

BOARD MEETING DATE: May 1, 2015

AGENDA NO. 32

PROPOSAL: Adopt Rule 2202 Emission Reduction Quantification Protocol for Electric Vehicle Charging Station Projects

SYNOPSIS: The Los Angeles Department of Water and Power and Southern California Edison submitted an application under Rule 2202(f)(6) to generate emissions credits from the use of electric vehicle charging stations located at non-residential locations. The emissions credits would be used for compliance purposes under Rule 2202. At this time, there is no protocol that can be readily used to approve the application request. Under Rule 2202(f)(6), an emissions reduction quantification protocol must be developed and approved by the SCAQMD prior to approval of the application. Staff developed a quantification protocol that underwent a public process including an environmental review for the SCAQMD Board's consideration.

COMMITTEE: Mobile Source, October 17, 2014 and March 20, 2015, Reviewed

RECOMMENDED ACTIONS:

Adopt the attached resolution:

1. Certifying the Final Environmental Assessment; and
2. Adopting Rule 2202 Emission Reduction Quantification Protocol for Electric Vehicle Charging Station Projects.

Barry R. Wallerstein, D.Env.
Executive Officer

EC:HH

Background

Rule 2202 provides affected employers with a menu of options to reduce mobile source emissions generated from employee commutes. Among the compliance options provided in Rule 2202 is the implementation of an Emission Reduction Strategy (ERS) to meet the employer's emissions reduction target (ERT). Specifically, under Rule 2202(f)(6), any person may receive credit toward an ERT for any emission reduction

strategy that the employer or other person demonstrates to the Executive Officer achieves real, quantifiable, enforceable, and surplus emission reductions for a discrete period of time. The Rule 2202 On-Road Motor Vehicle Mitigation Options Implementation Guidelines (Section II.F) provide that if no applicable emission reduction quantification methodology exists for a project proposed under Rule 2202(f)(6), an emission reduction quantification protocol may be developed and presented to the Mobile Source Committee for review.

On January 14, 2014, the SCAQMD received a proposed quantification protocol for electric vehicle charging stations from the Los Angeles Department of Water and Power (LADWP) and Southern California Edison (SCE). LADWP and SCE requested a Rule 308 Emission Reduction Project Review of the quantification protocol for future use under Rule 2202(f)(6). After staff's review of the proposed protocol submitted by LADWP and SCE, staff indicated to LADWP and SCE that additional provisions must be developed in order for the protocol to be approvable. Staff believes that such projects will help encourage greater deployment of zero-emission and plug-in hybrid electric vehicles.

Since no protocol currently exists for the purpose of generating Rule 2202 credits from electrical vehicle charging station projects for use in compliance with Rule 2202, staff prepared a draft protocol for public review and comment. In addition, the proposed protocol must undergo an environmental review and must be approved by the SCAQMD Board.

Proposal

Staff developed a draft protocol for the generation of Rule 2202 credits from the use of electric vehicle charging stations at public parking lots or workplaces, and the proposed protocol is provided in Attachment B – Rule 2202 Emission Reduction Quantification Protocol for Electric Vehicle Charging Station Projects (Protocol).

The goal of the Protocol is to provide incentives through the generation of Rule 2202 credits to encourage workplace deployment of electric vehicle charging stations. Electric vehicle charging station projects may generate Rule 2202 credits at any location within the jurisdiction of the South Coast Air Quality Management District where charging stations can be installed for use by the general public, or at private parking lots and structures designated for employee parking only. The latter includes any worksite where the employer is subject to Rule 2202, provided that the vehicles accessing the charging stations are not used by that employer to comply with Rule 2202's AVR target.

The Protocol provides consistency in the evaluation, approval, and monitoring of all electric vehicle charging station projects generating emission reductions for the Rule 2202 program. It will also serve as guidance to applicants, charging station owners, and

other companies proposing to implement an electric vehicle charging station project by identifying the monitoring, recordkeeping, and reporting requirements prior to project implementation. Implementation of electric vehicle charging station projects may generate Rule 2202 credits only through an SCAQMD-approved Rule 2202(f)(6) application.

The Protocol's main elements include definitions; application submittal requirements; reduction quantification methods; monitoring and reporting requirements, and other conditions and criteria. The Protocol includes the following provisions: generation of reductions from charge stations may include any entities including Rule 2202 employers; the credits can only be used for Rule 2202 compliance; and the useful life of the credit is one year. If the electric vehicle charging stations were partially funded by CEC, CARB, or SCAQMD (including the MSRC), the credits generated will be discounted based on the amount of public funding received. If a Rule 2202 employer generates credits under the protocol or the project is located at a parking lot or structure where the Rule 2202 employer has an arrangement for employee parking, the Rule 2202 employer cannot take ZEV credits in their AVR target calculation.

The charge stations may be installed in parking lots or structures accessible to the general public or private parking lots or structures designated for employee parking only that are located within the SCAQMD. Eligible charge stations projects include stations installed since January 14, 2014 (the date LADWP and SCE submitted a request to develop an electric vehicle charging station protocol).

The methodology developed to calculate the emission reduction credits generated for electric vehicle charging stations at workplaces includes the activity level in kilowatt-hrs divided by the average fuel economy of all commercially available zero-emission and plug-in hybrid vehicles (for all model years up to the current year) in kilowatt-hrs/mile multiplied by the emission factor from the EMFAC model in lbs per year for an average commute vehicle. This factor is then divided by a constant factor of 8320 to account for annual miles per commute vehicle. Finally, a discount factor of 20 percent is applied to account for the use of an average fuel economy and the emissions associated with the generation of electricity.

Public Process

Staff began the development of the Protocol in mid-2014. In October 2014, staff released a Draft Protocol for public review. A public consultation meeting and CEQA Scoping meeting was held on November 19, 2014. In addition to the comments provided at the public consultation meeting, five written comment letters were received at the close of comments on December 3, 2014. The public comments and responses to comments are provided in the Final Staff Report (Attachment C).

Among the comments received, the three most significant are the proration of credits if public funding was provided for the charging stations; eligibility of existing charging stations to generate Rule 2202 credits; and the monthly reporting requirements.

Relative to the proration of credits concern, staff had originally proposed that no credits be generated from charging stations that have received full or partial funding from CEC, CARB, or SCAQMD (including MSRC). However, after further discussions with LADWP and SCE, staff developed a methodology whereby the credits generated would be discounted based on the amount of public funding received compared to the total cost of the charging station. The proration methodology is reflected in the current Protocol.

Comments were received regarding the eligibility of existing charging stations to generate Rule 2202 credits. Staff had proposed to allow stations deployed one year prior to the Board's approval of the Protocol to be eligible to generate credit. However, recognizing that LADWP and SCE's request to develop a protocol was received on January 14, 2014, staff is now proposing that all charging stations installed on or after January 14, 2014 be eligible to generate Rule 2202 credits.

Lastly, comments were received that the requirement for monthly reporting of electricity consumption is overly burdensome and unnecessary. Staff agreed with the comment and revised the reporting requirements to the period credits are generated. The documentation of how electricity consumption information will be kept must be provided as part of the Rule 2202(f)(6) application.

California Environmental Quality Act (CEQA)

Pursuant to California Environmental Quality Act (CEQA) Guidelines §15252 and SCAQMD Rule 110, a Draft Environmental Assessment (EA) for the Rule 2202 Emissions Reduction Quantification Protocol for Electric Vehicle Charging Station Projects has been prepared. The Draft EA was released for a 30-day public review and comment period beginning on January 27, 2015, and ending on February 25, 2015. Two comment letters were received from the public. One comment letter addressed to CEQA staff did not raise CEQA issues and response to comments has been addressed in the Final Staff Report for the Rule 2202 Emission Reduction Quantification Protocol instead of the EA. Responses have been prepared for the other comment letter, and both that comment letter and responses to those comments have been incorporated into the EA such that it is now a Final EA. (See Attachment D.)

Resource Impacts

The Board's adoption of the Rule 2202 Emission Reduction Quantification Protocol for Electric Vehicle Charging Station Projects will allow entities to generate Rule 2202 credits that will be used by Rule 2202 employers towards compliance with Rule 2202. Since the generation of Rule 2202 credits will be on a voluntary basis, staff believes that there will be minimal resource impacts on the SCAQMD to approve Rule 2202(f)(6) applications and approve Rule 2202 credits generated through electric vehicle charging.

In addition, there will be small administrative costs associated with random inspection of electric vehicle charging station projects. Staff believes that there are sufficient resources to implement the generation of Rule 2202 credits through electric vehicle charging stations.

Recommendation

Staff recommends that the Rule 2202 Emission Reduction Quantification Protocol for Electric Vehicle Charging Station Projects be adopted. The adoption of the Protocol will provide additional incentives for the installation of electric vehicle charging stations at workplaces and further encourage employees to acquire battery-electric vehicles or plug-in hybrid electric vehicles.

Attachments

- A. Resolution
- B. Rule 2202 Emission Reduction Quantification Protocol for Electric Vehicle Charging Station Projects
- C. Final Staff Report on Rule 2202 Emission Reduction Quantification Protocol for Electric Vehicle Charging Station Projects
- D. Final Environmental Assessment

ATTACHEMENT A

RESOLUTION NO. 15-_____

A Resolution of the SCAQMD Governing Board certifying the Final Environmental Assessment for Rule 2202 Emission Reduction Quantification Protocol for Electric Vehicle Charging Station Projects.

A Resolution of the South Coast Air Quality Management District (SCAQMD) Governing Board adopting Rule 2202 Emission Reduction Quantification Protocol for Electric Vehicle Charging Station Projects.

WHEREAS, the SCAQMD Governing Board has determined with certainty that the Rule 2202 Emission Reduction Quantification Protocol for Electric Vehicle Charging Station Projects, is a “project” pursuant to the terms of the California Environmental Quality Act (CEQA); and

WHEREAS, the SCAQMD has had its regulatory program certified pursuant to Public Resources Code Section 21080.5 and has conducted CEQA review and analysis pursuant to such program (Rule 110); and

WHEREAS, SCAQMD staff has prepared a Draft Environmental Assessment (EA) pursuant to its certified regulatory program and pursuant to CEQA Guidelines §15252, setting forth the potential environmental consequences of the Rule 2202 Emission Reduction Quantification Protocol for Electric Vehicle Charging Station Projects; and

WHEREAS, the Draft EA was circulated for 30-day public review and comment period from January 27, 2015 to February 25, 2015; and

WHEREAS, any responses to comments received on the Draft EA are included in the Final EA, and the Draft EA has been revised such that it is now a Final EA; and

WHEREAS, it is necessary that the adequacy of the Final EA, including responses to comments, be determined by the SCAQMD Governing Board prior to its certification; and

WHEREAS, the Final EA reflects the independent judgment of the SCAQMD Governing Board; and

WHEREAS, the SCAQMD is not required to prepare Findings, a Statement of Overriding Considerations, or a Mitigation Monitoring Plan because the

proposed project is not expected to generate significant adverse environmental impacts; and

WHEREAS, the SCAQMD Governing Board voting on the Rule 2202 Emission Reduction Quantification Protocol for Electric Vehicle Charging Station Projects has reviewed and considered the Final EA, including responses to any comments received prior to its certification; and

WHEREAS, the SCAQMD Governing Board finds and determines, taking into consideration the factors in §(d)(4)(D) of the Governing Board Procedures, that the modifications which have been made to the Rule 2202 Emission Reduction Quantification Protocol for Electric Vehicle Charging Station Projects, since notice of public hearing was published do not significantly change the meaning of the proposed project within the meaning of Health and Safety Code §40726 and would not constitute significant new information requiring recirculation of the CEQA document pursuant to CEQA Guidelines §15088.5; and

WHEREAS, implementation of the provisions in Rule 2202(f)(6) requires the use of an existing emission quantification protocol for any projects proposed and no such protocol exists to quantify credits generated from electric vehicles charging; and

WHEREAS, the Rule 2202 On-Road Motor Vehicle Mitigation Options Implementation Guidelines (Section II.F.2.e) provides that a quantification protocol be developed and approved by the Governing Board; and

WHEREAS, generating credits for Rule 2202 compliance purposes using the Rule 2202 Emission Reduction Quantification Protocol for Electric Vehicle Charging Station Projects will help incentivize the installation of electric vehicle charging stations at workplaces and encourage the acquisition of electric and plug-in electric vehicles; and

WHEREAS, the SCAQMD Governing Board has determined that the Rule 2202 Emission Reduction Quantification Protocol for Electric Vehicle Charging Station Projects does not significantly affect air quality or emission limitations and as such, no socioeconomic analysis is required under Health and Safety Code Section 40728.5; and

WHEREAS, the SCAQMD Governing Board has determined that the Rule 2202 Emission Reduction Quantification Protocol for Electric Vehicle Charging Station Projects, does not impose a new emission limit or standard more stringent, or impose new or more stringent monitoring, reporting, or recordkeeping requirements and therefore a comparative analysis pursuant to Health and Safety Code Section 40727.2 is not required; and

WHEREAS, the SCAQMD Governing Board obtains its authority to adopt this Rule 2202 Emission Reduction Quantification Protocol for Electric Vehicle Charging Station Projects pursuant to sections 40000, 40001 and 40440, of the California Health and Safety Code; and

WHEREAS, the SCAQMD Governing Board has determined that a need exists to adopt the Rule 2202 Emission Reduction Quantification Protocol for Electric Vehicle Charging Station Projects in order to increase the effectiveness of the program; and

WHEREAS, the SCAQMD Governing Board has determined that the Rule 2202 Emission Reduction Quantification Protocol for Electric Vehicle Charging Station Projects, as proposed to be adopted, is written or displayed so that its meaning can be easily understood by the persons directly affected by it; and

WHEREAS, the SCAQMD Governing Board has determined that the Rule 2202 Emission Reduction Quantification Protocol for Electric Vehicle Charging Station Projects, as proposed to be adopted, is in harmony with, and not in conflict with or contradictory to, existing federal and state statutes, court decisions, or state and federal regulations; and

WHEREAS, the SCAQMD Governing Board has determined that the Rule 2202 Emission Reduction Quantification Protocol for Electric Vehicle Charging Station Projects, as proposed to be adopted, does not impose the same requirements as any existing state or federal regulation and the Rule 2202 Emission Quantification Protocol for Electric Vehicle Charging Station Projects is necessary and proper to execute the powers and duties granted to, and imposed upon, the SCAQMD; and

WHEREAS, the SCAQMD Governing Board specifies the manager of Rule 2202 Emission Reduction Quantification Protocol for Electric Vehicle Charging Station Projects, as the custodian of the documents or other materials which constitute the record of proceedings upon which the adoption of the Rule 2202 Emission Reduction Quantification Protocol for Electric Vehicle Charging Station Projects is based, which are located at the South Coast Air Quality Management District, 21865 Copley Drive, Diamond Bar, California 91765; and

WHEREAS, a public hearing has been properly noticed in accordance with the provisions of Health and Safety Code Section 40725; and

WHEREAS, the SCAQMD Governing Board has held a public hearing in accordance with all provisions of law; and

WHEREAS, the SCAQMD Governing Board has determined that the Rule 2202 Emission Reduction Quantification Protocol for Electric Vehicle Charging Station Projects, should be adopted for the reasons contained in the Staff Report, and

NOW, THEREFORE, BE IT RESOLVED, that the SCAQMD Governing Board does hereby certify that the Final EA for Rule 2202 Emission Reduction Quantification Protocol for Electric Vehicle Charging Station Projects was completed in compliance with CEQA and Rule 110 provisions; and that the Final EA was presented to the Governing Board, whose members reviewed, considered and approved the information therein prior to acting on the Rule 2202 Emission Reduction Quantification Protocol for Electric Vehicle Charging Station Projects; and

BE IT FURTHER RESOLVED, that because no significant adverse environmental impacts were identified as a result of implementing Rule 2202 Emission Reduction Quantification Protocol for Electric Vehicle Charging Station Projects, Findings, a Statement of Overriding Considerations, and a Mitigation Monitoring Plan are not required; and

BE IT FURTHER RESOLVED, that the SCAQMD Governing Board does hereby adopt, pursuant to the authority granted by law, Rule 2202 Emission Reduction Quantification Protocol for Electric Vehicle Charging Station Projects as set forth in the attached and incorporated herein by reference.

DATE: _____

CLERK OF THE BOARDS

ATTACHMENT B

**RULE 2202 EMISSION REDUCTION QUANTIFICATION PROTOCOL
FOR ELECTRIC VEHICLE CHARGING STATION PROJECTS**

**RULE 2202 EMISSION REDUCTION QUANTIFICATION PROTOCOL FOR
ELECTRIC VEHICLE CHARGING STATION PROJECTS**

(a) Purpose

The purpose of this Protocol is to establish procedures for evaluating, approving, and monitoring eligible electric vehicle charging station projects submitted under the Rule 2202 Air Quality Investment Program (AQIP) solicitation or pursuant to Rule 2202(f)(6).

(b) Applicability

This Protocol applies to persons who voluntarily elect to generate Rule 2202 credits or submit proposals under the Rule 2202 AQIP through the deployment of electric vehicle charging stations at any parking lot or structure located within the jurisdiction of the South Coast Air Quality Management District (SCAQMD) where the charging stations are accessible to the general public or at private parking lots and structures designated for employee parking only.

(c) Definitions

- (1) AVERAGE VEHICLE RIDERSHIP (AVR) means the current number of employees scheduled to report to work during the window for calculating AVR divided by the number of vehicles arriving at the worksite during the same window.
- (2) CONTRACTOR means a person or entity who has an executed contract under a Rule 2202 Air Quality Investment Program (AQIP) solicitation to implement an Electric Vehicle Charging Station Project per the provisions of this Protocol. Contractor also includes a person or entity who contracts with the approved Rule 2202(f)(6) Applicant to implement the Project.
- (3) ELECTRIC VEHICLE CHARGING STATION (EVCS) means a device or station that provides power to charge the batteries of a dedicated battery-electric vehicle (BEV) or a plug-in hybrid electric vehicle (PHEV). These chargers are classified according to output voltage and the rate at which they can charge a battery. Level 1 charging can be done through most wall outlets at 120 volts and 15 amps AC. Level 2 charging is done at less than or equal to 240 volts and 60 amps AC, with a power output of less than or equal to 14.4 kW. Level 3 charging can be done with power output of greater than 14.4 kW.

- (4) EMISSION REDUCTION TARGET (ERT) means the annual VOC, NO_x, and CO emissions required to be reduced based on the number of employees per worksite and the employee emission reduction factor, determined in accordance with the provisions of subdivision (e) of Rule 2202.
 - (5) EMPLOYER means any person(s), firm, business, educational institution, non-profit agency or corporation, government agency, or other entity that employs 250 or more employees. Several subsidiaries or units that occupy the same work site and report to one common governing board or governing entity or that function as one corporate unit are considered to be one employer.
 - (6) REPORTING PERIOD means every six months, but no longer than 12 months. The reporting period may be different based on the Rule 2202 AQIP contract or the SCAQMD approved Rule 2202(f)(6) application, but may not exceed 12 months.
 - (7) RULE 2202(f)(6) APPLICANT means any entity who submits a Rule 2202(f)(6) application to implement an electric vehicle charging station project that meets the provisions of this Protocol.
 - (8) RULE 2202 CREDIT means the emissions reductions associated with the amount of electricity consumption used to charge a ZEV as calculated by the emissions reduction quantification equation provided in this protocol, and is generated under a Rule 2202(f)(6) application and issued by the SCAQMD for the purposes of complying with Rule 2202.
 - (9) WORKSITE means a structure, building, portion of a building, or grouping of buildings that are in actual physical contact or are separated solely by a private or public roadway or other private or public right-of-way, and that are occupied by the same employer. Employers may opt to treat more than one structure, building or grouping of buildings as a single worksite, even if they do not have the above characteristics, if they are located within a 2-mile radius and are in the same Performance Zone as defined in Rule 2202.
 - (10) ZERO-EMISSION VEHICLE (ZEV) means, for the purposes of this Protocol, any vehicle that has an electric range powered by batteries and requires the use of an electric vehicle charging station to replenish the batteries. Examples include battery-electric vehicles (BEV) and plug-in hybrid electric vehicles (PHEV).
- (d) Eligible Projects
- (1) Eligible projects include the installation of new electric vehicle charging stations installed on or after January 14, 2014 at any parking lot or structure located within the jurisdiction of the SCAQMD where the charging stations are accessible to the

general public or at private parking lots and structures designated for employee parking only.

(2) Notwithstanding subparagraph (e)(1), the following types of EVCS installations shall not be eligible to generate Rule 2202 credits:

(A) Electric vehicle charging stations that have received full funding from California Energy Commission, California Air Resources Board, or SCAQMD including the Mobile Source Emissions Reduction Review Committee (MSRC).

(B) For electric vehicle charging stations that have received partial funding from any of the entities listed in subparagraph (d)(2)(A), the prorated portion based on the amount of funding received as a percentage of the total charging station project cost and as provided in the Emission Reduction equation pursuant to subparagraph (f)(2).

(C) Parking lots or structures that are owned by or have an arrangement with a Rule 2202 employer to provide parking to its employees, and the Rule 2202 employer accounts for zero emission vehicles as part of its AVR Adjustment in the Rule 2202 compliance reporting under Appendix A (Average Vehicle Ridership Survey Form and Instructions).

(e) Credit Generator Requirements

Any person who elects to generate Rule 2202 credits under this Protocol shall submit a Rule 2202(f)(6) application pursuant to Section II.F of the Rule 2202 On-Road Motor Vehicle Mitigation Option Implementation Guidelines.

(1) A Rule 2202(f)(6) application must be submitted within 90 days,

(A) From the date of installation of new charging stations installed after *[insert date of approval of this Protocol by the SCAQMD]*; or

(B) From *[insert date of approval of this Protocol by the SCAQMD]* for electric vehicle charging stations installed on or after January 14, 2014 and prior to the date of approval of this Protocol.

(2) The Rule 2202(f)(6) application shall describe how any of the above-qualified electric vehicle charging stations will be monitored separately from any existing unqualified charging stations.

(f) Emission Reduction Quantification

(1) Emission reductions generated shall be based on actual electricity consumption at the electric vehicle charging station(s), which shall be located within the

jurisdiction of the South Coast Air Quality Management District shown in Attachment I of Rule 2202.

- (2) The emission reductions shall be quantified using the following equation.

$$\text{Emissions Reduction} = \left[\frac{AL}{FE} \times EF \times (1 - FD) \right] \div (8320 \times DF)$$

Where:

Emissions Reduction = Emissions reduction of VOC, NO_x, or CO (lbs/yr).

AL = Activity Level is the total electricity usage from all EVCSs identified in the project used to charge zero-emission vehicles (kilowatt-hrs – kWh) during the reporting period

FE = Average combined fuel economy of BEVs and PHEVs for the current and past model years based on BEV and PHEV models provided at the Department of Energy's website(kWh/mile). (Default = 0.34 for Model Years 2013/2014)

EF = Emission Factor for VOC, NO_x, or CO (lbs/year/daily commute/vehicle) as provided in Table 25, ~~Appendix B of the~~ Rule 2202 On-Road Motor Vehicle Mitigation Options ~~Annual Program Compliance Forms~~ Emission Factor Methodology

FD = The ratio of the public funding to total funding of an electric vehicle charging station or a group of electric vehicle charging stations. (Default = 0.0 if no public funding incentives were received from the California Energy Commission, California Air Resources Board, or the SCAQMD including funding from the Mobile Source Air Pollution Reduction Review Committee (MSRC). Value is 1.0, if the electric vehicle charging stations were funded entirely by the California Energy Commission, California Air Resources Board, or the SCAQMD including funding from the MSRC.)

8320 = Conversion factor for **EF** from lbs/year to lbs/mile

DF = Discount Factor for the VOC, NO_x, or CO (lbs/mile)
(Default = 1.20)

- (3) The emission reductions can only be generated during the project life specified in the Rule 2202 AQIP contract or the project life specified in the Rule 2202(f)(6) application approved by the SCAQMD.
 - (4) Any additional emission reductions that are achieved by the project beyond the term of the contract or application approval may be used by the SCAQMD to further incentivize the deployment of zero-emission vehicles.
- (g) Credit Generation, Issuance, Use, and Project Life
- (1) Rule 2202 credits:
 - (A) Shall be generated by an entity, including a Rule 2202 employer, that has a SCAQMD-approved Rule 2202 (f)(6) application to implement an EVCS project;
 - (B) Shall have a useful credit life of one year from the date of issuance of the Rule 2202 credit;
 - (C) Shall only be applied towards compliance as allowed under Rule 2202;
 - (D) May only be used, traded, or sold within the useful credit life for Rule 2202 purposes; and
 - (E) Shall not be transferable for compliance with any other local, state, or federal rules or regulations unless explicitly allowed under such regulations, in which case they may not be used for Rule 2202 compliance.
 - (2) All projects shall be inspected by SCAQMD prior to and following project implementation. Contractor or Rule 2202(f)(6) Applicant shall guarantee SCAQMD access to the site where EVCSs are installed for auditing and/or inspection purposes.
 - (3) Rule 2202 credits will not be issued or emission reductions generated for AQIP purposes will not be approved by the SCAQMD until a post-inspection of the project has been completed by the SCAQMD to verify that the project was implemented as approved. This provision shall be included in the contracts and/or agreements between Contractor or Rule 2202(f)(6) Applicant and all other parties involved in this project.
 - (4) If a Rule 2202 employer obtains Rule 2202 credits under this Protocol through a purchase or trade for such credits, the Rule 2202 employer is not eligible to credit zero emission vehicles as part of their AVR Adjustment in the Rule 2202

compliance reporting under Appendix A (Average Vehicle Ridership Survey Form and Instructions) for the useful life of the Rule 2202 credits.

- (5) If an EVCS project is approved by the SCAQMD under a Rule 2202(f)(6) application or Rule 2202 AQIP contract and the project is located at a Rule 2202 worksite, the Rule 2202 employer is not eligible to switch to crediting zero emission vehicles as part of their AVR Adjustment in the Rule 2202 compliance reporting under Appendix A (Average Vehicle Ridership Survey Form and Instructions) for the duration of the project life specified in the applicable Rule 2202(f)(6) application or Rule 2202 AQIP contract.
- (6) The project life shall be shortened by the District to that period ending on the day upon which the emission reductions associated with the project cannot be used for Rule 2202 compliance or the project is found to be inconsistent with any federal, state or local regulation, or SCAQMD approved guidelines.

(h) **Monitoring, Recordkeeping, and Reporting**

(1) **Monitoring**

(A) Each electric vehicle charging station or each group of electric vehicle charging stations under the project shall monitor the electricity consumed during vehicle charging and the electricity consumed shall be recorded in logs as required under the Recordkeeping Section of this Protocol.

(i) The Contractor or Rule 2202(f)(6) Applicant shall provide documentation as part of the AQIP solicitation (for Rule 2202 AQIP Contractor) or in the Rule 2202(f)(6) application (for Rule 2202(f)(6) Applicant or its Contractor) as to how electricity consumption shall be monitored or that the charging station has a usage meter installed and the usage information is recorded and reported to a central location.

(ii) If a meter cannot be installed on an electric vehicle charging station or on a group of electric vehicle charging stations, the Rule 2202(f)(6) Applicant or Contractor may use an alternative form of reporting electricity usage if the Rule 2202(f)(6) Applicant or Rule 2202 AQIP Contractor, at the time of the Rule 2202(f)(6) application submittal or AQIP contract execution, demonstrates to the satisfaction of the Executive Officer that the alternative form of reporting is equivalent to having a meter or meters installed.

(B) Should the usage meter require repair and/or replacement, a maintenance record shall be prepared and submitted to the SCAQMD with the activity

level data report as provided in the Reporting Section below. The maintenance record shall include: the date of the repair and/or replacement, type of repair and/or replacement, meter reading at time of repair and/or replacement, and date of completion with the new meter reading.

- (C) Emission reductions will be verified and credits will be issued only for electric vehicle charging stations identified in the Rule 2202(f)(6) application. If additional electric vehicle charging stations are added to the previously approved and identified group of electric vehicle charging stations, then a new Rule 2202(f)(6) application shall be submitted for the new electric vehicle charging stations within 90 days from the installation of the new charging stations.
- (2) Recordkeeping
 - (A) Contractor or Rule 2202(f)(6) Applicant shall ensure that the following records are maintained:
 - (i) A log of total electricity consumption(the reporting period for the logged data shall be provided as part of the Rule 2202 AQIP Contract or Rule 2202(f)(6) application);
 - (ii) Records of electricity charges paid to an electric utility or utilities (if appropriate), or equivalent documentation as described in the Rule 2202 AQIP Contract or Rule 2202(f)(6) application;
 - (iii) Rule 2202 credits claimed, and the calculations demonstrating how the emission reductions were determined, and any data not already included in the proposal/application that is used to calculate the emission reductions;
 - (iv) Records of any maintenance or repairs performed; and
 - (v) The data shall be recorded on a non-rewritable, non-volatile storage media, such as a CD or any other storage media such that the data can be readily accessed at the request of the District pursuant to subparagraph (i)(1). The original copy shall be maintained for at least three years after submittal of data for Rule 2202 credit evaluation.
 - (B) Records shall be maintained by the project proponent during the project life and for three (3) years after the termination of the project or contract.

