

Questions and Answers Document

California Energy Commission Grant Funding Opportunity: GFO-16-303 “Advanced Vehicle-Grid Integration Research and Demonstration”

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Update:

At the August 2nd Pre-Application Workshop, the presenter mentioned that a LinkedIn subgroup would be created to serve as a networking resource for potential applicants and partners regarding the solicitation. The subgroup is now online. You can find the LinkedIn Energy Commission Networking Hub at this address: <https://www.linkedin.com/groups/6925861/profile>

On the right side, under “ABOUT THIS GROUP” you will find the list of subgroups specific to different solicitations along with their URLs. The label for this solicitation’s subgroup is “Advanced Vehicle-Grid Integration Research and Demonstration GFO-16-303” and the URL is: <https://www.linkedin.com/groups/7066010>

This LinkedIn Subgroup is intended to provide a convenient user-driven networking resource for potential applicants and partners regarding the solicitation. All solicitation documents and resources for creating applications are found at the following California Energy Commission website: <http://www.energy.ca.gov/contracts/epic.html#GFO-16-303>

Secondly, note that Attachment 4 “Project Narrative Form” has been replaced on the website with a version that correctly states the fifteen (15) page limit.

Finally, Pages 8 and 16 of the solicitation manual and Slide 20 of the Pre-Application Workshop presentation mention the Electric Vehicle Pilot Survey related to CPUC Proceeding R.13-11-007 “Alternative Fueled Vehicles Rulemaking.” The manual mentioned that initial survey responses (by current and past VGI projects) are expected to be available before this solicitation’s proposal due date, and indeed they are. The Electric Vehicle Pilot Survey can be found here: <https://docs.google.com/forms/d/e/1FAIpQLScRIPUourTH4Yak179ONU6N8vP1HxdUbnpnKvGzQzZG1SoCQ/viewform?c=0&w=1>

A link near the top of this page leads to an interactive database of projects and other information sources assembled from past survey responses. Please see Question [B3](#) for more details.

The written questions and answers are presented below. Note that some questions have been condensed or edited for clarity.

ADMINISTRATIVE QUESTIONS:Question A1:

As an original equipment manufacturer (OEM) of bi-directional Electric Vehicle Supply Equipment (EVSEs i.e. charging stations), are we able to apply for more than one group?

Answer:

In general, any otherwise-eligible entity (see Question A13) is allowed to submit multiple applications, even for the same project group. However, each application must be labeled as responding to only one of the four project groups. If an applicant submits multiple applications that address the same project group, then each application must be for a distinct project. If an applicant or subcontractor is involved in more than one proposal responding to this solicitation, then the applicant or subcontractor must be able to perform in the event multiple or all proposals they appear in are selected for funding awards. See Section I.A, pp. 1-2, of the Application Manual.

Question A2:

Due to the fact we are a charging station manufacturer, can we also become a supplier / vendor / subcontractor for other competing projects applying? (Some projects may be able to benefit from our high-functioning low-cost V1G charging stations.)

Answer:

Please see Question A1 regarding an applicant or subcontractor's involvement in more than one proposal.

Question A3:

Page 4 of the manual states that "applicants are responsible for the cost of developing applications." Accordingly, any fee paid to a writer of this grant application cannot be included in the budget of the project – is this correct?

Answer:

Yes.

Question A4:

Why would grant funds be awarded to a project whose proposed project is duplicative of other research? Is not the CEC responsible to check for such duplicative projects? Will awarded funds be asked to be returned if a project is found to be duplicative after the award?

Answer:

The Application Manual's statements on pages 8, 15 and 16 on avoiding duplicative research are intended to elicit applications for projects that address unsolved technical, regulatory or market questions.

In the case of Group 4, demonstrations additionally must be at a scale sufficiently large and in conditions sufficiently reflective of anticipated commercial operating environments to enable appraisal of operational, performance, and financial characteristics.

