STATE OF CALIFORNIA
# GRANT REQUEST FORM (GRF)
CEC-270 (Revised 10/2015) CALIFORNIA ENERGY COMMISSION

New Agreement EPC-15-032 (To be completed by CGL Office)

| Division | Agreement Manager: | MS- | Phone |
|---|---|---|---|
| ERDD | Anthony Ng | 51 | 916-445-5297 |

| Recipient's Legal Name | Federal ID Number |
|---|---|
| Physical Science Innovations, Inc. | 47-5502184 |

| Title of Project |
|---|
| Bay Area Regional Energy Innovation Cluster |

| Term and Amount | Start Date | End Date | Amount |
|---|---|---|---|
| | 5/12/2016 | 3/31/2022 | $ 4,980,000 |

| Business Meeting Information | | | |
|---|---|---|---|
| ☐ ARFVTP agreements under $75K delegated to Executive Director. | | | |
| Proposed Business Meeting Date | 4/13/2016 | ☐ Consent | ☒ Discussion |
| Business Meeting Presenter | Anthony Ng | Time Needed: | 5 minutes |
| Please select one list serve. EPIC (Electric Program Investment Charge) | | | |

**Agenda Item Subject and Description**

PHYSICAL SCIENCE INNOVATIONS, INC. Proposed resolution approving Agreement EPC-15-032 with Physical Science Innovations, Inc. for a $4,980,000 grant to establish a Bay Area Regional Energy Innovation Cluster to provide technical and commercialization support to Bay Area entrepreneurs developing breakthrough materials and hardware devices for the electricity sector.

**California Environmental Quality Act (CEQA) Compliance**

1. Is Agreement considered a "Project" under CEQA?
   ☒ Yes (skip to question 2) ☐ 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
2. If Agreement is considered a "Project" under CEQA:
   ☒ a) Agreement **IS** exempt. (Attach draft NOE)
   ☐ Statutory Exemption. List PRC and/or CCR section number:
   ☒ Categorical Exemption. List CCR section number: Cal. Code Regs., tit 14, § 15301
   ☐ Common Sense Exemption. 14 CCR 15061 (b) (3)
   Explain reason why Agreement is exempt under the above section:
   Agreement will fund collaboration efforts of organizations and entrepreneurs, information gathering and analysis, information-based services, access to laboratory facilities, educational events and other meetings consisting of the operation of existing public and private facilities involving negligible or no expansion of use beyond that existing.
   ☐ b) Agreement **IS NOT** exempt. (Consult with the legal office to determine next steps.)
   Check all that apply
   ☐ Initial Study ☐ Environmental Impact Report
   ☐ Negative Declaration ☐ Statement of Overriding Considerations
   ☐ Mitigated Negative Declaration

**List all subcontractors (major and minor) and equipment vendors:** (attach additional sheets as necessary)

| Legal Company Name: | Budget |
|---|---|
| Electric Power Research Institute, Inc. | $ 300,004 |
| Lawrence Berkeley National Laboratory | $ 714,078 (CEC), $4,150,000 (Match) |
| The Regents of the University of California, Berkeley | $ 533,576 |
| | $ |
| | $ |
| | $ |
| | $ |
| | $ |
| | $ |

| **List all key partners:** (attach additional sheets as necessary) |
|---|
| Legal Company Name: |
| |
| |
| |
| |

**Budget Information**

| Funding Source | Funding Year of Appropriation | Budget List No. | Amount |
|---|---|---|---|
| EPIC | 14-15 | 301.001B | $2,000,000 |
| EPIC | 15-16 | 301.001C | $1,980,000 |
| EPIC | 16-17 | 301.001D | $1,000,000 |
| | | | $ |
| | | | $ |
| | | | $ |
| R&D Program Area: | EDMFO: EDMF | TOTAL: | $4,980,000 |
| Explanation for “Other” selection | | | |
| Reimbursement Contract #: | | Federal Agreement #: | |

| Recipient’s Administrator/ Officer | | Recipient’s Project Manager | |
|---|---|---|---|
| Name: | Jeff Anderson | Name: | Jeff Anderson |
| Address: | 5 Third Street, Suite 900 | Address: | 5 Third Street, Suite 900 |
| City, State, Zip: | San Francisco, CA 94103-3226 | City, State, Zip: | San Francisco, CA 94103-3226 |
| Phone: | 415-948-6365 / Fax: - - | Phone: | 415-948-6365 / Fax: - - |
| E-Mail: | jeff@physicalscienceinnovations.org | E-Mail: | jeff@physicalscienceinnovations.org |

**Selection Process Used**

☒ Competitive Solicitation — Solicitation #: GFO-15-306
☐ First Come First Served Solicitation

**The following items should be attached to this GRF**

1. Exhibit A, Scope of Work — ☒ Attached
2. Exhibit B, Budget Detail — ☒ Attached
3. CEC 105, Questionnaire for Identifying Conflicts — ☒ Attached
4. Recipient Resolution — ☒ N/A ☐ Attached
5. CEQA Documentation — ☒ N/A ☐ Attached

| Agreement Manager | Date | Office Manager | Date | Deputy Director | Date |
|---|---|---|---|---|---|
| | | | | | |

## A. Task List

| Task # | CPR[1] | Task Name |
|---|---|---|
| 1 | | General Project Tasks |
| 2 | | Develop Entrepreneurship Support Services |
| 3 | | Develop Technical Support Services at LBNL |
| 4 | | Create Bay Area Regional Energy Innovation Cluster within the Cyclotron Road Program |
| 5 | X | Develop Bay Area Regional Energy Innovation Cluster Admission Process |
| 6 | | SEED, Accelerator and Incubator Match-Making |
| 7 | | Recruit and Admit Power Sector Entrepreneurs for the Bay Area Regional Energy Innovation Cluster |
| 8 | | Provide Entrepreneurship Support Services to Bay Area Regional Energy Innovation Cluster Participants |
| 9 | | Manage Bay Area Regional Energy Innovation Cluster |
| 10 | | Hold Regional Education Events |
| 11 | | Alumni Tracking |
| 12 | | Leverage C2M Curriculum and Program |
| 13 | | Leverage EPRI Expertise |
| 14 | | Evaluation of Project Benefits |
| 15 | | Technology/Knowledge Transfer Activities |

## B. Acronym/Term List

| Acronym/Term | Meaning |
|---|---|
| C2M | Cleantech to Market |
| CAM | Commission Agreement Manager |
| CAO | Commission Agreement Officer |
| CPR | Critical Project Review |
| CR | Cyclotron Road |
| CRADA | Cooperative Research and Development Agreement |
| DOE | Department of Energy |
| Energy Commission | California Energy Commission |
| EPIC | Electric Program Investment Charge |
| EPRI | Electric Power Research Institute |
| IOU | Investor Owned Utility |
| LBNL | Lawrence Berkeley National Laboratory |
| LCOE | Levelized Cost of Electricity |
| PSI | Physical Science Innovations |
| R&D | Research and Development |