- (3) Reporting
 - (A) Contractors or Rule 2202(f)(6) Applicants shall submit progress reports to the SCAQMD every three months following contract execution or plan approval until project implementation, and then activity level data reports annually thereafter for the life of the project.
 - (B) Applicants generating Rule 2202 credits pursuant to Rule 2202(f)(6) or Rule 2202 AQIP Contractors generating emission reductions under an AQIP contract may submit semi-annual activity level data and credit issuance requests in lieu of annual reporting if requested and approved by SCAQMD at the time of application approval or execution of an AQIP contract.
 - (C) Each activity level data report shall be submitted within 60 days after the end of the reporting period.
 - (D) If the report is not timely submitted, the SCAQMD will not approve the emission reductions for the reporting period.
 - (E) A time extension not exceeding 30 days may be allowed to supplement the activity data report with new information that that was not available during the 60 day period.
 - (F) The SCAQMD shall notify the Applicant within 30 calendar days of receipt of a Rule 2202 credit request and activity level data report as to whether or not the request contains sufficient information to be deemed complete.
 - (G) Within 45 days of submittal of a complete request, SCAQMD will either approve or disapprove the issuance of Rule 2202 credits for the reporting period.
 - (H) Each activity level data report shall, at a minimum, include:
 - (i) A brief description and location and number of electric vehicle charging station(s), only if this information has changed since the original application;
 - (ii) Number of kilowatt-hours consumed at the electric vehicle charging station(s) during the reporting period including all documentation and information necessary to verify the electricity consumption at the electric vehicle charging station(s);
 - (iii) Time period that the report covers;
 - (iv) Actual emission reductions, as calculated by the SCAQMD approved method in this Protocol;

- (v) A brief description of any maintenance or repairs performed during the reporting period; and
 - (vi) All assumptions, calculations, and factors used to determine the activity level and derive the actual emission reductions that are not already included in the proposal/application;
- (i) Auditing and Failure to Implement Rule 2202(f)(6) Application Provisions or AQIP Contract Provisions
 - (1) The records created pursuant to subparagraph (h)(2)(A) shall be made available to SCAQMD upon request for purposes of inspection and verification.
 - (2) If Contractor or Rule 2202(f)(6) Applicant or other parties involved in the project fail to adequately maintain records/logs pursuant to paragraph (h)(2), Rule 2202 credits, or emission reductions generated under an AQIP contract, will not be approved for any period in which the records/logs were not maintained.
 - (3) Failure to produce all requested records to the SCAQMD pursuant to subparagraph (g)(1) within 10 business days of the request may result in loss of Rule 2202 credits, or emission reductions for AQIP purposes, for the time period following the request up until the time that records are produced.
 - (A) Egregious or prolonged delays in submittal of requested records resulting in over 45 days from the date of request of request by the SCAQMD, may result in more severe penalties for violating Rule 2202, including rescinding of unused credits approved for a prior reporting period.
 - (4) Any person submitting a Rule 2202(f)(6) application or under an AQIP contract who falsifies information in the application or fails to implement any provision of the application, shall be subject to penalties specified in law, including, without limitations, those in the Health & Safety Code.
 - (A) The SCAQMD may also take one or more of the following actions:
 - (i) Rescind its approval of the application in whole or in part and void any unused, previously issued Rule 2202 credits or emission reductions for AQIP purposes in whole or in part, and report any falsification of information to the State for appropriate action if the credits are generated under a State program, and/or
 - (ii) Designate the Applicant or Contractor to be ineligible to generate Rule 2202 credits or emissions reductions pursuant to this program or any other District program.

(j) Other Conditions

To the extent that conflicting provisions are contained in an approved District regulation, the provisions of the regulation, and not of these Guidelines, are controlling.

ATTACHMENT C

FINAL STAFF REPORT

**RULE 2202 EMISSION REDUCTION QUANTIFICATION PROTOCOL
FOR ELECTRIC VEHICLE CHARGING STATION PROJECTS**

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

| ~~Draft~~ Final Staff Report

Rule 2202 Emission Reduction Quantification Protocol for Electric Vehicle Charging Station Projects

| ~~October 2014~~ March May 2015

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**APPENDIX A – Rule 2202 Emission Reduction Quantification Protocol for
Electric Vehicle Charging Station Projects**

**APPENDIX B – Combined Electricity Fuel Economies for Battery Electric
Vehicles and Plug-In Hybrid Electric Vehicles (Model Years 2014 and Older)**

Rule 2202 Emission Reduction Quantification Protocol for Electric Vehicle Charging Station Projects

INTRODUCTION

The South Coast Air Quality Management District (SCAQMD or District) is developing a protocol to establish procedures for evaluating, approving, and monitoring eligible electric vehicle charging station projects submitted under the Rule 2202 Air Quality Investment Program (AQIP) solicitation or pursuant to Rule 2202(f)(6) as amended in June 2014 by the SCAQMD Governing Board. The goal of the Protocol is to provide incentives through the generation of Rule 2202 credits to encourage workplace deployment of electric vehicle charging stations. Electric vehicle charging station projects may generate Rule 2202 credits at any location within the jurisdiction of the South Coast Air Quality Management District where charging stations can be installed for use by the general public, or at private parking lots and structures designated for employee parking only. The latter includes any worksite where the employer is subject to Rule 2202, provided that the vehicles accessing the charging stations are not used by that employer to comply with Rule 2202's AVR target.

The Protocol provides consistency in the evaluation, approval, and monitoring of all electric vehicle charging station projects generating emission reductions for the Rule 2202 program. It will also serve as guidance to applicants, charging station owners, and other companies proposing to implement an electric vehicle charging station project by identifying the monitoring, recordkeeping, and reporting requirements prior to project implementation. Implementation of electric vehicle charging station projects may generate Rule 2202 credits only through a SCAQMD-approved Rule 2202(f)(6) application.

If an electric vehicle charging station project is proposed under a Rule 2202 AQIP solicitation, the project shall comply with the provisions of this Protocol. Emission reductions associated with the Rule 2202 AQIP project are used by the SCAQMD to meet Rule 2202 emission targets as specified in Rule 2202. Rule 2202 credits may not be generated under a Rule 2202 AQIP project.

The Rule 2202 On-Road Motor Vehicle Mitigation Options Implementation Guidelines (Section II.F) provide that if no applicable emission reduction quantification methodology exists for a project proposed under Rule 2202(f)(6), an emission reduction quantification protocol may be developed and presented to the Mobile Source Committee for review. On January 14, 2014, the SCAQMD received a proposed quantification protocol for electric vehicle charging stations from the Los Angeles Department of Water and Power (LADWP) and Southern California Edison

(SCE). LADWP and SCE requested a Rule 308 Emission Reduction Project Review of the quantification protocol for future use under Rule 2202(f)(6). After staff's review of the proposed protocol submitted by LADWP and SCE, staff indicated to LADWP and SCE that the additional provisions must be developed in order for the protocol to be approvable. Since no protocol currently exists for the purpose of generating Rule 2202 credits from electrical vehicle charging station projects for use in compliance with Rule 2202, staff has prepared this protocol for public review and comment. The protocol will be considered by the SCAQMD Governing Board after public comments have been received and an environmental assessment has been performed.

The full text of the ~~proposed~~ Protocol is provided in Appendix A.

SUMMARY OF THE ~~DRAFT~~ EMISSION REDUCTION QUANTIFICATION PROTOCOL

The emission reduction quantification equation and the generation and use of credits toward compliance with Rule 2202 are discussed in the following sections. The draft Protocol contains the following elements:

- (A) Purpose
- (B) Applicability
- (C) Definitions
- (D) Eligible Projects
- (E) Credit Generator Requirements
- (F) Emission Reduction Quantification
- (G) Credit Generation, Issuance, Use, and Project Life
- (H) Monitoring, Recordkeeping, and Reporting
- (I) Auditing and Failure to Implement Rule 2202(f)(6) Application Provisions
- (J) Other Conditions

The above elements are summarized below.

Subdivision (a) – Purpose

The purpose of the Protocol is to incentivize the deployment of electric vehicle charging stations at workplaces by establishing procedures for evaluating, approving, and monitoring eligible electric vehicle charging station projects submitted under the Rule 2202 Air Quality Investment Program (AQIP) solicitation or pursuant to Rule 2202(f)(6).

Subdivision (b) – Applicability

The Protocol applies to persons who voluntarily elect to generate Rule 2202 credits through the deployment of electric vehicle charging stations at any parking lot or structure located within the jurisdiction of the South Coast Air Quality Management District where the charging stations are accessible to the general public, or at private parking lots and structures designated for employee parking only.

Subdivision (c) – Definitions

The ~~draft~~ Protocol contains the following definitions.

1. **Average Vehicle Ridership (AVR):** The current number of employees scheduled to report to work during the window for calculating AVR divided by the number of vehicles arriving at the worksite during the same window.
2. **Contractor:** A person or entity who has an executed contract under a Rule 2202 Air Quality Investment Program (AQIP) solicitation to implement an Electric Vehicle Charging Station Project per the provisions of this Protocol. Contractor also includes a person or entity who contracts with the approved Rule 2202(f)(6) Applicant to implement the Project.
3. **Electric Vehicle Charging Station (EVCS):** A device or station that provides power to charge the batteries of a dedicated electric vehicle or a plug-in hybrid electric vehicle. These chargers are classified according to output voltage and the rate at which they can charge a battery. Level 1 charging can be done through most wall outlets at 120 volts and 15 amps AC. Level 2 charging is done at less than or equal to 240 volts and 60 amps AC, with a power output of less than or equal to 14.4 kW. Level 3 charging can be done with power output of greater than 14.4 kW.
4. **Emission Reduction Target (ERT):** The annual VOC, NO_x, and CO emissions required to be reduced based on the number of employees per worksite and the employee emission reduction factor, determined in accordance with the provisions of subdivision (e) of Rule 2202.
5. **Employer:** Any person(s), firm, business, educational institution, non-profit agency or corporation, government agency, or other entity that employs 250 or more employees. Several subsidiaries or units that occupy the same worksite and report to one common governing board or governing entity, or that function as one corporate unit are considered to be one employer.

6. **Reporting Period:** Every six months, but no longer than 12 months. The reporting period may be different based on the Rule 2202 AQIP contract or the SCAQMD approved Rule 2202(f)(6) application. Regardless, the maximum reporting period is 12 months.
7. **Rule 2202(f)(6) Applicant:** Any entity who submits a Rule 2202(f)(6) application to implement an electric vehicle charging station project that meets the provisions of this Protocol.
8. **Rule 2202 Credit:** The emissions reductions resulting from electricity consumption as calculated by the emissions reduction quantification equation provided in this Protocol, and are generated under a Rule 2202(f)(6) application and issued by the SCAQMD for the purposes of complying with Rule 2202.
9. **Worksite:** A structure, building, portion of a building, or grouping of buildings that are in actual physical contact or are separated solely by a private or public roadway or other private or public right-of-way, and that are occupied by the same employer. Employers may opt to treat more than one structure, building or grouping of buildings as a single worksite, even if they do not have the above characteristics, if they are located within a 2-mile radius and are in the same Performance Zone.
10. **Zero-Emission Vehicle (ZEV):** For the purposes of the Protocol, a zero-emission vehicle is any vehicle that has an electric range powered by batteries and requires the use of an electric vehicle charging station to replenish the batteries. Examples include battery-electric vehicles (BEV) and plug-in hybrid electric vehicles (PHEVs).

Subdivision (d) – Eligible Projects

Eligible projects include installation of new electric vehicle charging stations after the approval of the Protocol by the SCAQMD, or installation of electric vehicle charging stations on or after January 14, 2014 (the date the SCAQMD received LADWP's and SCE's request for approval of a protocol). Eligible projects include the installation of electric vehicle charging stations at any parking lot or structure located within the jurisdiction of the SCAQMD where the charging stations are accessible to the general public or at private parking lots and structures designated for employee parking only. Charging stations installed in residential homes or multi-unit dwellings are not eligible projects under this Protocol.

To avoid double-counting of the Rule 2202 credits generated through an SCAQMD-approved EVCS project, this subdivision provides the following conditions as applicable:

- Electric vehicle charging stations that have received full funding from California Energy Commission, California Air Resources Board, or SCAQMD including charging stations that may be funded by the Mobile Source Air Pollution Reduction Review Committee (MSRC), are not eligible for the generation of Rule 2202 credits. Electric vehicle charging stations that received partial funding from one of the entities listed above are eligible to generate credits. However, the Rule 2202(f)(6) Applicant must provide sufficient documentation as part of the Rule 2202(f)(6) application that the charging stations identified for the EVCS project received partial funding from the entities listed above and the amount of funding. For those stations that received partial funding, the credits generated are prorated according to the funding received as provided in the Emissions Reduction equation for credit generation discussed below.
- If the parking lot or structure under the EVCS project is owned by or has an arrangement with a Rule 2202 employer to provide parking to its employees, the Rule 2202 employer cannot account for zero emission vehicles as part of their AVR Adjustment in the Rule 2202 compliance reporting under Appendix A (Average Vehicle Ridership Survey Form and Instructions).

Subdivision (e) – Credit Generator Requirements

This subdivision contains the requirements for an entity to generate Rule 2202 credits. To be eligible to generate Rule 2202 credits, a Rule 2202(f)(6) application must be submitted to the SCAQMD for approval. The application shall include all monitoring, recordkeeping, and reporting requirements and emission reduction calculation methods that are to be used for the proposed project as provided in subdivision (h).

For projects that install electric vehicle charging stations after the date of approval of the Protocol by the SCAQMD Governing Board, a Rule 2202(f)(6) application must be submitted within 90 days from the date of installation of the charging stations.

For projects with electric vehicle charging stations that were installed on or after January 14, 2014 and prior to the date of approval of the Protocol by the SCAQMD Governing Board, a Rule 2202(f)(6) application must be submitted within 90 days from the date of approval of the Protocol by the SCAQMD Governing Board to be eligible to generate Rule 2202 credits.

For projects that install new electric vehicle charging stations at locations with existing charging stations that were installed prior to January 14, 2014, a demonstration must be provided with the application indicating how the new electric vehicle charging stations will be monitored separately from the existing charging stations.

Subdivision (f) - Emission Reduction Quantification

Emission reductions generated would be based on actual electricity consumption at the electric vehicle charging station(s) located within the jurisdiction of the South Coast Air Quality Management District and as provided in Attachment I of Rule 2202.

The quantification of the emission reductions is calculated using the following equation. The equation is provided below.

$$\text{Emissions Reduction} = \left[\frac{AL}{FE} \times EF \times (1 - FD) \right] \div (8320 \times DF)$$

Where:

Emissions Reduction = Emissions reduction of VOC, NOx, or CO (lbs/yr).

AL = Activity Level is the total electricity usage from all EVCSs identified in the project used to charge zero-emission vehicles (kilowatt-hrs – kWh) during the reporting period

FE = Average combined fuel economy of BEVs and PHEVs for the current and past model years based on BEV and PHEV models provided at the Department of Energy's website (kWh/mile). (Default = 0.34 for Model Years 2013/2014)

EF = Emission Factor for VOC, NOx, or CO (lbs/year/daily commute vehicle) as provided in Table 25, [Appendix B of the Rule 2202 On-Road Motor Vehicle Mitigation Options Annual Program Compliance Forms – Emission Factor Methodology](#)

FD = The ratio of the public funding to total funding of an electric vehicle charging station or a group of electric vehicle charging stations. (Default = 0.0 if no public funding incentives were received from the California Energy Commission, California Air Resources Board, or the SCAQMD including funding from the Mobile Source Air Pollution Reduction Review Committee (MSRC). Value is one, if the electric vehicle charging stations were funded entirely by the California Energy

Commission, California Air Resources Board, or the SCAQMD including funding from the MSRC.)

8320 = Conversion factor for **EF** from lbs/year to lbs/mile

DF= Discount Factor for the VOC, NO_x, or CO
(Default = 1.20)

A default average combined fuel economy value is used for **FE**, based on the average combined electricity fuel economies for all BEVs and PHEVs listed on the Department of Energy’s website for the current model year and all previous model years for the reporting period (e.g., if the reporting period is 2014, the average of the fuel economies of BEVs and PHEVs for Model Year 2014 and older would be calculated). The combined electricity fuel economies may be found at www.fueleconomy.gov. Specific combined electricity fuel economies for each vehicle may be used, provided that the specific activity levels for each vehicle are identified and reported. In addition, the methodology for calculating vehicle specific fuel economies shall be provided in the Rule 2202 AQIP contract or in the Rule 2202(f)(6) application. The calculation of the average for Model Year 2014 and 2013 is provided in Appendix B.

The emissions factors for VOC, NO_x, and CO are provided in Table 25, ~~Appendix B of the~~ Rule 2202 On-Road Motor Vehicle Mitigation Options ~~Annual Program Compliance Forms~~ [Emission Factor Methodology](#) and are provided below for reference.

Table 1. VOC, NO_x, and CO Emission factors
(lbs/year per daily commute vehicle)

	VOC	NO_x	CO
2014	3.34	3.43	36.96
2015	3.02	3.07	33.29
2016	2.75	2.77	30.14
2017	2.49	2.50	27.28
2018	2.27	2.27	24.82
2019	2.11	2.09	22.86
2020	2.00	1.95	21.47
2021	1.92	1.85	20.39
2022	1.84	1.76	19.43

2023	1.77	1.68	18.57
2024	1.71	1.61	17.88
2025	1.66	1.56	17.32

A default value of 1.2 is used for the discount factor (*DF*) to account for uncertainties such as those associated with the combined fuel economies of the specific fleet of vehicles charging at the EVCS, potential in-basin powerplant emissions due to the electricity consumption from electric vehicle charging, and to provide additional benefit to the environment.

Emission reductions are subject to verification by the SCAQMD, and an inspection may be conducted at any time by the SCAQMD or an entity designated by the SCAQMD.

The emission reductions can only be generated during the project life specified in the Rule 2202 AQIP contract or the project life specified in the Rule 2202(f)(6) application approved by the SCAQMD.

Any additional emission reductions that are achieved by the project beyond the term of the contract or application approval may be used by the SCAQMD to further incentivize deployment of zero-emission vehicles.

Subdivision (g) - Credit Generation, Issuance, Use, and Project Life

This subdivision contains the requirements for generating Rule 2202 credits, the conditions to be met before credits are issued, the use of the credits, and their project life.

Rule 2202 credits generated from electric vehicle charging station (EVCS) projects must meet the minimum requirements specified in the Protocol. Specifically, Rule 2202 credits generated:

- Shall be generated by an entity, including a Rule 2202 employer, that has a SCAQMD-approved Rule 2202(f)(6) application to implement an EVCS project;
- Shall have a useful credit life of one year from the date of issuance of the Rule 2202 credit;
- Shall only be applied towards compliance as allowed under Rule 2202;
- May only be used, traded, or sold within the useful credit life for Rule 2202 purposes; and
- Shall not be transferable for compliance with any other local, state, or federal rules or regulations unless explicitly allowed under such regulations.

To ensure that the electric vehicle charging stations identified in the Rule 2202 AQIP contract or Rule 2202(f)(6) application are properly installed, all projects will be inspected by the SCAQMD prior to and following project implementation. In addition, the Contractor or Rule 2202(f)(6) Applicant must grant access to the site where EVCSs are installed for auditing and/or inspection purposes.

Rule 2202 credits or emissions reductions generated under a Rule 2202 AQIP contract will not be issued by the SCAQMD until a post-inspection of the project has been completed by the SCAQMD to verify the project was implemented as approved. This provision shall be included in the contracts and/or agreements between the Contractor or Rule 2202(f)(6) Applicant and all other parties involved in this project.

If a Rule 2202 employer obtains Rule 2202 credits under the Protocol through their own EVCS program or a purchase or trade for such credits, the Rule 2202 employer is not eligible to credit zero emission vehicles as part of their AVR Adjustment in the Rule 2202 compliance reporting under Appendix A (Average Vehicle Ridership Survey Form and Instructions) for the useful life of the Rule 2202 credits.

If an EVCS project is approved by the SCAQMD under a Rule 2202(f)(6) application or Rule 2202 AQIP contract and the project is located at a Rule 2202 worksite, the Rule 2202 employer is not eligible to switch to crediting zero emission vehicles as part of their AVR Adjustment in the Rule 2202 compliance reporting under Appendix A (Average Vehicle Ridership Survey Form and Instructions) for the duration of the project life specified in the applicable Rule 2202(f)(6) application or Rule 2202 AQIP contract.

Lastly, the project life will be shortened by the District to that period ending on the day upon which the emission reductions associated with the project cannot be used for Rule 2202 compliance or the project is found to be inconsistent with any federal, state or local regulation, or SCAQMD approved guidelines.

Subdivision (h) – Monitoring, Recordkeeping, and Reporting

An EVCS project approved under Rule 2202 AQIP or Rule 2202(f)(6) must achieve real, quantifiable, enforceable, and surplus emission reductions consistent with the compliance provisions pursuant to Rule 2202 and implement the provisions provided in Rule 2202(f) [namely to use credits issued pursuant to one or more of the emission reduction options listed in Rule 2202(f) to meet the Emission Reduction Target (ERT)]. The term “surplus” referenced in this document and the protocol, is used only for Rule 2202 compliance and is not intended for use outside of the scope of Rule 2202 compliance (i.e., credits used in other SCAQMD rules or purposes to meet State Implementation Plan (SIP) obligations unless these credits are allowed under those rules). The Contractor or Rule 2202(f)(6) Applicant will need to keep records to ensure that the Rule 2202 credits are appropriately generated and used accordingly.

The project would need to adhere to the following monitoring, recordkeeping, and reporting requirements:

Monitoring

The Contractor or Rule 2202(f)(6) Applicant must provide documentation as part of the AQIP solicitation (for Rule 2202 AQIP Contractor) or Rule 2206(f)(6) application (for Applicant or its Contractor) on how electricity consumption during vehicle charging will be monitored and recorded for reporting purposes. If the electric vehicle charging stations do not have dedicated electricity consumption (e.g., Level 1 charging), then a dedicated, non-resettable, totalizing electric meter capable of measuring electricity usage must be installed for each electric vehicle charging station or each group of electric vehicle charging stations under the project. The electricity consumed must be recorded as required under the Recordkeeping Section of the Protocol. The Contractor or Rule 2202(f)(6) Applicant may provide documentation as part of the AQIP solicitation (for Rule 2202 AQIP Contractor) or in the Rule 2202(f)(6) application (for Applicant or its Contractor) that the charging station has a usage meter installed and the usage information is recorded and reported to a central location.

If the electric meter requires repair and/or replacement, a maintenance record must be prepared and submitted to the SCAQMD with the activity level data report as provided in the Reporting Section. The maintenance record shall include: the date of the repair and/or replacement, type of repair and/or replacement, meter reading at time of repair and/or replacement, and date of completion with the new meter reading.

Emission reductions will be verified and credits will be issued only for electric vehicle charging stations identified in the Rule 2202(f)(6) application. If additional electric vehicle charging stations are added to the previously approved and identified group of electric vehicle charging stations, then a new Rule 2202(f)(6) application must be submitted for the new electric vehicle charging stations within 90 days from the installation of the new charging stations.

Recordkeeping

The Contractor or Rule 2202(f)(6) Applicant must ensure that the following records are maintained:

- A log of total electricity consumption (the reporting period for the logged data shall be provided as part of the Rule 2202 AQIP Contract or Rule 2202(f)(6) application);
- Records of electricity charges paid to an electric utility or utilities (if appropriate), or equivalent documentation as described in the Rule 2202 AQIP Contract or Rule 2202(f)(6) application;

- Rule 2202 credits claimed (or emission reductions generated for a Rule 2202 AQIP project), and the calculations demonstrating how the emission reductions were determined, and any data not already included in the proposal/application that is used to calculate the emission reductions;
- Records of any maintenance or repairs performed; and
- The data shall be recorded on a non-rewritable, non-volatile storage media, such as a CD or any other storage media such that the data can be readily accessed at the request of the District pursuant to subparagraph (i)(1). The original shall be maintained for at least three years after submittal of data for Rule 2202 credit evaluation.

Records shall be maintained by the project proponent during the project life and for three years after the termination of the contract.

Reporting

To ensure timely implementation of an EVCS project, the Contractor or Rule 2202(f)(6) Applicant are required to submit progress reports to the SCAQMD every three months following contract execution or plan approval until project implementation, and then activity level data reports annually thereafter for the life of the project.

Applicants generating Rule 2202 credits pursuant to Rule 2202(f)(6) may submit semi-annual activity level data and credit issuance requests in lieu of annual reporting if requested and approved by SCAQMD at the time of application approval. Each activity level data report must be submitted within 60 days after the end of the reporting period to ensure credit issuance is closely tied to EVCS activity and the ability for SCAQMD staff to inspect/verify current records of activity. A time extension not exceeding 30 days may be allowed to supplement the activity data report with new information that that was not available during the 60 day period. If the report is not timely submitted, the SCAQMD will not approve the emission reductions for the reporting period.

The SCAQMD will notify the Applicant within 30 calendar days of receipt of a Rule 2202 credit request and activity level data report as to whether or not the request contains sufficient information to be deemed complete. Upon receipt of any resubmittal or additional information after the request has been deemed incomplete, a new 30-day period will begin. Within 45 days of submittal of a complete request, SCAQMD will either approve or disapprove the issuance of Rule 2202 credits for the reporting period.

Each activity level data report would, at a minimum, include:

- A brief description and location and number of electric vehicle charging station(s), only if this information has changed since the original application;
- Number of kilowatt-hours consumed at the electric vehicle charging station(s) during the reporting period including all documentation and information necessary to verify the electricity consumption at the electric vehicle charging station(s);
- Time period that the report covers;
- Actual emission reductions, as calculated by the SCAQMD approved method;
- A brief description of any maintenance or repairs performed during the reporting period; and
- All assumptions, calculations, and factors used to determine the activity level and to derive the actual emission reductions that are not already included in the proposal/application;

**Subdivision (i) – Auditing and Failure to Implement Rule 2202(f)(6)
Application Provisions or AQIP Contract Provisions**

To ensure that Rule 2202 credits are properly generated and used, or AQIP emission reductions are generated, the SCAQMD may request that records created under subdivision (h) be inspected upon request by the SCAQMD.

If the Contractor or Rule 2202(f)(6) Applicant fails to adequately maintain records/logs, Rule 2202 credits or emission reductions will not be approved for any period in which the records/logs were not maintained.

To ensure that the inspection and auditing process proceed in a timely manner, if the requested records are not provided within ten business days of the request, loss of Rule 2202 credits or emission reductions may result for the time period following the request up until the time that records are produced. In addition, egregious or prolonged delays (greater than 45 days) in submittal of requested records may result in more severe penalties including rescinding of unused credits approved for a prior reporting period.

Lastly, any Rule 2202(f)(6) Applicant or Contractor who falsifies information in the application or fails to implement any provision of the application, will be subject to penalties specified in law, including, without limitations, those in the Health & Safety Code. The SCAQMD may also take one or more of the following actions: 1) rescind its approval of the application in whole or in part and void any unused, previously issued Rule 2202 credits in whole or in part, and report any falsification of information to the State for appropriate action if the credits are generated under a State program, and/or 2) designate the Applicant to be ineligible to generate Rule

2202 credits or emission reductions pursuant to this program or any other District program.

Subdivision (j) – Other Conditions

This subdivision contains other conditions that are not covered by the previous subdivision. At this time there is only one other condition provided in this subdivision. As of the date of this report, there are no District regulations regarding the generation of credits through deployment of electric vehicle charging stations. However, should such a regulation be adopted by the District Governing Board, and to the extent that conflicting provisions are contained in the approved District regulation, the provisions of the regulation, and not of the Protocol, would be controlling.

CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)

Pursuant to California Environmental Quality Act (CEQA) Guidelines §15252 and AQMD Rule 110, a Draft Environmental Assessment (EA) for the Rule 2202 Emissions Reduction Quantification Protocol for Electric Vehicle Charging Station Projects, has been prepared. The Draft EA was released for a 30-day public review and comment period beginning on January 27, 2015, and ending on February 25, 2015. Two comment letters were received from the public. One comment letter addressed to CEQA staff did not raise CEQA issues and response to comments has been addressed in the Final Staff Report for the Rule 2202 Emission Reduction Quantification Protocol instead of the EA. Responses have been prepared for the other comment letter, and both that comment letter and responses to those comments have been incorporated into the EA such that it is now a Final EA.

PUBLIC COMMENTS

Comments and Responses

A public consultation meeting was held on November 19, 2014. Representatives from Los Angeles Department of Water and Power (LADWP), Southern California Edison (SCE), and the general public attended the meeting and provided comments to SCAQMD staff on the proposed quantification protocol. Additionally, written comments were submitted subsequent to the public consultation meeting from LADWP, a public agency, a private consultant, and a non-profit organization. The comments are summarized below:

Comment 1: Concerns were raised regarding the provision which does not allow charging stations to be eligible for credit generation if the station was fully or partially funded by the California Energy Commission, the California Air Resources Board, SCAQMD, and the Mobile Source Air Pollution Reduction Review Committee.

- Response 1: Staff has revised the provision to allow for the proration of the total credits generated if the electric vehicle charging stations receive partial private funding. The formula for the credits generated from the use of the electric vehicle station now includes a multiplication factor which prorates the total credits according to the amount of private funding compared to the total funding for the station.
- Comment 2. The provision that limits eligible electric vehicle charging stations installed within one year from the date of protocol approval should be revised to allow electric vehicle charging stations installed since 2009 to generate Rule 2202 credits for use in Rule 2202 compliance since there were discussions in previous workshops concerning credit generation for electric vehicle charging stations.
- Response 2. Since the development of the quantification protocol is to incentivize greater deployment of charging stations in the workplace, placing emphasis on existing installation would not be effective for this purpose. In addition, many of the electric vehicle charging stations installed earlier than the one year timeframe were being done to either incentivize employees to purchase zero-emission vehicles, which may have been credited in prior year Rule 2202 compliance or were installed through public incentives funding. As such, staff limited the eligibility of existing charging stations to the one year period, which at the time coincided with the date a request was made to develop the quantification protocol. Staff has revised the one year period to reflect the date of receipt of the request (January 14, 2014) given the timing of when the protocol will be before the SCAQMD Governing Board for approval.
- Comment 3. Rather than require recordkeeping on a monthly basis, the recordkeeping requirements should be consistent throughout the protocol and should allow monitoring and recording of usage on an annual or semi-annual basis.
- Response 3. To avoid overly burdensome reporting requirements, the draft protocol has been revised to no longer require a monthly log of total electricity consumption be kept and provided as part of the reporting requirements. However, the applicant must provide a description of the records that will be kept by the applicant for the purpose of generating credit and reporting every three-months as required in subparagraph (h)(3)(A).

Comment 4. In most cases, electric vehicle charging stations do not have utility meters dedicated for billing. The metering requirements should be modified accordingly.