Any project funded under this solicitation, and particularly under Group 4, will encompass a large number of variables or attributes. Some of these attributes may overlap with previous work. An ideal application will mention similar current research project(s) and their connections and distinctions, and will frame how the new project would advance knowledge or capability, ideally by leveraging preceding projects' insights (and possibly the researchers themselves as collaborators or Technical Advisory Committee members). An ideal application will address its project group and clearly describe what barriers it would solve, what is new, and why it is important. Please see Question [A8](#) for more on current VGI research.

The Energy Commission evaluation team will check for duplicative projects and evaluate how the application describes previous similar research, while taking into account the information above. While it is unlikely that a delayed realization that work is duplicative would result in a stop work order, as with any project, events or contingencies may happen that would necessitate ending the project and the recipient's returning the unused funds. See, e.g., EPIC Standard Terms & Conditions, Section 21. Overall, the Application Manual's admonishments against duplicative research serve not as a screening criterion but as a component of evaluating "Technical Merit and Need," "Technical Approach," and "Impacts and Benefits for California IOU Ratepayers" per Scoring Criteria 1, 2, and 3. Please also see Question [A8](#).

Question A5:

Per Page 9 of the manual, the total maximum award amounts for Groups 1, 2 and 3 match the available funding of \$4M. However, for Group 4, why is the maximum award amount \$5M? Should it not be \$9M ($\$12M - 25\% \text{ match } [\$3M] = \$9M$)? How was this \$5M figure determined?

Answer:

The Groups 1, 2 and 3 quantities above enable funding one project per group at the maximum award amounts. However, applicants can ask for funding anywhere within the respective group's award amount range, and furthermore the Energy Commission may fund more than one project per group and possibly make additional funds available. For Group 4, it follows that the available funding need not be any whole-number multiple of the minimum nor the maximum award amount. Applicants can request any amount within the set minimum and maximum range. The \$5,000,000 maximum for Group 4 was selected to be a reasonable scale-up of projects compared to those sought in previous solicitations PON-14-301 and PON-14-310.

Additionally, for the table on Page 9, please note the dollar amounts are strictly Energy Commission funds and the match funding requirement is only stated in the right-hand column as a percentage. The percentage measures the amount of match funding in proportion to the amount of requested Energy Commission funds, not match funds as the proportion of *total* project funds. For example, under Group 4, an applicant can request \$5,000,000 and then need to pledge 25% of that figure or \$1,250,000 as match funding. If they pledge more than that amount – or if a Group 1, 2 or 3 applicant pledges any match funding – then those applications may receive additional points during the scoring phase per Scoring Criteria 8 and 9.

Question A6:

Per Page 11 of the manual regarding matching funds, applicants must “provide an unqualified commitment that guarantees the availability of the funds...” Does that mean that the matching funds do not have to be in our possession at the time of funding the grant? Can they be obtained at a later date, which might be after the funding deadline?

Answer:

Matching funds that at the time of *application submittal* are in the possession of the applicant, or in the possession of partner(s) who provide match funding commitment letters, are considered “cash in hand” funds and will be evaluated more favorably than other types of matching funds during the scoring phase.

Matching funds need not be in the possession of the applicant or partner(s) at the time of application submittal, but all entities providing the funds must have committed to providing them at the needed times during the Agreement Term.

Question A7:

Per Page 12 of the manual, is the span between the “Anticipated Agreement Start Date” and “Anticipated Agreement End Date” the term of the project? I.e., that is the maximum of how long the funding recipient has to spend the awarded grant monies? And can it be shorter than this term?

Answer:

Yes, the span between the “Anticipated Agreement Start Date” and “Anticipated Agreement End Date” is the Agreement Term. The Agreement Term is the formal span of time when reimbursable project activities are allowed to occur and matching funds must be spent.

Note that Agreement Term typically ends approximately 6 months after the scheduled conclusion of technical project activities, and the remaining time is for finishing reports and conducting final invoicing and other project wind-down activities. Applicants should take note of this timespan at the end and set the term accordingly.

It is correct that the applicant can put an Agreement Term end date that is sooner than March 2021.