[1] Please see subtask 1.3 in Part III of the Scope of Work (General Project Tasks) for a description of Critical Project Review (CPR) Meetings.

| | |
|---|---|
| SEED | Sustainable Energy Entrepreneur Development |
| SEED-TAC | Sustainable Energy Entrepreneur Development Technical Advisory Committee |
| TAC | Technical Advisory Committee |
| VC | Venture Capital |

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

### A. Purpose of Agreement

The purpose of this Agreement is to establish a Bay Area Regional Energy Innovation Cluster by expanding the Cyclotron Road program to provide commercialization support services to Bay Area entrepreneurs developing breakthrough materials and hardware devices in energy efficiency, energy storage, distribution, grid management, and power generation.

### B. Problem/ Solution Statement

**Problem**

Breakthrough materials and hardware devices in energy efficiency, energy storage, distribution, grid management, and power generation hardware devices are absolutely essential for a sustainable energy system. These “hard” energy technologies will be key contributors to the Energy Commission’s ability to meet the Electric Program Investment Charge (EPIC) Triennial Investment Plan goals and achieve the statutory objectives set by the state for the energy sector.

However, the long development times, high capital requirements, and long sales cycles for these types of technologies have all contributed to an extremely difficult financing environment for hard energy innovators. In particular, venture capital (VC) investment, the main source of private sector support for early stage technology companies, has declined sharply for hard energy technology in the past several years. Unfortunately, no reliable, alternate source of private capital has emerged, due to the high risks associated with early stage energy technology development.

**Solution**

Establishing a Bay Area Regional Energy Innovation Cluster within the Cyclotron Road program will extend the Recipient’s signature technical/commercial development support services to hardware entrepreneurs focused on the power sector, helping them to overcome these barriers. In collaboration with the partners on this proposal, Physical Science Innovations (the Recipient) will be able to support entrepreneurs from early stage technology development through deployment of their products in the market. Specifically, the Recipient will:

1. Provide entrepreneurs flexible access to Lawrence Berkeley National Laboratory (LBNL) Research and Development (R&D) facilities, eliminating the need for entrepreneurs to purchase expensive lab equipment and set up research and testing facilities from scratch;
2. Connect entrepreneurs with LBNL experts to accelerate technology development

through win-win research collaborations;
3. Assist entrepreneurs in developing strategic R&D plans, helping entrepreneurs optimize use of R&D time and resources to reach significant value inflection points;
4. Provide market analysis and customer discovery assistance for entrepreneurs to help identify first markets and applications for their technologies;
5. Assist entrepreneurs with techno-economic modeling and design for manufacturing expertise to ensure entrepreneurs are working on commercially feasible and scalable technologies;
6. Deliver entrepreneurship training tailored to the needs of hard tech entrepreneurs to help entrepreneurs become more effective leaders and stewards of their companies;
7. Advise entrepreneurs on team development, connecting entrepreneurs with potential hires and existing research fellowship programs to take on staff without having to raise capital at the cost of company ownership.
8. Match entrepreneurs with individuals in our purpose built, hard tech focused Advisory Council (mentor network) to receive mentorship and advice on developing hard technologies and growing businesses in the utility space;
9. Facilitate strategic connections with industry players to help entrepreneurs locate scaling and manufacturing partners;
10. Facilitate strategic connections with utilities for entrepreneurs to build relationships and identify demonstration opportunities;
11. Provide grant application support for entrepreneurs, including helping to identify public and private grant sources and advising entrepreneurs on how to draft grant applications;
12. Introduce entrepreneurs to hard tech focused investors to facilitate private sector financing where and when it becomes appropriate;
13. Connect entrepreneurs with in-kind service providers to provide early stage accounting and legal expertise.

At the program level, the Recipient intends to collaborate with incubators and the other regional innovation clusters to share best practices and lessons learned. In turn this information will be used to improve our support services for hard tech entrepreneurs.

### C. Goals and Objectives of the Agreement

**<u>Agreement Goals</u>**
The goal of this Agreement is to develop a Bay Area Regional Energy Innovation Cluster that will:

- Provide key services, infrastructure, expertise, and resources to energy entrepreneurs in their region to successfully deploy and commercialize their innovations.
- Catalyze effective regional planning, collaboration, and coordination around energy innovation that will benefit IOU electric ratepayers.
- Connect emerging energy technologies to region-specific needs, opportunities, and assets.
- Accelerate the commercialization of technically promising innovations.

Ratepayer Benefits:[2]
This Agreement will benefit California Investor Owned Utility (IOU) electricity ratepayers through the increased probability of commercialization and deployment of a portfolio of technologies that can reduce electricity costs, decrease peak demand, and improve system reliability and safety. Intangible benefits to California ratepayers will result from broader, indirect, and multiplicative economic effects that occur from the successful establishment of California-based technology companies, the workforce they employ, and the value that their goods and services provide to California residents, the large majority of whom are also California IOU ratepayers.

Technological Advancement and Breakthroughs:[3]
This Agreement will support the development and commercialization of technological advancements and breakthroughs that overcome barriers to the achievement of the State of California's statutory energy goals by addressing several key problems currently preventing breakthrough innovations from reaching the market.

By providing innovators with access to resources such as state-of-the art facilities, entrepreneurial support services, technical support services, and a mentor network of experts and entrepreneurs, the recipient will allow power sector innovators to overcome the most common barriers to the commercialization of their technologies.

**Agreement Objectives**
The objective of this Agreement is to establish a Bay Area Regional Energy Innovation Cluster and expand Cyclotron Road's technical and business development support services for entrepreneurs in California through a power sector focused incubator, through which entrepreneurs can:

- Utilize national laboratory facilities and expertise to mature their technologies.
- Access world-class mentors, entrepreneurship training, and early stage commercialization support services.
- Coordinate with key stakeholders from across the innovation lifecycle to strengthen the ecosystem for hard energy technologies in California.

## II. TASK 1 GENERAL PROJECT TASKS

### PRODUCTS

### Subtask 1.1 Products
The goal of this subtask is to establish the requirements for submitting project products (e.g., reports, summaries, plans, and presentation materials). Unless otherwise specified by the

[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.

Commission Agreement Manager (CAM), the Recipient must deliver products as required below by the dates listed in the **Project Schedule (Part V).** Products that require a draft version are indicated by marking **"(draft and final)"** after the product name in the "Products" section of the task/subtask. If "(draft and final)" does not appear after the product name, only a final version of the product is required. With respect to due dates within this Scope of Work, **"days"** means working days.