Response 4. The requirement to log electricity consumption from a dedicated, non-resettable electricity meter(s) has been removed. However, if a meter cannot be installed on an electric vehicle charging station or on a group of charging stations, an alternative equivalent form of reporting electricity usage may be proposed as part of the Rule 2202 AQIP Contract or Rule 2202 (f)(6) application, subject to SCAQMD approval.

Comment 5. The media used to record electricity consumption data should not be restricted to non-rewritable, non-volatile media, such as a compact disk.

Response 5. The protocol has been revised to address the concern and allows any other storage media such that the data can be readily accessed at the request of SCAQMD.

Comment 6. The formula to translate kWh/year to VOC, NO_x and CO should be revised, and the values of EF, the emission factors for VOC, NO_x and CO (lbs./year), should be reevaluated. Rather than using emission factors from EMFAC based upon the average fleet vehicle within the SCAQMD jurisdiction, the emission factors for the proposed protocol should be set based upon a weighted average emissions of model years for the electric vehicle fleet within the SCAQMD jurisdiction as compared to the emissions from like model years of non-electric vehicles.

Response 6. The emission factors used in the protocol quantification methodology are the same emission factors used for overall Rule 2202 compliance, which are based on in-use fleet average emissions according to the latest official version of EMFAC (EMFAC2011 – CARB’s official emission factor model), for consistency with the emission quantification procedures in Rule 2202, as well as the established expectation that commute vehicle emissions on average are adequately represented by EMFAC in-use fleet average emissions.

Comment 7. The formula to translate kWh/year to VOC, NO_x and CO should be revised with regard to the factor that converts the emission factor from lbs/year to lbs/mile (8320). Currently the formula assigns all

kWh/year from electric charging stations to commute miles only, roughly half of the average California passenger vehicle mileage for a year. The underlying assumption is that the electric vehicle owner who has access to an electric vehicle charging station at work, only uses the battery charge for their daily commute to/from work and not for any other mileage. Since most employers do not charge employees for using an electric charging station and charging at home is not free, most electric vehicle owners that take advantage of charging at their work location and incentivized to charge at work over charging at home. In order meet the goals of surplus and real, the conservative approach should be taken and the conversion factor should include the average yearly miles for both commuting and personal trips.

Response 7. It is irrelevant whether the vehicle owner's motivation is to charge the vehicle for commute or personal purposes. The factor that converts lbs/year to lbs/mile is based on Rule 2202 emission quantification procedures found in the Rule 2202 - On-Road Motor Vehicle Mitigation Options Implementation Guidelines. The factor is based on 260 commute days per year and 32 total commute miles per vehicle per day (2 trips per day X 16 miles per trip). Since the primary objective of the protocol is to encourage greater deployment of electric vehicle charging stations at worksites, the conversion factor is based on the average commute trip of 16 miles per trip, which may be shorter or longer on an individual basis. The electricity consumed during the charging of the vehicle would account for either commute or personal trips since the last time the vehicle was charged. ~~As such, it is irrelevant whether the vehicle owner's motivation is to charge the vehicle for commute or personal purposes.~~

Comment 8. Based upon the Draft Staff Report, the formula to translate kWh/yr to VOC, NOx and CO utilizes a "discount factor to account for uncertainties such as those associated with: (1) combined fuel economies of the specific fleet of vehicles charging at the electric vehicle recharging station; (2) potential miles driven for non-commute purposes; (3) potential in-basin power plant emissions due to additional electricity needs; and (4) generation of additional benefit to the environment. Is this the complete set of factors that are incorporated into the discount factor? Can the SCAQMD please provide a range of expected contribution for the listed factors and any other factors that may be included in this discount factor?

Response 8. The four factors were the only factors that staff believes should be considered when the draft Protocol was released in October 2014. Staff has not received any comments providing any additional factors. The four factors are discussed further in the following sections.

Appendix B of the staff report has been revised to include the fuel economies of model year 2015 vehicles and the average fuel economy is 0.34 kWh/mi. The standard deviation is also provided in Appendix B. With a standard deviation of 0.06, the percent uncertainty is around 17.6% and represents a portion of the 1.2 factor. The 17.6% value represents a broad range of battery-electric and plug-in hybrid vehicle models that are commercially available for sale. In addition, there is a broad range of fuel economy factors as shown in Appendix B. Based on national sales information [see Inside EVs (<http://insideevs.com/cumulative-us-plug-electric-vehicle-sales-model-model-breakdown-market-share-data-december-2014/>)] , there are a smaller number of vehicle models actually operating on the road with the Nissan Leaf being the greatest number. Taking the population weighted average kWh/mi of the vehicles actually operating on the road, the average fuel economy is around 0.33 kWh/mi. As such, the standard deviation provided in Appendix B represents an upper limit and the 17.6% value is a conservative estimate for discounting purposes.

In the October 2014 release of the draft protocol, staff indicated that electric vehicle charging of vehicles that are used for non-commute purposes would be discounted. However, Rule 2202 (f)(6) allows for projects related to non-work trips. As such, reference to non-work trips has been removed from the staff report.

The other portion of the discount factor relates to the in-basin powerplant emissions associated with electric vehicle charging. Based on average powerplant emissions per kWh generated and the average kWh/mi associated with electric vehicles, one can estimate the amount of emissions associated with the charging of an electric vehicle. SCE has an estimate of the NO_x, VOC, and CO emissions per MWh of 0.3115, 0.128, and 0.0388 lbs, respectively. Based on this number, an average fuel economy of 0.34 kWh/mi, and average annual miles of 12,600 from the EMFAC model, staff estimated the NO_x emissions from a SCE powerplant is around 2.05 lbs/year/vehicle. The average VOC, NO_x, and CO emissions from a gasoline-powered vehicle are 40.36, 31.32, and 374.78 lbs/year. The percent of total vehicle

emissions associated with electric vehicle charging is around 0.0374 [2.05/(40.36+31.32+374.78)] or 3.74%. This percent accounts for a portion of the discount factor of 1.2.

To the extent that the uncertainties in calculating an average fuel economy compared to actual mix of zero-emission vehicle are less than the 17.6% discussed above and powerplant emissions continue to decrease, staff recommends that the discount factor remains at 1.2 to provide assurance that the credits generated may have other uncertainties not identified at this time and provide some environmental benefit ~~in that the credits are not overly relied upon for Rule 2202 compliance since electric vehicle charging projects purpose is to encourage greater deployment of zero-emission vehicles and by themselves do not reduce emissions if the uncertainties are reduced.~~

Comment 9. As designed, the protocol for electric vehicle charging stations provides a strong economic incentive and opportunity to cheat. With this in mind, the recordkeeping requirements for this protocol, as well as the penalties for inaccurate or false reporting under this protocol, should be more stringent and provide a greater penalty than other protocols currently in affect. The ability for an organization to circumvent the intended result is easy and readily available if the primary recordkeeping requirement is only to measure and report the electricity running through the electric charging station.

Response 9. The protocol contains provisions covering all applicable aspects of monitoring, recordkeeping and reporting, to be documented as part of the Rule 2202(f)(6) application or the AQIP solicitation. These include the use of appropriate electrical usage meters, repair and maintenance of usage meters, credits issued only for electric vehicle recharging stations as identified in the application, quarterly/semi-annual progress reports, and auditing requirements (see subdivision (h) of the protocol). In addition, any person that falsifies information in an application or fails to implement any provision of an application will be subject to stringent penalties as allowed under law including those in the California Health & Safety Code.

Comment 10. The protocol does not account for inefficiencies of electric vehicle recharging stations, batteries, electric motor, and leakage issues associated with electric vehicles.

Response 10. The vehicle's performance efficiency is accounted in the fuel economy reported by the vehicle manufacturer (see Appendix B) and a discount factor is applied to account for the variation in fuel economies from vehicle to vehicle (see Response 8). There is no need to account for the inefficiencies since the actual amount of electricity use to charge the vehicle accounts for the inefficiencies. Over time the actual fuel economy may vary from the reported fuel economy. As an example, over time the batteries may not retain the ability to hold a complete charge. As such, the batteries must be recharged more often resulting in an increase in the average fuel economy. The discount factor accounts for this variation in the fuel economy.

Comment 11. In "AMPING UP CALIFORNIA WORKPLACES: 20 CASE STUDIES ON PLUG-IN ELECTRIC VEHICLE CHARGING AT WORK" the LADWP case study states the following: "The typical installation cost was \$4,000 per charging station. However, grant funding has brought down the total cost per station to \$2,000. Funding comes from the utility's operating budget and grants. Charging is free for employees and visitors since LADWP's motivations are to benefit employees and visitors and to encourage PEV adoption. DWP allows non-employee charging at their charging stations. As a case study for the proposed protocol, how would the protocol be applied to this case study?"

Response 11. With regard to the basic parameters of this case study, the grant funding would be addressed by the "FD" term in the emission reduction equation (see paragraph (f)(2) of the protocol) reflecting the partial private funding. In the example provided, the credits generated will be discounted by 0.5 (\$2,000/\$4,000) or 50% since the total cost of \$4,000 is brought down to \$2,000. The use of electricity dispensed by the recharging station(s) for non-employee electric vehicle recharging to generate credits as well as free recharging to employees are allowed under the protocol.

Comment 12. Has the SCAQMD developed a yearly cumulative projection of the number of current and new electric charging stations and/or kWhr/year that will be qualified under this protocol?

Response 12. Since this protocol is voluntary and use of the protocol depends on a number of factors, cumulative projections of the number current and new electric charging stations and/or kWhr/year that will be qualified under this protocol cannot be specifically quantified at this time. Any

projections will be speculative at this time and may not represent what will actually occur. However, such information would be available with the monitoring and recordkeeping provisions of the protocol. Staff will be monitoring the overall efficacy of the program.

Comment 13. Has the SCAQMD developed a yearly cumulative projection of the number of VOC, NOx and CO MSERCs that will be qualified and generated under this new protocol for use in Rule 2202?

Response 13. Since this protocol is voluntary, and use of the protocol depends on a number of factors outside the control of SCAQMD, cumulative projections of the number of VOC, NOx and CO credits that will be qualified and generated under this new protocol for use in Rule 2202 cannot be specifically quantified at this time. Staff will provide reports on the program as it is implemented. See Response to Comment #12.

Comment 14. Will the SCAQMD and Transportation Programs develop an estimate of the probability and associated timing to predict when VOC, NOx and CO credits generated from this protocol will saturate the Rule 2202 marketplace and reduce emission costs for employers who chose the ERS compliance option? This effort is advisable as this will affect funding of other emission reduction projects generating credits utilized for Rule 2202 compliance and incentivize employers to switch from ECRP/AQIP strategies to ERS strategies.

Response 14. The Commentor is referred to Response (13). Rule 2202 provides flexibility to affected employers to comply with the average vehicle ridership targets through a choice of several equivalency options. The rule does not favor one option over another option and the affected employers will choose the option that is most cost-effective to comply with the rule. Staff will be monitoring the use of credits for compliance with Rule 2202 and will assess the program along with other strategies being used by affected Rule 2202 employers as part of the annual progress report to the SCAQMD Governing Board.

Comment 15. At the Public Consultation and CEQA Scoping Meeting on November 19, 2014, the SCAQMD, under the Proposed Protocol Purpose heading, set a goal that the emission reductions under this protocol should be real, quantifiable, surplus and enforceable. However, the protocol will qualify electric vehicle charging stations installed one year prior to protocol approval by SCAQMD and include electric

vehicles that were purchased several years ago. Please explain how credits from prior installations and currently used vehicles are surplus and additional under this protocol.

- Response 15. The credits generated under the protocol must be “real, quantifiable, enforceable, and surplus” **only** for the purposes of Rule 2202 compliance as allowed in Rule 2202(f). They do not apply towards the region’s attainment or any other program or regulation unless those programs or regulations allow for such use. There are provisions in the protocol that ensure a Rule 2202 affected employer does not take credit for dedicated electric vehicles via the ECRP option while using the Rule 2202 credits for compliance purposes.

Rule 2202 is currently being evaluated by the U.S. EPA for approval into the State Implementation Plan. As part of the discussions with U.S. EPA, staff indicated that emission reduction benefits of the rule should be taken retrospectively rather than meeting prospective emission reduction commitments given the voluntary nature of the emission reduction strategies option of Rule 2202. This will provide an addition level of evaluation to ensure that emissions benefits from Rule 2202 are “surplus”.

The “real, quantifiable, and enforceable” conditions are ensured through the provisions provided in the Protocol, which include the emissions reduction calculation methodology and the monitoring and reporting requirements.

- Comment 16. The projected emissions savings from the alternative use of electric vehicles relies upon the availability of electricity -- generation, distribution and dispensing -- as well as innovative technologies for electric batteries and electric vehicles, and is dependent upon adoption rates. However, the protocol proposed to grant emission credits to the owner of the electric charging station only. Is this appropriate? Are electric utility companies, battery manufacturer’s and electric vehicle manufacturer’s informing stakeholder’s for the development of this protocol? How will the SCAQMD decide between this protocol’s emission reductions and past, current or future emission reduction crediting for other portions of the value chain?

- Response 16. The protocol’s purpose is to incentivize greater deployment of electric vehicle charging stations at the workplace and in turn, increase the adoption rates for zero-emission vehicles. The credits generated can

only be used by Rule 2202 employers. As such, the credits have no value to battery and electric vehicle manufacturers if they are not subject to Rule 2202. As part of the outreach on Rule 2202 implementation, staff will inform Rule 2202 employers on the opportunities to either generate credits through electric vehicle charging station projects or acquiring credits to comply with Rule 2202 from such projects.

Since the purpose of the Protocol is to help encourage greater use of the zero-emission vehicles, the deployment of electric vehicle charging stations in themselves do not have emission reductions, but rather the use of the zero-emission vehicles compared to conventionally fueled vehicles. Those reductions are accounted by CARB in the Advanced Clean Car regulations. Within the scope of Rule 2202, the use of zero-emission vehicles reduce the emissions associated with vehicle miles traveled (VMT). There is a provision in the federal Clean Air Act that calls for a demonstration that emissions associated with increases in VMT be reduced.

Comment 17. How will the SCAQMD avoid double counting of VOC, NO_x, and CO emission credits associated with this protocol? Is this a requirement? For example, the CA ZEV credits are quantified based upon GHG calculations that include the VOC, NO_x and CO emissions from passenger vehicles of the same model year. Are the CARB ZEV credits not “real” credits? Are the emission reduction credits generated under this protocol from vehicles that already exist and electric charging stations that already exist or are already funded and planned real and surplus?

Response 17. See Response to Comments 15 and 16. The credits are not “double-counted” to other programs such as CARB’s Advanced Clean Car Regulation since the universe of credit users are different (i.e., CA ZEV credits can only be used among automobile manufacturers and the Rule 2202 credits only for Rule 2202 employers). . The credits cannot be used to meet other program or rule compliance unless allowed for use by those programs or regulations. In addition, there are provisions in the draft protocol to ensure that the credits are not “double-counted” by an affected Rule 2202 employer for rule compliance purposes. Relative to the question regarding existing charging stations and existing vehicles, the credits generated under the draft protocol are from zero-emission vehicles charging at existing

charging station sites installed on or after January 14, 2014 and new sites.

Comment 18. The emissions reductions quantification, based upon the Federal EPA, understates the emission reductions from PHEVs within the region.

Response 18. The emission credit calculation is based on the assumption that the electricity consumption with the charging of the vehicle will be used for a commute trip and the vehicle miles travelled associated with the trip for Rule 2202 purposes only. As such, these emission reductions are a subset of the total emission reductions associated with PHEVs operated within the region.

Comment 19. The protocol should allow credit for subsidized recharging.

Response 19. The ~~draft~~-Protocol does not distinguish between chargings that are subsidized and those that are not subsidized, since either satisfies Rule 2202 purposes. As such, credit generation is allowed. The emission credit calculation only takes into account the actual amount of electricity consumed to charge the vehicle when connected to a charging station that has been identified as part of the project.

Comment 20. Replacement electric vehicle charging stations that reflect next generation technology should be eligible to generate credit under the protocol.

Response 20. The protocol does not distinguish between replacements of existing stations with newer electric vehicle charging stations that are identified as part of the charging station project. As such, replacement charging stations would be eligible to generate credits.

Comment 21. More PHEVs are needed and PHEVs with greater electricity storage.

Response 21. SCAQMD staff appreciates the comment that more plug-in hybrid vehicles are needed. Over time, as technological advances are made to the battery storage capacity, we expect to see greater number of plug-in hybrid and dedicated battery-electric vehicles with longer range between charges. More PHEV's require more charging stations.

Comment 22. There will be significant changes to the electrical grid regarding use of renewable energy sources such as solar, as well as electricity storage

and bidirectional flow relative to electric vehicles becoming our rolling energy storage.

Response 22. The SCAQMD staff appreciates the comments on use of renewable energy sources.

Comment 23. The protocol should look at the big picture relative to electric vehicle charging stations supporting all vehicle trips, not just home-to-work-commute related trips.

Response 23. As discussed in Response to Comment 7, the electric vehicle charging station does not distinguish what type of trip was made, only on the amount of electricity consumed to recharge the vehicle's batteries. Since part of the trip is the distance from the vehicle owner's home to the worksite charging station, the electricity used for the commute portion is covered. Any additional electricity consumption to fully charge the vehicle would cover any prior commute trips and personal trips.

Comment 24. On September 9, 2011, the AQMD Board adopted its Air Quality Related Energy Policy. This policy includes the promotion of zero and near-zero technologies in both stationary and mobile applications to meet air quality, energy security and climate change objectives. Additionally, the AQMD Board adopted a policy to promote electricity storage technology to improve supply reliability, availability, and increased generation technology choices. The proposed protocol provides a means for quantifying the credits for EV infrastructure for workplace charging at covered sites.

Response 24. The SCAQMD staff appreciates the comments provided. The SCAQMD is making every effort to promote deployment of zero-emission technologies to the greatest extent feasible.

REFERENCES

South Coast Air Quality Management District (2014). Rule 2202 – On-Road Motor Vehicle Mitigation Options. June 6, 2014.

South Coast Air Quality Management District (2014). Rule 2202 – On Road Motor Vehicle Mitigation Options Annual Program Compliance Forms. July 2014.

South Coast Air Quality Management District. Rule 2202 – On-Road Motor Vehicle Mitigation Options Implementation Guidelines. June 6, 2014.

APPENDIX A

DRAFT

**RULE 2202 EMISSION REDUCTION QUANTIFICATION PROTOCOL
FOR ELECTRIC VEHICLE CHARGING STATION PROJECTS**

**THE ~~DRAFT~~ PROTOCOL IS PROVIDED IN AN EARLIER PART OF THE
BOARD PACKAGE AND WILL BE INSERTED HERE UPON ADOPTION
BY THE SCAQMD GOVERNING BOARD**

Appendix B

Combined Electricity Fuel Economies for Battery Electric Vehicles and Plug-In Hybrid Electric Vehicles (Model Years [2014-2015](#) and Older)

Model Year	Make and Model	Combined Fuel Economy (kWh/mi)
Battery Electric Vehicles		
2015	BMW I3 BEV	0.27
2015	Chevrolet Spark EV	0.28
2015	Fiat 500e	0.29
2015	Ford Focus Electric FWD	0.32
2015	Kia Soul Electric	0.32
2015	Mercedes B-Class Electric Drive	0.40
2015	Mercedes Smart Fortwo Electric Drive Convertible	0.32
2015	Mercedes Smart Fortwo Electric Drive Coupe	0.32
2015	Nissan Leaf	0.30
2015	Tesla Model S (85 kW battery pack)	0.38
2015	Tesla Model S (60 kW-hr battery pack)	0.35
2015	Tesla Model S AWD - P85D	0.36
2015	Tesla Model S AWD - 85D	0.34
2015	Volkswagen e-Golf	0.29
2014	BMW I3 BEV	0.27
2014	BYD e6	0.54
2014	Chevrolet Spark EV	0.28
2014	Fiat 500e	0.29
2014	Ford Focus Electric FWD	0.32
2014	Honda Fit EV	0.29
2014	Mercedes B-Class Electric Drive	0.40
2014	Mercedes Smart Fortwo Electric Drive Convertible	0.32
2014	Mercedes Smart Fortwo Electric Drive Coupe	0.32
2014	Mitsubishi i-MiEV	0.30
2014	Nissan Leaf	0.30
2014	Tesla Model S (85 kW-hr battery pack)	0.38
2014	Tesla Model S (60 kW-hr battery pack)	0.35
2014	Tesla Model S AWD (85 kW-hr battery pack)	0.38
2014	Toyota RAV4	0.44

Model Year	Make and Model	Combined Fuel Economy (kWh/mi)
2013	Coda	0.46
2013	Fiat 500e	0.29
2013	Ford Focus FWD BEV	0.32
2013	Honda Fit EV	0.29
2013	Mercedes Smart Fortwo Electric Drive Convertible	0.32
2013	Mercedes Smart Fortwo Electric Drive Coupe	0.32
2013	Mitsubishi i-MiEV	0.30
2013	Nissan Leaf	0.29
2013	Tesla Model S (85 kW-hr battery pack)	0.38
2013	Tesla Model S (60 kW-hr battery pack)	0.35
2013	Tesla Model S (40 kW-hr battery pack)	0.36
2013	Toyota Scion iQ EV	0.28
2013	Toyota RAV4 EV	0.44
2012	Tesla Model S	0.38
2012	Nissan Leaf	0.34
2013	Ford Focus FWD BEV	0.32
2012	Coda	0.46
2012	Mitsubishi i-MiEV	0.30
2012	Toyota RAV4 EV	0.44
2012	Nissan Leaf	0.34
2011	BMW 1 Series Active E	0.33
2011	Smart Fortwo Electric Drive Coupe	0.43
2011	Smart Fortwo Electric Drive Cabriolet	0.43

Plug-In Hybrid Electric Vehicles

2014	BMW I3 REX (PHEV)	0.29
2014	BMW I8 (PHEV)	0.43
2014	Cadillac ELR	0.41
2014	Chevrolet Volt	0.35
2014	Ford C-MAX Energi Plug-in Hybrid FWD	0.37
2014	Ford Fusion Energi Plug-in Hybrid FWD	0.37
2014	Honda Accord Plug-In Hybrid	0.29
2014	Toyota Prius Plug-In Hybrid	0.29

Model Year	Make and Model	Combined Fuel Economy (kWh/mi)
2013	Chevrolet Volt	0.35
2013	Ford C-MAX PHEV FWD	0.37
2013	Ford Fusion PHEV FWD	0.37
2013	Prius Plug-In Hybrid	0.29
2012	Chevrolet Volt	0.36
2012	Prius Plug-In Hybrid	0.29
2011	Chevrolet Volt	0.36

Average 0.34
 Standard Dev. 0.06

*From the U.S. Department of Energy’s Database: www.fueleconomy.gov

ATTACHMENT D

FINAL ENVIRONMENTAL ASSESSMENT

**RULE 2202 EMISSION REDUCTION QUANTIFICATION PROTOCOL
FOR ELECTRIC VEHICLE CHARGING STATION PROJECTS**

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

Final Environmental Assessment:

Rule 2202 Emission Reduction Quantification Protocol for Electric Vehicle Charging Station Projects

May 2015

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APPENDIX C – DECEMBER 2013 SOUTHERN CALIFORNIA EDISON / LADWP APPLICATION LETTER

APPENDIX D – COMMENT LETTER RECEIVED AND RESPONSES TO COMMENTS

PREFACE

This document constitutes the Final Environmental Assessment (EA) for the Rule 2202 Emission Reduction Quantification Protocol for Electric Vehicle Charging Station Projects. The Draft EA was released for a 30-day public review and comment period from January 27, 2015 to February 25, 2015. One comment letter was received from the public relative to the Draft EA, and responses to the comments are provided in Appendix D. The environmental analysis in the Draft EA concluded that the Rule 2202 Emission Reduction Quantification Protocol for Electric Vehicle Charging Station Projects would not generate any significant adverse environmental impacts.

Minor modifications were made to the proposed amendments subsequent to release of the Draft EA for public review. To facilitate identifying modifications to the document, added and/or modified text is underlined. Staff has reviewed these minor modifications and concluded that they do not make any impacts substantially worse or change any conclusions reached in the Draft EA. As a result, these minor revisions do not require recirculation of the document pursuant to CEQA Guidelines §15088.5. Therefore, this document now constitutes the Final EA for the Rule 2202 Emission Reduction Quantification Protocol for Electric Vehicle Charging Station Projects.

CHAPTER 1 - PROJECT DESCRIPTION

Introduction

Affected Facilities

California Environmental Quality Act

Project Location

Project Objective

Project Background

Technology Overview

Project Description

INTRODUCTION

The California Legislature created the South Coast Air Quality Management District (SCAQMD) in 1977¹ as the agency responsible for developing and enforcing air pollution control rules and regulations in the South Coast Air Basin (Basin) and portions of the Salton Sea Air Basin and Mojave Desert Air Basin referred to herein as the District. By statute, the SCAQMD is required to adopt an air quality management plan (AQMP) demonstrating compliance with all federal and state ambient air quality standards for the District². Furthermore, the SCAQMD must adopt rules and regulations that carry out the AQMP³. The Final 2012 AQMP concluded that reductions in emissions of particulate matter (PM), oxides of sulfur (SOx), oxides of nitrogen (NOx), and volatile organic compounds (VOC) are necessary to attain the current state and national ambient air quality standards for ozone, and particulate matter with an aerodynamic diameter of 2.5 microns or less (PM2.5). Ozone, a criteria pollutant which has been shown to adversely affect human health, is formed when VOCs react with NOx in the atmosphere. VOCs, NOx, SOx (especially sulfur dioxide) and ammonia also contribute to the formation of PM10 and PM2.5.

The Basin is designated by the United States Environmental Protection Agency (EPA) as a non-attainment area for ozone and PM2.5 emissions because the federal ozone standard and the 2006 PM2.5 standard have been exceeded. For this reason, the SCAQMD is required to evaluate all feasible control measures in order to reduce direct ozone and PM2.5 emissions, including PM2.5 precursors, such as NOx and SOx. The Final 2012 AQMP sets forth a comprehensive program for the Basin to comply with the federal 24-hour PM2.5 air quality standard, satisfy the planning requirements of the federal Clean Air Act, and provide an update to the Basin's commitments towards meeting the federal 8-hour ozone standard. In particular, the Final 2012 AQMP contains a multi-pollutant control strategy to achieve attainment with the federal 24-hour PM2.5 air quality standard with direct PM2.5 and NOx reductions identified as the two most effective tools in reaching attainment with the PM2.5 standard. The 2012 AQMP also serves to satisfy the recent requirements promulgated by the EPA for a new attainment demonstration of the revoked 1-hour ozone standard, as well as to provide additional measures to partially fulfill long-term reduction obligations under the 2007 8-hour Ozone State Implementation Plan (SIP).

The 2012 AQMP contains several control measures (eg. ONRD-01, Accelerated Penetration of Partial Zero-Emission and Zero Emission Vehicles; and ONRD-03, Accelerated Penetration of Partial Zero-Emission and Zero Emission Medium-Heavy-Duty Vehicles) that would provide an incentive for the early retirement of older mobile sources and replace them with zero emission electric vehicle technologies.

The purpose of Rule 2202 is to provide employers with a menu of options to reduce mobile source emissions generated from employee commutes, to comply with federal and state Clean Air Act requirements, Health & Safety Code Section 40458, and Section 182(d)(1)(B) of the federal Clean Air Act. An employer subject to Rule 2202 is required to annually register with the SCAQMD to implement an emission reduction program that will obtain emission reductions

¹ The Lewis-Presley Air Quality Management Act, 1976 Cal. Stats., ch 324 (codified at Health and Safety Code, §§40400-40540).

² Health and Safety Code, §40460 (a).

³ Health and Safety Code, §40440 (a).

equivalent to a worksite specific emission reduction target (ERT) specified for the compliance year.

The SCAQMD is developing a new Protocol (see Appendix A) to establish procedures for evaluating, approving and monitoring future electric vehicle charging station projects submitted under the Rule 2202 Air Quality Investment Program (AQIP) solicitation or pursuant to Rule 2202(f)(6), Rule 2202 was most recently amended in June 2014 by the SCAQMD Governing Board. The goal of the Protocol is to provide incentives through the generation of Rule 2202 credits to incentivize the workplace deployment of electric vehicle charging stations. Electric vehicle charging station projects may generate Rule 2202 credits at any location within the jurisdiction of the SCAQMD where charging stations can be installed for use by the general public or private parking lots and structures accessible only to employees. This includes any worksite where the employer is subject to Rule 2202, provided that the vehicles accessing the charging stations are not currently used by that employer to comply with Rule 2202's Average Vehicle Ridership (AVR) target.

AFFECTED FACILITIES

To incentivize the deployment of electric vehicle charging stations at workplaces, the Protocol applies to persons who voluntarily elect to generate Rule 2202 credits through the deployment of electric vehicle charging stations at any parking lot or structure located within the jurisdiction of the SCAQMD where the charging stations are accessible to the general public, or at private parking lots and structures designated for employee parking only.

CALIFORNIA ENVIRONMENTAL QUALITY ACT

The Rule 2202 Emission Reduction Quantification Protocol for Electric Vehicle Charging Station Projects is a discretionary action by a public agency, which has potential for resulting in direct or indirect changes to the environment and, therefore, is considered a "project" as defined by the California Environmental Quality Act (CEQA). SCAQMD is the lead agency for the proposed project and has prepared this final environmental assessment (EA) with no significant adverse impacts pursuant to its Certified Regulatory Program and SCAQMD Rule 110. California Public Resources Code §21080.5 allows public agencies with regulatory programs to prepare a plan or other written document in lieu of an environmental impact report or negative declaration once the Secretary of the Resources Agency has certified the regulatory program. SCAQMD's regulatory program was certified by the Secretary of the Resources Agency on March 1, 1989, and is codified as SCAQMD Rule 110.

CEQA and Rule 110 require that potential adverse environmental impacts of proposed projects be evaluated and that feasible methods to reduce or avoid significant adverse environmental impacts of these projects be identified. To fulfill the purpose and intent of CEQA, the SCAQMD has prepared this final EA to address the potential adverse environmental impacts associated with the proposed project. The final EA is a public disclosure document intended to: (a) provide the lead agency, responsible agencies, decision makers and the general public with information on the environmental effects of the proposed project; and, (b) be used as a tool by decision makers to facilitate decision making on the proposed project.

