

CONTRACT REQUEST FORM (CRF)

CEC-94 (Revised 01/13)

CALIFORNIA ENERGY COMMISSION

A) New Agreement 800-15-001 (To be completed by CGL Office)

B) Division	Agreement Manager:	MS-	Phone
800 Electricity Supply Analysis Division	Tobias Muench	22	916-654-4180

C) Contractor's Legal Name	Federal ID Number
Lawrence Berkeley National Laboratory	94-2951741

D) Title of Project
EV Load Shapes

E) Term and Amount	Start Date	End Date	Amount
	10 / 28 / 2015	04 / 31 / 2017	\$ 250,000

F) Business Meeting Information			
<input type="checkbox"/> Operational agreement (see CAM Manual for list) to be approved by Executive Director			
<input type="checkbox"/> ARFVTP agreements under \$75K delegated to Executive Director.			
Proposed Business Meeting Date	09 / 09 / 2015	<input type="checkbox"/> Consent	<input checked="" type="checkbox"/> Discussion
Business Meeting Presenter	Tobias Muench	Time Needed:	5 minutes
Please select one list serve. EnergyPolicy (Integrated Energy Policy Report)			

Agenda Item Subject and Description
LAWRENCE BERKELEY NATIONAL LABORATORY. Proposed resolution approving Agreement 800-15-001 with the Department of Energy's Lawrence Berkeley National Laboratory for a \$250,000 contract to develop regionally specific plug-in electric vehicle (PEV) load shapes to better represent PEV charging electricity demand in the Commission's California Energy Demand forecast. (ERPA funding) Contact: Tobias Muench. (Staff presentation: 5 minutes)

G) California Environmental Quality Act (CEQA) Compliance
1. Is Agreement considered a "Project" under CEQA? <input type="checkbox"/> Yes (skip to question 2) <input checked="" type="checkbox"/> No (complete the following (PRC 21065 and 14 CCR 15378)): Explain why Agreement is not considered a "Project": Agreement will not cause direct physical change in the environment or a reasonably foreseeable indirect physical change in the environment because it is part of forecasting and demand analysis research.
2. If Agreement is considered a "Project" under CEQA: <input type="checkbox"/> a) Agreement IS exempt. (Attach draft NOE) <input type="checkbox"/> Statutory Exemption. List PRC and/or CCR section number: _____ <input type="checkbox"/> Categorical Exemption. List CCR section number: _____ <input type="checkbox"/> Common Sense Exemption. 14 CCR 15061 (b) (3) Explain reason why Agreement is exempt under the above section: <input type="checkbox"/> b) Agreement IS NOT exempt. (Consult with the legal office to determine next steps.) Check all that apply <input type="checkbox"/> Initial Study <input type="checkbox"/> Environmental Impact Report <input type="checkbox"/> Negative Declaration <input type="checkbox"/> Statement of Overriding Considerations <input type="checkbox"/> Mitigated Negative Declaration

H) List all subcontractors (major and minor) and equipment vendors: (attach additional sheets as necessary)				
Legal Company Name:	Budget	SB	MB	DVBE
Idaho National Laboratory	\$ 99,928	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	\$ 0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	\$ 0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

I) List all key partners: (attach additional sheets as necessary)
Legal Company Name:
Idaho National Laboratory

**J) Budget Information**

Funding Source	Funding Year of Appropriation	Budget List No.	Amount
State - ERPA	2015/2016	800.011	\$250,000
Funding Source			\$
R&D Program Area: <input type="text"/> Select Program Area		TOTAL:	\$250,000
Explanation for "Other" selection			
Reimbursement Contract #:		Federal Agreement #:	

K) Contractor's Administrator/ Officer

Contractor's Administrator/ Officer				Contractor's Project Manager			
Name:	Betsy Quayle			Name:	Samveg Saxena		
Address:	One Cyclotron Road, Building 56A-0117, MS 56A0120, Berkeley, CA 94720			Address:	One Cyclotron Road, Building 90-1131, MS90R1121, Berkeley, CA 94720		
City, State, Zip:	ID 83415-2209			City, State, Zip:	ID 83415-2209		
Phone:	510-486-7391	Fax:	510-486-4386	Phone:	510-486-6148	Fax:	510-486-4386
E-Mail:	BEQuayle@lbl.gov			E-Mail:	SSaxena@lbl.gov		

L) Selection Process Used (For amendments, address amendment exemption or NCB, do not identify solicitation type of original agreement.)