**The Recipient shall:**

For products that require a draft version

- Submit all draft products to the CAM for review and comment in accordance with the Project Schedule (Part V). The CAM will provide written comments to the Recipient on the draft product within 15 days of receipt, unless otherwise specified in the task/subtask for which the product is required.
- Submit the final product to the CAM once agreement has been reached on the draft. The CAM will provide written approval of the final product within 15 days of receipt, unless otherwise specified in the task/subtask for which the product is required.
- If the CAM determines that the final product does not sufficiently incorporate his/her comments, submit the revised product to the CAM within 10 days of notice by the CAM, unless the CAM specifies a longer time period.

For products that require a final version only

- Submit the product to the CAM for approval.
- If the CAM determines that the product requires revision, submit the revised product to the CAM within 10 days of notice by the CAM, unless the CAM specifies a longer time period.

For all products

- Submit all data and documents required as products in accordance with the following Instructions for Submitting Electronic Files and Developing Software:

  - **Electronic File Format**
    Submit all data and documents required as products under this Agreement in an electronic file format that is fully editable and compatible with the Energy Commission's software and Microsoft (MS)-operating computing platforms, or with any other format approved by the CAM. Deliver an electronic copy of the full text of any Agreement data and documents in a format specified by the CAM, such as memory stick or CD-ROM.

    The following describes the accepted formats for electronic data and documents provided to the Energy Commission as products under this Agreement, and establishes the software versions that will be required to review and approve all software products:
    - Data sets will be in MS Access or MS Excel file format (version 2007 or later), or any other format approved by the CAM.
    - Text documents will be in MS Word file format, version 2007 or later.
    - Documents intended for public distribution will be in PDF file format. The Recipient must also provide the native Microsoft file format.

- Project management documents will be in Microsoft Project file format, version 2007 or later.

- ***Software Application Development***
  Use the following standard Application Architecture components in compatible versions for any software application development required by this Agreement (e.g., databases, models, modeling tools), unless the CAM approves other software applications such as open source programs:
  - o Microsoft ASP.NET framework (version 3.5 and up). Recommend
  - o 4.0.
  - o Microsoft Internet Information Services (IIS), (version 6 and up)
  - o Recommend 7.5.
  - o Visual Studio.NET (version 2008 and up). Recommend 2010.
  - o C# Programming Language with Presentation (UI), Business Object
  - o and Data Layers.
  - o SQL (Structured Query Language).
  - o Microsoft SQL Server 2008, Stored Procedures. Recommend 2008
  - o R2.
  - o Microsoft SQL Reporting Services. Recommend 2008 R2.
  - o XML (external interfaces).

Any exceptions to the Electronic File Format requirements above must be approved in writing by the CAM. The CAM will consult with the Energy Commission's Information Technology Services Branch to determine whether the exceptions are allowable.

***MEETINGS***

**Subtask 1.2 Kick-off Meeting**
The goal of this subtask is to establish the lines of communication and procedures for implementing this Agreement.

**The Recipient shall:**

- Attend a "Kick-off" meeting with the CAM, the Commission Agreement Officer (CAO), and any other Energy Commission staff relevant to the Agreement. The Recipient will bring its Project Manager and any other individuals designated by the CAM to this meeting. The administrative and technical aspects of the Agreement will be discussed at the meeting. Prior to the meeting, the CAM will provide an agenda to all potential meeting participants. The meeting may take place in person or by electronic conferencing (e.g., WebEx), with approval of the CAM.

  The administrative portion of the meeting will include discussion of the following:
  - o Terms and conditions of the Agreement;
  - o Administrative products (subtask 1.1);
  - o CPR meetings (subtask 1.3);
  - o Match fund documentation (subtask 1.7);
  - o Permit documentation (subtask 1.8);
  - o Subcontracts (subtask 1.9); and

- o 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;
- o An updated Project Schedule;
- o Technical products (subtask 1.1);
- o Progress reports and invoices (subtask 1.5);
- o Final Report (subtask 1.6);
- o Technical Advisory Committee meetings (subtasks 1.10 and 1.11); and
- o Any other relevant topics.

- Provide an *Updated Project Schedule, List of Match Funds,* and *List of Permits*, as needed to reflect any changes in the documents.

**The CAM shall:**
- Designate the date and location of the meeting.
- Send the Recipient a *Kick-off Meeting Agenda*.

**Recipient Products:**
- Updated Project Schedule *(if applicable)*
- Updated List of Match Funds *(if applicable)*
- Updated List of Permits *(if applicable)*

**CAM Product:**
- Kick-off Meeting Agenda

**Subtask 1.3 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 Recipient 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).
- 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.

**Recipient Products:**

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

**CAM Products:**

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

**Subtask 1.4 Final Meeting**
The goal of this subtask is to complete the closeout of this Agreement.

**The Recipient shall:**

- Meet with Energy Commission staff to present project findings, conclusions, and recommendations. The final meeting must be completed during the closeout of this Agreement. This meeting will be attended by the Recipient and CAM, at a minimum. The meeting may occur in person or by electronic conferencing (e.g., WebEx), with approval of the CAM.

  The technical and administrative aspects of Agreement closeout will be discussed at the meeting, which may be divided into two separate meetings at the CAM's discretion.
  - The technical portion of the meeting will involve the presentation of findings, conclusions, and recommended next steps (if any) for the Agreement. The CAM will determine the appropriate meeting participants.
  - The administrative portion of the meeting will involve a discussion with the CAM and the CAO of the following Agreement closeout items:
    - Disposition of any state-owned equipment.
    - Need to file a Uniform Commercial Code Financing Statement (Form UCC-1) regarding the Energy Commission's interest in patented technology.
    - The Energy Commission's request for specific "generated" data (not already provided in Agreement products).
    - Need to document the Recipient's disclosure of "subject inventions" developed under the Agreement.
    - "Surviving" Agreement provisions such as repayment provisions and confidential products.
    - Final invoicing and release of retention.

- Prepare a *Final Meeting Agreement Summary* that documents any agreement made between the Recipient and Commission staff during the meeting.
- Prepare a *Schedule for Completing Agreement Closeout Activities*.
- Provide *All Draft and Final Written Products* on a CD-ROM or USB memory stick, organized by the tasks in the Agreement.

**Products:**

- Final Meeting Agreement Summary *(if applicable)*
- Schedule for Completing Agreement Closeout Activities
- All Draft and Final Written Products

***REPORTS AND INVOICES***

**Subtask 1.5 Progress Reports and Invoices**
The goals of this subtask are to: (1) periodically verify that satisfactory and continued progress is made towards achieving the project objectives of this Agreement; and (2) ensure that invoices contain all required information and are submitted in the appropriate format.

