AMES, IOWA, BY ENACTING A NEW SECTION 28.106 AND AMENDING SECTION 28.108 FOR THE PURPOSE OF COMMERCIAL ELECTRIC VEHICLE CHARGING RATE AND INDUSTRIAL TIME-OF-USE ELECTRIC RATES AND CHARGES; REPEALING ANY AND ALL ORDINANCES OR PARTS OF ORDINANCES IN CONFLICT TO THE EXTENT OF SUCH CONFLICT; AND ESTABLISHING AN EFFECTIVE DATE.

BE IT ENACTED, by the City Council for the City of Ames, Iowa, that:

Section One. The Municipal Code of the City of Ames, Iowa shall be and the same is hereby amended by enacting a new Section 28.106 and amending section 28.108 for the purpose of commercial electric vehicle charging time-of-day rate and industrial time-of-use electric rates and charges as follows:

“ ...

Sec. 28.105. COMMERCIAL RATE.

...

Sec. 28.106. COMMERCIAL ELECTRIC VEHICLE CHARGING RATE.

(1) **Availability.** The “Commercial Electric Vehicle Charging Rate” is solely for the charging of electric vehicles. The rate shall be voluntary for any non-residential customer whose consumption in any billing period exceeds 10,000 kWh, or whose metered demand at any time exceeds 55 kVA. Any customer who elects the Commercial Electric Vehicle Charging Rate shall not switch rates more than once in a period of twelve (12) months. Any customer on Commercial Electric Vehicle Charging Rate who has a metered demand of less than 55 kVA, or a consumption of less than 10,000 kWh, for twelve (12) consecutive months, shall be changed to the Small Commercial Rate.

(2) **Intent:** Electric Services is a summer peaking electric utility, and as such, the cost to deliver electricity is generally most expensive during hours of greatest demand. The utility benefits when large electric users reduce their demand during these times. A time-of-day rate is a pricing strategy whereby Electric Services may vary the price of electricity depending on the time-of-day it is delivered to the customer. Energy pricing can encourage the customer to use electricity during times of low demand and discourage use during the peak times of the day. Time-of-day pricing allows Electric Services to better control costs and mitigate any negative system impacts related to times of peak demand. Additionally, offering off-peak rates encourages broader adoption of electric vehicles by allowing low-cost, off-peak energy for customer vehicle charging.

(3) **Definitions:**

(a) **Premium Hours:** Monday through Friday between the hours of 9:00 am and 9:00 pm, excluding federally observed Holidays:

(b) **Economy Hours:** All remaining hours

(c) **Billing Demand:**

The “billing demand” shall be the greater of:

(i) The peak fifteen (15) minute demand measured during the premium hours of the current monthly billing period;

(ii) Thirty percent (30%) of the peak fifteen (15) minute demand measured during the economy hours of the current monthly billing period;

(iii) Seventy-five percent (75%) of the greatest billing demand for the summer period during the prior eleven (11) billing periods;

(iv) Sixty percent (60%) of the greatest billing demand during the prior eleven (11) billing periods;

(v) 40 kVA.

- (4) **Rate Per Billing Period:** For each monthly billing period, a customer participating in the Commercial Electric Vehicle Charging Rate shall be charged:
- (a) the Service Charge of two hundred fifty dollars (\$250.00).
 - (b) the Demand Charge and the Energy Charge for the billing period as follows:
 - (i) for bills mailed on or between July 1 and October 31 (summer period), a customer shall be charged a demand charge of \$10.71 per kVA of billing demand
 - (ii) for bills mailed on or between November 1 and June 30 (winter period), a customer shall be charged a demand charge of \$8.01 per kVA of billing demand
 - (iii) a customer shall be charged an energy charge of:
 - \$0.12 per kWh during “premium” hours
 - \$0.04 per kWh during “economy” hours
 - (c) all charges above shall also be subject to the applicable Energy Rate Adjustment (ERA) per Sec. 28.102.

Sec. 28.107. INDUSTRIAL RATE.

...

Sec. 28.108. INDUSTRIAL TIME-OF-USE ELECTRIC RATE AND CHARGES.

(1) **Availability:** The Industrial Time-of-Use Electric Rate shall be voluntary for any customer whose metered demand at any time exceeds 2,500 kVA. Service under this rate schedule is billed on a Time-of-Use basis as provided under these rules. The Industrial Time-of-Use Electric Rate is an alternative to Section 28.107 (1) Availability, at the customer’s discretion. Customers opting for inclusion on Industrial Time-of-Use Electric Rate are required to remain on the rate for a period no less than twelve (12) consecutive calendar months.

(2) **Intent:** Electric Services is a summer peaking electric utility, and as such, the cost to deliver electricity is generally most expensive and detrimental to generation and distribution systems during hours of greatest demand. The utility benefits when large electric users are encouraged to reduce their demand during these times. A Time-of-Use Rate is a pricing strategy whereby Electric Services may vary the price of electricity depending on the time-of-day it is delivered to the customer. Prices encourage the customer to use electricity during times of low demand and discourage use during the peak times of the day. Time-of-Use (TOU) pricing allows Electric Services to better control costs and mitigate any negative system impacts related to times of peak demand.

(3) **Definitions:**

(a) **Time-of-Use:** A specifically identifiable period of time during a twenty-four-hour day used for establishing a pricing strategy aimed at reducing the overall demand for electricity.