Solicitation Select Type Solicitation #: _____ - - _____ # of Bids: _____ Low Bid? No Yes
 Non Competitive Bid (Attach CEC 96)
 Exempt Other Governmental Entity

M) Contractor Entity Type

- Private Company (including non-profits)
 CA State Agency (including UC and CSU)
 Government Entity (i.e. city, county, federal government, air/water/school district, joint power authorities, university from another state)

N) Is Contractor a certified Small Business (SB), Micro Business (MB) or DVBE?

No Yes
 If yes, check appropriate box: SB MB DVBE

O) Civil Service Considerations

- Not Applicable (Agreement is with a CA State Entity or a membership/co-sponsorship)
 Public Resources Code 25620, et seq., authorizes the Commission to contract for the subject work. (PIER)
 The Services Contracted:
 are not available within civil service
 cannot be performed satisfactorily by civil service employees
 are of such a highly specialized or technical nature that the expert knowledge, expertise, and ability are not available through the civil service system.
 The Services are of such an:
 urgent
 temporary, or
 occasional nature
 that the delay to implement under civil service would frustrate their very purpose.

Justification:**P) Payment Method**

- A. Reimbursement in arrears based on:
 Itemized Monthly Itemized Quarterly Flat Rate One-time
 B. Advanced Payment
 C. Other, explain:

Q) Retention

1. Is Agreement subject to retention? No Yes
 If Yes, Will retention be released prior to Agreement termination? No Yes



R) Justification of Rates
Not required (Federal agency)

S) Disabled Veteran Business Enterprise Program (DVBE)
1. <input checked="" type="checkbox"/> Exempt (Interagency/Other Government Entity)
2. <input type="checkbox"/> Meets DVBE Requirements DVBE Amount:\$ 0 DVBE %: _____ <input type="checkbox"/> Contractor is Certified DVBE <input type="checkbox"/> Contractor is Subcontracting with a DVBE: <u>Name of DVBE Company</u>
3. <input type="checkbox"/> Contractor selected through CMAS or MSA with no DVBE participation.
4. <input type="checkbox"/> Requesting DVBE Exemption (attach CEC 95)

T) Miscellaneous Agreement Information
1. Will there be Work Authorizations? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
2. Is the Contractor providing confidential information? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
3. Is the contractor going to purchase equipment? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
4. Check frequency of progress reports <input checked="" type="checkbox"/> Monthly <input type="checkbox"/> Quarterly <input type="checkbox"/> Other... _____
5. Will a final report be required? <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes
6. Is the Agreement, with amendments, longer than a year? If yes, why? <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes Extensive research work under this contract's three technical tasks will take more than a year.

U) The following items should be attached to this CRF (as applicable)
1. Exhibit A, Scope of Work <input type="checkbox"/> N/A <input checked="" type="checkbox"/> Attached
2. Exhibit B, Budget Detail <input type="checkbox"/> N/A <input checked="" type="checkbox"/> Attached
3. CEC 96, NCB Request <input checked="" type="checkbox"/> N/A <input type="checkbox"/> Attached
4. CEC 30, Survey of Prior Work <input checked="" type="checkbox"/> N/A <input type="checkbox"/> Attached
5. CEC 95, DVBE Exemption Request <input checked="" type="checkbox"/> N/A <input type="checkbox"/> Attached
6. CEQA Documentation <input checked="" type="checkbox"/> N/A <input type="checkbox"/> Attached
7. Resumes <input checked="" type="checkbox"/> N/A <input type="checkbox"/> Attached
8. CEC 105, Questionnaire for Identifying Conflicts <input checked="" type="checkbox"/> N/A <input type="checkbox"/> Attached

 Agreement Manager Date Office Manager Date Deputy Director Date

**Exhibit A
SCOPE OF WORK**

TASK LIST

Task #	Task Name
1	Agreement Management
2	Regional PEV Load Profiles Characterization
3	Model Input Definition and Validation Using Real-World Data
4	Model-Based Load Forecasting

ACRONYMS/GLOSSARY

Specific acronyms and terms used throughout this scope of work are defined as follows:

