

San Joaquin Valley Plug-in Electric Vehicle Coordinating Council

June 10, 2013 MEETING SUMMARY

ATTENDEES:

Central Office Attendees:		
CCSE	City of Visalia	City of Fresno
Tyler Petersen	Betsy McGovern-Garcia	Joseph Oldham
SJVAPCD	SJVAPCD	SJVAPCD
Nhia Vu	Colette Kincaid	Juan Cano

Conference Call Attendees:		
City of Lodi Electric Utility	Turlock Irrigation District	Turlock Irrigation District
Rob Lechner	Chris Poley	Jason Waters

Agenda Notes:

ITEM #1: WELCOME AND INTRODUCTIONS

Nhia Vu, San Joaquin Valley Air Pollution Control District (SJVAPCD), welcomed the group to the fifth San Joaquin Valley Plug-in Electric Vehicle Coordinating Council (SJVPEVCC) meeting. Ms. Vu opened up the meeting for introductions for all attendees on the phone, as well as those at the Fresno, Modesto and Bakersfield District offices. Tyler Petersen, California Center for Sustainable Energy (CCSE), gave introductions via video-teleconference from San Diego.

ITEM #2: ANNOUNCEMENTS AND PUBLIC COMMENTS

There were no announcements or public comments.

ITEM #3: SUMMARY OF MAY 2, 2013 MEETING

Tyler Petersen, California Center for Sustainable Energy (CCSE), stated that there have been no changes made in the presentation from the May 2, 2013 meeting and a copy of the presentation can be found online.

A. Workplace Charging

It was decided that Electric Vehicle Supply Equipment (EVSE) permitting needs an easier application process in which permit fees can be waived in order to spur adoption. The City of Merced has this type of easy application and it was successful. The PEVCC members agreed on its importance.

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B. Updating Building Codes

PEVCC members offered recommendations for building code updates. Members said that the number of dedicated spots required by building codes needs to be more flexible. In the case of energy solutions, the group reviewed the regional perspective for working group comments. One member stated that the Governor's Office of Planning and Research (OPR) will address the issue of energy solutions.

ITEM #4: EVSE 101

Two-way communication with EVSE, which entails knowing the maximum current that a charger can provide and the maximum current a car can receive, has been standardized in the industry with the use of the Society of Automotive Engineers (SAE) J1772 plug.

- Juan Cano, San Joaquin Valley Air Pollution Control District (SJVAPCD), said that every charger he sees has an SAE J1772 plug. Mr. Cano further stated that the two-way communication that happens is clear when looking at Pacific Gas and Electric (PG&E) usage, in which demand is not flat but, rather, based on the demand of the car's battery at that moment in time.
- Betsy McGovern-Garcia, City of Visalia, asked how the data is transmitted to PG&E. She is not sure whether or not Southern California Electric (SCE) can do the same thing. Joseph Oldham, City of Fresno, responded that he does see a charger at his house that does provide feeds to SCE.
- Mr. Petersen asked whether or not any other group member had questions about the EVSE two-way communication process; there were no further questions.
- Mr. Petersen continued to ask group members whether or not there has been a need for more education within the utility, a phone participant answered that there have been no questions from employees, but in terms of public usage, consumers don't need more education because they just plug in and go. He further states that when public charging happens more often, charging stations will need to develop a placard or create better signage.
- Chris Polley, Turlock Irrigation District, added that employees are well-informed and have no questions. The biggest problem to date is funding and whether or not the utility can implement it. So far, there is no pro or con for customers.
- Colette Kincaid, SJVAPCD, stated that public charging is available at the office. There are no issues or questions from employees or board members, nor are there problems or questions from consumers or customers. It seems that people are well-educated about the system because they have read the vehicle manual.
- Mr. Oldham agreed with Ms. Kincaid and stated that EV owners are sophisticated when it comes to learning about the technology. Owners who buy EVs have to dive into the owner's manual and learn the features. Mr. Oldham stated that cars demand education of its owners. The next step will be educating consumers about the advantages of charging infrastructure and cost savings. The more developed it becomes, the convenience of plugging in will be important wherever you go.