**The Recipient shall:**

- Submit a monthly *Progress Report* to the CAM.  Each progress report must:
  - o Summarize all Agreement activities conducted by the Recipient for the preceding month, including an assessment of the ability to complete the Agreement within the current budget and any anticipated cost overruns. See the Progress Report Format Attachment for the recommended specifications.
  - o Provide a synopsis of the project progress, including accomplishments, problems, milestones, products, schedule, fiscal status, and any evidence of progress such as photographs.
- Submit a monthly or quarterly *Invoice* that follows the instructions in the “Payment of Funds” section of the terms and conditions.  In addition, each invoice must document and verify:
  - o Energy Commission funds received by California-based entities;
  - o Energy Commission funds spent in California *(if applicable)*; and
  - o Match fund expenditures.

**Products:**

- Progress Reports
- Invoices

**Subtask 1.6 Final Report**

The goal of this subtask is to prepare a comprehensive Final Report that describes the original purpose, approach, results, and conclusions of the work performed under this Agreement. The CAM will review and approve the Final Report, which will be due at least **two months** before the Agreement end date.  When creating the Final Report Outline and the Final Report, the Recipient must use a Style Manual provided by the CAM.

**Subtask 1.6.1 Final Report Outline**

**The Recipient shall:**

- Prepare a *Final Report Outline* in accordance with the *Style Manual* provided by the CAM.
- Submit a draft of the outline to the CAM for review and comment.
- Once agreement has been reached on the draft, submit the final outline to the CAM. The CAM will provide written approval of the final outline within 10 days of receipt.

**Recipient Products:**

- Final Report Outline (draft and final)

**CAM Product:**

- Style Manual
- Comments on Draft Final Report Outline
- Approval of Final Report Outline

**Subtask 1.6.2 Final Report**

**The Recipient shall:**

- Prepare a *Final Report* for this Agreement in accordance with the approved Final Report Outline, Style Manual, and Final Report Template provided by the CAM with the following considerations:
    - Ensure that the report includes the following items, in the following order:
        - Cover page
        - Credits page on the reverse side of cover with legal disclaimer
        - Acknowledgements page (optional)
        - Preface
        - Abstract, keywords, and citation page
        - Table of Contents (followed by List of Figures and List of Tables, if needed)
        - Executive summary
        - Body of the report
        - References (if applicable)
        - Glossary/Acronyms (If more than 10 acronyms or abbreviations are used, it is required.)
        - Bibliography (if applicable)
        - Appendices (if applicable) (Create a separate volume if very large.)
        - Attachments (if applicable)
    - Ensure that the document is written in the third person.
    - Ensure that the Executive Summary is understandable to the lay public.
        - Briefly summarize the completed work. Succinctly describe the project results and whether or not the project goals were accomplished.
        - Identify which specific ratepayers can benefit from the project results and how they can achieve the benefits.
        - If it's necessary to use a technical term in the Executive Summary, provide a brief definition or explanation when the technical term is first used.
    - Follow the Style Guide format requirements for headings, figures/tables, citations, and acronyms/abbreviations.
    - Ensure that the document omits subjective comments and opinions. However, recommendations in the conclusion of the report are allowed.
    - Include a brief description of the project results in the Abstract.

- Submit a draft of the report to the CAM for review and comment. The CAM will provide written comments to the Recipient on the draft product within 15 days of receipt

- Consider incorporating all CAM comments into the Final Report. If the Recipient disagrees with any comment, provide a written response explaining why the comment was not incorporated into the final product
- Submit the revised Final Report and responses to comments within 10 days of notice by the CAM, unless the CAM specifies a longer time period or approves a request for additional time.
- Submit one bound copy of the *Final Report* to the CAM along with *Written Responses to Comments on the Draft Final Report*.

**Products**:
- Final Report (draft and final)
- Written Responses to Comments on the Draft Final Report

**CAM Product:**
- Written Comments on the Draft Final Report

***MATCH FUNDS, PERMITS, AND SUBCONTRACTS***

**Subtask 1.7 Match Funds**
The goal of this subtask is to ensure that the Recipient obtains any match funds planned for this Agreement and applies them to the Agreement during the Agreement term.

While the costs to obtain and document match funds are not reimbursable under this Agreement, the Recipient may spend match funds for this task. The Recipient may only spend match funds during the Agreement term, either concurrently or prior to the use of Energy Commission funds. Match funds must be identified in writing, and the Recipient must obtain any associated commitments before incurring any costs for which the Recipient will request reimbursement.

**The Recipient shall:**
- Prepare a *Match Funds Status Letter* that documents the match funds committed to this Agreement. If <u>no match funds</u> were part of the proposal that led to the Energy Commission awarding this Agreement and none have been identified at the time this Agreement starts, then state this in the letter.

  If match funds were a part of the proposal that led to the Energy Commission awarding this Agreement, then provide in the letter:
  - A list of the match funds that identifies:
    - The amount of cash match funds, their source(s) (including a contact name, address, and telephone number), and the task(s) to which the match funds will be applied.
    - The amount of each in-kind contribution, a description of the contribution type (e.g., property, services), the documented market or book value, the source (including a contact name, address, and telephone number), and the task(s) to which the match funds will be applied. If the in-kind contribution is equipment or other tangible or real property, the Recipient must identify its

owner and provide a contact name, address, telephone number, and the address where the property is located.
    - A copy of a letter of commitment from an authorized representative of each source of match funding that the funds or contributions have been secured.
- At the Kick-off meeting, discuss match funds and the impact on the project if they are significantly reduced or not obtained as committed. If applicable, match funds will be included as a line item in the progress reports and will be a topic at CPR meetings.
- Provide a *Supplemental Match Funds Notification Letter* to the CAM of receipt of additional match funds.
- Provide a *Match Funds Reduction Notification Letter* to the CAM if existing match funds are reduced during the course of the Agreement. Reduction of match funds may trigger a CPR meeting.

**Products:**
- Match Funds Status Letter
- Supplemental Match Funds Notification Letter *(if applicable)*
- Match Funds Reduction Notification Letter *(if applicable)*

**Subtask 1.8 Permits**
The goal of this subtask is to obtain all permits required for work completed under this Agreement in advance of the date they are needed to keep the Agreement schedule on track. Permit costs and the expenses associated with obtaining permits are not reimbursable under this Agreement, with the exception of costs incurred by University of California recipients. Permits must be identified and obtained before the Recipient may incur any costs related to the use of the permit(s) for which the Recipient will request reimbursement.

