

CONTRACT REQUEST FORM (CRF)

CEC-94 (Revised 10/2015)

CALIFORNIA ENERGY COMMISSION

A) New Agreement 300-17-003 (To be completed by CGL Office)

ERDD	Angela Gould	45	916-327-1535
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Navigant Consulting, Inc.	36-4094854
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Distributed Energy Resources (DER) Roadmap
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6/29/2018	12/31/2019	\$ 499,065
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<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	5/9/2018	<input type="checkbox"/> Consent	<input checked="" type="checkbox"/> Discussion
Business Meeting Presenter	Angela Gould	Time Needed:	5 minutes

Please select one list serve. EPIC (Electric Program Investment Charge)

Agenda Item Subject and Description

NAVIGANT CONSULTING, INC. Proposed resolution approving Agreement 300-17-003 with Navigant Consulting, Inc. for a \$499,065 contract to identify and prioritize the most critical research to achieve California's goals for integrating high penetrations of distributed energy resources. Results will be used to strategically target future Electric Program Investment Charge investments in a manner that provides optimal benefits to investor owned utility electric ratepayers and maximizes the use of public research and development investments. (EPIC funding) Contact: Angela Gould. (Staff presentation: 5 minutes)

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 a paper study only.	
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 <div style="display: flex; justify-content: space-between;"> <div> <input type="checkbox"/> Initial Study <input type="checkbox"/> Negative Declaration <input type="checkbox"/> Mitigated Negative Declaration </div> <div> <input type="checkbox"/> Environmental Impact Report <input type="checkbox"/> Statement of Overriding Considerations </div> </div>	

Legal Company Name:	Budget	SB	MB	DVBE
Green Technology Leadership Group DBA Gridworks Organization	\$ 99,176	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Gregg D. Ander, LLC	\$ 149,176	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Redhorse Corporation	\$ 25,179	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	\$	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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Legal Company Name:

Funding Source	Funding Year of Appropriation	Budget List No.	Amount
EPIC	16-17	301.001D	\$499,065
			\$
R&D Program Area: EGRO: Renewables			\$
Explanation for "Other" selection			
Reimbursement Contract #:		Federal Agreement #:	

Name: Karin Corfee	Name: Karin Corfee
Address: 1 Market St Ste 1200	Address: 1 Market St Ste 1200
City, State, Zip: San Francisco, CA 94105-1422	City, State, Zip: San Francisco, CA 94105-1422
Phone: 415-356-7178 / Fax: - -	Phone: 415-356-7178 / Fax: - -
E-Mail: karin.corfee@navigant.com	E-Mail: karin.corfee@navigant.com

<input checked="" type="checkbox"/> Solicitation Select Type Solicitation #: <u>RFP-17-306</u> # of Bids: <u>5</u> Low Bid? <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes <input type="checkbox"/> Non Competitive Bid (Attach CEC 96) <input type="checkbox"/> Exempt Select Exemption (see instructions)
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<input checked="" type="checkbox"/> Private Company (including non-profits) <input type="checkbox"/> CA State Agency (including UC and CSU) <input type="checkbox"/> Government Entity (i.e. city, county, federal government, air/water/school district, joint power authorities, university from another state)

	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes
If yes, check appropriate box:	<input type="checkbox"/> SB	<input type="checkbox"/> MB <input type="checkbox"/> DVBE

<input type="checkbox"/> Not Applicable (Agreement is with a CA State Entity or a membership/co-sponsorship) <input type="checkbox"/> Public Resources Code 25620, et seq., authorizes the Commission to contract for the subject work. (PIER) <input type="checkbox"/> The Services Contracted: <input type="checkbox"/> are not available within civil service <input type="checkbox"/> cannot be performed satisfactorily by civil service employees <input type="checkbox"/> are of such a highly specialized or technical nature that the expert knowledge, expertise, and ability are not available through the civil service system. <input checked="" type="checkbox"/> The Services are of such an: <input type="checkbox"/> urgent <input type="checkbox"/> temporary, or <input checked="" type="checkbox"/> occasional nature that the delay to implement under civil service would frustrate their very purpose. Justification: This roadmap will entail an intensive 18 month effort to compile and prioritize research ideas from a vast network of subject matter experts. The roadmap will guide future research efforts and is not anticipated to be repeated.