Acronym	Definition
AC	Alternating Current
CCM	Commission Contract Manager
CY	Calendar Year
DC	Direct Current
DOE	U.S. Department of Energy
Energy Commission	California Energy Commission
EV	Electric Vehicle
EVSE	Electric Vehicle Supply Equipment
IEPR	Integrated Energy Policy Report
INL	Idaho National Laboratory
L1, L2	Level 1 Charging/Charger, Level 2 Charging/Charger
LBNL	Lawrence Berkeley National Laboratory
LDRD	Laboratory Directed Research and Development
PEV	Plug-in Electric Vehicle
PG&E	Pacific Gas and Electric
PHEV	Plug-In Hybrid Electric Vehicle
SCE	Southern California Edison
SDG&E	San Diego Gas and Electric
SMUD	Sacramento Municipal Utility District
UI	User Interface
V2G-Sim	Vehicle-to-Grid-Simulator
VGI	Vehicle Grid Integration

BACKGROUND/PROBLEM STATEMENT

The Energy Commission's Demand Analysis Office performs an electricity consumption and peak forecast every two years. Plug-in Electric Vehicles (PEV) are anticipated to comprise a growing share of electricity demand through the forecast. The peak impacts of the growing PEV demand are currently represented in forecasts in a simple manner and do not account for actual regional charging characteristics. This contract will significantly improve the PEV peak impact analysis by establishing load shapes based on actual PEV charging behaviors. This contract will support the development of PEV load impact analyses and develop a PEV load shape methodology for IEPR (Integrated Energy Policy Report) forecasts.

The U.S. Department of Energy (DOE) supports the national laboratory system. DOE's existing electric vehicle (EV) project began collecting data in January 2011 and has a unique data set to inform load shape development. Lawrence Berkeley National Laboratory (LBNL) has developed a set of tools, including V2G-Sim, partially funded by the California Energy Commission (Energy Commission), to assist with the evaluation of EV grid impacts, which may be leveraged to inform load shape forecasts.

Idaho National Laboratory (INL) has performed equally important data research and will provide research and data for two of the three tasks as a subcontractor under this agreement. INL was a primary partner in two national plug-in electric vehicle charging infrastructure demonstrations, The EV Project and ChargePoint America. These two projects were responsible for the installation of over 17,000 electric vehicle supply equipment (EVSE) units nationwide, including in multiple metropolitan areas in California. With funding from the U.S. Department of Energy, INL collected data describing the EVSE installed in these projects and the usage of the EVSE. From this data, INL produced a multitude of reports and papers describing the usage of the EVSE with respect to numerous factors, including region and EVSE type. These reports are available to the general public, at <http://avt.inl.gov/evproject.shtml>. After reviewing the information published in these reports, the Energy Commission is requesting through the task work under this contract that a focused analysis of EVSE usage in California is performed by LBNL and INL at a level of detail which was beyond the scope of previous DOE-funded work. The purpose of this new analysis is to produce PEV charging demand curves (a.k.a. load shapes) to support the Energy Commission's forecasting of electric utility loads in California.

The sharing of data collected from the EVSE in The EV Project and ChargePoint America is prohibited, per non-disclosure agreements between INL (subcontractor) and the EVSE manufacturers/service providers (ChargePoint and Car Charging Group). Therefore, it is not possible for INL to provide the raw EVSE usage data to the Energy Commission or any other organization. Instead, INL will use the suite of data analysis tools it developed for previous work to produce information on an aggregate level that both meets the Energy Commission's requirements for resolution and the terms of the non-disclosure agreements.

GOALS AND OBJECTIVES OF THE AGREEMENT

The goal of this agreement is to have LBNL and INL produce current, regionally representative PEV load shapes, model input definition/validation, and model-based load forecasting for the Energy Commission's forecasts. This will improve the accuracy of PEV electricity peak impacts.

FORMAT/REPORTING REQUIREMENTS

Deliverables/Reports

When creating reports, the Contractor shall use and follow, unless otherwise instructed in writing by the Commission Contract Manager (CCM), the latest version of the Consultant Reports Style Manual published on the Energy Commission's web site:

http://www.energy.ca.gov/contracts/consultant_reports/index.html

Each final deliverable shall be delivered as one original, reproducible, 8 ½" by 11", camera-ready master in black ink. Illustrations and graphs shall be sized to fit an 8 ½" by 11" page and readable if printed in black and white.

Electronic File Format

The Contractor shall deliver an electronic copy (CD ROM or memory stick or as otherwise specified by the CCM) of the full text in a compatible version of Microsoft Word (.doc).