SCAQMD's review of the proposed project shows that the proposed project would not have a significant adverse effect on the environment. Therefore, pursuant to CEQA Guidelines §15252

and 15126.6(f), no alternatives are proposed to avoid or reduce any significant effects because there are no significant adverse impacts, and pursuant to CEQA Guidelines §15126.4(a)(3), mitigation measures are not required for effects not found to be significant. The analysis in the form of the environmental checklist in Chapter 2 supports the conclusion of no significant adverse environmental impacts.

Comments received on the final EA during the public comment period and responses to comments are included as Appendix D.

PROJECT LOCATION

The potentially affected facilities are located throughout the SCAQMD jurisdiction. The SCAQMD has jurisdiction over an area of approximately 10,743 square miles, consisting of the four-county South Coast Air Basin (Basin) (Orange County and the non-desert portions of Los Angeles, Riverside and San Bernardino counties), and the Riverside County portions of the Salton Sea Air Basin (SSAB) and Mojave Desert Air Basin (MDAB). The Basin, which is a subarea of the SCAQMD’s jurisdiction, is bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto mountains to the north and east. It includes all of Orange County and the nondesert portions of Los Angeles, Riverside, and San Bernardino counties. The Riverside County portion of the SSAB is bounded by the San Jacinto Mountains in the west and spans eastward up to the Palo Verde Valley. The federal nonattainment area (known as the Coachella Valley Planning Area) is a subregion of Riverside County and the SSAB that is bounded by the San Jacinto Mountains to the west and the eastern boundary of the Coachella Valley to the east (Figure 1-1).



Figure 1-1
Boundaries of the South Coast Air Quality Management District

PROJECT OBJECTIVE

The objectives of the Rule 2202 Emission Reduction Quantification Protocol for Electric Vehicle Charging Station Projects are to:

- incentivize the deployment of electric vehicle charging stations at workplaces;
- establish procedures for and provide consistency in the evaluation, approval and monitoring of future electric vehicle charging station projects generating emission reductions submitted under the Rule 2202 AQIP solicitation or pursuant to Rule 2202(f)(6);
- provide guidance to applicants, charging station owners, and other companies proposing to implement an electric vehicle charging station project for Rule 2202 credit by identifying the monitoring, recordkeeping, and reporting requirements prior to project implementation.

PROJECT BACKGROUND

Originally adopted in December 1995, Rule 2202 provides employers with a menu of options to reduce mobile source emissions generated from employee commutes. Through Rule 2202 (f)(6), any person may receive credit toward an emission reduction credit for any emission reduction strategy that the employer or other person demonstrates to the Executive Officer achieves real, quantifiable, enforceable, and surplus emission reductions for a discrete period of time. Another option for employers to comply with Rule 2202 is to participate in the Air Quality Investment Program (AQIP) in which monies collected by SCAQMD from Rule 2202 employers are used to purchase emission reductions from alternative emission reduction strategies.

The Rule 2202 On-Road Motor Vehicle Mitigation Options Implementation Guidelines (Section II.F) provide that if no applicable emission reduction quantification methodology exists for a project proposed under Rule 2202(f)(6), an emission reduction quantification protocol may be developed and presented to the Mobile Source Committee for review. SCAQMD received an application from Southern California Edison (SCE) and the Los Angeles Department of Water and Power (LADWP) to generate Rule 2202 credits from the installation and operation of electric vehicle charging stations, and the proposed Protocol (see Appendix A) has been developed in response to the application. The application letter from SCE and LADWP is provided in Appendix C.

There is a need for a SCAQMD-approved emission reduction quantification Protocol for electric vehicle charging station projects since no protocol currently exists for the purpose of generating Rule 2202 credits from electrical vehicle charging station projects for use in Rule 2202.

TECHNOLOGY OVERVIEW

Because electrical service is widely available throughout the SCAQMD jurisdiction, the widespread development of electric vehicle (EV) charging stations is technically feasible. As provided in the *Installation Guide for Electric Vehicle Supply Equipment (EVSE)*, prepared by the Massachusetts Department of Energy Resources, the following section provides a brief overview of the technology associated with the various types and tiers of EV charging equipment that could be installed in the jurisdiction and qualify for use under the proposed Protocol.

Vehicle Charging Components

Power is delivered to the EV's onboard battery through the *EV inlet* to the onboard *charger*. This charger converts Alternating Current (AC) from the home or site to the Direct Current (DC) required to charge the battery in the vehicle. The onboard charger and EV inlet are considered part of the EV.

A *connector* is a device that, by insertion into an EV inlet, establishes an electrical connection to the EV for the purpose of information exchange and charging. The EV inlet and connector together are referred to as the *coupler*. The EVSE consists of the connector, cord, and interface to utility power. The interface between the EVSE and utility power will be directly "hardwired" to a control device or a plug and receptacle.

During the 1990's, there was no consensus on EV inlet and connector design. Both conductive and inductive types of couplers were designed and in both cases, different designs of each type were provided by automakers. At the present time, however, the Society of Automotive Engineers (SAE) has agreed that all vehicles produced by automakers in the United States will provide an inlet that conforms to a single, specific connector, known as the *J1772 Standard*.



J1772 Coupler

The J1772 Standard EV coupler is designed for 10,000 connections and disconnections with exposure to dust, salt, and water; is able to withstand a vehicle driving over it; and is corrosion resistant. The J1772 Standard and National Electrical Code (NEC) requirements create multiple safety layers for EV components, including:

The EV coupler -

- is engineered to prevent inadvertent disconnection;
- has a grounded pole that is the first to make contact and the last to break contact;
- has an interlock device that prevents vehicle startup while connected;
- is unique to EV charging and cannot be used for other purposes.

The EV inlet -

- is de-energized until it is attached to the EVSE;
- will de-energize prior to removal of the connector.



Charging Station Levels

In 1991, the Infrastructure Working Council (IWC) was formed by the Electric Power Research Institute (EPRI) to establish consensus on several aspects of EV charging. Charging levels were defined by the IWC, along with the corresponding functionality requirements and safety systems. EPRI published a document in 1994 that describes the consensus items of the IWC⁴. **Note:** For Levels 1 and 2, the conversion of the utility AC power to the DC power required for battery charging occurs in the vehicle's on-board charger. In DC Fast Charging, the conversion from AC to DC power typically occurs off-board, so that DC power is delivered directly to the vehicle.

The build out of charging infrastructure with diverse levels of charging will be necessary to the efficient promotion the widespread adoption of EVs. The levels of charging are:

Level 1 – 120 volt AC: The Level 1 method uses a standard 120 volts AC (VAC) branch circuit, which is the lowest common voltage level found in both residential and commercial buildings. Typical voltage ratings can be from 110 – 120 volts AC. Typical amp ratings for these receptacles are 15 or 20 amps. A 15 amp charge takes twice as long as a 20 amp outlet.

EV suppliers provide a Level 1 Cord Set (120 VAC, 15 or 20 amps) with the vehicle. The Cord Set uses a standard 3-prong plug (NEMA 5-15P/20P) with a charge current interrupting device (CCID) located in the power supply cable within 12 inches of the plug. The vehicle connector at the other end of the cord will be the design identified in the J1772 Standard. This connector mates properly with the vehicle inlet, also approved by J1772.

Because charge times can be very long at Level 1, many EV owners will be more interested in Level 2 charging at home and in publicly available locations. Some EV manufacturers suggest their Level 1 Cord Set should be used only during unusual circumstances when Level 2 EVSE is not available, such as when parked overnight at a non-owner's home.

Several companies provide kits to convert ICE and hybrid vehicles to plug-in vehicles. Many of these conversions use a standard 3-prong electrical plug and outlet to provide Level 1 charging to their vehicles. With the standardization of EVs on the J1772 Standard and the higher level of

safety afforded by a J1772-compliant charging station, existing vehicles will need to be retrofitted to accommodate a J1772 inlet in order to take advantage of the deployment of EVSE infrastructure.

Level 2 – 240 volt AC: Level 2 is typically described as the “primary” and “standard” method for the EVSE for both private and publicly available facilities. This method specifies a single-phase branch circuit with typical voltage ratings from 220 – 240 volts AC. The J1772-approved connector allows current as high as 80 amps AC (100 amp rated circuit). However, current levels that high are rare, and a more typical rating would be 40 amps AC, which allows a maximum current of 32 amps. This provides approximately 7.7 kW with a 240 VAC circuit.

The higher voltage of Level 2 allows a much faster battery charge. Because of the higher voltage, Level 2 has a higher level of safety requirements than Level 1 under the NEC, including the requirement that the connector and cord be hardwired to the control device and premise’s wiring.



DC Fast Charging (Level 3): This type of charging connection can raise the rate of charge to approximately 75% to 80% in as little as 20 to 30 minutes, depending on battery size. This type of EVSE uses an off-board charger that transforms AC power to DC and bypasses the on-board charger. Generally, 208V three-phase or 480V service is required for this type of charging and may not be commonly available. In many cases, a new separate service will need to be installed by the local utility.

Power Source Proximity

One of the major cost variables of an EVSE installation is the immediate proximity of adequate power. A site assessment looks at the available space within the power panel. Dedicated circuits are required. In general, the closer the power source is to the potential site, the less expensive the installation will be.

Software Requirements

Basic EVSE

Different models of EVSE have different levels of networking capabilities. Basic models, sometimes called “dumb chargers,” communicate only with the vehicle as the “handshake” begins the charging session and ends when the vehicle’s charger completes the session or the charge is interrupted by the EVSE or uncoupling.

Smart EVSE

Smart EVSE are offered in Levels 1, 2, and Fast Chargers (Level 3). Commercial duty qualities are generally more expensive than basic chargers. They offer differing levels of communication with the user, site host, utility grid, and the Internet, depending on model and manufacturer. They also offer the option of collecting fees for the charging session and a high level of reporting capabilities.

Depending on model and manufacturer, smart chargers offer a high degree of information for the user, often by computer or smart phone. Commonly available features are: verification of the user by means of a radio-frequency identification (RFID) card, point of sale using credit cards, display of fee rates, rate of charging, cell phone or email notification of a completed session, plug-out notification, internet location of EVSE with rates, in-use status, and reservation capabilities. Reporting capabilities commonly include: date, location, electricity used for each charging session, monthly reports, and fee totals. The site host can also communicate with smart EVSE to establish rates, determine usage, verify user identity, trouble shoot errors, and gather kWh consumption data.

Depending on the business model being used by the manufacturer, smart EVSE usually involve on-going monthly or annual fees for the user, site host, or both.

Charging Station / System Providers

A variety of manufacturers currently sell and distribute EV charging stations and components throughout the District. Below is a brief description of several of the most prominent EV charging station providers:

- **Blink** - Blink provides commercial EV charging stations for public, commercial, and fleet installations. Two popular Blink products for EV charging in the commercial sector include the Blink Pedestal and Blink Wall Mount EV charging stations.
- **ChargePoint** – ChargePoint’s charging network contains over 20,300 charging stations worldwide. ChargePoint’s commercial charging stations provide the ability to manage charging operations through an advanced cloud service, monitor charging activity, and track energy usage.
- **NRG eVgo** – NRG eVgo’s goal is to create a comprehensive EV ecosystem. They provide commercial applications which include installation and servicing of charging stations at commercial and retail properties, as well as a wide variety of network charging plans.

- **ClipperCreek** – ClipperCreek is a leading manufacturer of EVSE's (Electric Vehicle Supply Equipment). ClipperCreek offers a wide variety of charging stations for use in many different settings.

PROJECT DESCRIPTION

The SCAQMD is developing a new Protocol to establish procedures for evaluating, approving and monitoring future electric vehicle charging station projects submitted under the Rule 2202 AQIP solicitation or pursuant to Rule 2202(f)(6). The goal of the Protocol is to provide incentives through the generation of Rule 2202 credits to incentivize the workplace deployment of electric vehicle charging stations. Electric vehicle charging station projects may generate Rule 2202 credits at any location within the jurisdiction of the SCAQMD where charging stations can be installed for use by the general public or private parking lots and structures accessible only to employees. This includes any worksite where the employer is subject to Rule 2202, provided that the vehicles accessing the charging stations are not used by that employer to comply with Rule 2202's AVR target.

Eligible projects include installation of new electric vehicle charging stations after the approval of the Protocol by the SCAQMD or installation of electric vehicle charging stations within one year prior to the approval of the Protocol by the SCAQMD. Charging stations installed in residential homes or multi-unit dwellings are not eligible projects under the current draft Protocol.

To be eligible to generate Rule 2202 credits, a Rule 2202(f)(6) application must be submitted to the Executive Officer for approval. The application shall include all monitoring, recordkeeping, and reporting requirements and emission reduction calculation methods that are to be used for the proposed project as provided in subdivision (h) of the proposed Protocol. A detailed copy of the proposed Rule 2202 Emission Reduction Quantification Protocol for Electric Vehicle Charging Station Projects is included in Appendix A. This Protocol merely provides an additional alternative control strategy for compliance with Rule 2202 and does not change any of the existing requirements under Rule 2202.

CHAPTER 2 - ENVIRONMENTAL CHECKLIST

Introduction

General Information

Environmental Factors Potentially Affected

Determination

Environmental Checklist and Discussion

INTRODUCTION

The environmental checklist provides a standard evaluation tool to identify a project's potential adverse environmental impacts. This checklist identifies and evaluates potential adverse environmental impacts that may be created by the proposed project.

GENERAL INFORMATION

Project Title:	Rule 2202 Emission Reduction Quantification Protocol for Electric Vehicle Charging Station Projects
Lead Agency Name:	South Coast Air Quality Management District
Lead Agency Address:	21865 Copley Drive Diamond Bar, CA 91765
CEQA Contact Person:	Mr. Jeff Inabinet (909) 396-2453
Protocol Contact Person:	Ms. Lori Berard (909) 396-2436
Project Sponsor's Name:	South Coast Air Quality Management District
Project Sponsor's Address:	21865 Copley Drive Diamond Bar, CA 91765
General Plan Designation:	Not applicable
Zoning:	Not applicable
Description of Project:	The SCAQMD is developing a new Protocol to establish procedures for evaluating, approving and monitoring future electric vehicle charging station projects submitted under the Rule 2202 AQIP solicitation or pursuant to Rule 2202(f)(6) as amended in June 2014 by the SCAQMD Governing Board. The goal of the proposed Protocol is to provide incentives for the deployment of workplace electric vehicle charging stations through the generation of Rule 2202 credits. Electric vehicle charging station projects may generate Rule 2202 credits at any location within the jurisdiction of the SCAQMD where charging stations can be installed for use by the general public or private parking lots and structures accessible only to employees. This includes any worksite where the employer is subject to Rule 2202, provided that the vehicles accessing the charging stations are not used by that employer to comply with Rule 2202's Average Vehicle Ridership (AVR) target.
Surrounding Land Uses and Setting:	Not applicable
Other Public Agencies Whose Approval is Required:	Not applicable

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The following environmental impact areas have been assessed to determine their potential to be affected by the proposed project. As indicated by the checklist on the following pages, environmental topics marked with a "✓" may be adversely affected by the proposed project. An explanation relative to the determination of impacts can be found following the checklist for each area.

- | | | |
|--|--|---|
| <input type="checkbox"/> Aesthetics | <input type="checkbox"/> Geology and Soils | <input type="checkbox"/> Population and Housing |
| <input type="checkbox"/> Agriculture and Forestry Resources | <input type="checkbox"/> Hazards and Hazardous Materials | <input type="checkbox"/> Public Services |
| <input checked="" type="checkbox"/> Air Quality and Greenhouse Gas Emissions | <input type="checkbox"/> Hydrology and Water Quality | <input type="checkbox"/> Recreation |
| <input type="checkbox"/> Biological Resources | <input type="checkbox"/> Land Use and Planning | <input type="checkbox"/> Solid/Hazardous Waste |
| <input type="checkbox"/> Cultural Resources | <input type="checkbox"/> Mineral Resources | <input type="checkbox"/> Transportation/Traffic |
| <input checked="" type="checkbox"/> Energy | <input type="checkbox"/> Noise | <input type="checkbox"/> Mandatory Findings of Significance |

DETERMINATION

On the basis of this initial evaluation:

- I find the proposed project, in accordance with those findings made pursuant to CEQA Guideline §15252, COULD NOT have a significant effect on the environment, and that an ENVIRONMENTAL ASSESSMENT with no significant impacts has been prepared.
- I find that although the proposed project could have a significant effect on the environment, there will NOT be significant effects in this case because revisions in the project have been made by or agreed to by the project proponent. An ENVIRONMENTAL ASSESSMENT with no significant impacts will be prepared.
- I find that the proposed project MAY have a significant effect(s) on the environment, and an ENVIRONMENTAL ASSESSMENT will be prepared.
- I find that the proposed project MAY have a "potentially significant impact" on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL ASSESSMENT is required, but it must analyze only the effects that remain to be addressed.
- I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier ENVIRONMENTAL ASSESSMENT pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier ENVIRONMENTAL ASSESSMENT, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Date: January 23, 2015

Signature: _____

Michael Krause
Program Supervisor

ENVIRONMENTAL CHECKLIST AND DISCUSSION

As discussed in Chapter 1, the main focus of the proposed project is to develop a Protocol to establish procedures for evaluating, approving and monitoring future electric vehicle charging station projects submitted under the Rule 2202 AQIP solicitation or pursuant to Rule 2202(f)(6) as amended in June 2014 by the SCAQMD Governing Board. The goal of the Protocol is to provide incentives for the deployment of workplace electric vehicle charging stations through the generation of Rule 2202 credits.

The objectives of the Protocol are to:

- incentivize the deployment of electric vehicle charging stations at workplaces;
- establish procedures for and provide consistency in the evaluation, approval and monitoring of future electric vehicle charging station projects generating emission reductions submitted under the Rule 2202 AQIP solicitation or pursuant to Rule 2202(f)(6);
- provide guidance to applicants, charging station owners, and other companies proposing to implement an electric vehicle charging station project for Rule 2202 credit by identifying the monitoring, recordkeeping, and reporting requirements prior to project implementation.

In order to ensure that any potential significant adverse environmental impacts are identified and evaluated and that feasible methods to reduce or avoid any potential significant adverse environmental impacts associated with the proposed project are identified and evaluated, an environmental analysis was conducted on a known proposed project to install and upgrade EV charging infrastructure at the SCAQMD headquarters as a surrogate for potential future projects deployed as a result of the new Protocol. The proposed project includes installing 104 new charging stations, replacing six existing charging stations, installing three new electrical transformers and two small concrete pads, and minor drilling and trenching activities. The monitoring of the future charging stations is expected to be conducted by the existing SCAQMD team currently enforcing the requirements of Rule 2202. Due to the large size of the proposed SCAQMD infrastructure expansion, this known project was used as an example for a “worst case” impact scenario. It is expected that the installation of electric charging stations will generate secondary air quality impacts during construction and energy impacts from operation. Employers who choose to develop new EV infrastructure as a result of the proposed Protocol are expected to install fewer EV charging stations than the proposed SCAQMD project being evaluated as a surrogate. Therefore, any potential adverse impacts from the construction or operation of new EV infrastructure projects developed as a result of the proposed Protocol are expected to be less than the potential adverse impacts evaluated for the surrogate SCAQMD infrastructure expansion project.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
I. AESTHETICS. Would the project:				
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

The proposed project impacts on aesthetics will be considered significant if:

- The project will block views from a scenic highway or corridor.
- The project will adversely affect the visual continuity of the surrounding area.
- The impacts on light and glare will be considered significant if the project adds lighting which would add glare to residential areas or sensitive receptors.

Discussion

I. a), b), c) & d) Adoption of the proposed Protocol would incentivize the installation of new EV charging equipment projects throughout the SCAQMD. EV charging station projects may generate Rule 2202 credits at any location within the jurisdiction of the SCAQMD where charging stations can be installed for use by the general public or private parking lots and structures accessible only to employees. New EV charging station projects are expected to be developed in existing parking lots/structures at already established workplaces. Therefore, implementation of the proposed Protocol would only require limited construction activities such as trenching for electrical conduit, delivery and placement of prefabricated EV charging equipment, and minor paving/concrete activities.

Implementation of the proposed Protocol would not require the construction of new buildings or other major structures that would obstruct scenic resources or degrade the existing visual character of a site, including but not limited to, trees, rock outcroppings, or historic buildings. Further, the proposed Protocol would not involve the demolition of any existing buildings or facilities, require the acquisition of any new land or the surrendering of existing land, or the modification of any existing land use designations or zoning ordinances. Thus, the proposed project is not expected to degrade the visual character of any site or its surroundings, affect any scenic vista, or damage scenic resources. Since the proposed project would primarily affect

existing parking lots/structures and does not require the addition of lighting, it is not expected to create any new source of substantial light or glare.

Based upon these considerations, significant adverse aesthetics impacts are not anticipated and will not be further analyzed in this final EA. Since no significant adverse aesthetics impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
II. AGRICULTURE AND FORESTRY RESOURCES. Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland mapping and Monitoring Program of the California Resources Agency, to non- agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code §12220(g)), timberland (as defined by Public Resources Code §4526), or timberland zoned Timberland Production (as defined by Government Code §51104 (g))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

Project-related impacts on agriculture and forestry resources will be considered significant if any of the following conditions are met:

- The proposed project conflicts with existing zoning or agricultural use or Williamson Act contracts.
- The proposed project will convert prime farmland, unique farmland or farmland of statewide importance as shown on the maps prepared pursuant to the farmland mapping and monitoring program of the California Resources Agency, to non-agricultural use.
- The proposed project conflicts with existing zoning for, or causes rezoning of, forest land (as defined in Public Resources Code §12220(g)), timberland (as defined in Public Resources

Code §4526), or timberland zoned Timberland Production (as defined by Government Code § 51104 (g)).

- The proposed project would involve changes in the existing environment, which due to their location or nature, could result in conversion of farmland to non-agricultural use or conversion of forest land to non-forest use.

Discussion

II. a), b), c) & d) Adoption of the proposed Protocol would incentivize the installation of new EV charging equipment projects throughout the SCAQMD. New EV charging station projects are expected to be developed in existing parking lots/structures at already established workplaces. Implementation of the proposed Protocol would only require limited construction activities such as trenching for electrical conduit, placement of prefabricated EV charging equipment, and minor paving/concrete activities. The facilities that will install new EV charging infrastructure as a result of the implementation of the proposed Protocol are expected to be located within urbanized areas that are typically designated as commercial. Therefore, adoption of the proposed Protocol would not result in any new construction of buildings or other structures that would convert farmland to non-agricultural use or conflict with zoning for agricultural use or a Williamson Act contract. The proposed Protocol would not require converting farmland to non-agricultural uses because the potentially affected facilities are expected to be already completely developed. For the same reasons, the proposed Protocol would not result in the loss of forest land or conversion of forest land to non-forest use.

Based upon these considerations, significant adverse agricultural and forestry resource impacts are not anticipated and will not be further analyzed in this final EA. Since no significant agriculture and forestry resource impacts were identified, no mitigation measures are necessary or required.



	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
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III. AIR QUALITY AND GREENHOUSE GAS EMISSIONS.

Would the project:

- | | | | | |
|--|--------------------------|--------------------------|-------------------------------------|-------------------------------------|
| a) Conflict with or obstruct implementation of the applicable air quality plan? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Violate any air quality standard or contribute to an existing or projected air quality violation? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Diminish an existing air quality rule or future compliance requirement resulting in a significant increase in air pollutant(s)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
h) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Air Quality Significance Criteria

To determine whether or not air quality impacts from adopting and implementing the proposed Protocol are significant, impacts will be evaluated and compared to the criteria in Table 2-1. The project will be considered to have significant adverse air quality impacts if any one of the thresholds in Table 2-1 are equaled or exceeded.

To determine whether or not greenhouse gas emissions from the proposed project may be significant, impacts will be evaluated and compared to the 10,000 MT CO₂/year threshold for industrial sources.

**TABLE 2-1
SCAQMD Air Quality Significance Thresholds**

Mass Daily Thresholds ^a		
Pollutant	Construction ^b	Operation ^c
NO_x	100 lbs/day	55 lbs/day
VOC	75 lbs/day	55 lbs/day
PM₁₀	150 lbs/day	150 lbs/day
PM_{2.5}	55 lbs/day	55 lbs/day
SO_x	150 lbs/day	150 lbs/day
CO	550 lbs/day	550 lbs/day
Lead	3 lbs/day	3 lbs/day
Toxic Air Contaminants (TACs), Odor, and GHG Thresholds		
TACs (including carcinogens and non-carcinogens)	Maximum Incremental Cancer Risk \geq 10 in 1 million Cancer Burden > 0.5 excess cancer cases (in areas \geq 1 in 1 million) Chronic & Acute Hazard Index \geq 1.0 (project increment)	
Odor	Project creates an odor nuisance pursuant to SCAQMD Rule 402	
GHG	10,000 MT/yr CO ₂ eq for industrial facilities	
Ambient Air Quality Standards for Criteria Pollutants ^d		
NO₂ 1-hour average annual arithmetic mean	SCAQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: 0.18 ppm (state) 0.03 ppm (state) and 0.0534 ppm (federal)	
PM₁₀ 24-hour average annual average	10.4 $\mu\text{g}/\text{m}^3$ (construction) ^e & 2.5 $\mu\text{g}/\text{m}^3$ (operation) 1.0 $\mu\text{g}/\text{m}^3$	
PM_{2.5} 24-hour average	10.4 $\mu\text{g}/\text{m}^3$ (construction) ^e & 2.5 $\mu\text{g}/\text{m}^3$ (operation)	
SO₂ 1-hour average 24-hour average	0.25 ppm (state) & 0.075 ppm (federal – 99 th percentile) 0.04 ppm (state)	
Sulfate 24-hour average	25 $\mu\text{g}/\text{m}^3$ (state)	
CO 1-hour average 8-hour average	SCAQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: 20 ppm (state) and 35 ppm (federal) 9.0 ppm (state/federal)	
Lead 30-day Average Rolling 3-month average Quarterly average	1.5 $\mu\text{g}/\text{m}^3$ (state) 0.15 $\mu\text{g}/\text{m}^3$ (federal) 1.5 $\mu\text{g}/\text{m}^3$ (federal)	

^a Source: SCAQMD CEQA Handbook (SCAQMD, 1993)

^b Construction thresholds apply to both the South Coast Air Basin and Coachella Valley (Salton Sea and Mojave Desert Air Basins).

^c For Coachella Valley, the mass daily thresholds for operation are the same as the construction thresholds.

^d Ambient air quality thresholds for criteria pollutants based on SCAQMD Rule 1303, Table A-2 unless otherwise stated.

^e Ambient air quality threshold based on SCAQMD Rule 403.

KEY: lbs/day = pounds per day ppm = parts per million $\mu\text{g}/\text{m}^3$ = microgram per cubic meter \geq = greater than or equal to
 MT/yr CO₂eq = metric tons per year of CO₂ equivalents > = greater than

III. a), b) and f) Attainment of the state and federal ambient air quality standards protects sensitive receptors and the public in general from the adverse effects of criteria pollutants which are known to have adverse human health effects. Incentivizing the development of EV charging infrastructure contributes to carrying out the goals of the 2012 AQMP, specifically, the goals of control measure ONRD-01, Accelerated Penetration of Partial Zero-Emission and Zero Emission Vehicles to reduce NO_x and PM_{2.5} emissions. Further, reducing emissions from traditional gasoline-powered vehicles by introducing new EVs helps contribute towards attaining and maintaining the state and federal ozone and PM_{2.5} ambient air quality standards. It is expected that the proposed Protocol would improve air quality and visibility over time and, would do likewise for any community within one-quarter mile of affected facilities.

Thus, because the proposed Protocol implements a portion of this control measure in the 2012 AQMP which results in achieving emission reductions, the proposed project does not obstruct implementation of the applicable AQMP.

Construction Impacts

Construction-related emissions can be distinguished as either onsite or offsite. Onsite emissions generated during construction principally consist of exhaust emissions (NO_x, SO_x, CO, VOC, and PM₁₀) from the operation of heavy-duty construction equipment, fugitive dust (as PM₁₀) from disturbed soil, and VOC emissions from asphaltic paving and painting. Offsite emissions during the construction phase normally consist of exhaust emissions and entrained paved road dust (as PM₁₀) from worker commute trips, material delivery trips, and haul truck material removal trips to and from the construction site.

Adoption of the proposed Protocol would incentivize the development of EV charging infrastructure at worksites located throughout the SCAQMD jurisdiction. New EV charging station projects are expected to be developed in existing parking lots/structures at already established workplaces. Therefore, implementation of the proposed Protocol would only require facilities that choose to install EV charging infrastructure to conduct limited construction activities such as trenching for electrical conduit, placement of prefabricated EV charging equipment, and minor paving/concrete activities.

To evaluate any potential environmental impacts from future electric vehicle charging station projects, an environmental analysis was conducted on a known proposed project to expand and upgrade electric vehicle charging infrastructure at the SCAQMD headquarters as a surrogate for impacts from potential future projects deployed as a result of the new Protocol. Due to the large size of the proposed SCAQMD infrastructure expansion project, this known project was used as an example for a “worst case” impact scenario. Based on information obtained from EV charging systems vendors, the charging equipment would most likely consist of pre-fabricated equipment that would be delivered to the facility. Therefore, the air quality construction impacts analyzed include:

- Delivery of the pre-fabricated EV charging equipment to the facility;
- Placement of 104 new pre-fabricated chargers at the facility;
- Replacement of six existing charging stations;
- Delivery and installation of three new electrical transformers;

- Supplying concrete, compacting and surfacing of two small concrete pads;
- Conduct minor drilling activities associated with the laying of electrical conduit at the parking structure location;
- Conduct minor trenching activities associated with the laying of electrical conduit at CC-8 location;
- Delivery of workers to the work site.

Figure 2-1 depicts the locations of the various EV infrastructure installation locations at the SCAQMD Headquarters.