(b) **Peak:** The greatest fifteen (15) minute demand for electricity measured during the current billing period.

(c) **Billing Demand:** Highest metered kilovolt-amp (kVA) electric use, in a billing period measured between the hours of 3pm and 8pm Monday through Friday.

(d) **Holidays:** Federally observed Holidays.

(e) **On-Peak Energy:** Electricity, measured in kilowatt hours, used Monday through Friday between the hours of 8:00 am and 8:00 pm.

(f) **Off-Peak Base Energy:** Electricity, measured in kilowatt hours, used Monday through Friday between the hours of 8:00 pm and 8:00 am, and all-day Saturday, Sunday, and **Holidays**, up to the established monthly **Billing Demand**.

(g) **Off-Peak Time-of-Use Energy:** Electricity, measured in kilowatt hours, used Monday through Friday between the hours of 8:00 pm and 8:00 am, and all-day Saturday, Sunday, and **Holidays**, in excess of the established monthly **Billing Demand**

(h) **Summer period:** Bills mailed on or between July 1 and October 31.

(i) **Winter period:** Bills mailed on or between November 1 and June 30.

(4) **Rate Per Billing Period:** For each monthly billing period, a customer participating in the Industrial Time-of-Use Electric Rate shall be charged:

(a) the Service Charge of two hundred fifty dollars (\$250.00);
(b) the Demand Charge and the Energy Charge for the energy consumption during the billing period as follows:

- (i) for bills mailed on or between July 1 and October 31 (summer period):
 - 1) the **Billing Demand** times the billing rate of \$10.40 per kVA, and
 - 2) the **On Peak, Energy** times the billing rate of \$0.0644 per kWh,
 - 3) the **Off Peak, Base Energy** times the billing rate of \$0.0644 per kWh,
 - 4) the **Off Peak, Time-of-Use Energy** times the billing rate of \$0.04 per kWh,
- (ii) for bills mailed on or between November 1 and June 30 (winter period):
 - 1) the **Billing Demand** times the billing rate of \$7.80 per kVA, and
 - 2) the **On Peak, Energy** times the billing rate of \$0.0644 per kWh,
 - 3) the **Off Peak, Base Energy** times the billing rate of \$0.0644 per kWh,
 - 4) the **Off Peak, Time-of-Use Energy** times the billing rate of \$0.04 per kWh,

(c) the applicable Energy Cost Adjustment (ECA) per Sec. 28.102, and

(d) any applicable bill impacts of Section 28.107 (3) Billing Demand, (4) Minimum Bill, (6) Service Facilities, (7) Excess Facilities, (8) Primary Service, and (9) Conditions.

(5) Interruptible Option -Availability: Service under this rate shall be available for customers with monthly demands of 2,500 kilovolt-amperes (kVA) or greater. Service under this rate schedule is interruptible and customers must agree to interrupt electric service as provided under these interruptible rate rules.

(a) A minimum interruptible load of 500 kVA is required to qualify for interruptible service.

(b) Electric Services shall verify Customer compliance with this requirement through the use of customer-specific interval demand meters.

(c) Any customer eligible for the interruptible rate who wishes to participate shall establish an interrupt amount based on their previous summer's average peak kVA demand (the average billed demand of bills mailed in July, August, September, and October).

(d) The interrupt amount shall be agreed upon by the customer and City of Ames Electric Services.

(e) Load interruptions are only requested during the months of June, July, August, and September.

(f) Customer shall be given a minimum of 4 hours notification on the day of interruption.

(g) Customer must interrupt at the agreed upon elected amount between the hours of 3:00 pm and 8:00 pm, or shorter duration as determined by the City.

(h) Customer shall not be interrupted on more than three consecutive days, and no more than five (5) times in a billing period.

(i) Customer credits for participating in the interruptible rate option shall be applied to the customer's bills mailed out in July, August, September, and October. Customer participation credits are applied irrespective of a request to interrupt.

(j) Any customer on this rate will be given a credit of \$2.60 per elected kVA as a participation incentive on bills mailed out in July, August, September, and October.

(k) In addition to the participation credit, a customer will be given a compliance credit of \$2.60 per elected kVA for successfully lowering its demand by at least the amount of the elected interruptible demand. The amount of participation credit applied to the billing demand is based upon the largest interruption response of the billing period. Failure to curtail the full elected amount will result in no compliance credit.

(l) In the event a participating customer is unable to interrupt load, a non-compliance penalty will be charged to the billing period's demand in the amount of \$12.00 per kVA for each kVA short of the elected amount. The amount of noncompliance charge applied to the billing demand is based upon the largest noncompliance of the billing period. The compliance credit is equal to the elected participation minus the amount of noncompliance. Such charge shall be in addition to any charges otherwise payable to City of Ames Electric Services for electric service under this rate schedule. The payment of this noncompliance penalty shall not be considered a substitute for any other remedy available to Electric Services including, but not limited to, reduction of service.

Sec. 28.109. STREET AND SECURITY LIGHTING RATE & INCIDENTAL UNMETERED ENERGY.

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Sec. 28.110. RENEWABLE ENERGY BUYBACK RATES. ...”

Section Two. All ordinances, or parts of ordinances, in conflict herewith are hereby repealed to the extent of such conflict, if any.

Section Three. This ordinance shall be in full force and effect from and after its passage and publication as required by law.

Passed this _____ day of _____, _____.

Renee Hall, City Clerk

John A. Haila, Mayor