<input checked="" type="checkbox"/> A. Reimbursement in arrears based on: <input checked="" type="checkbox"/> Itemized Monthly <input type="checkbox"/> Itemized Quarterly <input type="checkbox"/> Flat Rate <input type="checkbox"/> One-time <input type="checkbox"/> B. Advanced Payment <input type="checkbox"/> C. Other, explain:

1. Is Agreement subject to retention?	<input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes
If Yes, Will retention be released prior to Agreement termination?	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes

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**R) Justification of Rates**

The fringe, indirect overhead, and other rates for Navigant and its subcontractors are consistent with those provided by the other applicants to the solicitation and with those in other EPIC agreements for similar work.

1. ☐ Exempt (Interagency/Other Government Entity)
2. ☒ Meets DVBE Requirements DVBE Amount:\$ 25,179.00 DVBE %: 5
 - ☐ Contractor is Certified DVBE
 - ☒ Contractor is Subcontracting with a DVBE: Redhorse Corporation
3. ☐ Contractor selected through CMAS or MSA with no DVBE participation.
4. ☐ Requesting DVBE Exemption (attach CEC 95)

1. Will there be Work Authorizations? ☒ No ☐ Yes
2. Is the Contractor providing confidential information? ☒ No ☐ Yes
3. Is the Contractor going to purchase equipment? ☒ No ☐ Yes
4. Check frequency of progress reports
☐ Monthly ☒ Quarterly ☐ _____
5. Will a final report be required? ☐ No ☒ Yes
6. Is the agreement, with amendments, longer than a year? If yes, why? ☐ No ☒ Yes

The Department of General Services has agreed to give the Commission blanket authority to execute multi-year contracts to support the Commission's RD&D Programs.

- | | | |
|---|---|--|
| 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 type="checkbox"/> N/A | <input checked="" 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"/> Attached |

Agreement Manager_____
Date_____
Office Manager_____
Date_____
Deputy Director_____
Date

EXHIBIT A

SCOPE OF WORK

I. TASK ACRONYM/TERM LISTS

TASK LIST

Task #	CPR ¹	Task Name
1		Administration and Contract Management
2		Technical Assessment of Distributed Energy Resources Technologies and Strategies
3	X	Finalize Methodology for Developing the Research Roadmap
4		Develop the Research Roadmap
5		Finalize the Research Roadmap

ACRONYMS/GLOSSARY

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

Acronym	Definition
CAM	Commission Agreement Manager
CAO	Commission Agreement Officer
CPR	Critical Project Review
TAC	Technical Advisory Committee

II. PURPOSE OF AGREEMENT, PROBLEM/SOLUTION STATEMENT, AND GOALS AND OBJECTIVES

A. Purpose of Agreement

The purpose of this Agreement is to fund efforts to identify and prioritize research on the most critical RD&D gaps that need to be addressed to achieve California's goals for integrating high-penetrations of renewable and distributed energy resources in IOU service territories. Results of the analyses will be used to strategically target future EPIC investments in a manner that provides optimal benefits to IOU electric ratepayers, and maximizes the use of public research and development investments.

B. Problem/ Solution Statement

Problem

Distributed energy resources (DER) are defined for the purpose of this agreement as distribution-connected renewable energy generation resources, energy storage, electric vehicles, and demand response technologies.

DER can provide more flexible power sources than centralized power units and can both improve reliability and power quality and defer transmission and distribution line capital expenditures. Through a combination of technological improvements, policy incentives, and consumer choices in technology and service, the role of DER is likely to become more important in the future to California achieving its greenhouse gas and renewable energy goals.

¹ Please see subtask 1.6 in Part III of the Scope of Work (General Project Tasks) for a description of Critical Project Review (CPR) Meetings.

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Solution

The contractor will develop a roadmap that will focus on technologies and solutions that support DER, including generation, operations, and planning issues. The roadmap will include solutions that consider interoperability, standardization, plug and play, cyber security, and cost-effectiveness. The roadmap will also discuss baseline conditions and improvement metrics and coordinate with the Distribution Resource Planning (DRP) and Integrated Resource Planning (IRP) proceedings.

C. Goals and Objectives of the Agreement

Agreement Goals

The goals of this Agreement are to develop, in consultation with stakeholders and subject matter experts, a *Research Roadmap* that identifies, describes, and prioritizes key RD&D needs for electric system transformations to enable high penetration of DER.

Ratepayer Benefits:² This Agreement will result in the ratepayer benefit of lower costs by identifying the areas of EPIC-funded research that will provide the greatest benefits at the lowest cost to ratepayers.