**The Recipient shall:**
- Prepare a *Permit Status Letter* that documents the permits required to conduct this Agreement. If <u>no permits</u> are required at the start of this Agreement, then state this in the letter. If permits will be required during the course of the Agreement, provide in the letter:
    - A list of the permits that identifies: (1) the type of permit; and (2) the name, address, and telephone number of the permitting jurisdictions or lead agencies.
    - The schedule the Recipient will follow in applying for and obtaining the permits.

  The list of permits and the schedule for obtaining them will be discussed at the Kick-off meeting (subtask 1.2), and a timetable for submitting the updated list, schedule, and copies of the permits will be developed. The impact on the project if the permits are not obtained in a timely fashion or are denied will also be discussed. If applicable, permits will be included as a line item in progress reports and will be a topic at CPR meetings.
- If during the course of the Agreement additional permits become necessary, then provide the CAM with an *Updated List of Permits* (including the appropriate information on each permit) and an *Updated Schedule for Acquiring Permits*.
- Send the CAM a *Copy of Each Approved Permit*.
- If during the course of the Agreement permits are not obtained on time or are denied, notify the CAM within 5 days. Either of these events may trigger a CPR meeting.

**Products:**

- Permit Status Letter
- Updated List of Permits *(if applicable)*
- Updated Schedule for Acquiring Permits *(if applicable)*
- Copy of each Approved Permit *(if applicable)*

**Subtask 1.9 Subcontracts**

The goals of this subtask are to: (1) procure subcontracts required to carry out the tasks under this Agreement; and (2) ensure that the subcontracts are consistent with the terms and conditions of this Agreement.

**The Recipient shall:**

- Manage and coordinate subcontractor activities in accordance with the requirements of this Agreement.
- Incorporate this Agreement by reference into each subcontract.
- Include any required Energy Commission flow-down provisions in each subcontract, in addition to a statement that the terms of this Agreement will prevail if they conflict with the subcontract terms.
- If required by the CAM, submit a draft of each *Subcontract* required to conduct the work under this Agreement.
- Submit a final copy of the executed subcontract.
- Notify and receive written approval from the CAM prior to adding any new subcontractors (see the discussion of subcontractor additions in the terms and conditions).

**Products:**

- Subcontracts *(draft if required by the CAM)*

***TECHNICAL ADVISORY COMMITTEE***

**Subtask 1.10 Technical Advisory Committee (TAC)**

The goal of this subtask is to create an advisory committee for this Agreement. The TAC should be composed of diverse professionals. 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 agreement 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.

- Provide recommendations regarding information dissemination, market pathways, or commercialization strategies relevant to the project products.

The TAC may be composed of qualified professionals spanning 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, architects, contractors, and trade representatives);
- Public interest market transformation implementers;
- Product developers relevant to the project;
- U.S. Department of Energy research managers, or experts from other federal or state agencies relevant to the project;
- Public interest environmental groups;
- Utility representatives;
- Air district staff; and
- Members of relevant technical society committees.

**The Recipient 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 1.11.
- 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.

**Products:**

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

**Subtask 1.11 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 Recipient 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.

**Products:**

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

## III. TECHNICAL TASKS

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

### TASK 2 Develop Entrepreneurship Support Services

The goal of this task is to establish new support services as part of the Bay Area Regional Energy Innovation Cluster to expand the number and quality of entrepreneurship resources currently available to hard technology innovators.

**The Recipient shall:**

- Prepare an *Entrepreneurship Support Services Report* detailing the following:
  - Securing access to appropriate workspace (both laboratory and office facilities) for new entrepreneurs entering the Bay Area Regional Energy Innovation Cluster through a standardized sponsored project agreement with LBNL (e.g. a master Cooperative Research and Development Agreement (CRADA) between the Recipient and LBNL or a short form CRADA directly between LBNL and the entrepreneurs).
  - Establishing office hours for the Recipient program staff to be available to provide advice and guidance in key areas of commercialization strategy including, for example:
    - Market assessment
    - Customer discovery
    - Messaging/pitching
    - Fundraising
    - Team building/hiring
    - Market entry strategy
  - Establishing, coordinating, and scheduling a Startup Speaker Series featuring energy technology experts and technical founders with firsthand startup experience.
  - Establishing and coordinating a series of informal Peer-to-Peer Discussion Roundtables to provide a forum for scientists and engineers to engage in spontaneous discussion, collaborative problem solving, and idea generation around topics of interest to the innovator community.
  - Recruiting and building an active Mentor Network composed of seasoned technology entrepreneurs, industry experts, and technology investors.
  - Establishing and coordinating a series of Mentorship events in order to introduce Bay Area Regional Energy Innovation Cluster entrepreneurs to mentors. These events will be designed to create an intimate environment for relationship building, and will provide a forum for candid feedback from mentors.
  - With the approval of the CAM, recruit and hire an Entrepreneur-in-Residence with power sector expertise to serve as an in-house strategic counselor to power sector entrepreneurs within the Bay Area Regional Energy Innovation Cluster.
- Incorporate edits and comments from CAM on the draft Product(s) for this task before submitting final documents.
- Carry out the tasks outlined in the *Entrepreneurship Services Report* and listed above.

- Create and maintain a *Mentor Network Roster* to facilitate introductions for Bay Area Regional Energy Innovation Cluster teams to the mentor network.
- Create a Bay Area Regional Energy Innovation Cluster Resource Library that contains a curated selection of the most relevant and proven content for best practices in energy technology entrepreneurship. Content shall be available online to the greatest extent possible. Materials may include but are not limited to:
  - Web content
  - Presentation slide decks
  - Video lectures
  - Recommended readings
  - Technical models
  - Databases of recommended vendors for prototyping and testing
  - Lists of recommended professional service providers for startups
- Develop *Hard Tech Entrepreneurship Content* in consultation with industry experts, for inclusion in the Resource Library, on the following topics:
  - Hard tech financing and fundraising
  - Hard tech corporate engagement (deals and JDAs)
  - Hard tech IP strategies
  - Hard tech go-to-market strategies
- Provide to the CAM a *Resource Library Report* which will detail all of the resources contained within the Bay Area Regional Energy Innovation Cluster Resource Library. This report should provide access to all content contained within the Bay Area Regional Energy Innovation Cluster Resource Library.
- Make the Resource Library available and accessible to energy technology entrepreneurs across the state, at no cost, and to the greatest extent possible online.
- Identify a representative from the cluster to serve on the SEED-TAC.

**Products:**
- *Entrepreneurship Support Services Report* (draft and final)
- Mentor Network Roster
- Hard Tech Entrepreneurship Content
- Resource Library Report

**TASK 3 Develop Technical Support Services at LBNL**
The goal of this task is to develop educational materials and curriculum on technical instruction and support to entrepreneurs in the specialized areas of energy technology product and process design.