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- Mr. Petersen then asked what the specific numbers are in terms of cost savings with charging infrastructure. Mr. Petersen emphasized that cost savings depends on location and on the utility. Cost savings calculators can be found on CCSE's website and the group was encouraged to direct people to the CCSE website and share links to educate consumers. The cost savings calculator is very convenient and effective for getting basic numbers.
- The group decided that the most important factors when discussing EVSE are the following:
 - Typical charging rate differentiation between Level 1, Level 2, and DC Fast Chargers. Specifically, Level 2 chargers are floor mounted and wired through the base. This is more intensive and requires the elimination of concrete to wire through the ground.
 - Wall and poll mounts. These are flexible ways to set-up EVSE because it takes up less space.
 - Ceiling mounts. These types of mounts minimize the hazard of tripping, but needs more space and capacity to mount in the ceiling.
- Mr. Petersen asked which mounting method is most applicable to the region and whether or not more education would increase the usage.
- Mr. Oldham responded that private property owners are interested in all methods of mounting and are interested in its flexibility. Mounting also depends on the property.
- The group decided that the big question is where these chargers will be placed. The style of the equipment is not as important as placing EVSE where they are most needed.
- Mr. Oldham delineated the places where EVSE would be most needed. In terms of retail (such as malls, stores, movie theaters, etc.), it depends on the amount of time a person will be spending in these locations. In places where they are going to spend a lot of time, a consumer needs at least 2 hours of charges to make it worthwhile to even plugin. A Level 2 charger would not be able to give significant charge in a matter of fifteen minutes. Mr. Oldham suggested that Level 2 EVSE could be installed at hospitals where the average length of time for a visit is two to three hours. Further, installing EVSE at hotels and airports is a big opportunity.
- Ms. Kincaid added that the industry and various developers are also quite interested. They have the same concern that EVSE must be used for one or more hours to be worthwhile. Good locations would be shopping centers, places where EV owners go. Ms. Kincaid also notes that putting EVSE at railroads doesn't make sense. They have to be clearly seen so that they do not get vandalized.
- Rob Lechner, City of Lodi Electric Utility, said that the biggest issue for utilities is putting transformers in a place that can accommodate the load. For instance, a city block with multiple chargers could cause some issues. Coordination of charger locations is key; it is important to ensure that transformers do not get overloaded and preparation is key to avoid this potential problem.
- Mr. Petersen stated that if host sites are interested in DC fast charging, corridors are important locations and asks if utilities could accommodate such placements.
- Mr. Lechner replied that as long as there is enough advanced planning in terms of load calculations, utilities can accommodate such a load.
- Mr. Oldham commented that there is an issue with charging. Some cars are programmed not to charge at on-peak hours because it is a disincentive to charge during that time frame. But, these cars

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can also be changed to charge at other times as well. Utilities need to take a bigger role in incentivizing owners to charge during off-peak hours.

- Mr. Lechner commented that the City of Lodi has an EV rate charging tariff. The incentive to charge off-peak is 33 cents per kilowatt hour. If a flat rate were set, it would be about 1-2 dollars per hour.
- The group shared concerns about non-EVs parking in EV-designated parking spots. One group member commented that if that is the case, there are penalties to be faced and a car may be towed.
- Jason Waters, Tulare Irrigation District, commented that non-EVs park in clean air vehicle designated parking spots because the spots are in good locations.
- Ms. Kincaid stated another issue in that an EV stays plug in for days at certain locations rather than charging and moving when the charge is complete in a few hours. Ms. Kincaid proposed that this situation can be enforced by charging EVs for staying plugged-in for longer than needed.
- Mr. Oldham commented that handicap parking experiences similar problems. People have been parking in handicap spaces and EV-designated spots as well.
- Mr. Petersen noted that there is already a sample ordinance in the plan concerning parking and it can be disseminated to the group.
- The group noted that both CHAdeMO (Japanese) and SAE international J1772 plugs allow for faster charging. These two plugs have been approved by Chrysler, Ford, GM, Audi, BMW, and Daimler. A rollout of vehicles with the new DC connectors begins in 2013 starting with the Chevy Spark.