Technological Advancement and Breakthroughs:³ This Agreement will lead to technological advancement and breakthroughs to overcome barriers to the achievement of the State of California's statutory energy goals by identifying and prioritizing research on the most critical RD&D gaps that need to be addressed to achieve California's goals for integrating high-penetrations of renewable and distributed energy resources in IOU service territories. Results of the analyses will be used to strategically target future EPIC investments in a manner that provides optimal benefits to IOU electric ratepayers, and maximizes the use of public research and development investments.

RATEPAYER BENEFITS, TECHNOLOGICAL ADVANCEMENTS, AND BREAKTHROUGHS

California Public Resources Code Section 25711.5(a) requires EPIC-funded projects to:

- Benefit electricity ratepayers; and
- Lead to technological advancement and breakthroughs to overcome the barriers that prevent the achievement of the state's statutory energy goals.

The CPUC defines "ratepayer benefits" as greater reliability, lower costs, and increased safety.⁴ The CPUC has also adopted the following guiding principles as complements to the key principle of electricity ratepayer benefits: societal benefits; GHG emissions mitigation and

² California Public Resources Code, Section 25711.5(a) requires projects funded by the Electric Program Investment Charge (EPIC) to result in ratepayer benefits. The California Public Utilities Commission, which established the EPIC in 2011, defines ratepayer benefits as greater reliability, lower costs, and increased safety (See CPUC "Phase 2" Decision 12-05-037 at page 19, May 24, 2012, http://docs.cpuc.ca.gov/PublishedDocs/WORD_PDF/FINAL_DECISION/167664.PDF).

³ California Public Resources Code, Section 25711.5(a) also requires EPIC-funded projects to lead to technological advancement and breakthroughs to overcome barriers that prevent the achievement of the state's statutory and energy goals.

⁴ CPUC "Phase 2" Decision 12-05-037 at page 19, http://docs.cpuc.ca.gov/PublishedDocs/WORD_PDF/FINAL_DECISION/167664.PDF.

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adaptation in the electricity sector at the lowest possible cost; the loading order; low-emission vehicles/transportation; economic development; and efficient use of ratepayer monies.⁵

This contract will fund efforts to identify and prioritize research on the most critical RD&D gaps that need to be addressed to achieve California's goals for integrating high-penetrations of renewable and distributed energy resources in IOU service territories. Results of the analyses will be used to strategically target future EPIC investments in a manner that provides optimal benefits to IOU electric ratepayers, and maximizes the use of public research and development investments

Agreement Objectives

The objectives of this Agreement are to:

- Assess the status of DER within California, including technology cost and performance trends.
- Assess current research efforts, including those at the state and federal level, that are addressing these knowledge gaps.
- Identify performance and cost targets, and identify research needs to achieve those targets that may be addressed by the EPIC Program.
- Develop estimated rates for technology performance improvement, technology cost reduction, and customer adoption.
- Develop a methodology for prioritizing future research needs in the near (1 to 3 years), mid-term (3-5 years), and long-term (>5 years). This methodology should consider the cost and complexity of different research needs and include identification of which performance targets can be achieved soonest.
- Apply this methodology to the research gaps to prioritize near, mid-, and long-term research needs.
- Identify critical cost and performance indicators of success for DER technologies, combinations of technologies, and strategies, and a methodology using these indicators to estimate research benefits, including benefits to IOU electric ratepayers.
- Identify the type and amount of data needed to advance DER policy at the Energy Commission, CPUC, and CAISO, and the type and amount of data needed to increase the availability of DER financing, particularly for low-income customers.
- Conduct a minimum of two public workshops with experts and stakeholders and an additional two Technology Advisory Committee meetings with experts to identify and refine research gaps and critical indicators of success.
- Provide comprehensive references, workshop summaries, comments, and attendees to document road mapping process.

III. TASK 1 GENERAL PROJECT TASKS

Task 1.1 Kick-off Meeting

The goal of this subtask is to establish the lines of communication and procedures for implementing this Contract. The meeting will be held in Sacramento, CA and the CAM will designate the specific location, or via Web-Ex or teleconference. The administrative and technical aspects of this Contract will be discussed at the meeting.

The administrative portion of the meeting will include discussion of the following:

- Terms and conditions of the Contract;

⁵ *Id.* at pp. 19-20.

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- Administrative deliverables;
- Project meetings and briefings;
- Match fund documentation (if applicable);
- Permit documentation (if applicable);
- Subcontracts; and
- Any other relevant topics.