Figure 2-1
EV Charging Infrastructure Installation Locations at the SCAQMD

Table 2-2 summarizes the peak construction emissions due to the installation of EV charging infrastructure at the SCAQMD as part of the surrogate project. The construction phases analyzed included delivery and placement of new EV charging equipment and electrical transformers, minor drilling and trenching activities associated with installation of electrical conduit, and compaction and resurfacing of several small areas. A detailed construction emissions spreadsheet including construction phases, emission estimates, and assumptions used in the calculations is provided in Appendix B. Construction air quality impacts have been determined to not exceed any applicable significance thresholds. Therefore, construction air quality impacts are concluded to be less than significant.

**Table 2-2
Peak Construction Emissions Due to Installation of EV Charging Infrastructure at
SCAQMD**

PEAK CONSTRUCTION	VOC	CO	NO_x	SO_x	PM₁₀	PM_{2.5}
	lbs/day	lbs/day	lbs/day	lbs/day	lbs/day	lbs/day
Total Project Emissions	4.38	22.69	35.12	0.07	1.76	1.66
SCAQMD CEQA SIGNIFICANCE THRESHOLD	75	550	100	150	150	55
SIGNIFICANT?	NO	NO	NO	NO	NO	NO

Employers who choose to develop new EV infrastructure as a result of the proposed Protocol are expected to install fewer EV charging stations than the proposed SCAQMD infrastructure expansion project being evaluated as a surrogate since the SCAQMD is an established alternative fueling hub for vehicles. Additionally, it is unlikely that multiple projects anywhere near this size would be occurring simultaneously. Therefore, any potential adverse air quality impacts from the construction or operation of new EV infrastructure projects as a result of the proposed Protocol are expected to be less than the potential adverse impacts evaluated for the surrogate project.

As a result, according to the above analysis of potential construction impacts, there would be no significant adverse construction air quality impacts resulting from the proposed project for criteria pollutants.

Operational Impacts- Criteria Pollutants

Adoption of the proposed Protocol would incentivize the installation of new EV charging equipment projects throughout the SCAQMD. New EV charging station projects are expected to be developed in existing parking lots/structures at already established workplaces with existing electrical service.

The SCAQMD met with representatives from the power suppliers in the Basin, Southern California Edison (SCE) and the Los Angeles Department of Water and Power (LADWP), to discuss any potential adverse impacts on the current electrical grid, the need for additional power generation, or any reliability concerns that may be caused by the adoption of the proposed Protocol⁴. As discussed in further detail in the Energy Section VI of this report, both SCE and LADWP have forecasted potential load impacts from increased EV charging in the future. SCE and LADWP currently do not have the need to build any new electric generation facilities or

⁴ Meeting with SCE, LADWP, and SCAQMD at SCAQMD Headquarters, December 12, 2014.

alter the transmission system due to projected EV charging demands. Additionally, based on the most recent Integrated Resource Plan (IRP)⁵ issued last month, LADWP has determined that the doubling of electric vehicles will not require additional generation or transmission beyond currently planned upgrades. Therefore, there will be no additional electrical generation needed as a result of the adoption of the proposed Protocol, and therefore no additional emissions generated. Any future increase of power generation at existing facilities that would generate additional emissions would be evaluated during the permitting of those facilities.

Therefore, the implementation of the proposed Protocol is not expected to result in any significant adverse operational air quality impacts.

Operational Impacts- Toxic Air Contaminants

In assessing potential impacts from the adoption of proposed rule and amendments, SCAQMD staff not only evaluates the potential air quality benefits, but also determines potential health risks associated with implementation of the proposed amendments.

As stated previously, adoption of the proposed Protocol would incentivize the installation of new EV charging equipment projects throughout the SCAQMD. An increased amount of EVs and associated charging infrastructure is not expected to generate an increase in any toxic emissions because the operation of EV charging stations does not generate any toxic emissions. As a result, there will be no increase in toxic air contaminant emissions due to the proposed Protocol.

III. c) As Lead Agency, the SCAQMD uses the same significance thresholds for project specific and cumulative impacts for all environmental topics analyzed in an Environmental Assessment or EIR. Projects that exceed the project-specific significance thresholds are considered by the SCAQMD to be cumulatively considerable. This is the reason project-specific and cumulative significance thresholds are the same. Conversely, projects that do not exceed the project-specific thresholds are generally not considered to be cumulatively significant⁶.

This approach was upheld by the Court in *Citizens for Responsible Equitable Environmental Development v. City of Chula Vista* (2011) 197 Cal. App. 4th 327, 334. The Court determined that where it can be found that a project did not exceed the SCAQMD's established air quality significance thresholds, the City of Chula Vista properly concluded that the project would not cause a significant environmental effect, nor result in a cumulatively considerable increase in these pollutants. The court found this determination to be consistent with CEQA Guidelines §15064.7, stating, "The lead agency may rely on a threshold of significance standard to determine whether a project will cause a significant environmental effect." The court found that, "Although the project will contribute additional air pollutants to an existing nonattainment area, these increases are below the significance criteria..." "Thus, we conclude that no fair argument exists that the Project will cause a significant unavoidable cumulative contribution to an air quality impact." As in *Chula Vista*, here the District has demonstrated, when using accurate and appropriate data and assumptions, that the project will not exceed the established SCAQMD

⁵ Los Angeles Department of Water and Power, 2014 Power Integrated Resource Plan, December 2014.

⁶ SCAQMD Cumulative Impacts Working Group White Paper on Potential Control Strategies to Address Cumulative Impacts From Air Pollution, August 2003, Appendix D, Cumulative Impact Analysis Requirements Pursuant to CEQA, at D-3, <http://www.aqmd.gov/docs/default-source/Agendas/Environmental-Justice/cumulative-impacts-working-group/cumulative-impacts-white-paper-appendix.pdf?sfvrsn=4>.

significance thresholds. See also, *Rialto Citizens for Responsible Growth v. City of Rialto* (2012) 208 Cal. App. 4th 899. Here again the court upheld the SCAQMD's approach to utilizing the established air quality significance thresholds to determine whether the impacts of a project would be cumulatively considerable. Thus, it may be concluded that the Project will not cause a significant unavoidable cumulative contribution to an air quality impact.

Based on the foregoing analysis, project-specific air quality impacts from implementing the proposed project would not exceed air quality significance thresholds (Table 2-1); therefore, based on the above discussion, cumulative impacts are not expected to be significant for air quality. Therefore, potential adverse impacts from the proposed project would not be "cumulatively considerable" as defined by CEQA Guidelines §15064(h)(1) for air quality impacts. Per CEQA Guidelines §15064(h)(4), the mere existing of significant cumulative impacts caused by other projects alone shall not constitute substantial evidence that the proposed project's incremental effects are cumulative considerable.

III. d) Affected facilities are not expected to increase exposure by sensitive receptors to substantial pollutant concentrations from the implementation of the proposed Protocol for the following reasons: 1) affected facilities are primarily located in existing commercial areas; 2) EV charging equipment does not generate any toxic emissions; and 3) there will be no additional electrical generation facilities needed as a result of the adoption of the proposed Protocol (note: there will be additional need for power, but the demand, according to the power generators, can be met with existing systems). Therefore, significant adverse air quality impacts to sensitive receptors are not expected from implementing the proposed Protocol.

III. e) Historically, the SCAQMD has enforced odor nuisance complaints through SCAQMD Rule 402 - Nuisance. The proposed Protocol is not expected to create objectionable odors affecting a substantial number of people for the following reasons: 1) typically no odors are associated with operation of EV charging infrastructure; 2) a minimal amount of construction activities are expected to be necessary to install new EV charging infrastructure at commercial work sites; and, 3) installation of new EV charging equipment will incentivize the use of EVs, therefore, replacing older, higher emitting gasoline-powered vehicles that have odor potential. Therefore, no significant odor impacts are expected to result from implementing the proposed Protocol.

III. g) & h) Changes in global climate patterns have been associated with global warming, an average increase in the temperature of the atmosphere near the Earth's surface, recently attributed to accumulation of GHG emissions in the atmosphere. GHGs trap heat in the atmosphere, which in turn heats the surface of the Earth. Some GHGs occur naturally and are emitted to the atmosphere through natural processes, while others are created and emitted solely through human activities. The emission of GHGs through the combustion of fossil fuels (i.e., fuels containing carbon) in conjunction with other human activities, appears to be closely associated with global warming.⁷ State law defines GHG to include the following: carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs),

⁷ Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Averyt, M. Tignor and H.L. Miller (eds.). 2007. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, 2007. Cambridge University Press.
http://www.ipcc.ch/publications_and_data/ar4/wg1/en/contents.html

perfluorocarbons (PFCs), and sulfur hexafluoride (SF6) (HSC §38505(g)). The most common GHG that results from human activity is CO₂, followed by CH₄ and N₂O.

GHGs and other global warming pollutants are often perceived as solely global in their impacts because increasing emissions anywhere in the world contributes to climate change anywhere in the world. However, a study conducted on the health impacts of CO₂ “domes” that form over urban areas shows they can cause increases in local temperatures and local criteria pollutants, which have adverse health effects.⁸

The analysis of GHGs is a different analysis than the analysis of criteria pollutants for the following reasons. For criteria pollutants, the significance thresholds are based on daily emissions because attainment or non-attainment is primarily based on daily exceedances of applicable ambient air quality standards. Further, several ambient air quality standards are based on relatively short-term exposure effects on human health (e.g., one-hour and eight-hour standards). Since the half-life of CO₂ is approximately 100 years, for example, the effects of GHGs occur over a longer term which means they affect the global climate over a relatively long time frame. As a result, the SCAQMD’s current position is to evaluate the effects of GHGs over a longer timeframe than a single day (e.g., annual emissions). GHG emissions are typically considered to be cumulative impacts because they contribute to global climate effects.

On December 5, 2008, the SCAQMD adopted an interim CEQA GHG Significance Threshold for projects where SCAQMD is the lead agency (SCAQMD, 2008). This interim threshold is set at 10,000 metric tons of CO₂ equivalent emissions (MTCO₂eq) per year. Projects with incremental increases below this threshold will not be deemed to be cumulatively considerable.

The Program EIR for the 2012 AQMP concluded that implementing the control measures in the 2012 AQMP would provide a comprehensive ongoing regulatory program that would reduce overall GHGs emissions in the District.

Construction emission calculations were conducted for a known proposed project to expand and upgrade electric vehicle charging infrastructure at the SCAQMD headquarters as a surrogate for potential future projects deployed as a result of the new Protocol. Due to the proposed large project size, this known infrastructure expansion project was used as an example for a “worst case” impact scenario. Table 2-4 provides the total construction CO₂E emissions that could occur from the installation of the proposed EV charging infrastructure at SCAQMD Headquarters. Detailed GHG calculations can be found in Appendix B. As shown in Table 2-4, GHG emissions generated by construction activities are expected to be relatively small, much less than 10,000 metric tons per year (SCAQMD’s GHG significance threshold), and, therefore, not significant.

⁸ Jacobsen, Mark Z. “Enhancement of Local Air Pollution by Urban CO₂ Domes,” Environmental Science and Technology, as describe in Stanford University press release on March 16, 2010 available at: <http://news.stanford.edu/news/2010/march/urban-carbon-domes-031610.html>.

**Table 2-3
Overall CO2 Equivalent (eq) Increases Due to Construction Activities for Surrogate Project (metric tons/year) ¹**

	CO2	CH4	CO2eq
Annual CO2eq Emission Increases Due to:	lb/day	lb/day	MT/year
Installing New EV Infrastructure at SCAQMD Headquarters	6,568	0.36	6

¹ 1 metric ton = 2,205 pounds

Installation of new EV charging equipment will incentivize the use of EVs, therefore, replacing older, higher emitting gasoline-powered vehicles that generate GHG emissions. A lower amount of fuel being burned as a result of the operation of EV charging stations will generate less GHG emissions than the existing setting. Additionally, there will be no additional electrical generation facilities needed as a result of the adoption of the proposed Protocol. Therefore, no additional GHG emissions associated with the operation of new electrical generation facilities will result.

Since the proposed project is not expected to generate significant construction-related CO2 emissions, and the operational phase of the proposed project is not expected to generate any additional GHG emissions, cumulative GHG adverse impacts from the proposed Protocol are not considered significant or cumulatively considerable.

Conclusion

Based on the preceding evaluation of potential air quality impacts, SCAQMD staff has concluded that the proposed Protocol does not have the potential to generate significant adverse air quality impacts. Since no significant adverse air quality and greenhouse gases impacts were identified, no mitigation measures are necessary or required.

Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
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IV. BIOLOGICAL RESOURCES.

Would the project:

- | | | | | |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Have a substantial adverse effect on federally protected wetlands as defined by §404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Conflicting with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with the provisions of an adopted Habitat Conservation plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

Impacts on biological resources will be considered significant if any of the following criteria apply:

- The project results in a loss of plant communities or animal habitat considered to be rare, threatened or endangered by federal, state or local agencies.
- The project interferes substantially with the movement of any resident or migratory wildlife species.

- The project adversely affects aquatic communities through construction or operation of the project.

Discussion

IV. a), b), c), & d) The proposed Protocol would not require any new development or require major modifications to buildings or other structures. Implementation of the proposed Protocol would only require facilities that choose to install EV charging infrastructure to conduct limited construction activities such as trenching for electrical conduit, placement of prefabricated EV charging equipment, and minor paving/concrete activities. The installation of new EV charging equipment is expected to be located at existing facilities in parking lots that are already paved. Any new construction is expected to be minor in nature and in a limited area. In addition, the biological resources have already been disturbed or removed at the existing facilities. As a result, the proposed Protocol would not directly or indirectly affect any new or existing species identified as a candidate, sensitive or special status species, riparian habitat, federally protected wetlands, or migratory corridors. For this same reason, the proposed Protocol is not expected to adversely affect special status plants, animals, or natural communities.

IV. e) & f) The proposed Protocol would not conflict with local policies or ordinances protecting biological resources or local, regional, or state conservation plans because it would not cause new development. Additionally, the proposed Protocol would not conflict with any Habitat Conservation Plan, Natural Community Conservation Plan, or any other relevant habitat conservation plan for the same reason identified in Item IV. a), b), c), and d) above. Likewise, the proposed Protocol would not in any way impact wildlife or wildlife habitat.

Based upon these considerations, significant adverse biological resources impacts are not anticipated and will not be further analyzed in this final EA. Since no significant adverse biological resources impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
V. CULTURAL RESOURCES. Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource as defined in §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Directly or indirectly destroy a unique paleontological resource, site, or feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Disturb any human remains, including those interred outside formal cemeteries?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

Impacts to cultural resources will be considered significant if:

- The project results in the disturbance of a significant prehistoric or historic archaeological site or a property of historic or cultural significance to a community or ethnic or social group.
- Unique paleontological resources are present that could be disturbed by construction of the proposed project.
- The project would disturb human remains.

Discussion

V. a), b), c), & d) The proposed Protocol does not require construction of new facilities, increase the floor space of existing facilities, or any other construction activities that would require disturbing native soil that may contain cultural resources. However, adoption of the proposed Protocol would incentivize the installation of new EV charging equipment projects throughout the SCAQMD. New EV charging station projects are expected to be developed in existing parking lots/structures at already existing workplaces. Therefore, implementation of the proposed Protocol would only require facilities that choose to install EV charging infrastructure to conduct limited construction activities such as trenching for electrical conduit, placement of prefabricated EV charging equipment, and minor paving/concrete activities. These limited construction activities are expected to occur in previously disturbed soils, seeing that the activities will occur at already existing facilities.

Since no construction-related activities requiring native soil disturbance would be associated with the implementation of the proposed Protocol, no impacts to historical or cultural resources are anticipated to occur. Further, the proposed Protocol is not expected to require any major physical changes to the environment, which may disturb paleontological or archaeological resources or disturb human remains interred outside of formal cemeteries.

Based upon these considerations, significant adverse cultural resources impacts are not expected from implementing the proposed Protocol and will not be further assessed in this final EA. Since no significant cultural resources impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
VI. ENERGY. Would the project:				
a) Conflict with adopted energy conservation plans?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Result in the need for new or substantially altered power or natural gas utility systems?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
c) Create any significant effects on local or regional energy supplies and on requirements for additional energy?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Create any significant effects on peak and base period demands for electricity and other forms of energy?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Comply with existing energy standards?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Significance Criteria

Impacts to energy and mineral resources will be considered significant if any of the following criteria are met:

- The project conflicts with adopted energy conservation plans or standards.
- The project results in substantial depletion of existing energy resource supplies.
- An increase in demand for utilities impacts the current capacities of the electric and natural gas utilities.
- The project uses non-renewable resources in a wasteful and/or inefficient manner.

Discussion

VI. a) & e) Adoption of the proposed Protocol would incentivize the installation of new EV charging equipment projects throughout the SCAQMD. EV charging station projects may generate Rule 2202 credits at any location within the jurisdiction of the SCAQMD where charging stations can be installed for use by the general public, including private parking lots and structures accessible only to employees. All newly installed EV charging equipment as a result of the adoption of the proposed Protocol will be expected to comply with existing energy standards. Newly installed EV charging equipment is expected to be energy efficient and, as discussed below, more reliant on renewable sources of electricity generation, therefore the proposed project is not expected to use energy in a wasteful manner.

Since the proposed Protocol would affect facilities primarily located in commercial areas, it will not conflict with adopted energy conservation plans because existing facilities where new EV charging infrastructure would be installed are expected to continue implementing any existing energy conservation plans. Accordingly these impact issues will not be further analyzed in the final EA.

VI. b), c) & d) Electricity: Power demand could potentially increase as a result of the implementation of the proposed Protocol. Thus, the SCAQMD staff met with representatives⁹ from Southern California Edison (SCE) and the Los Angeles Department of Water and Power (LADWP) to discuss any potential adverse impacts on the current electrical grid or any reliability concerns that may be caused by the adoption of the proposed protocol. In the SCE’s “Charge Ready Application” (October 30, 2014) prepared for the California Public Utilities Commission,

⁹ December 12, 2014 meeting at the SCAQMD Headquarters

SCE “will seek to significantly increase the availability of long dwell-time EV charging infrastructure,” including workplaces and fleet parking where vehicles are usually parked for at least four hours. The SCE Charge Ready program anticipates workplaces “would help reduce range anxiety, increase electric vehicle miles driven, increase access to charging in multi-unit dwellings, reduce air pollution, and may, in the future, provide a way to utilize excess renewable energy generation during the day.” The application also states the program “will provide supporting infrastructure for up to 30,000 charging stations in SCE’s service area,” and later in the application “provides more reliable electric service.”

According to the representatives, both SCE and LADWP have forecasted potential load impacts from increased EV charging in the future. SCE and LADWP currently do not have the need to build any new electric generation facilities or alter the transmission system due to projected EV charging demands.

To support that conclusion, SCE and LADWP participated in the development of the 2014 *California Transportation Electrification Assessment (TEA)* discussed in detail in later paragraphs. The LADWP prepares a Power Integrated Resource Plan (IRP) document that serves as a comprehensive 20 year roadmap that guides the LADWP Power System in its efforts to supply reliable electricity in an environmentally responsible and cost effective manner. More specifically, the IRP demonstrates support for increased levels of renewable energy, and an expanded Power System Reliability Program to incorporate electric distribution, generation, transmission, and substations. Finally, the IRP includes numerous updates including a new load forecast. According to the LADWP, the overriding purpose is to provide a framework to assure future energy needs of LADWP customers are met in a manner that balances the following key objectives:

- Superior reliability and supply of electric service
- Competitive electric rates consistent with sound business principles
- Responsible environmental stewardship exceeding all regulatory obligations

Based on LADWP’s most recent 2014 IRP¹⁰ issued last month, it has been determined that the doubling of electric vehicles will not require additional generation or transmission beyond currently planned upgrades. Therefore, there will be no substantial depletion of energy resources nor will significant amounts of additional energy be needed when compared to existing and future projected supplies. Additionally, the proposed Protocol will not change the current electricity distribution system as well.

LADWP’s IRP evaluated increased future electrification from a variety of potential sources throughout Southern California, including electric vehicle charging. The electrification cases in this 2014 IRP considers a base, medium, and high case. The base case is forecasted using the CEC’s 2013 IEPR, the medium case is 150 percent of the base case and high case is 200 percent of the base case. The IRP determined that increased electrification of the transportation sector would provide an opportunity for load shifting and absorbing potential over-generation from renewable resources by promoting electric vehicle charging during times of over-generation.

¹⁰ Los Angeles Department of Water and Power, 2014 Power Integrated Resource Plan, December 2014.
https://www.ladwp.com/ladwp/faces/wcnav_externalId/a-p-doc?_adf.ctrl-state=1c41nu408t_4&_afLoop=116645643013076

Near term actions outlined in the IRP included implementing the Power System Reliability Program (PSRP) to replace aging infrastructure components and promoting high levels of electrification in the transportation sector. The PSRP also includes periodic assessments of the program's effectiveness and identifies modifications to provide continuous improvement and to serve as the backbone for transportation electrification and integration of renewables.

Use of the advanced technology (e.g., Level 2 chargers) as described in Chapter 1 of this Environmental Assessment enables the power producers to better track the energy usage from the charging of EVs and plan accordingly in their forecasts to meet the electricity demand and maintain power reliability.

Senate Bill 1389 (Bowen, Chapter 568, Statutes of 2002) requires the California Energy Commission (CEC) to prepare a biennial integrated energy policy report that assesses major energy trends and issues facing the state's electricity, natural gas, and transportation fuel sectors and provides policy recommendations to conserve resources; protect the environment; ensure reliable, secure, and diverse energy supplies; enhance the state's economy; and protect public health and safety (*Public Resources Code § 25301[a]*). The CEC prepares these assessments and associated policy recommendations every two years, with updates in alternate years, as part of the *Integrated Energy Policy Report (IEPR)*. Preparation of the IEPR involves close collaboration with federal, state, and local agencies, and a wide variety of stakeholders in an extensive public process to identify critical energy issues and develop strategies to address those issues.

According to the CEC's 2014 Draft IEPR¹¹, the Southern California region's electricity reliability has been of concern for the past several years due to the planned retirement of aging facilities that depend upon once-through cooling technologies, as well as the June 2013 retirement of the San Onofre Nuclear Generating Station (SONGS). While the once-through cooling phase-out has been ongoing since the May 2010 adoption of the State Water Resources Control Board's (SWRCB) once-through cooling policy, the retirement of SONGS complicated the situation. California ISO studies had previously revealed the extent to which the Los Angeles Basin and San Diego region were vulnerable to low voltage and post-transient voltage instability concerns. A preliminary plan to address these issues was detailed in the 2013 IEPR, after a collaborative process with other energy agencies, utilities, and air districts. If the resource development outlined in the preliminary plan continues as detailed (preferred resources, conventional generation, and transmission), reliability in Southern California would likely be assured without the need for the development of new energy sources. However, tight resource margins have led energy agencies and the California Air Resources Board (CARB) to develop a contingency plan that seeks to assure reliability for the Southern California region. In particular, tracking preferred resource development to continue in California, power flow modeling studies to establish local capacity requirements, and sharing such data among the energy agencies. CEC "staff will continue to develop an annual accounting tool for tracking data and for compiling data on substation loads. The tool will be used to develop projections of expected resources versus local capacity requirements. Mitigation measure development needs to be agreed to and made ready for implementation. In particular, the generation mitigation options will require close coordination among the energy agencies and air districts legally charged with issuing local

¹¹ California Energy Commission, 2014 Draft Integrated Energy Policy Report Update, November 2014.

permits.”¹² Thus, the contingency plan is developed as an interagency effort, but if it becomes necessary to trigger mitigation measures, the implementation would occur through the authority and processes of the individual agencies.

Three core activities under development among the agencies are the following:

- Tracking all types of resource development;
- Development of contingency mitigation measures that can be triggered if resource expectations do not match requirements;
- Creation of an analytic process for the early detection of any projected shortfall of resources needed to meet local capacity requirements.

The energy agencies, utilities, and air districts staffs continue to refine the contingency plan that seeks to assure reliability for the Southern California region.

The *California Transportation Electrification Assessment (TEA) (Phase I - September 2014, Phase II – October 2014)*, prepared by ICF International with analytical support from Energy and Environmental Economics, Inc. (E3), updates and expands upon previous work on the grid impacts, costs, and private and societal benefits of increased transportation electrification. Utility work groups made up of a cross section of investor owned utilities and municipally owned utilities provided input and consultation for critical aspects of the study. In addition, feedback and comments were solicited and received from the CEC and CARB. The TEA has been split into two reports: Phase 1 and Phase 2. Phase 1 includes market sizing, forecasts and societal benefits, costing analysis of select transportation electrification technologies, a high level discussion of potential grid benefits from plug-in electric vehicles (PEVs), and identification of market gaps and barriers and potential solutions for PEV adoption. The costing analysis in Phase 1 is from a transportation electrification technology consumer perspective and takes into account operational benefits and fuels savings in addition to societal benefits from decreased petroleum consumption, GHGs, and criteria pollutant emissions. Phase 2 provides detailed modeling and quantification of the grid benefits from PEVs. Phase 2 focuses on the economic and cost effectiveness tests from a utility and overall ratepayer perspective including estimating increases in net revenue for the utilities from PEVs.

According to the *TEA*, with properly designed dynamic rates or managed charging, EV’s could “increase grid reliability under high renewable portfolio standards (RPS) scenarios by absorbing overgeneration and reducing morning and evening ramps”¹³. The installation of EV charging infrastructure at workplaces may increase energy usage during peak demand (shift from non-peak usage charging at night to peak usage charging during the day), however, this shift will take advantage of overgeneration from the increase in solar power generation, eliminating the need for additional electricity generation from natural-gas fired sources. Additionally, new EV infrastructure (Level 2 chargers only) will provide an increase in demand response which will mitigate any potential peak impacts.

¹² <http://www.energy.ca.gov/2014publications/CEC-100-2014-001/CEC-100-2014-001-D.pdf> (page 194)

¹³ ICF International, *California Transportation Electrification Assessment*, Phase II- Grid Impacts, October 23, 2014.

Similar to conclusions in the *TEA*, as stated in CEC's 2014 Draft IEPR Update, electric vehicles have the potential to benefit the grid by using their batteries to help manage electricity loads throughout the day, which is an increasing area of concern as renewable solar and wind energy continue to develop in California. To realize these opportunities, smart charging technology that incorporates the flexibility to communicate with customers and electric utilities becomes an essential component of electric vehicle operation⁶.

In addition, according to the U.S. Department of Energy's (DOE), *Evaluating Electric Vehicle Charging Impacts and Customer Charging Behaviors- Experiences from Six Smart Grid Investment Grant Projects*, the electric power industry expects a 400 percent growth in annual sales of plug-in electric vehicles by 2023, which may substantially increase electricity usage and peak demand in high adoption areas. Understanding customer charging patterns can help utilities anticipate future infrastructure changes that will be needed to handle large vehicle charging loads. Under the DOE's Smart Grid Investment Grant (SGIG) program, six utilities evaluated operations and customer charging behaviors for in-home and public electric vehicle charging stations:

- Burbank Water and Power (BWP)
- Duke Energy (Duke)
- Indianapolis Power & Light Company (IPL)
- Madison Gas and Electric (MGE)
- Progress Energy (now part of Duke Energy as a result of a merger in 2012)
- Sacramento Municipal Utility District (SMUD)

The utilities evaluated the technical performance of the charging systems, the potential grid impacts of charging during peak periods, and the potential need for distribution system upgrades and capacity additions to meet expected electricity demand growth from rising adoption of plug-in EVs. The six SGIG projects evaluated more than 270 public charging stations in parking lots and garages and more than 700 residential charging units in customers' homes. Due to the fact that there are relatively few plug-in EVs on the road today, the six SGIG projects focused on establishing the charging infrastructure with a relatively low number of stations and evaluated a small number of participating vehicles. As expected, project results showed negligible grid impacts from small-scale electric vehicle charging today, but gave utilities important insights into the demand growth and peak-period charging habits/demands they can anticipate if electric vehicle adoption rises as expected over the next decade.

As stated previously, the SCAQMD met with representatives from SCE and the LADWP to discuss any potential adverse impacts on the current electrical grid or any reliability concerns that may be caused by the adoption of the proposed protocol. Both SCE and LADWP have forecasted potential load impacts from increased EV charging. According to representatives, SCE and LADWP currently do not need to build any new generation facilities or alter the transmission system due to projected EV charging demands. Additionally, based on the most recent IRP¹⁴ issued last month, LADWP has determined that the doubling of electric vehicles

¹⁴ Los Angeles Department of Water and Power, 2014 Power Integrated Resource Plan, December 2014.

will not require additional generation or transmission beyond currently planned upgrades. Therefore, adoption of the Protocol is not expected to require the construction of additional electrical generation facilities, require additional electrical generation, or require alteration to the transmission system beyond currently planned upgrades.

Petroleum Fuels: Assembly Bill 118 (Núñez, Chapter 750, Statutes of 2007) created the Alternative and Renewable Fuel and Vehicle Technology Program (ARFVT Program). The statute, subsequently amended by Assembly Bill 109 (Núñez, Chapter 313, Statutes of 2008), authorizes the California Energy Commission to develop and deploy alternative and renewable fuels and advanced transportation technologies to help attain the state’s climate change policies. Assembly Bill 109 also requires the Energy Commission to prepare a report on the expected benefits of program investments in reducing petroleum fuel use and carbon and criteria emissions from California’s transportation sector. Thus, the California Transportation Electrification Assessment, prepared by ICF International for the CEC, focuses on a select number of benefits that can be quantified with a reasonable degree of certainty. The *Analysis of Benefits Associated with Projects and Technologies Supported by the Alternative and Renewable Fuel and Vehicle Technology Program*, prepared by National Renewable Energy Laboratory for the CEC, focuses on a select number of benefits that can be quantified with a reasonable degree of certainty.

According to the CEC’s *Analysis of Benefits Associated with Projects and Technologies Supported by the Alternative and Renewable Fuel and Vehicle Technology Program*¹⁵, there are expected benefits from EV infrastructure and usage of EV vehicles from a reduction in petroleum fuel estimated at 236 million gallons per year by 2025. Table 2-4 outlines the estimated reduction in petroleum fuels over the years from the operation of electric vehicle, infrastructure and fuel production.