Question A8:

Per Page 19 of the manual, “project teams must coordinate with past and current [vehicle-grid integration, i.e. VGI] project award recipients, in the event their proposal is recommended for funding...” Does this mean that we must be in touch with, and collaborate with past winners, in case we are awarded the funds? Where is this list of past VGI award winners?

Answer:

Please see Questions A4 and B3 regarding past and current VGI projects. Lists of previous VGI project award winners under the EPIC program are found in the Notice of Proposed Award documents for the solicitations PON-14-301 (Group 3 only) and PON-14-310 (both of its groups). They are posted on this site:

<http://www.energy.ca.gov/contracts/epic.html>

Regarding the Application Manual's statement that applicants must coordinate with past and current VGI project award recipients, the recommended way is to invite team member(s) from at least one of the VGI projects stemming from PON-14-301 or PON-14-310 (per above), all of which are ongoing, to:

- 1) possibly help scope out the application, to maximize its impact leveraging the latest relevant research findings; and**
- 2) participate as Technical Advisory Committee (TAC) members in periodic TAC meetings as the project proceeds should it be funded.**

It is also recommended to reach out in a similar way to teams from VGI projects other than the EPIC-funded projects mentioned above, where relevant. Overall, applicants should make a case that their proposal strikes a balance regarding technical input from past and ongoing projects studying similar technologies and/or market segments, to show that the project would be relevant and would generate novel findings. This input can help scope out the application, and also can be provided on an ongoing basis through TAC meetings per Subtask 1.10 in Attachment 6 "Scope of Work Template."

Question A9:

Per Page 23 of the manual, will the "applicant's name" be an individual's, or a company's? Which is recommended, as Section 1 at the bottom of the page hints that it should be an organization.

Answer:

Typically this is an entity, although individuals are allowed to submit applications. Please see Question A13. The applicant should list its legal name. Note the Secretary of State registration requirements at p. 15 of the Application Manual.

Question A10:

For all the forms included in the application package – the Application, the Executive Summary, the Fact sheet, Project Narrative, etc., is a certain template preferred for these documents, or can one develop his own? Item 3, for instance, insists on using a certain template – where can a required suitable template format be found?

Answer:

Yes, there are templates. All solicitation documents and resources for creating applications are found at this Energy Commission website:

<http://www.energy.ca.gov/contracts/epic.html#GFO-16-303>

Applicants should ensure they are downloading the templates / attachments from this solicitation's website, and are not re-using attachments from other EPIC solicitations as the attachments may change through time. Please also see Question A11 below.

Question A11:

At the Pre-Application Workshop we learned that Attachment 4 "Project Narrative Form" maps to the solicitation Scoring Criteria and is the main way applications show that they are responding to the criteria, because all the sub-criteria are covered on Attachment 4. However, there are some inconsistencies / questions:

- Att. 4 mentions Criteria 6 and 7, which applicants do not seem to need to address in the Project Narratives.
- Att. 4 does not mention Criterion 10, which it looks like applicants do need to write about in the Project Narrative if they choose to respond to it.
- Please tell us overall how to manage text that takes up space counting toward the page limit.

Answer:

In all cases, the formats must be consistent with requirements spelled out in the "Application Format..." table on page 21 of the Application Manual.

To construct the Project Narrative, applicants need to follow the outline structure of Attachment 4 "Project Narrative Form" to ensure all the applicable parts of the Scoring Criteria are addressed. However, there is no need to retain all of this document's original text and descriptions – such as the sub-criteria text next to the letters, which is repeated from the manual and does add up to a significant amount of text – given the limited number of pages allowable for the Project Narrative. Such text can be replaced while retaining the outline structure. For example, the beginning of an applicant's Project Narrative can appear as follows:

Criterion 1: Technical Merit and Need

- a. This project is intended to address California's electric vehicle adoption goals while simultaneously lowering barriers for distributed renewable electricity by...