The technical portion of the meeting will include discussion of the following:

- The CAM's expectations for accomplishing tasks described in the Scope of Work;
- An updated Project Schedule;
- Technical deliverables;
- Progress reports and invoices;
- Final Report; and
- Any other relevant topics.

The Contractor shall:

- Attend a "kick-off" meeting with the CAM, the CAO, 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 CAM in this meeting. The administrative and technical aspects of this Contract will be discussed at the meeting.
- Prepare a *Kick-off Meeting Summary Memo* that describes the outcomes of the meeting and includes a discussion of the communication protocols and development of the contact list that will be used over the course of the agreement.
- Provide a *List of Match Funds*, as applicable.
- If necessary, prepare an *Updated Schedule of Deliverables* and *Updated Gantt Chart* outlining schedule of deliverables based on the decisions made in the kick-off meeting.

The CAM 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:

- A Kick-off Meeting Summary Memo
- An Updated Schedule of Deliverables (if applicable)
- An Updated Gantt Chart (if applicable)
- A List of Match Funds (if applicable)

Task 1.2 Invoices

The goal of this subtask is to ensure that invoices contain all required information and are submitted in the appropriate format.

The Contractor shall:

- Prepare invoices no later than the 15th of each month for all reimbursable expenses incurred performing work under this Contract in compliance with the Exhibit B of the Terms and Conditions of the Contract and in the format provided by the CAM. In addition, each invoice must document and verify:
 - Energy Commission funds received by California-based entities
 - Energy Commission funds spent in California (if applicable)
 - Match fund expenditures (if applicable)
- The monthly invoices will be accompanied with monthly status summaries, while the

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quarterly progress reports will be standalone deliverables (task 1.3). Invoices must be submitted to the Energy Commission's Accounting Office.

Deliverables:

- Monthly Invoices, due by the 15th of the following month
- Brief Monthly progress summary

Task 1.3 Quarterly Progress Reports

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

The Contractor shall:

- Prepare progress reports that summarize all Contract activities conducted by the Contractor and any subcontractors for the reporting period, including an assessment of the ability to complete the Contract 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 CAM will provide the format for the progress reports.
- Develop a Project Management SharePoint site, which will host the Contract Management Data (CMD) spreadsheet tracker and all work products. Provide access information to this site to the CAM.

Deliverables:

- Quarterly Progress Reports

Task 1.4 Manage Subcontractors

The goal of this subtask is to ensure quality products, to enforce subcontractor Contract provisions, and in the event of failure of the subcontractor to satisfactorily perform services, recommend solutions 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 Contract, and 2) notify the CAM who will follow the Energy Commission's process for adding or replacing subcontractors.
- Prepare and submit a *Subcontractor Conflict of Interest Policy* to ensure that no conflicts of interest exist between subcontractors.

Deliverables:

- Written notification to CAM of subcontractor change
- Subcontractor Conflict of Interest Policy

Task 1.5 Project Meetings and Briefings

The goal of this subtask is to determine whether any modifications must be made to the tasks, products, schedule, or budget. Project meetings provide the opportunity for frank discussions between the Energy Commission and the Contractor. As determined by the CAM, discussions may include project status, challenges, successes, findings, project goals and benefits, recommendations, and final report preparation. Participants will include the CAM and the Contractor, and may include the CAO and any other individuals selected by the CAM to provide support to the Energy Commission.

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The Contractor shall:

- Bi-weekly (or other mutually agreed upon interval) meetings via teleconference and/or online conferencing with the CAM, CAO, and any other individuals selected by the CAM to discuss key issues and progress against the schedule. Agendas for these meetings will be provided to the CAM the day before each meeting, along with an updated CMD project tracker. Our Project Manager or Deputy Project Manager for this assignment will direct discussions during the meetings.
- Maintain an Action Item list tracking all issues that have surfaced internally and externally to ensure each issue is addressed in a timely manner.
- Respond to e-mails or other written communication requests regarding project management status and issues, as requested by the CAM.
- Maintain an *Action Item Tracker* list tracking all issues that have surfaced internally and externally to ensure each issue is addressed in a timely manner.
- Prepare meeting notes for each formal meeting that: (1) discusses the progress of the Contract toward achieving its goals and objectives; and (2) includes recommendations and conclusions regarding continued work on the project, as requested by the CAM.
- Submit the meeting notes to the CAM for review and approval.

