



To: Honorable Public Utilities Board

Submitted by: ISI

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AGM-Energy Resource Planning

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Subject: By Resolution, Approve Changes to Schedule EV, Electric Vehicle Charging Stations

RECOMMENDATION

By resolution, approve changes to Schedule EV, Electric Vehicle (EV) Charging Stations.

BACKGROUND

Schedule EV currently applies to EV charging stations that are available to the public and owned by AMP or the City of Alameda. It is not applicable to EV chargers used by private residences or businesses.

In 2015 AMP acquired two, Level 3 – 480 Volt (V) EV charging stations that were installed for public use in the customer parking lot in front of AMP’s office. At its April 2015 meeting, the Public Utilities Board (Board) approved Resolution No. 5069, establishing Schedule EV and the following rates: a flat fee of \$7 per charging session for the Level 3 chargers, which became operational in October of 2015, and rates of \$0.32 per hour for Level 1 (120V) chargers and \$1.25 per hour for Level 2 (240V) chargers.

In April 2016, the Board approved Resolution No. 5093, which revised the Level 3 rate from a flat fee to one based on kWh usage and set the rate at \$0.45 per kWh. To further assess the impact of a lower rate on usage, in April 2017 the Board approved a one year *promotional* rate of \$0.30 per kWh for AMP’s Level 3 charging stations from July 1, 2017 – June 30, 2018, through Resolution No. 5116.

DISCUSSION

The expiration of AMP’s promotional EV Schedule requires the adoption of a replacement rate. The following discussion will present the analysis and issues staff considered in recommending

the Board adopt the \$0.30 per kWh Level 3 rate and eliminate references to the City of Alameda and rates for Level 1 and Level 2 public EV charging stations.

AMP owns two direct current fast charger (DCFC, or Level 3) charging stations located in the customer parking lot of AMP’s service center – Station 33063 and Station 33064. The chargers became operational on October 21, 2015 and were reliable until January 2017, after which they both began experiencing broken components and cable and faulting issues, culminating in Station 33064 being taken out of service from November 2017 through May 2018, when repairs were made. As a result, the charging data is insufficient to draw relevant conclusions about the effectiveness of the promotional rate. Actual charging station data is presented in Table 1 and has been normalized to address inconsistent rate periods.

Table 1 – Actual AMP Level 3 Public EV Charging Station Usage

| Period | Rate | Revenue (\$ / month) | Usage (kWh / month) | | |
|---|--------------|----------------------|---------------------|---------------|---------------|
| | | | Station 33063 | Station 33064 | Combined |
| FY 2016 (Nov – Jun) | \$7 Flat | \$ 196 | 180 | 154 | 334 |
| FY 2017 (Jul – mid Sep) | \$0.45 / kWh | \$ 331 | 524 | 212 | 736 |
| FY 2018 (mid Sep – Jun) | \$0.30 / kWh | \$ 188 | 538 | 90 | 628 |
| Totals Over Lifetime (\$) or (kWh) | | \$ 7,885 | 13,613 | 5,010 | 18,623 |

Benchmarking of EV charging stations in the area immediately surrounding Alameda and in the general Bay Area indicates that AMP’s \$0.30 per kWh rate for a Level 3 charge is reasonable.

- *Alameda and East Bay* – There is only one other comparable DCFC charging station in Alameda, which is located at Nob Hill Foods and owned and operated by EVgo. Similar to AMP’s charging stations, it supports both Combined Charging System (CCS) and Charge de Move (CHAdeMO) standards. EVgo has the majority of DCFC chargers in Oakland, Emeryville, and Berkeley and charges the same rate regardless of location. Charging rates are based on minutes of charge, differ for members and non-members, and convert to approximately \$0.23 - \$0.30 per kWh for an average customer. A ChargePoint charging station located at Homewood Suites in Oakland is \$0.18 per kWh, but it is relatively slower and it only supports the CCS standard. Additionally, Homewood Suites charges a parking fee after 30 minutes.
- *San Francisco* – EVgo is the primary provider of DCFC chargers and has the same rate structure as the EVgo charging station located by Nob Hill Foods in Alameda.
- *South Bay/Peninsula* – Blink has several DCFC chargers that cost \$0.59 per kWh for guests and \$0.49 per kWh for Blink members. Unlike AMP and EVgo chargers, Blink currently only supports the CHAdeMo standard for Level 3 charging stations.