Charging network memberships

The group noted that right now you need an individual charging membership card for each brand of charging stations, each company has a separate card. There is discussion on the state-level for streamlining this system and having a universal card system.

The following are comments and concerns that the group presented:

- Mr. Oldham agreed that to encourage people to charge and use EVs, one card is needed. Mr. Oldham comments that people will not want to go through the process to apply for multiple cards.
- The group commented that swiping cards need to be easy and stations need better signage. Charging stations have to be similar to gas stations, where it is easy to fuel and easy to use.
- Ms. Kincaid agreed that using charge stations needs to be as easy as using a gas station. Normal credit cards should be used.
- Mr. Petersen commented that though one credit card swipe would be easy, charging station companies need to have more control in order to have a network and operate it properly.
- Mr. Oldham commented that some gas stations will accept debit so that an extra fee won't be charged; something similar can happen for charging stations.
- The group agreed that if 1.5 million EVs are going to be on the road, the public must have easy access to charging.

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- Mr. Petersen commented that Ecotality and ChargePoint have a collaborative card that can be used at both stations.

ITEM #5: REGIONAL PEV READINESS PLAN DEVELOPMENT

A. EVSE at Multi-Unit Dwellings (MUDs)

Currently, there is no one specific definition of multi-unit dwelling. It pertains to anything from condos to mobile homes, everything that is not a single family home. Mr. Petersen asked for a working definition of MUDs for the region.

- Mr. Oldham commented that the issue regarding multi-unit dwellings is not how many units it has but the number of parking spots. Mr. Oldham added that EV parking and charging issues vary depending on the structure and set-up of the parking lot. Dedicated and shared lots have their own needs and challenges. Mr. Oldham commented that common parking lots have exposed charging units, which become a target for misuse.
- Ms. McGovern-Garcia commented that it is not worth-while to define multi-unit because each city's building codes already have it defined.
- The group agreed that property managers will need guidance on how to handle issues regarding installing and using EVSE on certain parking spots.
- Mr. Petersen noted the general challenges that are being encountered include wiring, panel upgrades, spots are far away from the power supply, and electricity rates. Mr. Petersen further asked the group how charging should be handled for a multi-unit dwelling parking lot.
- Mr. Lechner responded that having a property manager install a paid for use meter would be an optimal solution.
- Mr. Lechner added that having a charging station in a common area would only experience low loads and non-EV owning residents may not want to help pay for the equipment.
- Ms. McGovern-Garcia commented that the group should explore similarities between solar projects and EV charging installations and compare metering methods and tariffs between EVs and solar.
- Mr. Oldham responded to Ms. McGovern-Garcia says that it all depends on the tariff that is being investigated. It is case-specific and depends on each utility and their rate structures.
- Ms. McGovern-Garcia further responded that rates need to be comparable in regards to tax credits for multi-unit properties because of low income issues of those who generally live in MUDs.

B. EVSE Installation & Inspection Guidelines

- Mr. Petersen presented the group with a slide delineating installation guidelines from the U.S. Department of Energy PEV Handbook.