Deliverables:

- Meeting agenda in advance of each bi-weekly meeting
- Responses to written requests on project status
- Meeting notes for each formal meeting
- Action Item Tracker

Task 1.6 Critical Project Review (CPR) Meetings

The goal of this subtask is to determine if the project should continue to receive Energy Commission funding, and if so whether any modifications must be made to the tasks, products, schedule, or budget. CPR meetings provide the opportunity for frank discussions between the Energy Commission and the Recipient. As determined by the CAM, discussions may include project status, challenges, successes, advisory group findings and recommendations, final report preparation, and progress on technical transfer and production readiness activities (if applicable). Participants will include the CAM and the Recipient, and may include the CAO and any other individuals selected by the CAM to provide support to the Energy Commission.

CPR meetings generally take place at key, predetermined points in the Agreement, as determined by the CAM and as shown in the Task List on page 1 of this Exhibit. However, the CAM may schedule additional CPR meetings as necessary. The budget will be reallocated to cover the additional costs borne by the Recipient, but the overall Agreement amount will not increase. CPR meetings generally take place at the Energy Commission, but they may take place at another location, or may be conducted via electronic conferencing (e.g., WebEx) as determined by the CAM.

The Contractor shall:

- Prepare a CPR Report for each CPR meeting that: (1) discusses the progress of the Agreement toward achieving its goals and objectives; and (2) includes recommendations and conclusions regarding continued work on the project.
- Submit the CPR Report along with any other Task Products that correspond to the technical task for which the CPR meeting is required (i.e., if a CPR meeting is required for Task 2, submit the Task 2 products along with the CPR Report).

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- Attend the CPR meeting.
- Present the CPR Report and any other required information at each CPR meeting.

The CAM shall:

- Determine the location, date, and time of each CPR meeting with the Recipient's input.
- Send the Recipient a CPR Agenda and a List of Expected CPR Participants in advance of the CPR meeting. If applicable, the agenda will include a discussion of match funding and permits.
- Conduct and make a record of each CPR meeting. Provide the Recipient with a Schedule for Providing a Progress Determination on continuation of the project.
- Determine whether to continue the project, and if so whether modifications are needed to the tasks, schedule, products, or budget for the remainder of the Agreement. If the CAM concludes that satisfactory progress is not being made, this conclusion will be referred to the Deputy Director of the Energy Research and Development Division.
- Provide the Recipient with a Progress Determination on continuation of the project, in accordance with the schedule. The Progress Determination may include a requirement that the Recipient revise one or more products.

Deliverables:

- CPR Report(s)
- Task Products (draft and/or final as specified in the task)

CAM Deliverables:

- CPR Agenda
- List of Expected CPR Participants
- Schedule for Providing a Progress Determination
- Progress Determination

Task 1.7 Technical Advisory Committee (TAC)

The goal of this subtask is to create an advisory committee for this Contract. The TAC should be composed of diverse professionals in the distributed energy sector. The composition will vary depending on interest, availability, and need. TAC members will serve at the CAM's discretion. The purpose of the TAC is to:

- Provide guidance in project direction. The guidance may include scope and methodologies, timing, and coordination with other projects. The guidance may be based on:
 - Technical area expertise;
 - Knowledge of market applications; or
 - Linkages between the Contract work and other past, present, or future projects (both public and private sectors) that TAC members are aware of in a particular area.
- Review products and provide recommendations for needed product adjustments, refinements, or enhancements.
- Evaluate the tangible benefits of the project to the State of California, and provide recommendations as needed to enhance the benefits.

The TAC shall be composed of qualified professionals with expertise which may span the following types of disciplines:

- Researchers knowledgeable about the project subject matter;
- Members of trades that will apply the results of the project (e.g., designers, engineers,

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- architects, contractors, and trade representatives);
- Product developers relevant to the project;
- Members of relevant technical society committees.

The Contractor shall:

- Prepare a *List of Potential TAC Members* that includes the names, companies, physical and electronic addresses, and phone numbers of potential members. The list will be discussed at the Kick-off meeting, and a schedule for recruiting members and holding the first TAC meeting will be developed.
- Recruit TAC members. Ensure that each individual understands member obligations and the TAC meeting schedule developed in subtask 1.7.
- Prepare a *List of TAC Members* once all TAC members have committed to serving on the TAC.
- Submit *Documentation of TAC Member Commitment* (such as Letters of Acceptance) from each TAC member to the CAM.

Deliverables:

- List of Potential TAC Members
- List of TAC Members
- Documentation of TAC Member Commitment

Subtask 1.8 TAC Meetings

The goal of this subtask is for the TAC to provide strategic guidance for the project by participating in regular meetings, which may be held via teleconference.