In some cases Attachment 4 indicates where information should reside in other attachments, e.g. *include this information in Attachment 5, Project Team Form*. This type of information *must* be included where directed (e.g. in the Project Team Form), and applicants may *additionally* address any of these items in the Project Narrative if they wish. But generally, applicants will respond to these items in a manner similar to the italic text below:

Criterion 4: Team Qualifications, Capabilities and Resources

...

g. *Please see Attachment 9, Reference and Work Product Form.*

Furthermore, it is true that Criterion 6 “EPIC Funds Spent in California” and Criterion 7 “Ratio of Direct Labor and Fringe Benefit Rates to Loaded Labor Rates” do not need a response in the Project Narrative because they are hard-calculated based on Attachment 7 “Budget Forms.” Applicants can still respond to them, particularly if the calculated score warrants justification or explanation.

(Criterion 5 “Budget and Cost Effectiveness” is also tied to the Budget Forms, but Criterion 5 *does* need responses in the Project Narrative, including filling in the table.) Criteria 8 and 9 regarding match funding for the first 3 Groups and for Group 4, respectively, also do not require responses in the Project Narrative. Applicants may provide additional details for Criterion 8 or 9, but note that match funding is also covered in Attachment 1 “Application Form,” in the Budget Forms, and most of all in applicant’s and partners’ match funding commitment letters. (Also note that Attachment 4 incorrectly has “Criterion 7” as the match funding criterion.)

Finally, applicants need to add in **Criterion 10: Disadvantaged Communities (Optional)** if they choose to respond to it.

In summary, applications for Group 1, 2, or 3 are recommended to have the following criteria in their Project Narratives: 1, 2, 3, 4, 5, possibly 8, and possibly 10.

Applications for Group 4 are recommended to have the following criteria in their Project Narratives: 1, 2, 3, 4, 5, possibly 9, and possibly 10.

The overall aim is to have Attachment 4 serve as a convenient outline for the Project Narrative while maximizing the space available for application content.

Question A12:

Can the Commission Agreement Officer (Phil Dyer) be contacted with miscellaneous, non-substantive & administrative questions after the August 9th question deadline? These questions might be smaller and less substantive in nature – or is Mr. Dyer “off-limits” after this deadline?

Answer:

Yes, Mr. Dyer may be contacted, but only questions that are administrative in nature. Questions of a technical nature had a deadline of August 9, 2016. No additional information will be accepted from applicants after the deadline.

Question A13:

I have been reviewing this opportunity and would like to confirm whether I am eligible to apply for this grant. Please let me know what additional information you might need in order for me to submit my application.

Answer:

At this time, the Energy Commission cannot tell you whether or not you are eligible to apply because all details of your situation are not known. Please review Section II of the Application Manual, “Eligibility Requirements.” In general, this solicitation is open to all public and private entities and individuals with the exception of publicly-owned electric utilities. In accordance with CPUC Decision 12-05-037, funds administered by the Energy Commission may not be used for any purposes associated with publicly-owned utility activities. Non-electric publicly-owned utilities which are IOU electric ratepayers are eligible to receive EPIC funds and may benefit from EPIC activities. Again, the full eligibility requirements are laid out in the Application Manual beginning on Page 15.

Question A14:

The Application Manual says that “EPIC funds may not be used to purchase PEVs, nor can the purchase or use of the applicant’s or other parties’ PEVs be claimed as match contribution.” Does this mean that EPIC funds cannot be used to pay for any aspect of the vehicles that would be used for “full-scale demonstration of the integration of a PEV fleet with the electric grid and customer sites”? If neither EPIC nor matching funds can be used for electric vehicle development and/or production, is it expected that fleet proprietors who choose to participate in this program will bear the full cost of procuring VGI-ready vehicles?

Answer:

Commission funds may be used to modify PEVs to advance vehicle-grid integration technologies and strategies. The recipient will bear the full cost of purchasing the PEV.

Question A15:

If the PEV charging equipment to be used in the demonstration is permanently installed on board the PEVs, can the cost of this equipment be charged to EPIC funds or claimed as cost share, or would such items be considered parts of the PEVs without exception and disqualified as a reimbursable or cost-shared expense?

Answer:

Modifications made to the on-board PEV charger to advance VGI capabilities consistent with the solicitation may be reimbursable or counted as match.