TABLE 2-4
Estimated Petroleum Fuel Reductions

BENEFIT CATEGORY	PETROLEUM FUEL REDUCTIONS (million gallons)		
	Year 2015	Year 2020	Year 2025
Fueling Infrastructure	16.4	85.4	86.0
Vehicles	20.7	62.4	109.1
Fuel Production	3.5	41.0	41.0
TOTAL	40.7	188.8	236.1

Thus, the energy impact from petroleum fuels is anticipated to be a benefit in the reduction of fuel consumption due to the future installation of EV charging stations that could have been incentivized by the proposed Protocol.

¹⁵ CEC’s *Analysis of Benefits Associated With Projects and Technologies Supported by the Alternative and Renewable Fuel and Vehicle Technology Program* (2014) <http://www.energy.ca.gov/2014publications/CEC-600-2014-005/CEC-600-2014-005-D.pdf> (page 2)

Based on the above information, the proposed Protocol is not expected to generate significant adverse energy resources impacts and will not be discussed further in this final EA. Since no significant energy impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
VII. GEOLOGY AND SOILS. Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
• Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
• Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
• Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

Impacts on the geological environment will be considered significant if any of the following criteria apply:

- Topographic alterations would result in significant changes, disruptions, displacement, excavation, compaction or over covering of large amounts of soil.
- Unique geological resources (paleontological resources or unique outcrops) are present that could be disturbed by the construction of the proposed project.
- Exposure of people or structures to major geologic hazards such as earthquake surface rupture, ground shaking, liquefaction or landslides.
- Secondary seismic effects could occur which could damage facility structures, e.g., liquefaction.
- Other geological hazards exist which could adversely affect the facility, e.g., landslides, mudslides.

Discussion

VII. a) Southern California is an area of known seismic activity. Structures must be designed to comply with the Uniform Building Code Zone 4 requirements if they are located in a seismically active area. The local city or county is responsible for assuring that a proposed project complies with the Uniform Building Code as part of the issuance of the building permits and can conduct inspections to ensure compliance. The Uniform Building Code is considered to be a standard safeguard against major structural failures and loss of life. The goal of the code is to provide structures that will: 1) resist minor earthquakes without damage; 2) resist moderate earthquakes without structural damage but with some non-structural damage; and 3) resist major earthquakes without collapse but with some structural and non-structural damage.

The Uniform Building Code bases seismic design on minimum lateral seismic forces (“ground shaking”). The Uniform Building Code requirements operate on the principle that providing appropriate foundations, among other aspects, helps to protect buildings from failure during earthquakes. The basic formulas used for the Uniform Building Code seismic design require determination of the seismic zone and site coefficient, which represent the foundation conditions at the site. Accordingly, buildings and equipment at existing facilities choosing to install EV charging infrastructure are likely to conform with the Uniform Building Code and all other applicable state codes in effect at the time they were constructed.

New EV charging station projects are expected to be developed in existing parking lots/structures at already existing workplaces. Therefore, implementation of the proposed Protocol would only require facilities that choose to install EV charging infrastructure to conduct limited construction activities such as trenching for electrical conduit, placement of prefabricated EV charging equipment, and minor paving/concrete activities. No new buildings or structures are expected to be constructed in response to the proposed Protocol and new EV charging stations are expected to be installed at existing vehicle locations, so no change in geological existing setting is expected. In addition, the proposed Protocol is not expected to affect a facility’s ability to continue to comply with any applicable Uniform Building Code requirements, as EV charging stations have been installed and operated safely for years throughout southern California, where seismic geological conditions exist. Consequently, the proposed Protocol is not expected to expose persons or property to new geological hazards such as earthquakes, landslides, mudslides, ground failure, or other natural hazards. As a result, substantial exposure

of people or structure to the risk of loss, injury, or death involving seismic-related activities is not anticipated and will not be further analyzed in this final EA.

VII. b), c), d) & e) Since the proposed Protocol would affect primarily existing facilities and would not be the cause of any new construction, it is expected that the soil types present at the affected facilities that are susceptible to expansion or liquefaction would be considered part of the existing setting. Implementation of the proposed Protocol would only require facilities that choose to install EV charging infrastructure to conduct limited construction activities such as trenching for electrical conduit, placement of prefabricated EV charging equipment, and minor paving/concrete activities. New subsidence impacts are not anticipated since no major excavation, grading, or fill activities will occur at affected facilities. Further, the proposed Protocol does not involve the removal of underground products (e.g., water, crude oil, et cetera) that could produce new, or make worse existing subsidence effects. Additionally, the affected areas are not envisioned to be prone to new risks from landslides or have unique geologic features, since the affected facilities are located in commercial areas where such features have already been altered or removed. Finally, since adoption of the proposed Protocol would be expected to affect operations at primarily existing facilities, the proposed Protocol is not expected to alter or make worse any existing potential for subsidence, liquefaction, etc.

Based on the above discussion, the proposed Protocol is not expected to have an adverse impact on geology or soils. Since no significant adverse impacts are anticipated, this environmental topic will not be further analyzed in the final EA. No mitigation measures are necessary or required.



	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
VIII. HAZARDS AND HAZARDOUS MATERIALS. Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, and disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
c) Emit hazardous emissions, or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code §65962.5 and, as a result, would create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public use airport or a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Significantly increased fire hazard in areas with flammable materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

Impacts associated with hazards will be considered significant if any of the following occur:

- Non-compliance with any applicable design code or regulation.
- Non-conformance to National Fire Protection Association standards.
- Non-conformance to regulations or generally accepted industry practices related to operating policy and procedures concerning the design, construction, security, leak detection, spill containment or fire protection.
- Exposure to hazardous chemicals in concentrations equal to or greater than the Emergency Response Planning Guideline (ERPG) 2 levels.

Discussion

VIII. a, b) & c) The proposed project will not create a significant hazard to the public or the environment through the routine transport, use, and disposal of hazardous materials, due to the fact that the proposed Protocol does not require the transport, use, and disposal of hazardous materials. Based on the fact that the proposed Protocol and the operation of EV charging stations does not require the transport, use and disposal of hazardous materials, the proposed Protocol will not create a significant hazard to the public or environment through a reasonably foreseeable release of these materials into the environment.

Adoption of the proposed Protocol would incentivize the installation of new EV charging equipment projects throughout the SCAQMD. New EV charging station projects are expected to be developed in existing parking lots/structures at already existing workplaces. Therefore, there is little likelihood that affected facilities will emit new hazardous emissions or handle hazardous materials, substances or waste within one-quarter mile of an existing or proposed school as a result of implementing the proposed project. The potentially affected facilities are typically located in parking lots at commercial work areas, which typically do not generate any hazardous materials, so the existing setting does not change.

VIII. d) It is not anticipated that the proposed project will alter in any way how operators of facilities who choose to install EV charging equipment manage their hazardous wastes. Government Code §65962.5 typically refers to a list of facilities that may be subject to Resource Conservation and Recovery Act (RCRA) permits. It is not possible at this time to know the facilities that will be incentivized to install EV charging stations. However, for any facilities affected by the proposed project that are on the Government Code §65962.5 list, it is anticipated that they would continue to manage any and all hazardous materials and hazardous waste, in accordance with federal, state and local regulations.

VIII. e) Since the proposed project would incentivize the installation of new EV charging equipment projects throughout the SCAQMD and, implementation of the proposed Protocol is not expected to increase or create any new hazardous emissions in general, public/private airports located in close proximity to the EV charging stations will not be adversely affected. Implementation of the proposed Protocol is not expected to create any additional safety hazards for people residing or working in the project area.

VIII. f) The proposed project will not impair implementation of, or physically interfere with any adopted emergency response plan or emergency evacuation plan. The facilities potentially affected by the proposed Protocol are expected to be primarily located in commercial work place settings. Any existing commercial facilities affected by the proposed project will typically have their own emergency response plans. Any new facilities will be required to prepare emergency response and evacuation plans as part of the land use permit review and approval process conducted by local jurisdictions for new development. Emergency response plans are typically prepared in coordination with the local city or county emergency plans to ensure the safety of not only the public (surrounding local communities), but the facility employees as well. Since the proposed project does not involve the change in current uses of any hazardous materials, or generate any new hazardous waste, no changes to emergency response plans are anticipated.

Health and Safety Code §25506 specifically requires all businesses handling hazardous materials to submit a business emergency response plan to assist local administering agencies in the

emergency release or threatened release of a hazardous material. Business emergency response plans generally require the following:

1. Identification of individuals who are responsible for various actions, including reporting, assisting emergency response personnel and establishing an emergency response team;
2. Procedures to notify the administering agency, the appropriate local emergency rescue personnel, and the California Office of Emergency Services;
3. Procedures to mitigate a release or threatened release to minimize any potential harm or damage to persons, property or the environment;
4. Procedures to notify the necessary persons who can respond to an emergency within the facility;
5. Details of evacuation plans and procedures;
6. Descriptions of the emergency equipment available in the facility;
7. Identification of local emergency medical assistance; and
8. Training (initial and refresher) programs for employees in:
 - a. The safe handling of hazardous materials used by the business;
 - b. Methods of working with the local public emergency response agencies;
 - c. The use of emergency response resources under control of the handler; and
 - d. Other procedures and resources that will increase public safety and prevent or mitigate a release of hazardous materials.

In general, every county or city and all facilities using a minimum amount of hazardous materials are required to formulate detailed contingency plans to eliminate, or at least minimize, the possibility and effect of fires, explosion, or spills. In conjunction with the California Office of Emergency Services, local jurisdictions have enacted ordinances that set standards for area and business emergency response plans. These requirements include immediate notification, mitigation of an actual or threatened release of a hazardous material, and evacuation of the emergency area. Adopting the proposed Protocol is not expected to hinder in any way with the above business emergency response plan requirements.

VIII. g) Adoption of the proposed Protocol would incentivize the installation of new EV charging equipment projects throughout the SCAQMD. The proposed Protocol has no provisions that dictate the use of, or generate any new hazardous material. Since the potentially affected facilities will primarily be located in parking lots at established commercial workplace areas where wildlands are typically not prevalent, risk of loss or injury associated with wildland fires is not expected as a result of implementing the proposed Protocol.

VIII. h) Affected facilities must comply with all local and county requirements for fire prevention and safety. The proposed project does not require any activities which would be in conflict with fire prevention and safety requirements, and thus would not create or increase fire hazards at these existing facilities.

Pursuant to local and county fire prevention and safety requirements, facilities are required to maintain appropriate site management practices to prevent fire hazards. The proposed Protocol will not interfere with fire prevention practices.

In conclusion, potentially significant adverse hazard or hazardous material impacts resulting from adopting and implementing the proposed Protocol are not expected and will not be considered further. No mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
IX. HYDROLOGY AND WATER QUALITY. Would the project:				
a) Violate any water quality standards, waste discharge requirements, exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board, or otherwise substantially degrade water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g. the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially alter the existing drainage pattern of the site or area, including through alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in substantial erosion or siltation on- or off-site or flooding on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
d) Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Place housing or other structures within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map, which would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam, or inundation by seiche, tsunami, or mudflow?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Require or result in the construction of new water or wastewater treatment facilities or new storm water drainage facilities, or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
i) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

Potential impacts on water resources will be considered significant if any of the following criteria apply:

Water Demand:

- The existing water supply does not have the capacity to meet the increased demands of the project, or the project would use more than 262,820 gallons per day of potable water.
- The project increases demand for total water by more than five million gallons per day.

Water Quality:

- The project will cause degradation or depletion of ground water resources substantially affecting current or future uses.
- The project will cause the degradation of surface water substantially affecting current or future uses.
- The project will result in a violation of National Pollutant Discharge Elimination System (NPDES) permit requirements.
- The capacities of existing or proposed wastewater treatment facilities and the sanitary sewer system are not sufficient to meet the needs of the project.
- The project results in substantial increases in the area of impervious surfaces, such that interference with groundwater recharge efforts occurs.
- The project results in alterations to the course or flow of floodwaters.

Discussion

Adoption of the proposed Protocol would incentivize the installation of new EV charging equipment projects throughout the SCAQMD. EV charging station projects may generate Rule 2202 credits at any location within the jurisdiction of the SCAQMD where charging stations can be installed for use by the general public or private parking lots and structures accessible only to employees. New EV charging station projects are expected to be developed in existing parking lots/structures at already existing workplaces. Therefore, implementation of the proposed Protocol would only require facilities that choose to install EV charging infrastructure to conduct limited construction activities such as trenching for electrical conduit, placement of prefabricated EV charging equipment, and minor paving/concrete activities.

No additional water demand or wastewater generation is expected to result from the operation of EV charging equipment at the potentially affected facilities because this type of technology does not require the use of water or generate wastewater. Further, the proposed Protocol has no provision that would require the construction of additional water resource facilities, increase the need for new or expanded water entitlements, or alter existing drainage patterns. The proposed project would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge. The proposed Protocol would not create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff. Further, since the installation of EV charging equipment as a result of the proposed Protocol does not involve wastewater processes, there would be no change in the composition or volume of existing wastewater streams from the potentially affected facilities. In addition, the proposed Protocol is not expected to require additional wastewater disposal capacity, violate any water quality standard or wastewater discharge requirements, or otherwise substantially degrade water quality.

IX. a) & f) Installation of EV charging equipment as a result of the proposed Protocol will not change existing vehicle parking operations at potentially affected facilities, nor would the charging of electric vehicles result in generation of increased volumes of wastewater. As a result, there are no potential changes in wastewater volume or composition expected from the implementation of the proposed Protocol. Further, the implementation of the proposed Protocol is not expected to cause potentially affected facilities to violate any water quality standard or wastewater discharge requirements since there would be no wastewater volumes generated as a result of installing and operating EV charging equipment. The adoption of the proposed Protocol is not expected to have significant adverse water demand or water quality impacts for the following reasons:

- The proposed project does not increase demand for water by more than 5,000,000 gallons per day.
- The proposed project does not require construction of new water conveyance infrastructure.
- The proposed project does not create a substantial increase in mass inflow of effluents to public wastewater treatment facilities.
- The proposed project does not result in a substantial degradation of surface water or groundwater quality.
- The proposed project does not result in substantial increases in the area of impervious surfaces, such that interference with groundwater recharge efforts occurs.
- The proposed project does not result in alterations to the course or flow of floodwaters.

IX. b) Because the EV charging equipment that may be installed as a result of the proposed Protocol does not rely on water, no increase to any affected facilities' existing water demand is expected. Because EV charging equipment technology does not utilize water, implementation of the proposed Protocol will not increase demand for, or otherwise affect groundwater supplies or interfere with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level. In addition, implementation of the proposed Protocol will not increase demand for water from existing entitlements and resources, and will not require new or expanded entitlements. Since the installation of new EV charging equipment

as a result of the proposed Protocol will generally occur at existing facilities, no paving is expected to be required that might interfere with groundwater recharge. Therefore, no water demand impacts are expected as the result of implementing the proposed Protocol.

IX. c), d), & e) Implementation of the proposed Protocol will occur at primarily existing facilities, or areas that are typically located in parking lots at existing commercial workplace areas that are paved and likely have drainage infrastructure in place. Implementation of the proposed Protocol would only require facilities that choose to install EV charging infrastructure to conduct limited construction activities such as trenching for electrical conduit, placement of prefabricated EV charging equipment, and minor paving/concrete activities. Therefore, no

change to existing storm water runoff, drainage patterns, groundwater characteristics, or flow are expected.

IX. g), h), & i) The proposed project will not require construction of new housing, contribute to the construction of new building structures, or require modifications or changes to existing structures. Therefore, the proposed Protocol is not expected to generate construction of any new structures in 100-year flood areas as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood delineation map. Further, the proposed project is not expected to require additional operational workers at affected equipment locations. As a result, the proposed Protocol is not expected to expose people or structures to significant new flooding risks, or make worse any existing flooding risks. Finally, the proposed Protocol will not affect in any way any potential flood hazards inundation by seiche, tsunami, or mud flow that may already exist relative to existing facilities or create new hazards at existing facilities.

The proposed Protocol will not increase storm water discharge, since the limited construction activities associated with the installation of EV charging infrastructure are expected to occur at already existing, developed facilities. No major changes are necessary at the affected parking lots to increase storm water runoff during operations. Therefore, no new storm water discharge treatment facilities or modifications to existing facilities will be required due to the implementation of the proposed Protocol. Accordingly, the proposed Protocol is not expected to generate significant adverse impacts relative to construction of new storm water drainage facilities.

Based upon these considerations, significant hydrology and water quality impacts are not expected from the implementation of the proposed Protocol and will not be further analyzed in this final EA. Since no significant hydrology and water quality impacts were identified, no mitigation measures are necessary or required.



	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
X. LAND USE AND PLANNING.				
Would the project:				
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

Land use and planning impacts will be considered significant if the project conflicts with the land use and zoning designations established by local jurisdictions.

Discussion

X. a) Adoption of the proposed Protocol would incentivize the installation of new EV charging equipment projects throughout the SCAQMD. EV charging station projects may generate Rule 2202 credits at any location within the jurisdiction of the SCAQMD where charging stations can be installed for use by the general public or private parking lots and structures accessible only to employees. New EV charging station projects are expected to be developed in existing parking lots/structures at already existing workplaces. Since installation of EV charging infrastructure as a result of the proposed Protocol is expected to occur at already existing facilities, it will not require or result in physically dividing an established community.

X. b) There are no provisions in the proposed Protocol that would affect land use plans, policies, or regulations. Land use and other planning considerations are determined by local governments and no land use or planning requirements would be altered by the proposed Protocol. Affected facilities would have to comply with local ordinances and land use requirements. Therefore, as already noted in the discussion under “Biological Resources,” the proposed Protocol would not affect any habitat conservation or natural community conservation plans, or agricultural resources or operations, and would not create divisions in any existing communities. Present or planned land uses in the region would not be significantly adversely affected as a result of implementing the proposed Protocol.

Based upon these considerations, significant adverse land use and planning impacts are not expected from the implementation of the proposed Protocol and will not be further analyzed in this final EA. Since no significant land use and planning impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
XI. MINERAL RESOURCES. Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

Project-related impacts on mineral resources will be considered significant if any of the following conditions are met:

- The project would result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state.
- The proposed project results in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.

Discussion

XI. a) & b) There are no provisions in the proposed Protocol that would result in the loss of availability of a known mineral resource of value to the region and the residents of the state, or of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan. Some examples of mineral resources are gravel, asphalt, bauxite, and gypsum, which are commonly used for construction activities or industrial processes. Since the proposed project only affects EV charging infrastructure, the proposed Protocol does not require and would not have any effects on the use of important minerals, such as those described above. Therefore, no new demand for mineral resources is expected to occur and no significant adverse mineral resources impacts from implementing the proposed Protocol are anticipated.

Based upon these aforementioned considerations, significant mineral resources impacts are not expected from the implementation of the proposed Protocol. Since no significant mineral resources impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
XII. NOISE. Would the project result in:				
a) Exposure of persons to or generation of permanent noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
d) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public use airport or private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

Noise impact will be considered significant if:

- Construction noise levels exceed the local noise ordinances or, if the noise threshold is currently exceeded, project noise sources increase ambient noise levels by more than three decibels (dBA) at the site boundary. Construction noise levels will be considered significant if they exceed federal Occupational Safety and Health Administration (OSHA) noise standards for workers.
- The proposed project operational noise levels exceed any of the local noise ordinances at the site boundary or, if the noise threshold is currently exceeded, project noise sources increase ambient noise levels by more than three dBA at the site boundary.

Discussion

XII. a) Adoption of the proposed Protocol would incentivize the installation of new EV charging equipment projects throughout the SCAQMD. New EV charging station projects are expected to be developed in existing parking lots/structures at already existing workplaces. Therefore, implementation of the proposed Protocol would only require facilities that choose to install EV charging infrastructure to conduct limited construction activities such as trenching for electrical conduit, placement of prefabricated EV charging equipment, and minor paving/concrete activities. The proposed Protocol would not require any new development or require major modifications to buildings or other structures to comply with the proposed Protocol that would generate noise. EV charging stations are typically not noise generating equipment, so any new EV charging infrastructure installed would not be expected to generate noise above the existing setting. All of the affected activities are expected to occur at existing facilities. Thus, the proposed project is not expected to expose persons to the generation of excessive noise levels above current levels because no change in current operations is expected to occur as a result of the proposed project. It is expected that any facility affected by the proposed Protocol would continue complying with all existing local noise control laws or ordinances.

XII. b) The proposed Protocol is not anticipated to expose people to or generate excessive groundborne vibration or groundborne noise levels since limited construction activities are expected to occur at existing facilities that choose to install EV charging infrastructure. Any noise generated by the limited construction activities are expected to be temporary and minor. Additionally, EV charging stations are not inherently noisy and do not create excessive vibrations.

XII. c) A permanent increase in ambient noise levels at the affected locations above existing levels is not expected because EV charging infrastructure and equipment is not typically a noise intensive technology. Therefore, the existing noise levels are unlikely to change and raise ambient noise levels in the vicinities of newly installed EV charging locations to above a level of significance in response to implementing the proposed Protocol.

XII. d) Implementation of the proposed Protocol would only require facilities that choose to install EV charging infrastructure to conduct limited construction activities such as trenching for electrical conduit, placement of prefabricated EV charging equipment, and minor paving/concrete activities. Even if affected locations are located near a public/private airport, there are no new noise impacts expected from any of the existing facilities as a result of installing EV charging infrastructure to affect the operations of the airport. Thus, the proposed Protocol is not expected to expose people residing or working in the project vicinities to excessive noise levels. See also the response to item XII.a).

Based upon these considerations, significant adverse noise impacts are not expected from the implementation of the proposed Protocol and are not further evaluated in this final EA. Since no significant noise impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
XIII. POPULATION AND HOUSING.				
Would the project:				
a) Induce substantial growth in an area either directly (for example, by proposing new homes and businesses) or indirectly (e.g. through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Displace substantial numbers of people or existing housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

Impacts of the proposed project on population and housing will be considered significant if the following criteria are exceeded:

- The demand for temporary or permanent housing exceeds the existing supply.
- The proposed project produces additional population, housing or employment inconsistent with adopted plans either in terms of overall amount or location.

Discussion

XIII. a) Because the installation of new EV charging equipment only requires minimal labor (depending on projects size- less than 10 workers), it is expected that workers can be drawn from the existing labor pool in southern California. Further, the proposed project is not anticipated to

generate any significant effects, either direct or indirect, on the District's population or population distribution as no additional workers are anticipated to be required at the facilities to operate the EV charging stations. Human population within the jurisdiction of the SCAQMD is anticipated to grow regardless of implementing the proposed Protocol. As such, implementation of the proposed Protocol will not result in changes in population densities or induce significant growth in population.

XIII. b) Because the proposed project is primarily located in existing commercial areas, the proposed Protocol is not expected to result in the creation of any industry that would affect population growth, directly or indirectly induce the construction of single- or multiple-family units, or require the displacement of people elsewhere.

Based upon these considerations, significant adverse population and housing impacts are not expected from the implementation of the proposed Protocol and are not further evaluated in this final EA. Since no significant population and housing impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
XIV. PUBLIC SERVICES. Would the proposal result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered government facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the following public services:				
a) Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

Impacts on public services will be considered significant if the project results in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered government facilities, the

construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response time or other performance objectives.

Discussion

XIV. a) & b) Adoption of the proposed Protocol would incentivize the installation of new EV charging equipment projects throughout the SCAQMD. New EV charging station projects are expected to be developed in existing parking lots/structures at already existing workplaces. All newly installed EV charging equipment would be expected to be compliant with fire department standards, therefore, they would not increase the risk of fire to occur. No other physical modifications or changes associated with the operation of the EV charging stations are expected and no flammable substances are necessary to operate an EV charging station. As such, the proposed project will not increase the chances for fires or explosions that could affect local fire departments. Finally, the proposed Protocol is not expected to increase the need for security at affected equipment locations, which could adversely affect local police departments.

Because the proposed project does not require or involve the use of new hazardous materials or generate new hazardous waste, it will not generate an emergency situation that would require additional fire or police protection, or impact acceptable service ratios or response times.

XIV. c), d), & e) As indicated in discussion under item XIII. Population and Housing, implementing the proposed Protocol would not induce population growth or dispersion because no additional operational workers are expected to be needed at the existing affected facilities and construction workers will be temporary, not permanent. Therefore, with no increase in local population anticipated as a result of adopting and implementing the proposed Protocol, additional demand for new or expanded schools or parks is also not anticipated. As a result, no significant adverse impacts are expected to local schools or parks.

Based upon these considerations, significant adverse public services impacts are not expected from the implementation of the proposed Protocol and are not further evaluated in this final EA. Since no significant public services impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
XV. RECREATION.				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment or recreational services?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

Impacts to recreation will be considered significant if:

- The project results in an increased demand for neighborhood or regional parks or other recreational facilities.
- The project adversely affects existing recreational opportunities.

Discussion

XV. a) & b) As discussed under “Land Use and Planning” (Section X) above, there are no provisions in the proposed Protocol that would affect land use plans, policies, or regulations. Land use and other planning considerations are determined by local governments. No land use or planning requirements would be altered by the adoption of the proposed Protocol, which only affects EV charging infrastructure. Further, the proposed Protocol would not affect District population growth or distribution (see “Population and Housing”- Section XIII) in ways that could increase the demand for or use of existing neighborhood and regional parks or other recreational facilities or require the construction of new or expansion of existing recreational facilities that might have an adverse physical effect on the environment because it would not directly or indirectly increase or redistribute population.

Based upon these considerations, significant recreation impacts are not expected from the implementation of the proposed Protocol. Since no significant recreation impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
XVI. SOLID/HAZARDOUS WASTE.				
Would the project:				
a) Be served by a landfill with sufficient permitted capacity to accommodate the project’s solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Comply with federal, state, and local statutes and regulations related to solid and hazardous waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

The proposed project impacts on solid/hazardous waste will be considered significant if the following occurs:

- The generation and disposal of hazardous and non-hazardous waste exceeds the capacity of designated landfills.

Discussion

XVI. a) & b) Adoption of the proposed Protocol would incentivize the installation of new EV charging equipment projects throughout the SCAQMD. New EV charging station projects are expected to be developed in existing parking lots/structures at already existing workplaces. Because the newly installed EV charging equipment has a finite lifetime, it will ultimately have to be replaced at the end of its useful life. Affected equipment may be refurbished and used elsewhere or the scrap metal or other materials from replaced units has economic value and is expected to be recycled, so any solid or hazardous waste impacts specifically associated with the proposed Protocol are expected to be minor. As a result, no substantial change in the amount or character of solid or hazardous waste streams is expected to occur. Sanitation districts forecast future landfill capacity and encourage recycling. Any portions of the EV charging stations that cannot be recycled are expected to be able to be disposed of in the available landfill capacity. Additionally, any waste generated by construction activities associated with the installation of new EV charging stations are expected to be minor. The proposed Protocol is not expected to increase the volume of solid or hazardous wastes from affected facilities, require additional waste disposal capacity, or generate waste that does not meet applicable local, state, or federal regulations.

Based upon these considerations, the proposed Protocol is not expected to increase the volume of solid or hazardous wastes that cannot be handled by existing municipal or hazardous waste disposal facilities, or require additional waste disposal capacity. Further, implementing the proposed Protocol is not expected to interfere with any affected facility's ability to comply with applicable local, state, or federal waste disposal regulations. Since no solid/hazardous waste impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
XVII. TRANSPORTATION/TRAFFIC.				
Would the project:				
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with an applicable congestion management program, including but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Substantially increase hazards due to a design feature (e.g. sharp curves or dangerous intersections) or incompatible uses (e.g. farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Impacts on transportation/traffic will be considered significant if any of the following criteria apply:

- Peak period levels on major arterials are disrupted to a point where level of service (LOS) is reduced to D, E or F for more than one month.
- An intersection's volume to capacity ratio increase by 0.02 (two percent) or more when the LOS is already D, E or F.
- A major roadway is closed to all through traffic, and no alternate route is available.
- The project conflicts with applicable policies, plans or programs establishing measures of effectiveness, thereby decreasing the performance or safety of any mode of transportation.
- There is an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system.
- The demand for parking facilities is substantially increased.
- Water borne, rail car or air traffic is substantially altered.
- Traffic hazards to motor vehicles, bicyclists or pedestrians are substantially increased.
- The need for more than 350 employees
- An increase in heavy-duty transport truck traffic to and/or from the facility by more than 350 truck round trips per day
- Increase customer traffic by more than 700 visits per day.

Discussion

XVII. a) & b) Adoption of the proposed Protocol would incentivize the installation of new EV charging equipment projects throughout the SCAQMD. As a result, the proposed Protocol may result in an increased amount of EV's in the general traffic circulation system. However, it is likely that these new EV's will be replacing older, higher emitting gasoline combustion engine vehicles, so no near-term change in traffic and congestion is expected. With population growth over time, more vehicles would be expected, however, not due to the proposed Protocol, although the increase in vehicles may be electric due to the Protocol. The Protocol could incentivize the purchase of a second vehicle. However, it would not cause a change in traffic since only one car could be driven at any given time. Therefore, implementation of the proposed Protocol would not result in a net change or cause additional transportation demands or services. Similarly, the implementation of the proposed Protocol is not expected to adversely affect circulation patterns on local roadways or the level of service at intersections near affected facilities.

Implementation of the proposed Protocol would require facilities that choose to install EV charging infrastructure to conduct limited construction activities such as trenching for electrical conduit, placement of prefabricated EV charging equipment, and minor paving/concrete activities. These limited construction activities would require ten additional worker vehicle trips and five additional EV equipment delivery trips to facilities developing new charging station projects.