The Contractor shall:

- Discuss the TAC meeting schedule with the CAM at the Kick-off meeting. Determine the number and location of meetings (in-person and via teleconference) in consultation with the CAM.
- Prepare a *TAC Meeting Schedule* that will be presented to the TAC members during recruiting. Revise the schedule after the first TAC meeting to incorporate meeting comments.
- Prepare a *TAC Meeting Agenda* and *TAC Meeting Back-up Materials* for each TAC meeting.
- Organize and lead TAC meetings in accordance with the TAC Meeting Schedule. Changes to the schedule must be pre-approved in writing by the CAM.
- Prepare *TAC Meeting Summaries* that include any recommended resolutions of major TAC issues.

Deliverables:

- TAC Meeting Schedule (draft and final)
- TAC Meeting Agendas (draft and final)
- TAC Meeting Back-up Materials
- TAC Meeting Summaries

Task 1.9 Final Report

The goal of this subtask is to prepare a written Final Report. 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.

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The Final Report shall be a public document. If the Contractor's work on all or part of this project has obtained confidential status from the Energy Commission, then the Contractor must prepare both a public and a confidential version of the Final Report, and the Contractor shall perform the following subtasks for both the public and confidential versions of the Final Report. When creating the Final Report, the Recipient must use a Style Manual provided by the CAM.

Task 1.9.1 Final Report Outline

The Contractor shall:

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

Deliverables:

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

Task 1.9.2 Final Report

The Contractor shall:

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

Deliverables:

- Draft Final Report
- Written Responses to Comments on the Draft Final Report
- Final Report

Task 1.10 Final Meeting

The goal of this subtask is to discuss closeout of this Contract and review the project. The meeting will be held in Sacramento, CA and the CAM will designate the specific location, or via Web-Ex or teleconference. The administrative and technical aspects of Contract closeout will be discussed at the meeting.

The Contractor shall:

- Meet with Energy Commission staff prior to the term end-date of this Contract. This meeting will be attended by the Contractor Project Manager and the CAM. The CAM will determine any additional appropriate meeting participants.
- Present findings, conclusions, and recommended next steps (if any) for the Contract, based on the information included in the Final Report.
- Prepare a written document of meeting agreements and unresolved activities in a *Final Meeting Agreement Summary*.
- Prepare a *Schedule for completing the closeout activities* for this Contract, based on determinations made during the meeting.

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- Provide ALL Draft and Final written deliverables provided under this Contract on a CD-ROM or USB memory stick, organized by the tasks in the Contract.

Deliverables:

- Final Meeting Agreement Summary
- Schedule for completing closeout activities
- CD-ROM or USB memory stick containing ALL draft and final written deliverables provided under this Contract, organized by task

IV. TECHNICAL TASKS

*Deliverables that require a draft version are indicated by marking “(draft and final)” after the deliverable name in the “Deliverables” section of the task/subtask. If “(draft and final)” does not appear after the deliverable name, only a final version of the deliverable is required. **Subtask 1.1 (Deliverables)** describes the procedure for submitting deliverables to the CAM.*

TASK 2: TECHNICAL ASSESSMENT OF DISTRIBUTED ENERGY RESOURCE TECHNOLOGIES AND STRATEGIES

The goal of this task is to develop a technical assessment of the current baseline and best in class DER technologies, combinations of technologies, and strategies to facilitate increased penetrations of DER into the electrical grid, including cost and performance attributes.

The Contractor shall:

- Prepare a draft and final *Literature Review* of peer reviewed technical journals, government reports, academic reports on ongoing RD&D activities, past DER-related RD&D roadmaps, technical and market reports on relevant technologies, trade journals and other high quality sources of information regarding performance specifications of commercially available and emerging pre-commercial technologies and combinations of technologies used in current DER installations. Include references for all sources.
- Prepare and submit a draft *List of Experts to Interview* regarding the current cost and performance attributes of DER technologies, combinations of technologies, and strategies; developing trends and opportunities of specific technologies, combinations of technologies, and strategies to facilitate increased penetrations of DER at lowest cost and highest performance into the electrical grid; and identify other critical indicators of success.
- Prepare and submit a draft list of *Interview Questions* to use when interviewing experts on topics listed above.
- Submit the final *List of Experts* and final *Interview Questions*, incorporating the CAM's comments.
- Conduct interviews with experts regarding pathways to integrating high-penetrations of DER into the electrical grid, baseline and best in class commercially available and emerging pre-commercial DER technologies and combinations of technologies, and strategies to facilitate increased penetrations of DER into the electrical grid. These interviews will include cost and performance attributes of specific DER technologies and combinations of technologies, current and anticipated research, and critical indicators of success.