The following describes the accepted formats of electronic data and documents provided to the Energy Commission as contract deliverables and establishes the computer platforms, operating systems and software versions that will be required to review and approve all software deliverables.

- Data sets shall be in Microsoft (MS) Access or MS Excel file format.
- PC-based text documents shall be in MS Word file format.
- Documents intended for public distribution shall be in PDF file format, with the native file format provided as well.
- Project management documents shall be in MS Project file format.

Software Application Development

If this scope of work includes any software application development, including but not limited to databases, websites, models, or modeling tools, contractor shall utilize the following standard Application Architecture components in compatible versions:

- Microsoft ASP.NET framework (version 3.5 and up) Recommend 4.0
- Microsoft Internet Information Services (IIS), (version 6 and up) Recommend 7.5
- Visual Studio.NET (version 2008 and up) Recommend 2010
- C# Programming Language with Presentation (UI), Business Object and Data Layers
- SQL (Structured Query Language)
- Microsoft SQL Server 2008, Stored Procedures Recommend 2008 R2
- Microsoft SQL Reporting Services Recommend 2008 R2
- XML (external interfaces)

Any exceptions to the Software Application Development requirements above must be approved in writing by the Energy Commission Information Technology Services Branch.

TASK 1- AGREEMENT MANAGEMENT

Task 1.1 Kick-off Meeting

The goal of this task is to establish the lines of communication and procedures for implementing this Agreement.

The Contractor shall:

- Attend a “kick-off” meeting with the CCM, the Contracts Officer, and a representative of the Accounting Office. The meeting will be held via Web-Ex or teleconference. The Contractor shall include their Project Manager, Contracts Administrator, Accounting Officer, and others designated by the CCM in this meeting. The administrative and technical aspects of this Agreement will be discussed at the meeting.
- If necessary, prepare an updated Schedule of Deliverables based on the decisions made in the kick-off meeting.

The CCM shall:

- Arrange the meeting including scheduling the date and time.
- Provide an agenda to all potential meeting participants prior to the kick-off meeting.

Deliverables:

- An Updated Schedule of Deliverables (if applicable)

Task 1.2 Invoices**The Contractor shall:**

- Prepare invoices for all reimbursable expenses incurred performing work under this Agreement in compliance with the Exhibit B of the Terms and Conditions of the Agreement. Invoices shall be submitted with the same frequency as progress reports (task 1.4). Invoices must be submitted to the Energy Commission's Accounting Office.

Deliverables:

- Invoices

Task 1.3 Manage Subcontractors

The goal of this task is to ensure quality products, to enforce subcontractor Agreement provisions, and in the event of failure of the subcontractor to satisfactorily perform services, recommend solution to resolve the problem.

The Contractor shall:

- Manage and coordinate subcontractor activities. The Contractor is responsible for the quality of all subcontractor work and the Energy Commission will assign all work to the Contractor. If the Contractor decides to add new subcontractors, they shall 1) comply with the Terms and Conditions of the Agreement, and 2) notify the CCM who will follow the Energy Commission's process for adding or replacing subcontractors.

Task 1.4 Progress Reports

The goal of this task is to periodically verify that satisfactory and continued progress is made towards achieving the objectives of this Agreement.

The Contractor shall:

- Prepare progress reports which summarize all Agreement activities conducted by the Contractor for the reporting period, including an assessment of the ability to complete the Agreement within the current budget and any anticipated cost overruns. Each progress report is due within 15 calendar days after the end of the reporting period. The CCM will provide the format for the progress reports.

Deliverables:

- Monthly Progress Reports

Task 1.5 Final Report

The goal of this task is to prepare a comprehensive written Final Report that describes the purpose, approach, results and conclusions of the work completed under this Agreement. The Final Report shall be prepared in language easily understood by the public or layperson with a limited technical background.

The Final Report must be completed before the termination date of the Agreement in accordance with the Schedule of Deliverables.

The Final Report shall be a public document. If the Contractor has obtained confidential status from the Energy Commission and will be preparing both a public and a confidential version of the Final Report, the Contractor shall perform the following subtasks for both the public and confidential versions of the Final Report.

Task 1.5.1 Final Report Outline

The Contractor shall:

- Prepare and submit a draft outline of the Final Report for review and approval. The CCM will provide written comments to the Contractor on the draft outline. The Contractor shall review the comments and discuss any issues with the recommended changes with the CCM.
- Prepare and submit the final outline of the Final Report, incorporating CCM comments.

