

GRANT REQUEST FORM (GRF)

CEC-270 (Revised 10/2015)

CALIFORNIA ENERGY COMMISSION

New Agreement EPC-15-085 (To be completed by CGL Office)

Division	Agreement Manager:	MS-	Phone
ERDD	Jeffrey Doll	51	916-327-1367

Recipient's Legal Name	Federal ID Number
Center for Sustainable Energy	33-0936366

Title of Project
San Diego Libraries Zero Net Energy and Integrated Demand Side Management Demonstration Project

Term and Amount	Start Date	End Date	Amount
	6/30/2016	3/31/2020	\$ 2,715,516

Business Meeting Information
 ARFVTP agreements under \$75K delegated to Executive Director.

Proposed Business Meeting Date	6/14/2016	<input type="checkbox"/> Consent	<input checked="" type="checkbox"/> Discussion
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Business Meeting Presenter	Jeffrey Doll	Time Needed:	5 minutes
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Please select one list serve. Select

Agenda Item Subject and Description

CENTER FOR SUSTAINABLE ENERGY. Proposed resolution approving agreement EPC-15-085 with Center for Sustainable Energy for a \$2,715,516 grant to demonstrate emerging energy efficiency technologies at three City of San Diego libraries. The libraries will also utilize match funding to install renewable energy generation and energy storage which, together with the energy efficiency technology, will bring the sites closer to being zero net energy.



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 -- Cal. Code Regs., tit 14, § 15303 -- Cal. Code Regs., tit 14, § 15306

Common Sense Exemption. 14 CCR 15061 (b) (3)

Explain reason why Agreement is exempt under the above section:

This project will involve the installation of solar photovoltaics (PV), energy storage systems, and energy efficiency measures and all associated, inverters, controllers, sensors, and other associated electrical equipment in three of the City of San Diego's libraries. The project will have energy storage systems and energy efficiency measures installed throughout the libraries while solar PV will be installed on the rooftops of the libraries.

The proposed libraries have been pre-determined by the recipient and are existing buildings located within the City of San Diego in residential communities. The recipient has submitted a signed Notice of Exemption from the Lead Agency.

California Code of Regulations, title 14, section 15301 provides that projects which consist of the operation, repair, maintenance, permitting, leasing, licensing, or minor alteration of existing public or private structures, facilities, mechanical equipment, or topographical features, and which involve negligible or no expansion of use beyond that existing at the time of the lead agency's determination, are categorically exempt from the provisions of the California Environmental Quality Act. This proposed project will install rooftop solar photovoltaics (PV); energy storage systems; energy efficiency measures; and all associated inverters, controllers, sensors, and other electrical equipment in three existing libraries in the City of San Diego. The project would add equipment to the roof of each library and additional equipment within the library itself. The square footage of installations, including PV, will be less than 1,000 square feet. All proposed sites house existing electrical equipment, and the proposed new installations will not significantly expand the use beyond that already existing. For these reasons, the project will not have a significant effect on the environment and falls within section 15301.

Cal. Code Regs., tit. 14, § 15303 provides that projects which consist of construction and location of limited numbers of new, small facilities or structures; installation of small new equipment and facilities in small structures; and the conversion of existing small structures from one use to another where only minor modifications are made in the exterior of the structure, are categorically exempt from the provisions of the California Environmental Quality Act. The proposed project consists of installation of small new equipment including solar PV collectors approximately 10' x 4', battery energy storage that will fit in a utility closet, energy efficiency measures such as light fixtures and new HVAC equipment, and associated electrical equipment, such as controllers and wires. Therefore, the proposed project will not have a significant effect on the environment and falls within section 15303.

Cal. Code Regs., tit. 14, § 15306 provides that projects which consist of basic data collection, research, experimental management, and resource evaluation activities which do not result in serious or major disturbance to an environmental resource, are categorically exempt from the provisions of the California Environmental Quality Act. The proposed project will install energy metering sensors, temperature sensors, air quality sensors and other data collection equipment for the purpose of monitoring and testing the effectiveness of installed solar PV, energy storage, and energy efficiency measures. These sensors will range in size from approximately the size of a tip of a pen to approximately the size of a deck of cards, and will not result in any serious or major disturbance to the environment or an environmental resource. Therefore, the proposed project will not have a significant effect on the environment and falls within section 15306.

b) Agreement **IS NOT** exempt. (Consult with the legal office to determine next steps.)
 Check all that apply

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CALIFORNIA ENERGY COMMISSION



- | | |
|--|---|
| <input type="checkbox"/> Initial Study
<input type="checkbox"/> Negative Declaration
<input type="checkbox"/> Mitigated Negative Declaration | <input type="checkbox"/> Environmental Impact Report
<input type="checkbox"/> Statement of Overriding Considerations |
|--|---|

List all subcontractors (major and minor) and equipment vendors: (attach additional sheets as necessary)	
Legal Company Name:	Budget
Sustainability Matters	\$ 1,411,839
United States Green Building Council - San Diego Chapter	\$ 166,101
McBreaty Construction Corporation	\$ 99,000
OJ Insulation	\$ 75,000
Emery Mechanical Engineering	\$ 15,000
BNIM Architects	\$ 20,000
MPE Consulting Electrical Engineers	\$ 20,000
To Be Determined	\$ 148,000
	\$