Question A16:

If a PEV component such as an onboard charger requires UL or similar certification before being allowed to connect to the grid, and the sole purpose of such certification is to enable use

with the grid, is the cost of R&D or testing related to such certification allowable as a reimbursable or cost-shared expense?

Answer:

Underwriters Laboratories (UL) or equivalent certification is not eligible for reimbursable funds, but can be counted as match funding if the PEV component is a developed technology under this grant.

Question A17:

Are costs related to operation, maintenance, or storage of PEVs used in demonstrations allowable as reimbursable or cost-shared expenses?

Answer:

Costs for operation, maintenance, or storage of PEVs used in development or demonstrations are not allowable for reimbursement, but are an allowed match expense.

PROPOSAL EVALUATION QUESTIONS:

Question B1:

Can we include the cost to purchase Vehicle-Grid Integration standards into the proposal budget?

Answer:

Yes, preferably using matching funds.

Question B2:

I understand that 60% of the project funding needs to be conducted and allocated in California, yet how is the scoring impacted if the other 30%-40% is completed out of state and possibly with a government entity?

Answer:

The 60% threshold is not a requirement. It is unclear what this question means by “conducted and allocated.” Projects that spend EPIC funds (cf. total funds, including match funds) in California will likely score higher under Scoring Criterion 6. Please see the definition of “EPIC Funds Spent in California” per Scoring Criterion 6.

To earn any points under Criterion 6, *greater than* 60% of the requested EPIC funds must be “spent in California.” Please note the criterion’s scoring table and the discrete “jumps” in points earned as an application’s percentage of “EPIC Funds Spent in California” escalates. Note that Criterion 6 will be highly impactful because of its scoring method, and that the criterion applies to applicants’ requested EPIC funds and not the pledged match funds.

For the funding not “spent in California,” the type of entity receiving it, e.g. a government entity, does not impact the scoring per se. All spending proposed in the applications will be evaluated under Scoring Criterion 5 “Budget and Cost-Effectiveness.”

Question B3:

Per the manual, “Applicants who receive funding under this solicitation will be required to respond to the Electric Vehicle Pilot Survey” (page 8, under CPUC Proceeding R13-11-007), and “applicants are highly encouraged to view the survey responses to verify that our proposed projects are not duplicative of current research.” So it sounds like we need to study/respond to this survey before we submit our application, and after funding – is this correct?

Answer:

Applicants are highly encouraged to review the Electric Vehicle Pilot Survey responses and similar resources before submitting their applications. This will help identify possible collaborators or technical advisory committee members for their proposed projects and will also help ensure that the proposed project is not duplicative of other research previously funded by the Energy Commission. (Please also see Questions A4 and A8.)

For those applicants that receive grant awards, per the “Evaluation of Project Benefits” task in Attachment 6 “Scope of Work Template,” the project team would need to respond to the survey within the first 3 months of the project.

Question B4:

What items can be included in ‘matching funds’? Can prior expenditures for pre-existing infrastructures, which are now dedicated to this project, be included on a pro-rata basis?

Answer:

The manual’s Pages 10 and 11 fully specify what can be counted as matching funds.

Note that the following cannot be claimed as matching funds:

Energy Commission awards, EPIC funds received from other sources, future/contingent awards from other entities (public or private), the cost or value of the project work site, or the cost or value of structures or other improvements affixed to the project work site permanently or for an indefinite period of time (e.g. photovoltaic systems).

Therefore, pre-existing infrastructure cannot be counted as match.

Question B5:

Is the grant money allowed to modify existing vehicles?

Answer:

Funds awarded under this solicitation may be used for modifications to existing PEVs, so long as expenditures are otherwise eligible. Modifications must be used to advance

VGI technologies consistent with the goals, objectives, and requirements of this solicitation.

TECHNICAL QUESTIONS: GROUPS 1-3 ONLY:

Question C1:

Is demonstrating a vehicle retrofit to interface with the grid allowed under groups 1 and 2?

Answer:

Grant money for modifications to existing PEVs is allowed under Groups 1 and 2. Modifications must be used to advance VGI technologies consistent with the goals, objectives, and requirements of this solicitation.