Deliverables:

- Draft Outline of the Final Report
- Final Outline of the Final Report

Task 1.5.2 Final Report

The Contractor shall:

- Prepare the draft Final Report for this Agreement in accordance with the approved outline.
- Submit the draft Final Report for review and comment. The CCM will provide written comments to the Contractor. The Contractor shall review the comments and discuss any issues with the recommended changes with the CCM.
- Prepare and submit the Final Report, incorporating CCM comments.

Deliverables:

- Draft Final Report
- Final Report

Task 1.6 Final Meeting

The goal of this task is to discuss closeout of this Agreement and review the project.

The Contractor shall:

- Meet with Energy Commission staff prior to the term end date of this Agreement. The meeting will be held via Web-Ex or teleconference. This meeting will be attended by the Contractor Project Manager and the CCM. The CCM will determine any additional appropriate meeting participants. The administrative and technical aspects of Agreement closeout will be discussed at the meeting.
- Present findings, conclusions, and recommended next steps (if any) for the Agreement, based on the information included in the Final Report.
- Prepare a written document of meeting agreements and unresolved activities.
- Prepare a schedule for completing the closeout activities for this Agreement, based on determinations made within the meeting.

Deliverables:

- Written documentation of meeting agreements
- Schedule for completing closeout activities

TECHNICAL TASKS**Task 2 Regional PEV Load Profiles Characterization**

The goal of this task is to create regionally specific hourly load profiles for electric vehicle supply equipment in California for the 2015 IEPR forecast, using real-world data for 2013/2014.

The Contractor shall:

- Create a report and load profile data that includes load profiles aggregated by the following factors:¹
 - Forecasting zone (including planning area, forecasting climate zone)
 - EVSE type and power level (Residential AC Level 2, Public ACL2, Workplace ACL2, Public DC Fast)
 - Vehicle make/model (for Residential AC Level 2 EVSE curves only)
 - Cost to use EVSE (Blink public ACL2 and DC Fast curves only)
- Create a report and load profile data that includes the following data to characterize load profiles:²
 - EVSE-installed curve – The number of EVSE installed in the service territory each hour of the time period.
 - Charging availability curve – The number of EVSE that are connected to a vehicle in the service territory each hour of the time period.
 - Charging demand curve – The total demand in kWh that is delivered through the EVSE in the service territory for each hour of the time period.
- Prepare a draft report for the CCM to review.
- Prepare a final report that includes all of the CCM's comments on the draft report.

Deliverables:

- Draft Report on historical load profiles with accompanying load profile data in .csv or similar format.
- Final Report on historical load profiles with accompanying load profile data in .csv or similar format.

Task 3 Model Input Definition and Validation Using Real-World Data

The goal of this task is to produce statistical representative charging behavior and validate the load shape forecasting model using the representative charging data.

¹ Load shapes curves will be based on data from Blink and/or Charge Point EVSE, depending on the make of EVSE reporting data in each area. The number of EVSEs of each make in each curve will be specified. Additional background information will be provided for residential EVSE curves; namely, basic demographic information about households owning residential EVSE and the type of residential electric utility rate plans available to EVSE owners.

² Load shape curves will be produced for CY2013, the most recent calendar year during which data was collected from all types and makes of EVSE. Blink public AC Level 2 and DC fast charger data was collected through CY2014, so additional curves will be created for these EVSE for CY2014 in areas with sufficient sample size for comparison to CY2013 curves.

The Contractor shall:

- Collaborate with the CCM to define the driving and charging behavior summary statistics and create a report that includes calculations of summary statistics describing driving and charging behavior observed in the EV Project that will be used as inputs into V2G-Sim models, including the following:
 - How drivers choose to charge their vehicles (e.g. fraction of drivers who charge and charging frequency at home, at work, at public locations)
 - The types of chargers used by drivers in different locations (e.g. L1 vs L2 vs fast charge at home, at work, in other locations)
 - How the above factors change for Battery Electric Vehicles vs. PHEVs
- Create a report that includes the results of an EV Project data validated V2G-Sim and predicted residential load profiles for SDG&E and PG&E service areas using validated V2G-Sim by performing the following:
 - Enter summary statistics from observed driving and charging behavior and vehicle make/model details into V2G-Sim and run simulations
 - Compare V2G-Sim predicted load profile results against EV Project actual load profiles for the chosen population of vehicles and identify areas of disagreement between predicted and actual results
 - Determine root cause of discrepancies and adjust models
 - Complete validation of V2G-Sim model
- Prepare a draft report for the CCM to review.
- Prepare a final report that includes all of the CCM's comments on the draft report.