**The Recipient shall:**
- Develop a *Technoeconomic Modeling Resource Curriculum* in partnership with LBNL to equip innovators with the skills and knowledge needed to effectively perform cost-performance modeling on their technologies in assessing viability and informing technical and business development objectives. The curriculum shall include methodologies, best practices, examples, and tactical recommendations. The curriculum shall also include a library of additional resources that can support techno-economic modeling activities. Finally, the curriculum may include a library to assist entrepreneurs

in finding process data, reference values, and scale-dependent relationships for calculating capital cost, operating cost, and levelized cost of electricity (LCOE).

- With approval from the CAM, hire or otherwise retain an expert, or network of experts, in manufacturing and design-for-manufacturing through LBNL, whose expertise is suitable to informing manufacturing viability of early stage hard technology innovations.
- Develop a *Design for Manufacturing Resource Curriculum* in partnership with LBNL to provide entrepreneurs with the tools and information needed to minimize manufacturing costs. The curriculum shall include methodologies, best practices, examples, and tactical recommendations. The curriculum shall also include a library of additional resources that can support techno-economic modeling activities.
- Incorporate edits and comments from CAM on the draft Product(s) for this task before submitting final documents.

**Products:**

- *Technoeconomic Modeling Resource Curriculum* (draft and final)
- *Design for Manufacturing Resource Curriculum* (draft and final)

**TASK 4 Create Bay Area Regional Energy Innovation Cluster within the Cyclotron Road Program**

The goal of this task is to create the structure for the Recipient to bring Bay Area Regional Energy Innovation Cluster aligned project teams into collaboration with Lawrence Berkeley National Laboratory under the Cyclotron Road Program.

**The Recipient shall:**

- Create a *Bay Area Regional Energy Innovation Cluster Eligibility Report*. This report will describe the rules for eligibility and the selection criteria for admission into the Bay Area Regional Energy Innovation Cluster. Eligibility criteria may include but will not be limited to:
    - A hard technology product (excludes software)
    - Alignment with EPIC mission
    - Capital previously raised
    - Team size/composition
    - Within Bay Area region (or willingness to relocate)
- Develop a standard *Innovator Services Agreement.* The Innovator Services Agreement will constitute the framework through which entrepreneurs can access the Bay Area Regional Energy Innovation Cluster services.
- Incorporate edits and comments from CAM on the draft Product(s) for this task before submitting final documents.
- Secure administrative and logistical support and resources to host EPIC projects at both the Recipient's headquarters and LBNL.
- With the approval of the CAM, recruit and hire program support staff.

**Products:**

- Bay Area Regional Energy Innovation Cluster Eligibility Report (draft and final)
- Innovator Services Agreement (draft and final)

**TASK 5 Develop Bay Area Regional Energy Innovation Cluster Admission Process**
The goal of this task is to develop a process for selecting projects and team leaders to participate in the Bay Area Regional Energy Innovation Cluster.

**The Recipient shall:**

- Create a *Bay Area Regional Energy Innovation Cluster Admission Guidebook*. This guidebook will detail the admission process entrepreneurs will need to follow for the Bay Area Regional Energy Innovation Cluster. Cyclotron Road's existing admission process for the DOE accelerator program will be used as a model. This guidebook will include all necessary forms entrepreneurs will need to complete their applications.
- Publicize  Bay Area Regional Energy Innovation Cluster, through channels including but not limited to:
    - Webinars
    - Speaking engagements
    - Channel partners
    - The Cyclotron Road Advisory Council
- Prepare a *CPR Report* in accordance with subtask 1.3 (CPR Meetings).
- Incorporate edits and comments from CAM before submitting final documents.
- Participate in a CPR meeting.

**Products:**

- Bay Area Regional Energy Innovation Cluster Admission Guidebook (draft and final)
- CPR Report(s)

**Task 6 SEED, Accelerator and Incubator Match-Making**
The goal of this task is to serve as an outreach and development mechanism for regional innovator and startup applicants to the California Sustainable Energy Entrepreneur Development Initiative (SEED) Series A and Series B funding program as well as to the Los Angeles, Central Valley, and Bay Area Regional Clusters and other appropriate Incubators and Accelerators in California.

**The Recipient Shall:**

- Develop a R*eferral Process Document* to manage referral of innovation companies in the Bay Area Regional Energy Innovation Cluster to other Regional Clusters, the California SEED, Energy Accelerator, and other California Incubation and Acceleration Programs.
- Appoint a representative from the Bay Area Regional Energy Innovation Cluster to serve on the Technical Advisory Committee for the SEED Initiative (SEED TAC), which provides "Series A and Series B" grant funding to energy entrepreneurs and researchers to establish the feasibility of their promising energy technology concepts. SEED TAC is expected to meet up to four times per year. *SEED TAC Progress Reports* will be required and presented to CAM.

**Products:**

- Referral Process Document
- SEED TAC Progress Reports

**TASK 7 Recruit and Admit Power Sector Entrepreneurs for the Bay Area Regional Energy Innovation Cluster**

The goal of this task is to select teams to participate in the Bay Area Regional Energy Innovation Cluster.

**The Recipient shall:**

- Using the eligibility criteria and application process produced is Tasks 4 and 5, review (in partnership with the CAM, LBNL and EPRI) applications for the Bay Area Regional Energy Innovation Cluster on a rolling basis.
- Conduct phone interviews and reference checks for qualified applicants.
- Admit a minimum of five new project teams each year in the Bay Area Regional Energy Innovation Cluster.
- Create a *New Entrepreneur Admission Memo* each time a new entrepreneur is admitted into the Bay Area Regional Energy Innovation Cluster.
- Tailor and execute the Innovator Services Agreement (Product of Task 4) for each admitted company. The agreement will serve several purposes:
    - Specify the company's needed support services, and lay out how the company will leverage the Bay Area Regional Energy Innovation Cluster.
    - Lay out performance milestones for the company to achieve in the Bay Area Regional Energy Innovation Cluster for the coming year.
    - Provide access to LBNL technical support services, facilities, and experts to Bay Area Regional Energy Innovation Cluster entrepreneurs under the master CRADA between the Recipient and LBNL.

**Products:**

- *New Entrepreneur Admission Memo*

**TASK 8 Provide Entrepreneurship Support Services to Bay Area Regional Energy Innovation Cluster Participants**

The goal of this ongoing task is to maintain, improve, and deliver to entrepreneurs the expanded support services established in Task 2 and Task 3.