Vehicle retrofits to convert a gas-fired engine vehicle to an electric or hybrid vehicle are not allowed under this solicitation.

Question C2:

What is an anticipated size of fleet vehicles under Groups 1 and 2?

Answer:

This solicitation does not have a required fleet size for Groups 1 or 2. It is the Applicant's responsibility to propose a fleet size and justify the reasonableness with respect to their proposal for this solicitation and how it is representative of a California vehicle segment.

Question C3:

In the Group 1 description "...use the distributed battery capacity of an EV fleet ... to provide regulation and load following capabilities". What do the "regulation" and "load following" refer to here? Is it simply the signals from ISO/utilities or do they refer to the general behavior of load reduction or following (perhaps according to the renewable energy generation)?

Answer:

"Regulation" and "load following" refer to both grid conditions and available renewable energy generation.

Question C4:

Regarding Group 1, does the possible behavior or action of the EV fleet include V2G?

Answer:

Group 1 does not include V2G.

TECHNICAL QUESTIONS: GROUP 4 ONLY:Question D1:

Are all charging station technologies eligible for Group 4?

Answer:

Yes, subject to the requirement on Pages 16-17 / Section II.B.2.b “Standards Implementation” in the solicitation manual, which applies to all groups. This requires projects implementing specific VGI technical standards to *follow all applicable standards completely*; or alternatively, if a project team believes a particular VGI technical standard(s) have specific flaws that need to be corrected and so wishes to propose a project that deviates from any applicable VGI standard(s), then the application must *point out and justify wherever this is the case*. (Proposals of the second type are anticipated to be rare.) This requirement is to ensure that the projects are valuable for standards development and implementation.

Question D2:

I would appreciate your help in determining whether our project and ecosystem would be a candidate for a grant before I apply; it would be great to get your insight before exploring and dedicating time.

Our company would like to apply to fourth project group, which funds TD&D projects to yield and quantify multiple real-world benefits of advanced VGI applications for electric vehicle fleets.

We would do this in 3 ways:

1. Create a series of educational modules that tell the story to stakeholders of economic successes employing electric vehicle fleets by major corporations and public entities; we will also show future planning and technology options for city and state transportation projects using electric vehicles and automation to reduce carbon and address the increase of population in these areas.
2. Use data visualization and analytics to model and demonstrate the different applications, phases and outcomes of multiple stakeholder projects at different cycles to show outcomes such as the increase in technology effectiveness.
3. Connect business solutions as part of a matching program within our online ecosystem offering solutions to companies, government agencies and others.

We believe we can, with these modules, data and solution providers, create a full scale demonstration and access point to technology with the aim of accelerating commercialization. Our projects validate the economics using real success stories and data, offering access to a community of solution providers and projects coming out of incubators, universities and National Labs.

Answer:

At this time, the Energy Commission cannot tell you whether or not you are eligible to apply because all details of your situation are not known. Please review Section II of the

Application Manual, “Eligibility Requirements.” In general, all applications must fully respond to the technical objectives in their respective project group description in the Application Manual. For any project, activities such as benefits measurement, education, outreach, and facilitating business connections can add essential value when appropriately deployed. Note the “Evaluation of Project Benefits” and the other required tasks in Attachment 6 “Scope of Work Template.” Please also see Questions A1 and A2.

Question D3:

What is an anticipated size of fleet vehicles under Group 4?

Answer:

This solicitation does not have a required fleet size for Group 4. It is the Applicant’s responsibility to propose a fleet size and justify the reasonableness with respect to their proposal for this solicitation and how it is representative of a California market segment.

TECHNICAL QUESTIONS: ALL GROUPS:

Question E1:

Our company manufactures electrolyzers to produce hydrogen. We are interested in this solicitation and would like to know if our technology could somehow fit within its scope; believe mainly Group 4 could do. Our proposal would be about integrating into the grid a home (or group of homes) that produce hydrogen through an electrolyzer. The electrolyzer is connected to a set of PV panels and/or wind turbine to provide the required electricity. Spare energy can be injected to the grid. Hydrogen is stored and then used for the needs of the house using a fuel cell. The system of stored hydrogen and fuel cell act as a battery and can eventually supply energy not only to the house, but to the grid as well.