To evaluate any potential environmental impacts from future electric vehicle charging station projects, an environmental analysis was conducted on a known proposed project to expand and upgrade electric vehicle charging infrastructure at the SCAQMD headquarters as a surrogate for potential future projects deployed as a result of the new Protocol. Due to the large project size,

this known project was used as an example for a “worst case” impact scenario. The proposed project includes installing 104 new charging stations, replacing six existing charging stations, installation of three new electrical transformers and two small concrete pads, and minor drilling and trenching activities. The environmental analysis concluded that this proposed project would not generate any significant adverse air quality environmental impacts. The detailed results of this air quality analysis are presented in Appendix B – Construction Emissions from Surrogate EV Charging Station Project and Section III.

Since a limited amount of construction-related trips (see Appendix B) and no additional operational-related trips per facility are anticipated, the adoption of the proposed Protocol is not expected to significantly adversely affect circulation patterns on local roadways or the level of service at intersections near affected facilities. Since a minor amount of construction is required at facilities choosing to install EV infrastructure, no significant construction traffic impacts are anticipated based on the analysis conducted.

XVII. c) Adoption of the proposed Protocol would incentivize the installation of new EV charging equipment projects throughout the SCAQMD. The proposed Protocol will not require operators of existing facilities to construct buildings or other structures that could interfere with flight patterns, so the height and appearance of the existing structures are not expected to change. Therefore, implementation of the proposed Protocol is not expected to adversely affect air traffic patterns. Further, the proposed Protocol will not affect in any way air traffic in the region because it will not require transport of any materials by air.

XVII. d) No physical modifications to roadways are expected to occur by implementing the proposed Protocol. Therefore, no offsite modifications to roadways are anticipated for the proposed project that would result in an additional design hazard or new incompatible uses.

XVII. e) New EV charging station projects as a result of the proposed Protocol are expected to be developed in existing parking lots/structures at already existing workplaces. As a result, the proposed Protocol is not expected to adversely impact existing emergency access.

XVII. f) New EV charging station projects as a result of the proposed Protocol are expected to be developed in existing parking lots/structures at already existing workplaces. No changes to the parking capacity at or in the vicinity of the affected facilities are expected. Although unlikely, if there is a surplus of EV charging parking spaces, conventional vehicles would still have the ability to utilize the parking spaces. Therefore, no shortage of parking spaces is expected. Further, the proposed Protocol is not expected to require additional operational workers, so additional parking capacity will not be required. Therefore, the proposed Protocol is not expected to adversely impact on- or off-site parking capacity. The proposed Protocol has no provisions that would conflict with alternative transportation, such as bus turnouts, bicycle racks, et cetera.

Based upon these considerations, the proposed Protocol is not expected to generate significant adverse project-specific or cumulative transportation/traffic impacts and, therefore, this topic will not be considered further. Since no significant transportation/traffic impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
XVIII. MANDATORY FINDINGS OF SIGNIFICANCE.				
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

XVIII. a) As discussed in the “Biological Resources” section, the proposed Protocol is not expected to significantly adversely affect plant or animal species or the habitat on which they rely because the installation EV charging infrastructure is expected to occur in existing commercial areas which have already been greatly disturbed and that currently do not support such habitats. Additionally, special status plants, animals, or natural communities are not expected to be found within close proximity to the facilities potentially affected by the proposed Protocol.

XVIII. b) Based on the foregoing analyses, cumulative impacts in conjunction with other projects that may occur concurrently with or subsequent to the proposed project are not expected to adversely impact any environmental topic. Related projects to the currently proposed project include existing and proposed amended rules and regulations, as well as AQMP control

measures, which produce emission reductions from most industrial and commercial sectors. Furthermore, because the proposed Protocol does not generate significant project-specific impacts, cumulative impacts are not considered to be "cumulatively considerable" as defined by CEQA guidelines §15065(a)(3). For example, the environmental topics checked 'No Impact' (e.g., aesthetics, agriculture resources, biological resources, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, land use and planning, mineral resources, noise, population and housing, public services, recreation, solid/hazardous waste and transportation and traffic) would not be expected to make any contribution to potential cumulative impacts whatsoever. The studies conducted by the power suppliers in the Basin show current reliability and future forecasting of energy supply and demand to not be cumulatively considerable. Also, in the case of air quality impacts, the net effect of implementing the proposed project with other proposed amended rules and regulations, and AQMP control measures is an overall reduction in District-wide emissions, thus, contributing to the attainment of state and national ambient air quality standards. Therefore, it is concluded that the proposed Protocol has no potential for significant cumulative or cumulatively considerable impacts in any environmental areas.

XVIII. c) Based on the foregoing analyses, the proposed Protocol is not expected to cause significant adverse effects to human beings. Significant adverse air quality impacts are not expected from the implementation of the proposed Protocol. Based on the preceding analyses, no significant adverse impacts to aesthetics, agriculture resources, air quality, biological resources, cultural resources, energy, geology and soils, hazards and hazardous materials, hydrology and water quality, land use and planning, mineral resources, noise, population and housing, public services, recreation, solid/hazardous waste and transportation and traffic are expected as a result of the implementation of the proposed Protocol.

As discussed in items I through XVIII above, the proposed project would have no potential to cause significant adverse environmental effects.

APPENDIX A

RULE 2202 EMISSION REDUCTION QUANTIFICATION PROTOCOL FOR ELECTRIC VEHICLE CHARGING STATION PROJECTS

- 1) This version of the Rule 2202 Emission Reduction Quantification Protocol for Electric Vehicle Charging Station Projects is the version that was released for public review and comment with the Draft Environmental Assessment.
- 2) The Final version of the Rule 2202 Emission Reduction Quantification Protocol for Electric Vehicle Charging Station Projects can be found in the Final Rule Package.
- 3) Minor modifications were made to the proposed protocol subsequent to release of the Draft EA for public review. Staff has reviewed these minor modifications and concluded that they do not make any impacts substantially worse or change any conclusions reached in the Draft EA. As a result, these minor revisions do not require recirculation of the document pursuant to CEQA Guidelines §15088.5.

DRAFT

(Draft - ~~October~~ March 2014)

RULE 2202 EMISSION REDUCTION QUANTIFICATION PROTOCOL FOR ELECTRIC VEHICLE CHARGING STATION PROJECTS

(a) Purpose

The purpose of this ~~P~~protocol is to establish procedures for evaluating, approving, and monitoring eligible electric vehicle charging station projects submitted under the Rule 2202 Air Quality Investment Program (AQIP) solicitation or pursuant to Rule 2202(f)(6).

(b) Applicability

This ~~P~~protocol applies to persons who voluntarily elect to generate Rule 2202 credits through the deployment of electric vehicle charging stations at any parking lot or structure located within the jurisdiction of the South Coast Air Quality Management District (SCAQMD) where the charging stations are accessible to the general public or at private parking lots and structures designated for employee parking only.

(c) Definitions

- (1) AVERAGE VEHICLE RIDERSHIP (AVR) means the current number of employees scheduled to report to work during the window for calculating AVR divided by the number of vehicles arriving at the worksite during the same window.
- (2) CONTRACTOR means a person or entity who has an executed contract under a Rule 2202 Air Quality Investment Program (AQIP) solicitation to implement an Electric Vehicle Charging Station Project per the provisions of this Protocol. Contractor also includes a person or entity who contracts with the approved Rule 2202(f)(6) ~~A~~applicant to implement the Project, ~~so long as the contract requires compliance with all applicable requirements of this Protocol.~~
- (3) ELECTRIC VEHICLE CHARGING STATION (EVCS) means a device or station that provides power to charge the batteries of a dedicated battery-electric vehicle (BEV) or a plug-in hybrid electric vehicle (PHEV). These chargers are classified according to output voltage and the rate at which they can charge a battery. Level 1 charging can be done through most wall outlets at 120 volts and 15 amps AC. Level 2 charging is done at less than or equal to 240 volts and 60 amps AC, with a power output of less than or equal to 14.4 kW. Level 3 charging can be done with power output of greater than 14.4 kW.

- (4) EMISSION REDUCTION TARGET (ERT) means the annual VOC, NO_x, and CO emissions required to be reduced based on the number of employees per worksite and the employee emission reduction factor, determined in accordance with the provisions of subdivision (e) of Rule 2202.
 - (5) EMPLOYER means any person(s), firm, business, educational institution, non-profit agency or corporation, government agency, or other entity that employs 250 or more employees. Several subsidiaries or units that occupy the same work site and report to one common governing board or governing entity or that function as one corporate unit are considered to be one employer.
 - (6) REPORTING PERIOD means every six months, but no longer than 12 months. The reporting period may be different based on the Rule 2202 AQIP contract or the SCAQMD approved Rule 2202(f)(6) application, but may not exceed 12 months.
 - (7) ~~RULE 2202(Ff)~~(6) APPLICANT means any entity who submits a Rule 2202(f)(6) application to implement an electric vehicle charging station project that meets the provisions of this ~~P~~protocol.
 - (8) RULE 2202 CREDIT means the emissions reductions ~~resulting associated with the amount of from~~ electricity consumption used to charge a ZEV as calculated by the emissions reduction quantification equation provided in this protocol, and is generated under a Rule 2202(f)(6) application and issued by the SCAQMD for the purposes of complying with Rule 2202.
 - (9) WORKSITE means a structure, building, portion of a building, or grouping of buildings that are in actual physical contact or are separated solely by a private or public roadway or other private or public right-of-way, and that are occupied by the same employer. Employers may opt to treat more than one structure, building or grouping of buildings as a single worksite, even if they do not have the above characteristics, if they are located within a 2-mile radius and are in the same Performance Zone as defined in Rule 2202.
 - (10) ZERO-EMISSION VEHICLE (ZEV) means, for the purposes of this ~~P~~protocol, any vehicle that has an electric range powered by batteries and requires the use of an electric vehicle charging station to replenish the batteries. Examples include battery-electric vehicles (BEV) and plug-in hybrid electric vehicles (PHEVs).
- (d) Eligible Projects
- (1) Eligible projects include the installation of new electric vehicle charging stations installed on or after January 14, 2014 at any parking lot or structure located within the jurisdiction of the ~~South Coast Air Quality Management District~~ SCAQMD

where the charging stations are accessible to the general public or at private parking lots and structures designated for employee parking only.

~~(A) — Electric vehicle charging stations installed within one year prior to [insert date of approval of this protocol by the SCAQMD] are eligible to generate Rule 2202 credits.~~

(2) Notwithstanding subparagraph (e)(1), the following types of EVCS installations shall not be eligible to generate Rule 2202 credits:

(A) Electric vehicle charging stations that have received full ~~or partial~~ funding from California Energy Commission, California Air Resources Board, or SCAQMD including the Mobile Source Emissions Reduction Review Committee (MSRC).

(B) For electric vehicle charging stations that have received partial funding from any of the entities listed in subparagraph (d)(2)(A), the prorated portion based on the amount of funding received as a percentage of the total charging station project cost and as provided in the Emission Reduction equation pursuant to subparagraph (f)(2).

~~(B)~~ (C) Parking lots or structures that are owned by or have an arrangement with a Rule 2202 employer to provide parking to its employees, and the Rule 2202 employer accounts for zero emission vehicles as part of ~~their~~ its AVR Adjustment in the Rule 2202 compliance reporting under Appendix A (Average Vehicle Ridership Survey Form and Instructions).

(e) Credit Generator Requirements

Any person who elects to generate Rule 2202 credits under this ~~P~~ P protocol shall submit a Rule 2202(f)(6) application pursuant to Section II.F of the Rule 2202 On-Road Motor Vehicle Mitigation Option Implementation Guidelines.

(1) A Rule 2202(f)(6) application must be submitted within 90 days,

(A) From the date of installation of new charging stations installed after [insert date of approval of this P protocol by the SCAQMD]; or

(B) From [insert date of approval of this P protocol by the SCAQMD] for electric vehicle charging stations installed ~~within one year on or after~~ January 14, 2014 and prior to the date of approval of this Protocol.

(2) ~~If new electric vehicle charging stations are installed, or existing electric vehicle charging stations installed within one year prior to [insert date of approval of this protocol by the SCAQMD] at locations with existing charging stations that were installed over one year prior to [insert date of approval of this protocol by the SCAQMD], a demonstration must be provided with t~~ The Rule 2202(f)(6)

application shall describe how any of the above-qualified~~the new~~ electric vehicle charging stations will be monitored separately from ~~the any~~ existing unqualified charging stations.

(f) Emission Reduction Quantification

- (1) Emission reductions generated shall be based on actual electricity consumption at the electric vehicle charging station(s), which shall be located within the jurisdiction of the South Coast Air Quality Management District ~~and as provided~~ shown in Attachment I of Rule 2202.
- (2) The emission reductions shall be quantified using the following equation.

$$\text{Emissions Reduction} = \left[\frac{AL}{FE} \times EF \times (1 - FD) \right] \div (8320 \times DF)$$

Where:

Emissions Reduction = Emissions reduction of VOC, NO_x, or CO (lbs/yr).

AL = Activity Level is the total electricity usage from all EVCSs identified in the project used to charge zero-emission vehicles (kilowatt-hrs – kWh) during the reporting period

FE = Average combined fuel economy of BEVs and PHEVs for the current and past model years based on BEV and PHEV models provided at the Department of Energy's website (kWh/mile). (Default = 0.34 for Model Years 2013/2014)

EF = Emission Factor for VOC, NO_x, or CO (lbs/year) as provided in Table 2, Appendix B of the Rule 2202 On-Road Motor Vehicle Mitigation Options Annual Program Compliance Forms

FD = The ratio of the public funding to total funding of an electric vehicle charging station or a group of electric vehicle charging stations. (Default = 0.0 if no public funding incentives were received from the California Energy Commission, California Air Resources Board, or the SCAQMD including funding from the Mobile Source Air Pollution Reduction Review Committee (MSRC). Value is 1.,0, if the electric

vehicle charging stations were funded entirely by the California Energy Commission, California Air Resources Board, or the SCAQMD including funding from the MSRC.)

8320 = Conversion factor for *EF* from lbs/year to lbs/mile

DF = Discount Factor for the VOC, NO_x, or CO (lbs/mile)
(Default = 1.20)

- (3) The emission reductions can only be generated during the project life specified in the Rule 2202 AQIP contract or the project life specified in the Rule 2202(f)(6) application approved by the SCAQMD.
 - (4) Any additional emission reductions that are achieved by the project beyond the term of the contract or application approval may be used by the SCAQMD to further incentivize the deployment of zero-emission vehicles.
- (g) Credit Generation, Issuance, Use, and Project Life
- (1) Rule 2202 credits ~~generated~~:
 - (A) Shall be generated by an entity, including a Rule 2202 employer, that has a SCAQMD-approved Rule 2202 (f)(6) application to implement an EVCS project;
 - (B) Shall have a useful credit life of one year from the date of issuance of the Rule 2202 credit;
 - (C) Shall only be applied towards compliance as allowed under Rule 2202;
 - (D) May only be used, traded, or sold within the useful credit life for Rule 2202 purposes; and
 - (E) Shall not be transferable for compliance with any other local, state, or federal rules or regulations unless explicitly allowed under such regulations, in which case they may not be used for Rule 2202 compliance.
 - (2) All projects shall be inspected by SCAQMD prior to and following project implementation. Contractor or Rule 2202(f)(6) Applicant shall guarantee SCAQMD access to the site where EVCSs are installed for auditing and/or inspection purposes.
 - ~~(A) Contractor or Rule 2202(f)(6) Applicant shall guarantee SCAQMD access to the site where EVCSs are installed for auditing and/or inspection purposes.~~

- (3) Rule 2202 credits will not be issued or emission reductions generated for AQIP purposes will not be approved by the SCAQMD until a post-inspection of the project has been completed by the SCAQMD to verify that the project was implemented as approved. This provision shall be included in the contracts and/or agreements between Contractor or Rule 2202(f)(6) Applicant and all other parties involved in this project.
~~(A) — This provision shall be included in the contracts and/or agreements between Contractor or Rule 2202(f)(6) applicant and all other parties involved in this project.~~
- (4) If a Rule 2202 employer obtains Rule 2202 credits under this Pprotocol through a purchase or trade for such credits, the Rule 2202 employer is not eligible to credit zero emission vehicles as part of their AVR Adjustment in the Rule 2202 compliance reporting under Appendix A (Average Vehicle Ridership Survey Form and Instructions) for the useful life of the Rule 2202 credits.
- (5) If an EVCS project is approved by the SCAQMD under a Rule 2202(f)(6) application or Rule 2202 AQIP contract and the project is located at a Rule 2202 worksite, the Rule 2202 employer is not eligible to switch to crediting zero emission vehicles as part of their AVR Adjustment in the Rule 2202 compliance reporting under Appendix A (Average Vehicle Ridership Survey Form and Instructions) for the duration of the project life specified in the applicable Rule 2202(f)(6) application or Rule 2202 AQIP contract.
- (6) The project life shall be shortened by the District to that period ending on the day upon which the emission reductions associated with the project cannot be used for Rule 2202 compliance~~are no longer surplus~~ or the project is found to be inconsistent with any federal, state or local regulation, or SCAQMD approved guidelines.
- (h) Monitoring, Recordkeeping, and Reporting
- (1) Monitoring
- (A) ~~A dedicated, non-resettable, totalizing electric meter capable of measuring electricity usage shall be installed for e~~Each electric vehicle charging station or each group of electric vehicle charging stations under the project shall monitor the electricity consumed during vehicle charging and the electricity consumed shall be recorded in ~~monthly~~ logs as required under the Recordkeeping Section of this Protocol.
- (i) The Contractor or Rule 2202(f)(6) Aapplicant ~~may shall~~ provide documentation as part of the AQIP solicitation (for Rule 2202

AQIP Contractor) or in the Rule 2202(f)(6) application (for Rule 2202(f)(6) Applicant or its Contractor) as to how electricity consumption shall be monitored or that the charging station has a usage meter installed and the usage information is recorded and reported to a central location.

(ii) If a meter cannot be installed on an electric vehicle charging station or on a group of electric vehicle charging stations, the Rule 2202(f)(6) Applicant or Contractor may use an alternative form of reporting electricity usage if the Rule 2202(f)(6) Applicant or Rule 2202 AQIP Contractor, at the time of the Rule 2202(f)(6) application submittal or AQIP contract execution, demonstrates to the satisfaction of the Executive Officer that the alternative form of reporting is equivalent to having a meter or meters installed.

(B) Should the ~~electric-usage~~ meter require repair and/or replacement, a maintenance record shall be prepared and submitted to the SCAQMD with the activity level data report as provided in the Reporting Section below. The maintenance record shall include: the date of the repair and/or replacement, type of repair and/or replacement, meter reading at time of repair and/or replacement, and date of completion with the new meter reading.

~~(i) The maintenance record shall include: the date of the repair and/or replacement, type of repair and/or replacement, meter reading at time of repair and/or replacement, and date of completion with the new meter reading.~~

(C) Emission reductions will be verified and credits will be issued only for electric vehicle charging stations identified in the Rule 2202(f)(6) application. If additional electric vehicle charging stations are added to the previously approved and identified group of electric vehicle charging stations, then a new Rule 2202(f)(6) application shall be submitted for the new electric vehicle charging stations within 90 days from the installation of the new charging stations.

~~(i) If additional electric vehicle charging stations are added to the previously approved and identified group of electric vehicle charging stations, then a new Rule 2202(f)(6) application shall be submitted for the new electric vehicle charging stations within 90 days from the installation of the new charging stations.~~

- (2) Recordkeeping
- (A) Contractor or Rule 2202(f)(6) ~~A~~applicant shall ensure that the following records are maintained:
- (i) ~~Monthly~~A log of total electricity consumption ~~from a dedicated, non-resettable electricity meter(s)~~(the reporting period for the logged data shall be provided as part of the Rule 2202 AQIP Contract or Rule 2202(f)(6) application);
 - (ii) Records of electricity charges paid to an electric utility or utilities (if appropriate), or equivalent documentation as described in the Rule 2202 AQIP Contract or Rule 2202(f)(6) application;
 - (iii) Rule 2202 credits claimed, and the calculations demonstrating how the emission reductions were determined, and any data not already included in the proposal/application that is used to calculate the emission reductions;
 - (iv) Records of any maintenance or repairs performed; and
 - (v) The data shall be recorded on a non-rewritable, non-volatile storage media, such as a CD or any other storage media such that the data can be readily accessed at the request of the District pursuant to subparagraph (i)(1). The original copy shall be maintained for at least three years after submittal of data for Rule 2202 credit evaluation.
- (B) Records shall be maintained by the project proponent during the project life and for three (3) years after the termination of the project or contract.
- (3) Reporting
- (A) Contractors or Rule 2202(f)(6) ~~A~~applicants shall submit progress reports to the SCAQMD every three months following contract execution or plan approval until project implementation, and then activity level data reports annually thereafter for the life of the project.
- (B) Applicants generating Rule 2202 credits pursuant to Rule 2202(f)(6) or Rule 2202 AQIP Contractors generating emission reductions under an AQIP contract may submit semi-annual activity level data and credit issuance requests in lieu of annual reporting if requested and approved by SCAQMD at the time of application approval or execution of an AQIP contract.
- (C) Each activity level data report shall be submitted within 60 days after the end of the reporting period.

~~(D)~~ If the report is not timely submitted, the SCAQMD will not approve the emission reductions for the reporting period.

~~(D)~~(E) A time extension not exceeding 30 days may be allowed to supplement the activity data report with new information that that was not available during the 60 day period.

~~(i)~~ If the report is not timely submitted, the SCAQMD will not approve the emission reductions for the reporting period.

~~(E)~~(F) The SCAQMD shall notify the Applicant within 30 calendar days of receipt of a Rule 2202 credit request and activity level data report as to whether or not the request contains sufficient information to be deemed complete.

~~(F)~~ Upon receipt of any resubmittal or additional information after the request has been deemed incomplete, a new 30-day period shall begin.

(G) Within 45 days of submittal of a complete request, SCAQMD will either approve or disapprove the issuance of Rule 2202 credits for the reporting period.

(H) Each activity level data report shall, at a minimum, include:

- (i) A brief description and location and number of electric vehicle charging station(s), only if this information has changed since the original application;
- (ii) Number of kilowatt-hours consumed at the electric vehicle charging station(s) during the reporting period including all documentation and information necessary to verify the electricity consumption at the electric vehicle charging station(s);
- (iii) Time period that the report covers;
- (iv) Actual emission reductions, as calculated by the SCAQMD approved method in this Protocol;
- (v) A brief description of any maintenance or repairs performed during the reporting period; and
- (vi) All assumptions, calculations, and factors used to determine the activity level and derive the actual emission reductions that are not already included in the proposal/application;

(i) Auditing and Failure to Implement Rule 2202(f)(6) Application Provisions or AQIP Contract Provisions

(1) The records created pursuant to subparagraph (h)(2)(A) shall be made available to SCAQMD upon request for purposes of inspection and verification.

- (2) If Contractor or Rule 2202(f)(6) ~~A~~applicant or other parties involved in the project fail to adequately maintain records/logs pursuant to paragraph (h)(2), Rule 2202 credits, ~~(or emission reductions generated under an AQIP contract),~~ will not be approved for any period in which the records/logs were not maintained.
- (3) Failure to produce all requested records to the SCAQMD pursuant to subparagraph (g)(1) within 10 business days of the request may result in loss of Rule 2202 credits, ~~(or emission reductions for AQIP purposes),~~ for the time period following the request up until the time that records are produced.
- (A) Egregious or prolonged delays in submittal of requested records resulting in over 45 days from the date of request of request by the SCAQMD, may result in more severe penalties for violating Rule 2202, including rescinding of unused credits approved for a prior reporting period.
- (4) Any person submitting an Rule 2202(f)(6) application or under an AQIP contract who falsifies information in the application or fails to implement any provision of the application, shall be subject to penalties specified in law, including, without limitations, those in the Health & Safety Code.
- (A) The SCAQMD may also take one or more of the following actions:
- (i) Rescind its approval of the application in whole or in part and void any unused, previously issued Rule 2202 credits or emission reductions for AQIP purposes in whole or in part, and report any falsification of information to the State for appropriate action if the credits are generated under a State program, and/or
- (ii) Designate the ~~A~~applicant or Contractor to be ineligible to generate Rule 2202 credits or emissions reductions pursuant to this program or any other District program ~~or State program administered by the District.~~
- (j) Other Conditions
- To the extent that conflicting provisions are contained in an approved District regulation, the provisions of the regulation, and not of these Guidelines, are controlling.

APPENDIX B

**CONSTRUCTION EMISSIONS FROM A LARGE
ELECTRIC VEHICLE CHARGING STATION PROJECT**

Construction Emissions - EV Charging Station Project

Construction Emissions from A Large EV Charging Station Project

Known Project (SCAQMD's EV Charging Station Project) Surrogate for "Worst Case" Peak Daily Impact Scenario Construction Activities: Installing a total of 104 new charging stations; Replace 6 existing charging stations; Installation of 3 new transformers; Installation of 2 small concrete pads; Minor drilling activities; Minor trenching activities; To be Conducted Over a 2 month period.

Equipment Installation for New Charging Stations and Associated Infrastructure

**Construction Schedule - Three construction areas- Parking Deck (Area 1), Main Lot (Area 2), CC-8 (Area 3).
"Worst-case scenario" - Complete activities at 3 locations simultaneously; All equipment operating on given day.**

Activity	Equipment Type	No. of Equipment	Hrs/day	Crew Size
Off-Road Mobile Source Operations	Forklift	1	8	1
Off-Road Mobile Source Operations	Roller	1	8	1
Off-Road Mobile Source Operations	Cement Mixer	1	8	2
Off-Road Mobile Source Operations	Drill Rig	1	8	2
Off-Road Mobile Source Operations	Crane	1	8	1
Off-Road Mobile Source Operations	Backhoe	1	8	1
On-Road Mobile Source Operations	Delivery Truck	5	-	5
On-Road Mobile Source Operations	Worker Vehicle	10	-	18

- Place prefabricated charging equipment equipment from delivery trucks into place.
- Compact and surface two small concrete pads and small trench.
- Supply concrete for two small pads.
- Conduct minor drilling activities associated with laying of conduit at parking structure.
- Lift/load transformers from delivery truck into place.
- Conduct minor trenching activities associated with laying of conduit at CC-8 location.
- Deliver charging, transformer and electrical equipment.
- Deliver workers to job site.

2015 Construction Equipment Emission Factors	VOC	CO	NOx	SOx	PM10	PM2.5	CO2	CH4
Equipment Type*	lb/hr	lb/hr	lb/hr	lb/hr	lb/hr	lb/hr	lb/hr	lb/hr
Forklift (composite)	0.0459	0.2200	0.3163	0.0006	0.0156	0.0156	54.4	0.0041
Roller (composite)	0.0851	0.3979	0.5706	0.0008	0.0386	0.0386	67.1	0.0077
Cement Mixer (composite)	0.0088	0.0419	0.0545	0.0001	0.0024	0.0024	7.2	0.0008
Drill Rig (composite)	0.0673	0.5022	0.6138	0.0017	0.0200	0.0200	164.9	0.0061
Crane (composite)	0.1204	0.4395	1.0200	0.0014	0.0426	0.0426	128.6	0.0109
Backhoe (composite)	0.0666	0.3716	0.4501	0.0008	0.0298	0.0298	66.8	0.0060

*Equipment is assumed to be diesel fueled.

Source: CARB's Off-Road Mobile Source Emission Factors for Scenario Year 2015

<http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/off-road-mobile-source-emission-factors>

Construction Emissions - EV Charging Station Project

Construction Vehicle (Mobile Source) Emission Factors for Years 2015								
Construction Related Activity	VOC lb/mile	CO lb/mile	NOx lb/mile	SOx lb/mile	PM10 lb/mile	PM2.5 lb/mile	CO2 lb/mile	CH4 lb/mile
Offsite (Construction Worker Vehicle)	0.00066355	0.00614108	0.00060188	0.00001070	0.00009259	0.00006015	1.10192837	0.00005923
Offsite (Equipment Delivery Truck - HHDT)	0.00178608	0.00766891	0.02122678	0.00004082	0.00104715	0.00087977	4.20902225	0.00008369

Source: EMFAC 2007 (v2.3) Emission Factors (On-Road Vehicles, Scenario Year 2015)

Composite Emission Factors for Passenger Vehicle and Heavy-Heavy Duty Trucks for Scenario Year 2015

[http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/emfac-2007-\(v2-3\)-emission-factors-\(on-road\)](http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/emfac-2007-(v2-3)-emission-factors-(on-road))

Construction Vehicle Number of Trips and Trip Length

Vehicle	No. of One-Way Trips/Day	Trip Length (miles)
Offsite (Construction Worker)	20	25
Offsite (Drill Rig)	2	50
Offsite (Crane)	2	50
Offsite (Cement Mixer)	2	50
Offsite (Delivery/Haul Truck - HHDT)	10	50

- Peak day to include delivery of charging stations and forklift, roller, and backhoe to the site. However, construction equipment delivery/return to occur only 2 days out of the 2 month construction schedule.