**The Recipient shall:**

- Deliver support services in partnership with LBNL to entrepreneurs, as outlined in the *Innovator Services Agreement*, through the following mechanisms:
    - Program staff office hours
    - Technoeconomic modeling assistance
    - Design for manufacturing assistance
    - Commercialization assistance
    - Entrepreneurship assistance
    - Mentor matching and network events
    - Facilitation of collaboration with LBNL experts
- Plan, host, and manage mentorship and peer-to-peer events, including coordination and invitations to guest speakers and mentors.
- Solicit feedback from program participants at regular intervals to evaluate the quality and accessibility of support services offered.

- Provide recommendations for improvements to entrepreneurship support services based on feedback from program participants and initial results from Alumni tracking (Task 10)
- Prepare *a Bay Area Regional Energy Innovation Cluster Annual Report*, covering the following information for each entrepreneur:
    - Name, location and organization.
    - Description of the innovation and how it will benefit electric ratepayers in California IOU service territories and lead to technological advancement or breakthroughs to overcome barriers to achieving the state's statutory energy goals.
    - Description of the Bay Area Regional Energy Innovation Cluster services provided.
    - Technical and commercialization milestones achieved.
    - For companies the Bay Area Regional Energy Innovation Cluster has stopped providing services to, an explanation for the decision.
- Incorporate edits and comments from CAM on the draft Product(s) for this task before submitting final documents.

**Products:**

- *Bay Area Regional Energy Innovation Cluster Annual Report* (draft and final)

**TASK 9 Manage Bay Area Regional Energy Innovation Cluster**

The goal of this ongoing task is to provide a framework to manage the ongoing delivery of support services to entrepreneurs.

**The Recipient shall:**

- Maintain innovator services agreement records for Bay Area Regional Energy Innovation Cluster companies, specifying milestones, timeline, and needed support services.
- Perform an annual review of each company's progress to determine if milestones are being met.
- Adjust milestone/timeline agreement as determined by the annual review.
- Renew yearly agreement for access to Bay Area Regional Energy Innovation Cluster program if company milestone/agreement timeline terms are met.
- Terminate access to Bay Area Regional Energy Innovation Cluster program/services when appropriate if company milestone/agreement timeline terms are not met.
- Prior to any premature termination, the Recipient must submit to the CAM an *Entrepreneur Termination* Memo detailing the reasons for recommending early termination of an entrepreneur.

**Products:**

- Entrepreneur Termination Memo

**TASK 10 Hold Regional Educational Events**

The goal of this task is to plan and hold public events in the Bay Area Region to broadly disseminate advancements and technical breakthroughs achieved in the Bay Area Regional Energy Innovation Cluster.

**The Recipient shall:**

- Participate in an annual summit to share best practices, lessons learned, and disseminate news and results of cluster activities with stakeholders and the public.
- Prior to holding the summit, prepare a *Bay Area Regional Energy Innovation Cluster Annual Summit Plan* which will include draft agenda, potential speakers, and a discussion on the overall conduct of the summit.
- Following the summit, create a *Bay Area Regional Energy Innovation Cluster Annual Summit Report*. This report will summarize the annual summit, as well as include any presentations, or other materials used at the event.
- Hold an annual Demo Day for Bay Area Regional Energy Innovation Cluster entrepreneurs in conjunction with the summit.
- Open at least one cohort educational seminar to the public on a quarterly basis.
- Prepare *Educational Seminar Report* following each educational seminar. This report will summarize the seminar, as well as include any presentations or other material used at the event.

**Products:**

- *Bay Area Regional Energy Innovation Cluster Annual Summit Plan*
- *Bay Area Regional Energy Innovation Cluster Annual Summit Report*
- *Educational Seminar Report*

**TASK 11 Alumni Tracking**

The goal of this task is to collect data regarding the progress of Bay Area Regional Energy Innovation Cluster entrepreneurs and their technology ventures after graduating from the Bay Area Regional Energy Innovation Cluster.

**The Recipient shall:**

- Create a *Metrics for Alumni Tracking Memo* that identifies potential metrics for tracking the progress of Bay Area Regional Energy Innovation Cluster alumni and their innovations, using metrics from other accelerator and incubator programs as a starting point. Possible metrics may include, but not be limited to:
    - Avoided startup capital costs made possible by access to Bay Area Regional Energy Innovation Cluster resources
    - Amount of follow-on funding from grants, equity, and corporate partnerships (such as Joint Development Agreements)
    - Patents
    - Commercial licenses and licensing revenue
    - Revenue from the sale of technology products and services
    - Mergers and acquisitions of spinout companies with/by other corporate entities
    - Market penetration in the electric power sector
- Select, with CAM approval, from among candidate metrics those parameters that are the most meaningful indicators of program success.
- Create and maintain a *Metrics Database* that tracks the progress of alumni and their associated innovations in each category of selected program metrics.
- Provide to CAM access to the *Metrics Database*.

**Products:**

- *Metrics for Alumni Tracking Memo* (draft and final)
- *Metrics Database*

**TASK 12 Leverage C2M Curriculum and Program**

The goal of this task is to leverage C2M's existing clean tech commercialization curriculum and course for the benefit of Bay Area Regional Energy Innovation Cluster entrepreneurs.

**The Recipient shall:**

- Compile a *Cleantech-to-Market Curriculum* in partnership with the Haas School of Business Cleantech to Market (C2M) course for open distribution to power sector and cleantech instructors and entrepreneurs across the state.
- Incorporate edits and comments from CAM on the draft Product(s) for this task before submitting final documents.
- Work with C2M staff to select two Bay Area Regional Energy Innovation Cluster entrepreneurs per year to participate in the Haas School of Business C2M course.
- Work with the C2M staff to provide the following services to those Bay Area Regional Energy Innovation Cluster entrepreneurs selected to participate in the Haas School of Business C2M course:
    - Custom assemble a team of graduate students and cleantech professionals to assist and advise the Bay Area Regional Energy Innovation Cluster company during the course
    - Guide the graduate student team through 15 weeks of market research on behalf of the Bay Area Regional Energy Innovation Cluster company, in order to help refine technical research objectives, identify initial target markets, develop a suggested market entry strategy, identify alternative product applications, and identify potential commercial partners and collaborators

**Products:**

- *Cleantech-to-Market Curriculum* (draft and final)

**TASK 13 Leverage EPRI Expertise**

The goal of this task is to leverage EPRI's expertise and connections within the utility sector for the benefit of hard energy technology entrepreneurs in the Bay Area Regional Energy Innovation Cluster.