EXHIBIT A

SCOPE OF WORK

- Submit the draft *Technical Assessment of Distributed Energy Resources Technologies and Strategies* for review and comment. The CAM will provide written comments to the Contractor. The Contractor shall review the comments and discuss any concerns regarding the recommended changes with the CAM.
- Conduct at least one public workshop to receive comments on the draft *Technical Assessment*.
- Prepare a *Workshop Summary*.
- Submit the final *Technical Assessment of Distributed Energy Resources Technologies and Strategies*, incorporating the CAM's comments.

Deliverables:

- Literature Review (Draft and Final)
- List of Experts to Interview (Draft and Final)
- Interview Questions (Draft and Final)
- Workshop Summary
- Technical Assessment of Distributed Energy Resources Technologies and Strategies (Draft and Final)

TASK 3: FINALIZE METHODOLOGY FOR DEVELOPING THE RESEARCH ROADMAP

The goal of this task is to finalize the methodology submitted in Recipient's proposal for developing the *Research Roadmap for Systems Transformation to Enable High Penetrations of Distributed Energy Resources* (*Research Roadmap* to be completed in Task 4). The Contractor shall finalize the methodology based on comments from the TAC and Energy Commission staff on the draft methodology submitted in Recipient's proposal and the Technical Assessment prepared in Task 2.

The methodology should describe at a minimum:

- Proposed topics to be covered in the *Research Roadmap*.
- The Contractor's proposed approach to:
 - Incorporate information from the Technical Assessment to be prepared in Task 2 into the *Research Roadmap*.
 - Coordinate and collaborate with Energy Commission staff, including periodic check-in points with the CAM at key milestones and decision-points in the development of the *Research Roadmap*.
 - Solicit input from experts and stakeholders on RD&D gaps and needs for key topics in the *Research Roadmap*.
 - Identify and prioritize the most important RD&D gaps.
 - Coordinate with Energy Commission staff to identify and select venue(s) for topic specific workshops (including plans for recording and creating detailed workshop transcripts).
 - Create all necessary presentation materials and hand-outs for workshop attendees.

EXHIBIT A

SCOPE OF WORK

- Coordinate with Energy Commission staff on handling logistics for scheduling, setting up and facilitating workshop(s) to solicit input from experts and stakeholders on RD&D gaps and needs for key topics in the *Research Roadmap*.

The Contractor shall:

- Meet with the CAM, and others invited by the CAM, to discuss finalizing the methodology for developing the *Research Roadmap*. This strategy meeting shall take place within ten (10) business days after submittal of the Final Technical Assessment. This strategy meeting will be held at the Energy Commission.
- Prepare and submit a *Summary of Comments* received at the strategy meeting.
- Finalize the *Methodology for developing the Research Roadmap* by incorporating feedback from CAM and Energy Commission staff.
- Participate in a CPR meeting in accordance with subtask 1.6 (CPR Meetings).
- Prepare a *CPR Report #1*

Deliverables:

- Summary of Comments
- Methodology for developing the Research Roadmap (Draft and Final)
- CPR Report #1

TASK 4: DEVELOP THE RESEARCH ROADMAP

The goal of this task is to develop the *Research Roadmap* in accordance with methodology finalized in Task 3. When creating the *Research Roadmap*, the Contractor must use a Style Manual provided by the CAM. The *Research Roadmap* must include but may not be limited to the following:

- A detailed description of issues associated with the DER topics addressed in this agreement.
- Summary analysis of past and current research efforts and results around key topics identified in the *Research Roadmap*.
- Description of RD&D gaps and recommended and prioritized RD&D activities for each topic needed to achieve cost-effective integration of high-penetrations of DER, including:
 - Technical performance and capital and operating cost targets for promising technologies and combinations of technologies.
 - Participation costs, such as transactions costs, productivity losses, and comfort losses associated with DER adoption.
 - The type and amount of data that is needed to advance DER policy at the Energy Commission, CPUC, and CAISO, and the type and amount of data that is needed to increase the availability of DER financing, particularly for low-income customers.
 - Potential paths to market.
 - Critical indicators and metrics of success.
 - Sequencing and prioritization of recommended RD&D activities.
 - Estimated funding amounts.
 - Coordination and timing with other activities and programs.