Deliverables:

- Draft report on model-based load forecasts
- Final report on model-based load forecasts

Task 4 Model-Based Load Forecasting

The goal of this task is to provide temporally- and spatially-resolved PEV electricity demand forecasts into the future for the State of California. The methodology involves the application of simulation models which will be calibrated and validated against real-world PEV usage and charging data.

The Contractor shall:

- Prepare a draft report on the validation of V2G-Sim model against EV project data, and include the following items in the report for CCM review:
 - Define scenarios to be modeled in partnership with the CCM that include:
 - Overall time horizon for modeling results, e.g. 2030, 2050.
 - Targets for state-wide number of PEVs deployed by year, e.g. 1.5M by 2025.
 - Vehicle charging assumptions, e.g. fraction of drivers who charge at certain power levels, fraction of drivers who charge at non-home locations, etc. (with guidance from EV project data, from Task 2 above).

- Assumptions in how mobility patterns may change over time (e.g. decreases in Vehicle Miles Traveled over time).
- In coordination with the CCM, apply expertise to resolve PEV in temporal and spatial distributions across the state.
- Apply the V2G-Sim model for producing PEV charging demand forecasts resolved temporally (by time of day through the end of the forecast) and spatially (by region and home/work/public location type).
- Summarize input assumptions and temporally and spatially resolved load profile projections.
- Prepare a final report on validation of V2G-Sim model against EV project data that includes all of the CCM's comments on the draft report.

Deliverables:

- Draft report on validation of V2G-Sim model against EV project data
- Final report on validation of V2G-Sim model against EV project data

SCHEDULE OF DELIVERABLES AND DUE DATES

Task Number	Deliverable	Due Date
1		
1.1	Kick-Off Meeting An Updated Schedule of Deliverables	Nov.4, 2015 Nov14, 2015
1.2	Invoices	With Progress Report
1.4	Monthly Progress Reports	Monthly
1.5.1	<ul style="list-style-type: none"> • Draft Outline of the Final Report • Final Outline of the Final Report 	Feb.10, 2017 Feb.24, 2017
1.5.2	<ul style="list-style-type: none"> • Draft Final Report • Final Report 	April 5, 2017 April 26, 2017
1.6	<ul style="list-style-type: none"> • Written documentation of meeting agreements • Schedule for completing closeout activities 	March 30, 2017 March 30, 2017
2	<ul style="list-style-type: none"> • Draft Report on historical load profiles with accompanying load profile data. • Final Report on historical load profiles with accompanying load profile data. 	Dec.7, 2015 Dec.21, 2015
3	<ul style="list-style-type: none"> • Draft report on model-based load forecasts • Final report on model-based load forecasts 	June 15, 2016 June 30, 2016
4	<ul style="list-style-type: none"> • Draft report on validation of V2G-Sim model against EV project data • Final report on validation of V2G-Sim model against EV project data 	Dec.15, 2016 Dec.30, 2016

STATE OF CALIFORNIA

STATE ENERGY RESOURCES
CONSERVATION AND DEVELOPMENT COMMISSION

RESOLUTION - RE: LAWRENCE BERKELEY NATIONAL LABORATORY

RESOLVED, that the State Energy Resources Conservation and Development Commission (Energy Commission) adopts the staff CEQA findings contained in the Agreement or Amendment Request Form (as applicable)]; and

RESOLVED, that the Energy Commission approves Agreement 800-15-001 with the Department of Energy's Lawrence Berkeley National Laboratory for a \$250,000 contract to develop regionally specific plug-in electric vehicle (PEV) load shapes to better represent PEV charging electricity demand in the Commission's California Energy Demand forecast; and

FURTHER BE IT RESOLVED, that the Executive Director or his/her designee shall execute the same on behalf of the Energy Commission.

CERTIFICATION

The undersigned Secretariat to the Commission does hereby certify that the foregoing is a full, true, and correct copy of a Resolution duly and regularly adopted at a meeting of the California Energy Commission held on September 9, 2015.

AYE: [List of Commissioners]

NAY: [List of Commissioners]

ABSENT: [List of Commissioners]

ABSTAIN: [List of Commissioners]

Tiffany Winter,
Secretariat