**The Recipient shall:**

- Create a *EPRI Collaboration Plan Report* which should detail how the recipient plans to:
    - Seek EPRI's expertise on major hard technology needs in California's utility sector
    - Request EPRI's technical review of company applications for the Bay Area Regional Energy Innovation Cluster as appropriate, advising on the relevance and potential impact of applicants' technologies on major hard technology needs in California's utility sector
    - Work with EPRI to provide Bay Area Regional Energy Innovation Cluster entrepreneurs with guidance on improving their products and services for deployment in the utility sector, e.g. through quarterly office hours

    - Connect Bay Area Regional Energy Innovation Cluster entrepreneurs and the Bay Area Regional Energy Innovation Cluster program team through EPRI with stakeholders in the utility industry to facilitate demonstration partnerships, as appropriate
    - Connect Bay Area Regional Energy Innovation Cluster entrepreneurs and the Bay Area Regional Energy Innovation Cluster program team through EPRI with other relevant incubators/accelerators around the country, to leverage best practices and enable Bay Area Regional Energy Innovation Cluster entrepreneurs to take advantage of other programs, as appropriate
- Incorporate edits and comments on the draft Product(s) for this task from CAM before submitting final documents.
- Carry out the tasks outlined in the *EPRI Collaboration Plan* Report and listed above.

**Products:**
- *EPRI Collaboration Plan Report* (draft and final)

**TASK 14 Evaluation of Project Benefits**

The goal of this task is to report the benefits resulting from this project.

**The Recipient shall:**
- Complete three Project Benefits Questionnaires that correspond to three main intervals in the Agreement: (1) *Kick-off Meeting Benefits Questionnaire*; (2) *Mid-term Benefits Questionnaire*; and (3) *Final Meeting Benefits Questionnaire*.
- Provide all key assumptions used to estimate projected benefits, including targeted market sector (e.g., population and geographic location), projected market penetration, baseline and projected energy use and cost, operating conditions, and emission reduction calculations. Examples of information that may be requested in the questionnaires include:

    - <u>For Product Development Projects and Project Demonstrations:</u>
        - Published documents, including date, title, and periodical name.
        - Estimated or actual energy and cost savings, and estimated statewide energy savings once market potential has been realized. Identify all assumptions used in the estimates.
        - Greenhouse gas and criteria emissions reductions.
        - Other non-energy benefits such as reliability, public safety, lower operational cost, environmental improvement, indoor environmental quality, and societal benefits.
        - Data on potential job creation, market potential, economic development, and increased state revenue as a result of the project.

    - A discussion of project product downloads from websites, and publications in technical journals.
    - A comparison of project expectations and performance. Discuss whether the goals and objectives of the Agreement have been met and what improvements are needed, if any.
    - Additional Information for Product Development Projects:
        - Outcome of product development efforts, such copyrights and license agreements.
        - Units sold or projected to be sold in California and outside of California.
        - Total annual sales or projected annual sales (in dollars) of products developed under the Agreement.
        - Investment dollars/follow-on private funding as a result of Energy Commission funding.
        - Patent numbers and applications, along with dates and brief descriptions.
    - Additional Information for Product Demonstrations:
        - Outcome of demonstrations and status of technology.
        - Number of similar installations.
        - Jobs created/retained as a result of the Agreement.

  - For Information/Tools and Other Research Studies:
    - Outcome of project.
    - Published documents, including date, title, and periodical name.
    - A discussion of policy development. State if the project has been cited in government policy publications or technical journals, or has been used to inform regulatory bodies.
    - The number of website downloads.
    - An estimate of how the project information has affected energy use and cost, or has resulted in other non-energy benefits.
    - An estimate of energy and non-energy benefits.
    - Data on potential job creation, market potential, economic development, and increased state revenue as a result of project.
    - A discussion of project product downloads from websites, and publications in technical journals.
    - A comparison of project expectations and performance. Discuss whether the goals and objectives of the Agreement have been met and what improvements are needed, if any.
- Respond to CAM questions regarding responses to the questionnaires.

The Energy Commission may send the Recipient similar questionnaires after the Agreement term ends. Responses to these questionnaires will be voluntary.

**Products:**

- Kick-off Meeting Benefits Questionnaire
- Mid-term Benefits Questionnaire
- Final Meeting Benefits Questionnaire
- Questionnaire Question Responses

**TASK 15 Technology/Knowledge Transfer Activities**
The goal of this task is to develop a plan to make the knowledge gained, experimental results, and lessons learned available to the public and key decision makers.

**The Recipient shall:**

- Prepare an *Initial Fact Sheet* at start of the project that describes the project. Use the format provided by the CAM.
- Prepare a *Final Project Fact Sheet* at the project's conclusion that discusses results. Use the format provided by the CAM.
- Prepare a *Technology/Knowledge Transfer Plan* that includes:
  - An explanation of how the knowledge gained from the project will be made available to the public, including the targeted market sector and potential outreach to end users, utilities, regulatory agencies, and others.
  - A description of the intended use(s) for and users of the project results.
  - Published documents, including date, title, and periodical name.
  - Copies of documents, fact sheets, journal articles, press releases, and other documents prepared for public dissemination. These documents must include the Legal Notice required in the terms and conditions. Indicate where and when the documents were disseminated.
  - A discussion of policy development. State if project has been or will be cited in government policy publications, or used to inform regulatory bodies.
  - The number of website downloads or public requests for project results.
  - Additional areas as determined by the CAM.
- Conduct technology transfer activities in accordance with the Technology/Knowledge Transfer Plan. These activities will be reported in the Progress Reports.
- When directed by the CAM, develop *Presentation Materials* for an Energy Commission-sponsored conference/workshop on the results of the project.
- Prepare a *Technology/Knowledge Transfer Report* on technology transfer activities conducted during the project.

***Products:***

- Initial Project Fact Sheet (draft and final)
- Final Project Fact Sheet (draft and final)
- Technology/Knowledge Transfer Plan (draft and final)
- Report of Technology/Knowledge Transfer Plan Activities (in Project Progress Reports)
- Presentation Materials (draft and final)
- Technology/Knowledge Transfer Report (draft and final)

## IV. PROJECT SCHEDULE

Please see the attached Excel spreadsheet.

**RESOLUTION NO: 16-0413-14b**

**STATE OF CALIFORNIA**

**STATE ENERGY RESOURCES**
**CONSERVATION AND DEVELOPMENT COMMISSION**

RESOLUTION - RE: PHYSICAL SCIENCE INNOVATIONS, 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 EPC-15-032 from GFO-15-306 with Physical Science Innovations, Inc. for a $4,980,000 grant to establish a Bay Area Regional Energy Innovation Cluster to provide technical and commercialization support to Bay Area entrepreneurs developing breakthrough materials and hardware devices for the electricity sector; 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 April 13, 2016.

AYE: [List of Commissioners]
NAY: [List of Commissioners]
ABSENT: [List of Commissioners]
ABSTAIN: [List of Commissioners]

Cody Goldthrite,
Secretariat