AMP's Ratemaking Policy for fiscal years 2016 - 2020, adopted by the Board on January 15, 2015 via Resolution No. 5061, provides directives that include aligning previous principles and guidelines with current strategies and practices to assure that rates:

- Provide adequate revenue
- Consider equity
- Send price signals to customers
- Reflect the community's social priorities
- Strive to be competitive

EV charging customers are different from AMP's typical customers in that they comprise of both non-residents and residents and that they can easily move on to another charging station. Staff is concerned that large rate fluctuations would result in customer loss that AMP would not attract back because it is very difficult to communicate with EV owners. For example, bill inserts do not reach non-residents. It is therefore important to set a rate that is based on strong analytics, which is fairly consistent and complies with AMP's Ratemaking Policy. Rate changes should also be consistent with AMP's broader EV promotion policy that will be developed in the next year.

For these reasons and because staff's benchmarking research indicates that \$0.30 per kWh is reasonable, staff recommends that AMP's Level 3 public EV charging station rate be set at \$0.30 per kWh.

The recommendation to eliminate references to the City of Alameda in Schedule EV refers to the two, Level 2 EV charging stations owned by the City of Alameda and located in the Civic Center parking garage on Oak Street. The City pays AMP for electricity consumed by that facility under AMP's Schedule M-1, which applies to all of the City of Alameda's accounts, including Alameda Unified School District, with the exception of public street lighting (M-2) and AMP (M-3) accounts. Consequently, there is no need for a separate rate. Additionally, AMP owns only Level 3 public EV charging stations so there is no need for Level 1 and Level 2 public EV charging station rates.

Implement Rate Adjustment:

Schedule EV – Electric Vehicle Charging Stations – The \$0.30 per kWh promotional rate for Level 3 public charging stations owned by Alameda Municipal Power will no longer be considered “promotional” and information regarding chargers owned by the City of Alameda and rates for Level 1 and Level 2 charging stations will be eliminated.

NEXT STEPS

Staff will conduct a Cost-of-Service analysis for EV chargers; test the effectiveness of the \$0.30 per kWh rate using additional data; identify and consider other factors affecting usage, such as advertising and signage; explore the possibility of TOU rates; and will align its future rate changes with its comprehensive EV promotion policy.

FINANCIAL IMPACT

There is no financial impact from the changes to Schedule EV because the rate itself remains unchanged at \$0.30 per kWh.

LINKS TO STRATEGIC PLAN AND METRICS

KRA 1: Customer programs and experience

Goal 1.3: Provide programs that support green Alameda

KRA 5: Energy resources

Goal 5.1: Develop alternative energy opportunities

KRA 6: Financial & organizational stability

Goal 6.2: Ensure AMP's average rates are competitive

EXHIBITS

- A. Resolution – Approving Changes to the Schedule Electric Vehicle Charging Stations, including the following attachment:
 - Schedule EV
- B. PowerPoint Presentation

CITY OF ALAMEDA
ALAMEDA MUNICIPAL POWER

RESOLUTION NO. ____

**APPROVING CHANGES TO SCHEDULE EV, ELECTRIC VEHICLE CHARGING
STATIONS**

WHEREAS, on April 17, 2017, the Board approved a Schedule Electric Vehicle (EV) Charging Station promotional rate of \$0.30 per kilowatt-hour (kWh) for Level 3 (480 V) public EV charging stations owned by Alameda Municipal Power (AMP) for the one year period from July 1, 2017 through June 30, 2018, pursuant to Resolution No. 5116; and

WHEREAS, the \$0.30 per kWh one year promotional rate will expire at the end of June 30, 2018; and

WHEREAS the Board's rate increase plan specifies a slow and steady approach; and

WHEREAS, \$0.30 per kWh is a reasonable rate based on comparisons with rates for comparable Level 3 charging stations; and

WHEREAS, additional usage information, a cost-of-service analysis and link to AMP's EV promotion policy should factor into further rate changes for the Schedule EV, but are not currently available; and

WHEREAS, the Schedule EV rate should be adopted with a rate of \$0.30 per kWh, eliminating the one year promotional rate language; and

WHEREAS, the City of Alameda's public EV charging stations receive electric service under AMP's Schedule M-1, Municipal Electric Service and not under Schedule EV.

NOW, THEREFORE, BE IT RESOLVED by the Public Utilities Board of the City of Alameda that the proposed Schedule Electric Vehicle Charging Stations, as set forth in the attachments hereto, be approved and adopted for use effective as of the dates specified.