Incremental Increase in Onsite Combustion Emissions from Construction Equipment

Equation: Emission Factor (lb/hr) x No. of Equipment x Work Day (hr/day) = Onsite Construction Emissions (lbs/day)

Equipment Type	VOC lb/day	CO lb/day	NOx lb/day	SOx lb/day	PM10 lb/day	PM2.5 lb/day	CO2 lb/day	CH4 lb/day
Forklift (composite)	0.37	1.76	2.53	0.00	0.12	0.12	435.17	0.03
Roller (composite)	0.68	3.18	4.56	0.01	0.31	0.31	536.40	0.06
Cement Mixer (composite)	0.07	0.33	0.44	0.00	0.02	0.02	57.99	0.01
Drill Rig (composite)	0.54	4.02	4.91	0.01	0.16	0.16	1319.37	0.05
Crane (composite)	0.96	3.52	8.16	0.01	0.34	0.34	1029.05	0.09
Backhoe (composite)	0.53	2.97	3.60	0.01	0.24	0.24	534.39	0.05
Construction Equip TOTAL	3.15	15.78	24.20	0.04	1.19	1.19	3912.36	0.28

Construction Emissions - EV Charging Station Project

Incremental Increase in Offsite Combustion Emissions from Construction Vehicles

Equation: Emission Factor (lb/mile) x No. of One-Way Trips/Day x Number of workers x Trip length (mile) = Offsite Construction Emissions (lbs/day)

Vehicle	VOC lb/day	CO lb/day	NOx lb/day	SOx lb/day	PM10 lb/day	PM2.5 lb/day	CO2 lb/day	CH4 lb/day
Offsite (Construction Worker Vehicle)	0.33	3.07	0.30	0.01	0.05	0.03	550.96	0.03
Offsite (Delivery/Haul HHDT)	0.89	3.83	10.61	0.02	0.52	0.44	2104.51	0.04
Vehicle TOTAL	1.22	6.90	10.91	0.03	0.57	0.47	2655.48	0.07

Total Incremental Combustion Emissions (Peak Day) from Construction Activities (Construction Equipment, Delivery Trucks and Workers' Vehicles)

	VOC lb/day	CO lb/day	NOx lb/day	SOx lb/day	PM10 lb/day	PM2.5 lb/day	CO2 lb/day	CH4 lb/day	CO2eq MT/year
TOTAL	4.38	22.69	35.12	0.07	1.76	1.66	6567.84	0.36	5.98
Significant Threshold	75	550	100	150	150	55	n/a	n/a	10,000
Exceed Significance?	NO	NO	NO	NO	NO	NO	n/a	n/a	NO

CO2eq emissions are amortized over 30 years (estimated life of project)

Construction Emissions - EV Charging Station Project

Total Increase in Fuel Usage From Construction Equipment and Workers' Vehicles

Overall Construction Activity	Total Project Hours of Operation	Equipment Type	Off-Road Fuel (gal/hr)*	Total Diesel Fuel Use (gallons)	Total Gasoline Fuel Use (gals)
Operation of Off-Road Equipment	40	Forklift	2.47	98.80	N/A
Operation of Off-Road Equipment	16	Roller	3.07	49.12	N/A
Operation of Off-Road Equipment	8	Cement Mixer	0.33	2.64	N/A
Operation of Off-Road Equipment	40	Drill Rig	6.52	260.80	N/A
Operation of Off-Road Equipment	8	Crane	3.44	27.52	N/A
Operation of Off-Road Equipment	8	Backhoe	1.87	14.96	N/A
Workers' Vehicles** - Commuting	N/A	Mixed Passenger	N/A	N/A	25.00
Offsite Delivery Trucks***	N/A	Heavy-Duty Delivery	N/A	33.33	N/A
TOTAL				487.17	25.00

– Assumes 5 days of unloading activities from delivery trucks.

– Assumes 2 days of compaction activities for 2 small concrete pads in Main Lot area (Area 2).

– Assumes 1 day of cement delivery for 2 small concrete pads in Main Lot area (Area 2).

– Assumes 5 days of drilling activities in Parking Deck area (Area 1) for installation of conduit.

– Assumes 1 day of loading transformers into place at 3 locations.

– Assumes 1 day of trenching activities at CC-8 location (Area 3).

*Based on CARB's Off-Road Model (Version 2.0) for Equipment Year 2015.

**Assume that construction workers' commute vehicles use gasoline and get 20 mi/gal and round trip length is 50 miles/phase.

***Assume that delivery trucks use diesel and get 15 miles/gallon traveling 100 miles roundtrip.

APPENDIX C

**DECEMBER 2013 SOUTHERN CALIFORNIA EDISON /
LADWP APPLICATION LETTER**



December 12, 2013

Ms. Carol Gomez
Transportation Programs Manager
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, California 91765-0944

Dear Ms. Gomez:

Subject: Southern California Edison and the Los Angeles Department of Water and Power
Submittal of Rule 2202 Emission Reduction Quantification Protocol for
Electric Vehicle Charging Stations

As an ongoing commitment to invest in hybrid and electric vehicle infrastructure within the South Coast Air Basin, and to promote the use of low and zero emission vehicles for workplace commutes, the Southern California Edison (SCE) and the Los Angeles Department of Water and Power (LADWP) submit the enclosed Rule 2202 Emission Reduction Quantification Protocol for Electric Vehicle Charging Stations (Protocol).

The Protocol establishes a methodology for quantifying emission reduction credits for charging stations installed at worksites that are subject to Rule 2202. Worksites can use the credits generated from the use of the charging stations to help meet their emission reduction target. The adoption of this Protocol will provide not only a viable incentive for worksites to install charging stations, but will contribute to reducing emissions in the basin by promoting the use of low or zero emission vehicles.

The Rule 308 Emission Reduction Project Review fee of \$399.37 (Check No. 001680) is also enclosed. If you have any questions or need additional information, please contact SCE staff member Ms. Candice Gantt-Williams at (626) 302-9267 or LADWP staff member Mr. Stephen B. Gallie at (213) 367-0471.

Sincerely,

A handwritten signature in blue ink that reads "Dawn Wilson".

Dawn Wilson
Director of Environmental Affairs
Southern California Edison

A handwritten signature in blue ink that reads "Mark J. Sedlacek".

Mark J. Sedlacek
Director of Environment and Efficiency
Los Angeles Department of Water & Power

SBG:mt

Enclosures

c/enc: Ms. Dawn Wilson - SCE
Ms. Candice Gantt-Williams - SCE
Mr. Thomas Gross - SCE

RECEIVED

JAN 14 2014
A handwritten signature in blue ink over a blue rectangular stamp.

RULE 2202 EMISSION REDUCTION QUANTIFICATION PROTOCOL FOR ELECTRIC VEHICLE CHARGING STATIONS

**Prepared by
Southern California Edison and the Los Angeles Department of Water and Power**

The purpose of this protocol is to establish procedures for evaluating, approving and monitoring the emission reduction credits associated with battery electric or plug-in hybrid electric vehicle charging, pursuant to Rule 2202(f)(5), Other Emission Strategies. The benefits of this protocol are twofold. The first is to provide an incentive for employers to install electric vehicle charging stations (EVCS), thereby encouraging employees to transition to low or zero emission vehicles for their commute into work. Secondly, under this protocol, the use of EVCS will assist an employer in meeting their worksite Emission Reduction Target (ERT).

This protocol will provide consistency in the evaluation and approval of Mobile Source Emission Reduction Credits (MSERCs) generated from EVCSs. MSERCs, once approved by the AQMD, can be traded or sold on the open market and used to offset emissions from stationary sources, the REgional CLean Air Incentives Market (RECLAIM), or employee commute programs. This protocol will also serve as guidelines to applicants by identifying the monitoring, recordkeeping and reporting requirements prior to project implementation. This protocol will apply to new projects that are initiated after the approval date of the protocol.

In the spirit of AQMD's Air Quality Management Plan (AQMP), approved by the Board on December 7, 2012, this protocol will assist in reaching some of the goals that have been outlined by encouraging employers, through the generation of MSERCs, to install EVCS at their worksite.

Definitions:

1. **ELECTRIC VEHICLE CHARGING STATION (EVCS)** includes any charging station that is designed, installed and dedicated for the use of charging electric or plug-in-hybrid vehicles.
2. **EMISSION REDUCTION TARGET (ERT)** is the annual VOC, NO_x, and CO emissions required to be reduced based on the number of employees per worksite and the employee emission reduction factor, determined in accordance with the provisions of subdivision (e) of this Rule.
3. **EMPLOYER** is any person(s), firm, business, educational institution, non-profit agency or corporation, government agency, or other entity that employs 250 or more employees. Several subsidiaries or units that occupy the same work site and report to

one common governing board or governing entity or that function as one corporate unit are considered to be one employer.

4. NITROGEN OXIDES (NO_x) are nitric oxides and nitrogen dioxides, collectively expressed as nitrogen dioxide.

5. MOBILE SOURCE EMISSION REDUCTION CREDITS (MSERCs) are emission reduction credits issued pursuant to Regulation XVI – Mobile Source Offset Programs.

6. PERFORMANCE ZONE is a geographic area that determines the employee emission reduction factor for a particular worksite pursuant to the map in Attachment 1 of Rule 2202.

7. VOLATILE ORGANIC COMPOUND (VOC) is any volatile compound of carbon, excluding: methane, carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, ammonium carbonate, and exempt compounds as defined in District Rule 102.

8. WORKSITE means a structure, building, portion of a building, or grouping of buildings that are in actual physical contact or are separated solely by a private or public roadway or other private or public right-of-way, and that are occupied by the same employer. Employers may opt to treat more than one structure, building or grouping of buildings as a single worksite, even if they do not have the above characteristics, if they are located within a 2 mile radius and are in the same Performance Zone.

Proposal/Application Submittal Requirements:

The proposal/application shall be consistent with all applicable local, state and federal guidelines. The proposal/application submittal requirements will be contained in the applicable Rule 2202 Implementation Guidelines. The application shall include all monitoring, recordkeeping and reporting requirements and trip reduction calculation methods that are to be used for determining the credits from EVCS.

Project Criteria:

One or more EVCS installed at the worksite may qualify for MSERCs under this protocol.

Emission Reduction Quantification:

If we know how much electric energy is used on an EVCS, we can approximate the actual miles driven. With many charging stations metered simultaneously, an aggregate of the electric miles can be calculated to a reasonable degree of accuracy.

The U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy and U.S. Environmental Protection Agency support the Model Year 2013 Fuel Economy Guide, which shows combined city/highway kWh/mile figures as follows:

1. Smart fortwo electric drive convertible - .32kWh/mile
2. Smart fortwo electric drive coupe - .32kWh/mile
3. Fiat 500e - .29kWh/mile
4. Scion IQ EV - .28kWh/mile
5. Mitsubishi i-MiEV - .30kWh/mile
6. Ford Focus Electric - .32kWh/mile
7. Nissan Leaf - .29kWh/mile
8. Tesla Model S (60 kW-hr battery pack) - .35kWh/mile
9. Tesla Model S (85 kW-hr battery pack) - .38kWh/mile
10. Honda Fit EV - .29kWh/mile
11. Toyota RAV4 EV - .44kWh/mile
12. Toyota Prius Plug-in Hybrid - .29kWh/mile
13. Chevrolet Volt - .35kWh/mile
14. Ford C-Max Energi Plug-in Hybrid - .34kWh/mile
15. Ford Fusion Energi Plug-in Hybrid - .34kWh/mile

It is possible to calculate how many kilowatt hours were contributed to electric miles travelled over a particular time interval; however, it is not possible to know which electric vehicles were plugged in, when or for how long. It would also not be known how aggressively they would have been driven or climate impacts such as heat or cold. We would need to establish an expected average kWh/mile based on an average from the vehicles listed above, like .327kWh/mile. An aggregate kWh reading from all electric vehicle charging station meters divided by .327kWh would give us vehicle miles travelled.

The .327 kWh average, derived from taking an average of BEV and PHEV combined city and highway kWh/mile (from "Model Year 2013 Fuel Economy Guide", 2013), would be used to convert kWh usage from the EVCSs to electric vehicle miles. For example, if the survey meter showed that 10 electric vehicle charging stations on its circuit accumulated a total of 5000 kWh, then it could be approximated that the EVs charging on those stations would have driven 15,291 electric miles in aggregate over that time period (5000 kWh / .327 = 15,291 electric miles travelled). Those electric vehicle miles travelled would be incorporated into the following MSERC and CCVR calculations to determine the appropriate emission reduction credit amount:

EVCS Emission Reduction Credit Calculation

$$\text{MSERC} = [\text{VT}(\text{ZEVs})] \times [\text{EF}]$$

VT(ZEVs) = # of trips from electric vehicles

[EF] = Emission Factors from Appendix B – Supplemental Worksheets & Tables 2013 Emission Factors (from Rule 2202, Table 2):

- VOC = 4.16
- NO_x = 3.83
- CO = 41.16

Total number of annual operating workdays for the worksites = 260
(Rule 2202 default is 260 for employers with a 5 day work schedule)

Conversion factor for other work-related trips = 2.3
(from Rule 2202, Fig III-2)

Average Commute Trip Length (1-way trips) = 16 miles
Average Commute Trip Length (2-way trips) = 32 miles

Creditable Commute Vehicle Reductions (CCVR) = Total mileage from EVs (other work-related trips) / Average Commute Trip Length / Total number of annual operating workdays for the worksite

Emission reductions are subject to verification by the AQMD, and testing may be conducted at any time by the AQMD or a contractor designated by the AQMD. The activity level shall include the total kWhs from all EVCSs at a worksite used during the specified reporting cycle to power battery electric or plug-in hybrid electric vehicles.

Monitoring, Recordkeeping and Reporting:

In order to receive credit toward an ERT, emission reduction strategies approved under Rule 2202 (f)(5) must achieve real, quantifiable, enforceable, and surplus emission reductions for a discrete period of time. In addition, the project shall adhere to the following monitoring, recordkeeping and reporting requirements:

Monitoring:

1. Emission reductions will be verified and credits will be issued only for EVCS operated in the AQMD jurisdiction. The EVCS metering information, including any automated software or data acquisition databases shall be provided to the AQMD.
2. Records shall be kept either electronically or in written form for the length of the reporting cycle, be it quarterly, semi-annually or annually, of the beginning and ending meter usage. The AQMD may approve an alternative system to monitor the EVCS meter on a case-by-case basis, provided the alternative system can produce equivalent data.
3. Should an EVCS meter require repair and/or replacement, maintenance records shall be prepared and submitted to the AQMD with a data report. The maintenance record shall include: the date of the repair and/or replacement, type of repair and/or replacement, meter reading at time of repair and/or replacement, and date of completion with the new meter reading. During times of meter maintenance, a hand-

written log shall be maintained documenting the activity of the EVCS. Any operation of the EVCS without a working meter shall not be considered in calculating emission reductions.

Recordkeeping:

Employer or Rule 2202 applicant shall ensure that the following records are maintained:

- Emission reduction credits claimed, and the calculations demonstrating how the emission reductions were determined, and any data not already included in the proposal/application that is used to calculate the emission reductions;
- Records of any maintenance or repairs performed, including those to the EVCS or its meter, including but not limited to a repair receipt or other documentation specifying the date(s) of service and type of maintenance/repair performed.

The above records shall be made available to AQMD upon request for purposes of inspection and verification. Review of the above records and operations shall be made by AQMD at its discretion. Failure to produce all requested records to the AQMD within 10 business days of the request may result in loss of emission reduction credits for the time period following the request. Records shall be maintained by the project proponent during the project life and for 3 years after the termination of the agreement.

Reporting:

Rule 2202 applicants shall quarterly, semi-annually or annually submit documentation supporting their emission reduction credit calculations. The report shall, at a minimum, include:

- A brief description and location of operations, only if this information has changed since the original application.
- The amount of electricity in kilowatt hours (kWh) used by the EVCS at the worksite during the chosen reporting cycle.
- Dates that the report covers;
- Actual emission reductions, as calculated by the AQMD approved method;
- A brief description of any maintenance or repairs performed;
- All assumptions, calculations and factors used to determine the actual emission reductions that are not already included in the proposal/application.
- Electronic monitoring data as required by AQMD in a format that is acceptable to the AQMD.

Other Conditions:

- Emission reductions from the project approved under Rule 2202 must not be required by any federal, state or local regulation, memorandum of agreement/understanding with a regulatory agency, settlement agreement, mitigation requirement, or other legal mandate.
- The emission reductions will be credited for the term of the project life specified in the Rule 2202 application approved by the AQMD.
- Emission reductions shall be based on actual usage within AQMD jurisdiction.
- The same usage used for the NOx emission reduction quantification shall be used as the activity level for issuing credits for VOC and CO.
- Emission reductions achieved under the contract or plan shall be as calculated from the actual EVCS meter data.
- If the parties involved in the project fail to adequately maintain the records described in this protocol, no emission reductions will be approved for any period in which the records were not maintained.
- The owner of the EVCS must sign and agree to the application. A third party may complete an application, or part of an application, on an owner's behalf. In such cases, the application must also include a signature section for the third party. The third party signature section must include signature and date, and the third party must specify how much they are being compensated, if any, to complete the application and what source of funds are being used to pay for them. The owner must be provided with a copy of the application. The application must include a copy of the contract and/or agreement between the third party and owner.
- For any person submitting an application who falsifies information in the application or fails to implement any provision of the application, the AQMD may also take one or more of the following actions: 1) disapprove the application and void all previously issued credits, and/or 2) designate the applicant to be ineligible to generate credits pursuant to this program or any other District program or State program administered by the District.
- To the extent that conflicting provisions are contained in contracts implementing EVCS emission reduction credit programs, the provisions of the contract, and not of these Guidelines, are controlling.

APPENDIX D

**COMMENT LETTER RECEIVED AND RESPONSES TO
COMMENTS**

Question 1

Considering the following statements with the Draft Assessment:

“The Rule 2202 Emission Reduction Quantification Protocol for Electric Vehicle Charging Station Projects is a discretionary action by a public agency, which has potential for resulting in direct or indirect changes to the environment and, therefore, is considered a “project” as defined by the California Environmental Quality Act (CEQA).”

“This includes any worksite where the employer is subject to Rule 2202, provided that the vehicles accessing the charging stations are not currently used by that employer to comply with Rule 2202’s Average Vehicle Ridership (AVR) target.”

“CEQA and Rule 110 require that potential adverse environmental impacts of proposed projects be evaluated and that feasible methods to reduce or avoid significant adverse environmental impacts of these projects be identified.”

Based upon these statements, the environmental assessment should consider the direct and indirect effects on Rule 2202 including current mobile source emission reductions programs funded by and contributing towards Rule 2202 compliance, future expected mobile source emission reduction projects, the availability of Rule 2202 AQIP funds, and whether the projected increase of available credits will saturate Rule 2202 resulting in pricing irregularities and similarly unexpected consequences. In order to achieve this, a projection of the yearly credit generation expected to be provided under this protocol must be developed.

Question 2

The project title for the Draft Environmental Assessment is: “Rule 2202 Emission Reduction Quantification Protocol for Electric Vehicle Charging Station Projects.” The project is redefined in the Draft Assessment as follow: “In order to ensure that any potential significant adverse environmental impacts are identified and evaluated and that feasible methods to reduce or avoid any potential significant adverse environmental impacts associated with the proposed project are identified and evaluated, an environmental analysis was conducted on a known proposed project to install and upgrade EV charging infrastructure at the SCAQMD headquarters as a surrogate for potential future projects deployed as a result of the new Protocol.” The environmental impact focuses on electric vehicle charging station installation projects and their associated energy consumption during ongoing operations. It does not include 1) the impact on Rule 2202 nor does it consider 2) the ongoing usage, maintenance and monitoring of the electric vehicle charging stations. These should be included in the assessment. The project that is being assessed is the protocol and its direct and indirect effects on the environment, not only the installation and expected energy consumption of electric vehicle charging stations.

Question 3

Currently, a single zero emission vehicle entered by an employee during the Rule 2202 AVR survey reduces the measured AVR by one vehicle trip, which has a value in terms of reductions in VOC, NOx and CO emissions. With the protocol as presented on November 19th, 2014, this

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same electric vehicle will reduce the measured AVR by more than one vehicle trip and will therefore be valued at a greater amount of VOC, NOx and CO. This will effectively reduce Rule 2202 AVR goal requirements for Rule 2202 regulated sites. In fact, since both non-regulated employee's vehicles and non-commuting miles will be included, the analysis must include both of these contributing factors to determine the net effect. Rule 2202 currently assumes approximately 14.2 miles per one way trip per commuting vehicle and the total commuters regulated under Rule 2202 is a well-known number.

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Question 4

The Draft Assessment states: "Due to the large size of the proposed SCAQMD infrastructure expansion, this known project was used as an example for a "worst case" impact scenario." The assumption should be reconsidered. The SCAQMD employs approximately 700 employees. There are over 420 Rule 2202 regulated sites that employ greater than 700 employees. Since these sites will benefit most from the implementation of this protocol, they are most likely to apply under the protocol. This assumption should be reconsidered. The "worst case" project scenario results in the installation of 110 electric vehicle charging stations during a two month construction period, equivalent to 660 charging stations over a 12 month period. Commonly available installation projections, the SCE and LADWP analysis, the IRP, and the CARB electric vehicle goals...all point to a greater installation rate and therefore a multiplying factor when considering the environmental impact.

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Question 5

Under the heading of Air Quality Significance Criteria, the draft assessment states: "To determine whether or not air quality impacts from adopting and implementing the proposed Protocol are significant, impacts will be evaluated and compared to the criteria in Table 2-1. The project will be considered to have significant adverse air quality impacts if any one of the thresholds in Table 2-1 are equaled or exceeded. To determine whether or not greenhouse gas emissions from the proposed project may be significant, impacts will be evaluated and compared to the 10,000 MT CO2/year threshold for industrial sources." Currently, Emission Reduction Projects whose emissions are surrendered under Rule 2202 result in emission reductions for VOC, NOx, CO and PM10. The Draft Assessment should include the expected quantifiable effect of the protocol adoption on the current Rule 2202 emission reductions to determine whether or not these reductions have been appropriately evaluated. These should include but not be limited to:

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- f) Diminish an existing air quality rule or future compliance requirement resulting in a significant increase in air pollutant(s)?
- g) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?
- h) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Question 6

The adoption of this protocol for electric vehicle charging station projects will establish a unique precedence for the adoption of similar protocols for other energy infrastructure projects which utilize alternative energy sources. These are likely to include natural gas infrastructure projects, infrastructure projects for the distribution of alternative fuels for passenger vehicles, commercial vehicles and off road vehicles, an electric vehicle battery swapping infrastructure protocol and a myriad of other possibilities. A battery swapping infrastructure project has been demonstrated by Tesla and a good case studies for natural gas infrastructure installations are readily available. The longer term environmental consequences of the adoption of this protocol should be considered.

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Question 7

The production and adoption of electric vehicles has been encouraged through many avenues, including subsidies, tax breaks, environmental credits, etc. At one point, Tesla estimated that they were awarded \$24,000 in marketable environmental “credits” for each vehicle produced. Yet, the profitability and long term viability of electric vehicles manufacturers is constantly being called into question. The value of the additional and surplus credits generated by the proposed protocol will be forever “taken away” from electric vehicle manufacturers and consumers of electric vehicles and transferred to large companies, large government and large NGOs. The annuity value lost by electric vehicle manufacturers and their consumers will necessarily result in fewer vehicles produced/purchased due to the value being shifted away from the electric vehicle supply chain. The expected annuity value of a credits generated over the lifetime of a single electric vehicle must be established in order to understand the lost opportunity to fund the electric vehicle supply chain. In addition, additionality considerations will preclude electric vehicles being driven in California from qualifying for future state-wide, national or international emission reduction protocols.

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Reponses to Written Comments

A public consultation meeting was held on November 19, 2014. Representatives from Los Angeles Department of Water and Power (LADWP), Southern California Edison (SCE), and the general public, including regulated employers, credit brokers and other interested parties, attended the meeting and provided comments to SCAQMD staff on the proposed quantification protocol. Two written comment letters (from Richard Teebay and David Haupt) were received that were addressed to CEQA staff. The written comments received from Mr. Teebay were focused on specific protocol provisions and not the CEQA analysis. Therefore, this comment letter was responded to in the Staff Report for the EVCS protocol. Mr. Haupt's comments are addressed below.

- 1-1 The comment states that the EA should consider the direct and indirect effects on Rule 2202, including current mobile source emission reduction programs funded by and contributing towards Rule 2202 compliance, future expected mobile source emission reduction projects, the availability of Rule 2202 AQIP funds, and whether the projected increase of available credits will saturate Rule 2202 resulting in pricing irregularities. The environmental assessment did consider the direct and indirect effects from future expected mobile source reduction projects which are anticipated to be the construction and operation of EV charging stations.

However, issues regarding funding, market saturation and pricing irregularities do not have a direct physical impact on the environment, so they are not typically evaluated in the environmental assessment. No indirect impacts to the environment are expected for the following reasons. The proposed protocol has the potential to increase availability of Rule 2202 credits that can be used for compliance with Emission Reduction Strategy (ERS) program. However, staff is unable to predict if the proposed protocol will change employer compliance behavior and any analysis of consumer behavior is speculative at this time. The flexibility to change compliance options exists regardless of the proposed protocol.

With regards to the development of a projection of the yearly credit generation, the proposed protocol requires monitoring and recordkeeping that will enable staff to monitor the overall efficacy of the program.

Additionally, the credit market that the proposed project could potentially affect is bounded by those subject to Rule 2202. Therefore, no influx of credits is likely.

- 1-2 The comment states that the environmental assessment (EA) focuses on impacts associated with electric vehicle charging station installation projects and their associated energy consumption during ongoing operations. However, the commenter notes the EA does not consider the "impact on Rule 2202" or the ongoing usage, maintenance, and monitoring of the electrical vehicle charging stations. The commenter is correct that the main focus of the environmental assessment is on construction impacts from installation and ongoing energy demand and consumption during the operation of newly installed infrastructure, because these were determined to be the main two potential adverse impact areas during the review of the environmental checklist, as detailed in the CEQA

Guidelines. The proposed project will not have any adverse impact on Rule 2202 because it simply provides an incentive to install EV charging station infrastructure and does not modify any of the existing basic requirements of Rule 2202. The proposed project under CEQA is the addition of the protocol, which was addressed in the environmental assessment. It is not reasonably foreseeable that this protocol will have a substantial impact on the percentage of users who choose to install EV infrastructure because of the commitment to fund, availability of EVs to charge is not widely available. The proposed protocol simply provides an incentive to do so, furthering the goals outlined in the 2012 Air Quality Management Plan. Furthermore, the environmental assessment does address the ongoing usage of the EV charging stations, such as the energy use from future operation of the EV stations, and the maintenance and monitoring activities of the EV stations do not generate physical adverse impacts as demonstrated by the minimal monitoring activity of existing EV stations, which entails a fixed meter and a maintenance record.

- 1-3 The commenter gives an example and states that the proposed protocol will reduce the Rule 2202 AVR goal requirements for Rule 2202 regulated sites. Rule 2202 provides flexibility to affected employers to comply with the average vehicle ridership targets through a choice of several equivalency options. The rule does not favor one option over another option and the affected employers will choose the option that is most cost-effective to comply with the rule. Since this protocol is voluntary, and use of the protocol depends on a number of factors outside the control of SCAQMD, cumulative projections of the number of VOC, NOx and CO credits that will be qualified and generated under this new protocol for use in Rule 2202 cannot be specifically quantified at this time. With regard to reducing Rule 2202 AVR goal requirements, there are provisions in the draft protocol to ensure that the credits are not “double-counted” by an affected Rule 2202 employer for rule compliance purposes.

In addition, SCAQMD staff will be monitoring the use of credits for compliance with Rule 2202 and will assess the program along with other strategies being used by affected Rule 2202 employers as part of the annual progress report to the SCAQMD Governing Board. The proposed protocol will actually give employers an additional tool to meet their AVR requirements, and not reduce compliance at Rule 2202 regulated sites.

- 1-4 The commenter states that the “worst case” impact scenario evaluated in the environmental assessment should be reconsidered because there are over 420 Rule 2202 regulated sites that employ greater than 700 employees. The “worst case” impact scenario evaluated in the environmental assessment was not chosen based on the number of employees or projected number of employees who will purchase EVs because of an increase in the number of EV charging stations at the workplace. This proposed EV charging station project was chosen to be evaluated because it is the largest known proposed EV charging station installation project in the SCAQMD jurisdiction. A project of this size is unprecedented for the region, and therefore, was a perfect case for evaluation as a “worst case” impact scenario. Additionally, the SCAQMD headquarters is widely considered to be an innovative technology hub, so this particular site services EVs and alternative fuel vehicles that are not necessarily employees of the SCAQMD. SCE and LADWP projects were also reviewed when considering the environmental impact analysis for the proposed protocol. The commenter’s suggestions of evaluating

660 charging stations over a 12 month period is not likely to occur and no substantial evidence has been provided to make such a conclusion. Regardless, the environmental analysis evaluates a daily peak impact to air quality and ongoing energy impacts from EV operations and those impacts were determined to be not significant.

- 1-5 The commenter states that the environmental assessment should include the expected quantifiable effect of the protocol adoption on the current Rule 2202 emission reductions. Since this protocol is voluntary and use of the protocol depends on a number of factors, cumulative projections of the amount of emission reductions that will be qualified under this protocol cannot be specifically quantified at this time. However, the environmental assessment did evaluate and quantify the expected effect of the proposed protocol based on the most appropriate “worst case” scenario that was reasonably foreseeable. In addition, all environmental impacts outlined in the environmental checklist were reviewed and evaluated accordingly. Further, SCAQMD staff will be monitoring the overall efficacy of the protocol through required monitoring and recordkeeping provisions in the protocol.
- 1-6 There is no substantial evidence or intent to adopt similar protocols, nor would the future adoption of new protocols generate significant adverse consequences, as demonstrated by the 2008 adoption of the marine vessel protocol. The marine vessel protocol is the only other protocol that has been developed specifically for Rule 2202 purposes. Relative to marine vessel projects, only two entities have initiated projects because of the marine vessel protocol. Therefore, it is not anticipated that there will be an influx of EV charging station projects due to the adoption of the proposed protocol. This EV charging station protocol is being proposed because there is a mechanism for it via Rule 2202(f)(6) and is bounded by the Rule 2202 universe.
- 1-7 The proposed protocol’s purpose is to incentivize greater deployment of EV charging stations at the workplace and in turn, increase the adoption rates for zero-emission vehicles. The credits generated can only be used by Rule 2202 employers. As such, the credits have no value to battery and electric vehicle manufacturers if they are not subject to Rule 2202. As part of the outreach on Rule 2202 implementation, SCAQMD staff will inform Rule 2202 employers on the opportunities to either generate credits through EV charging station projects or acquiring credits to comply with Rule 2202 from such projects.

Since the purpose of the proposed protocol is to help encourage greater use of the zero-emission vehicles, the deployment of EV charging stations in themselves do not have emission reductions, but rather the use of the zero-emission vehicles compared to conventionally fueled vehicles. Those reductions are accounted for by CARB in the Advanced Clean Car regulations. Within the scope of Rule 2202, the use of zero-emission vehicles reduce the emissions associated with vehicle miles traveled (VMT). There is a provision in the federal Clean Air Act that calls for a demonstration that emissions associated with increases in VMT be reduced.