EXHIBIT A

SCOPE OF WORK

- Description of the Methodology used in developing the Research Roadmap. This should include a list of experts and stakeholders, including their organization and area of expertise, consulted during the development of the Research Roadmap.

The Contractor shall:

- Conduct the following activities in accordance with the methodology finalized in Task 3:
 - Incorporate information from the Technical Assessment to be prepared in Task 2 into the Research Roadmap.
 - Coordinate and collaborate with Energy Commission staff, including periodic check-in points with the CAM at key milestones and decision-points in the development of the Research Roadmap.
 - Solicit input from experts and stakeholders on RD&D gaps and needs for key topics in the research roadmap.
 - Identify and prioritizing the most important RD&D gaps.
 - Identify and recruiting experts and stakeholders to participate in topic specific workshops
 - Coordinate with Energy Commission staff to identify and select venue(s) for topic specific workshops (including plans for recording and creating detailed workshop transcripts)
 - Create all necessary presentation materials and hand-outs for workshop attendees
 - Coordinate with Energy Commission staff on handling logistics for scheduling, setting up and facilitating workshop(s) to solicit input from experts and stakeholders on RD&D gaps and needs for key topics in the Research Roadmap.
 - Develop a public workshop agenda with CAM.
 - Upon approval of the public workshop agenda from CAM, conduct the public workshop to solicit stakeholder comments on the Research Roadmap themes.
- Prepare and submit a summary of all interviews and questionnaires conducted with subject matter experts and industry stakeholders as part of the Research Roadmap development.
- Submit a *Summary of all Workshop Outcomes and Interviews*.
- Submit the draft *Outline of the Research Roadmap* to the CAM for review and approval. The CAM will provide written comments to the Contractor on the draft outline. The Contractor shall review the comments and discuss any concerns regarding the recommended changes with the CAM.
- Submit the final *Outline of the Research Roadmap*, incorporating the CAM's comments.
- Submit the draft *Research Roadmap* for review and comment. The CAM will provide written comments to the Contractor. The Contractor shall review the comments and discuss any issues with the recommended changes with the CAM.

EXHIBIT A

SCOPE OF WORK

Deliverables:

- Summary of all Workshop Outcomes and Interviews
- Public Workshop Agenda (Draft and Final)
- Outline of the Research Roadmap (Draft and Final)
- Research Roadmap (Draft)

TASK 5: FINALIZE THE RESEARCH ROADMAP

The goal of this task is to finalize the Research Roadmap in accordance with the Methodology finalized in Task 3. The Research Roadmap shall be written in a format that is beneficial for both technical experts and a more general audience, including visual aids to outline priority research areas and the issues or problems the recommended actions will address. The Research Roadmap shall include an executive summary that summarizes findings. The Research Roadmap shall also include a discussion of how estimates regarding technology performance improvement, technology cost reduction, and customer adoptions were concluded.

The Contractor shall:

- Submit the final *Research Roadmap*.
- Submit *Bibliography* of all relevant sources and materials used in preparation of the *Research Roadmap*.
- Prepare and submit *Analytical Data* used to prepare the estimates included in the *Research Roadmap*.
- Coordinate with CAM on handling logistics for scheduling, setting up and facilitating workshop(s) to solicit input on *Research Roadmap*.
- Conduct, with approval from CAM, a public workshop to solicit stakeholder comments on the *Research Roadmap* and compile *Public Workshop Meeting Minutes*.

Deliverables:

- Final Research Roadmap
- Bibliography
- Analytical Data
- Public Workshop Meeting Minutes

V. PROJECT SCHEDULE

Please see the attached Excel spreadsheet.

STATE OF CALIFORNIA

STATE ENERGY RESOURCES
CONSERVATION AND DEVELOPMENT COMMISSION

RESOLUTION - RE: NAVIGANT CONSULTING, INC.

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 300-17-003 with Navigant Consulting, Inc. for a \$499,065 contract to identify and prioritize the most critical research to achieve California's goals for integrating high penetrations of distributed energy resources. Results will be used to strategically target future Electric Program Investment Charge investments in a manner that provides optimal benefits to investor owned utility electric ratepayers and maximizes the use of public research and development investments; 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 May 9, 2018.

AYE: [List of Commissioners]

NAY: [List of Commissioners]

ABSENT: [List of Commissioners]

ABSTAIN: [List of Commissioners]

Cody Goldthrite,
Secretariat