Approved as to Form

By: 

Alan Cohen
Assistant City Attorney



SCHEDULE EV Electric Vehicle Charging Stations

APPLICABILITY

This schedule is applicable to electric vehicle (EV) charging stations that are available to the public and owned by Alameda Municipal Power (AMP). This schedule is not applicable to EV chargers owned by the City of Alameda or used by private residences or businesses.

RATE

The rate for a Level 3 – 480 Volt charge is \$0.30 per kilowatt-hour (kWh)

STATE TAXES

Applicable state and local taxes (refer to Rider UUT and Rider ERS for current tax rates) are included in the above charges.

DEFINITIONS AND SPECIAL CONDITIONS

- 1. METERING and BILLING:**
The customer must pay at the point-of-sale using a Greenlots debit card, a credit card or a mobile device application.
- 2. PARKING:**
The rates above do not include the price of parking, therefore the customer must promptly remove their vehicle from the EV charging parking space once it has finished charging.
- 3. RULES and REGULATIONS:**
Other conditions, as specified in AMP's Rules and Regulations, shall apply to this electric rate schedule.

Additional Rate Adjustment

Schedule EV: AMP's Public Electric Vehicle Chargers

July 16, 2018

Overview: Schedule EV

- Background
- Proposal
- Benchmarking
- Next Steps

Background

- Schedule EV sets rate for the two Level 3 electric vehicle chargers owned by AMP
- Rate History for Level 3 Chargers
 - FY 2016: \$7 per charge flat rate
 - FY 2017: \$0.45 per kWh
 - FY 2018: \$0.30 per kWh “promotional rate”
- Promotional rate expired on June 30

Proposal

- Adopt a Level 3 rate of \$0.30 per kWh, effective July 17, 2018.
 - This rate is reasonable and competitive (benchmarking)
 - Avoid repeated rate fluctuations
 - Await adoption of a comprehensive EV promotion policy
- Remove references to City of Alameda and rates for Level 1 and Level 2 chargers from the schedule
 - City pays AMP under Schedule M-1 (\$0.17/kWh); a separate rate for the City's chargers is not needed

Bay Area Benchmarks

Local Level 3 Chargers

- 1) AMP: **\$0.30/kWh**
- 2) Homewood Suites: **\$0.18/kWh**
(slow charger, pay for parking)
- 3) County Garage: **\$1 + \$0.20/kWh**
(plus \$1.50/hr parking)
- 4) Nob Hill Foods: **EVgo***
- 5) Peralta College: **EVgo***
- 6) Whole Foods: **EVgo***
- 7) Public Market: **EVgo***

***EVgo Pricing:** \$0.23-0.30/kWh

South Bay/Peninsula

Blink is common: **\$0.49-0.59/kWh**

Also, some chargers do not support all of the charging standards that AMP's chargers support



Locally, \$0.30/kWh is comparable to other providers

Next Steps

- Conduct a cost-of-service analysis for EV chargers
- Analyze the effectiveness of the \$0.30 per kWh rate with additional data on usage
- Align future rate changes with a comprehensive EV promotion policy
- Continue communications regarding AMP's public chargers through typical outreach vehicles

Contact Information

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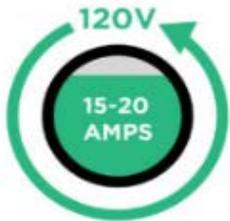
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Backup Slides

EV Charger Types

Level 1



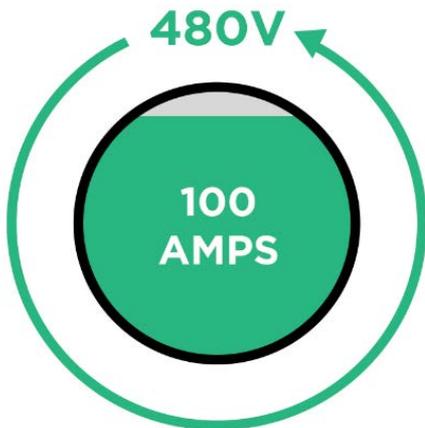
1.4 kW power delivery

Level 2



3.7 - 7.7 kW power delivery

Level 3



Up to 50 kW power delivery



CHAdeMO Standard

- Generally compatible with Asian cars
- Adapter required for Teslas



Combined Charging Standard (CCS)

- Generally compatible with US and European cars
- Does not support Tesla charging

Images: www.pluglesspower.com