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- Ms. Kincaid commented that the diagram should incorporate this into the plan and that it should stress to people that contacting the utility is important even with a Level 1 charger for load protection.
- Mr. Oldham commented that the consumers should make the utility perform a rate analysis to show that there is an advantage to being on an EV rate versus a regular rate. Mr. Oldham added that for Level 1, utility notification gives consumers a rate advantage and utility notification is required for Level 2 chargers.
- Mr. Petersen asked if it is better if the owner or local jurisdiction contacts the utility.
- Mr. Lechner responded that the community developer will meet with the permitting department and the contractor at first and it is best to add the utility into that initial conversation. During the set up time the community developer will meet with the permitting department and contractor, it's best to start with the utility as well.
- Mr. Cano commented that the option to choose Level 1 or Level 2 should be added to the initial chart.
- Ms. McGovern-Garcia commented that the city in general is not involved in issues between the customer and utility.
- Mr. Petersen asked if this is the case for non-residential EVSE installations or public installations.
- Ms. McGovern-Garcia responded that the main issue is to find funding and then to find the best way to install. Ms. McGovern-Garcia added that a dual track approach is best, where you permit with the city and go to the utility concurrently.
- Ms. Kincaid commented that the EVSE supplier should be fit into the diagram. It is as important a part as talking to the utility.
- Ms. McGovern-Garcia agreed that EVSE suppliers need to be talked to first because interested parties need to know cost in order to determine how many to install. Ms. McGovern-Garcia added that talking to EVSE providers is the first step before talking to utility and the city.
- Mr. Oldham commented that in terms of project development costs are very important. The first steps should concurrently be finding funding, equipment options, and site assessment. Non-residential installations also have to consider additional costs.
- Mr. Petersen asked what is the most important consideration for non-residential installations in the region.
- Mr. Polley commented that the utility has been able to develop a handbook of best practices for consumers, which were based on questions customers had presented them with and feedback they got from installers and contractors.
- Mr. Petersen noted that this information is available on the CCSE website
- Mr. Petersen asked if fleet managers will follow the same procedure of charging fleet vehicles at night no matter if they are city-owned or privately-owned.
- Mr. Oldham commented that it would start with the EVSE suppliers and utilities to make sure they are on the right rate because electricity supply is more than adequate.

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- Mr. Petersen asked how EV adoption works in agriculture from a regional perspective.
- Mr. Oldham responded that Fed Ex and UPS have growing EV fleets and the fleets are already out in the region, but other delivery trucks are not.
- Ms. Kincaid commented that the state has HVIP funding for electric trucks and buses, but there should be more incentives for vehicles in the valley. Ms. Kincaid further asked how this idea would work with the infrastructure.
- Mr. Oldham commented that the incentives will be an educational issue and that ride and drives can be a useful tool to get the word out.
- Ms. McGovern-Garcia agreed that expanding knowledge would be advantageous and believes that agriculture will need more time to become adopters of EVs, which is why education is important in order to have them be prepared.
- Ms. Kincaid commented that there have been similar programs with electric pumps and that those in agriculture might be open to EVs and EVSE because they are familiar with other technologies that have turned over to electric applications. Ms. Kincaid further added that incentive amounts have to be worthwhile to the owners.
- Mr. Oldham commented that equipment that is being used around the farm needs to be converted. Consumers in agriculture need to be educated about rates. Mr. Oldham added that for large haulers, the technology has to increase tremendously for them to change and adopt EVs, therefore big steps need to be made in technology for them to switch to EVs.
- Ms. Kincaid noted that because of diversity in the region no industry can be left out and fleet discussions in one group cannot be applied to other categories. It would be good to break out the topic of fleets into different groups.
- The group agreed with Ms. Kincaid.
- Mr. Petersen asked if FedEx is based in Fresno and suggested that installers at FedEx should be sought to include information into the plan.
- Mr. Oldham commented that FedEx may not have had many conversations about the topic, but he has contacts in the company and will find someone there to talk about it.
- Ms. McGovern-Garcia commented that for delivery vehicles, adoption of EVs really varies because of variation of travel distance within the valley. Ms. McGovern-Garcia further added that she would like to hear about efforts happening outside of Fresno.
- Ms. Kincaid commented that even on city-level and university-level there is variation of NEVs and ZEVs. EV fleets vary depending on category. Ms. Kincaid added that there needs to be different fleet types – delivery, campuses, others. It is important not to miss any groups and each needs to be described in detail based on different needs and processes.
- Mr. Petersen commented that for the plan, three different categories should be included: agriculture, delivery and medium duty.

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- Mr. Oldham commented that some of these fleets will be interested in DC fast charging because delivery trucks can stay out longer if DC FC is available. Mr. Oldham noted that Ramona's electric bus fleet is an excellent example of quick chargers being used.
- Mr. Petersen confirmed that that example will be incorporated into the plan.