The associated vehicles would be electric of course, but running from the H2+fuel cell instead of a battery. In a nutshell, instead of using batteries, we’d use stored hydrogen.

Answer:

This solicitation is specifically for plug-in electric vehicles. Although it is the applicant’s sole responsibility to determine their eligibility and the Energy Commission cannot at this time give project-specific advice, in general, a project such as the one described above does not fit within the eligibility requirements of this solicitation. Although hydrogen fuel cell vehicles and electrolyzers are among technologies that can play a role in California’s process of integrating transportation electrification and distributed energy resources into the grid, this solicitation targets projects that use plug-in electric vehicles. Note that these could be pure battery-electric or plug-in hybrid electric vehicles, per Question E3.

Question E2:

What are the current pre-existing Vehicle-Grid Integration standards?

Answer:

It is the recipient's responsibility to follow all applicable standards completely. (See Application Manual at p. 16, Section II.B.2.b.) It may be helpful for applicants to note that the California Vehicle-Grid Integration Roadmap <http://www.caiso.com/documents/vehicle-gridintegrationroadmap.pdf> (also linked in the solicitation manual) on pages 29-37 has "Appendix D: Standards Overview."

Appendix D lists several organizations that have been working to develop standards, codes and regulations that define the characteristics and use of EV-related equipment. This section also gives a link to a 2013 standardization roadmap for electric vehicles, and gives descriptions of a *sample* of standards maintained by the Society of Automotive Engineers (SAE).

Additionally, the Roadmap's "Appendix B: Summary of Relevant Policy" mentions ISO/IEC 15118, a global communication standard that is available to use for communications between a vehicle and EVSE. (Typically, different combinations of standards are available to be used in projects depending on the selected types of equipment and intended functions. Please also see the Application Manual at pages 16-17 / Section II.B.2.b "Standards Implementation.")

While the CA VGI Roadmap material is highly relevant, keep in mind that the document was written in 2013 and standards development is an ongoing activity.

A more recent view of specifically SAE V2G standards activities is found at this site archiving a December 14, 2015 workshop:

<http://www.energy.ca.gov/research/notices/#12142015>

In the Presentations folder, the file "06 AEYCH McGlynn.pdf" is the slide deck for "SAE V2G Standards Activities." On the WebEx Recording found just below the Presentations folder link, this presentation starts at the 1:55:30 mark and the Q&A ends at approximately 2:20:00.

Question E3:

Is a PEV Hybrid technology eligible under this solicitation?

Answer:

As technical objectives, advancements in PEV hybrid (plug-in hybrid electric vehicle or PEVs with range extenders) technologies are not eligible under this solicitation.

However, these vehicles are allowable as part of project fleets because they do plug in and charge, and could be capable of providing grid services, in the same way that purely battery-electric vehicles (BEVs) do. (For example, a few PEVs with range extenders operate at Los Angeles Air Force Base.)

Of course, capabilities of the proposed vehicles or fleets will be a factor in application evaluation; this type of vehicle may have a smaller battery than an otherwise-similar BEV would and thus have less capability to provide grid services. There may still be valuable

use cases to demonstrate, and all proposals will be compared and evaluated in accordance with the Screening and Scoring criteria.

Question E4:

Will project concepts involving light-duty vehicles be considered more favorably in any way than concepts involving heavy-duty vehicles? Or vice versa?

Answer:

Vehicle weight classification will not impact proposal scoring. The applicant must thoroughly explain in their proposal why their technologies and strategies best fit their proposed PEVs for development or demonstration.

Question E5:

Can demonstrations be performed with newly developed PEVs deployed during the period of performance of the grant?

Answer:

Yes, demonstrations can use newly-developed PEVs deployed during the period of the grant agreement. The Applicant is responsible for describing in their proposal how they will use the newly developed PEVs to advance VGI technologies applicable to the solicitation within the proposed project schedule.