GRANT REQUEST FORM (GRF)



List all key partners: (attach additional sheets as necessary)
Legal Company Name:
San Diego Gas & Electric Company
City of San Diego

Budget Information			
Funding Source	Funding Year of Appropriation	Budget List No.	Amount
EPIC	14-15	301.001B	\$2,715,516
			\$
			\$
			\$
			\$
			\$
R&D Program Area: EERO: Buildings		TOTAL:	\$2,715,516
Explanation for "Other" selection			
Reimbursement Contract #:		Federal Agreement #:	

Recipient's Administrator/ Officer				Recipient's Project Manager			
Name:	Jack Clark			Name:	Lindsey Hawes		
Address:	9325 Sky Park Ct Ste 100			Address:	9325 Sky Park Ct Ste 100		
City, State, Zip:	San Diego, CA 92123-4380			City, State, Zip:	San Diego, CA 92123-4380		
Phone:	858-244-1187 /	Fax:	- -	Phone:	858-633-1390 /	Fax:	- -
E-Mail:	Jack.Clark@energycenter.org			E-Mail:	Lindsey.hawes@energycenter.org		

Selection Process Used	
<input checked="" type="checkbox"/> Competitive Solicitation	Solicitation #: GFO-15-308
<input type="checkbox"/> First Come First Served Solicitation	

The following items should be attached to this GRF	
1. Exhibit A, Scope of Work	<input type="checkbox"/> Attached
2. Exhibit B, Budget Detail	<input type="checkbox"/> Attached
3. CEC 105, Questionnaire for Identifying Conflicts	<input type="checkbox"/> Attached
4. Recipient Resolution	<input type="checkbox"/> N/A <input type="checkbox"/> Attached
5. CEQA Documentation	<input type="checkbox"/> N/A <input type="checkbox"/> Attached

Agreement Manager _____ Date _____ Office Manager _____ Date _____ Deputy Director _____ Date _____

EXHIBIT A Scope of Work

I. TASK ACRONYM/TERM LISTS

A. Task List

Task #	CPR ¹	Task Name
1		General Project Tasks
2		Establish Baseline
3		Develop Energy Models
4		Identify & Procure Energy Conservation Measures
5		Install Energy Conservation Measures
6	X	Commission/Retrocommission
7		Measurement & Verification
8		Behavior Analysis
9		Evaluation of Project Benefits
10		Technology/Knowledge Transfer Activities

B. Acronym/Term List

Acronym/Term	Meaning
ASHRAE	American Society of Heating, Refrigerating and Air-Conditioning Engineers
CAISO	California Independent Systems Operator
CAM	Commission Agreement Manager
CAO	Commission Agreement Officer
CPR	Critical Project Review
DR	Demand Response
ECMs	Energy Conservation Measures
Energy Commission	California Energy Commission
HVAC	Heating, Ventilation & Air Conditioning
IDSM	Integrated Demand Side Management
M&V	Measurement & Verification
OBF	On-bill Financing
PV	Photovoltaic
Recipient	
SDG&E	San Diego Gas & Electric
SDGBC	US Green Building Council San Diego Chapter
TAC	Technical Advisory Committee
Title 24	California Building Energy Code
ZNE	Zero Net Energy

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.

EXHIBIT A

Scope of Work

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

A. Purpose of Agreement

The purpose of this agreement is to fund innovative, cost-effective energy efficiency technologies and install energy storage and solar photovoltaic (PV) that, when combined, result in integrated demand side management (IDSM) and zero net energy (ZNE) demonstrations in three public libraries.

B. Problem/ Solution Statement

Problem

California has set aggressive goals for increasing energy efficiency in existing buildings and for achieving ZNE targets for new and existing buildings. More specifically, the State has set goals for 50% of existing state-owned municipal buildings to be ZNE by 2025, and for 50% of existing commercial buildings to be ZNE by 2030. With their large and diverse portfolio of non-residential buildings and direct relationship with a wide variety of stakeholders in their communities, public agencies, including local governments, are in a unique position to demonstrate ZNE and IDSM solutions, and to share lessons learned with other public agencies and the private sector to spur continued growth in these markets.

Cost-effective pathways to achieving ZNE through maximum energy efficiency paired with IDSM have not been widely proven and need further demonstration and analysis to determine market viability and long-term sustainable savings, particularly in the municipal sector. Strategies to integrate energy efficiency, solar and storage to achieve ZNE, as well as financing mechanisms and revenue models that allow local governments to cost-effectively achieve IDSM and ZNE in public facilities, require further testing in real-world applications.

Solution

The Recipient will integrate pre-commercial energy efficiency measures, solar PV, and energy storage in three existing public libraries in the City of San Diego. The team will install innovative energy conservation measures (ECMs), building automation and controls systems, and behind-the-meter solar PV and energy storage systems at three existing public libraries within the City of San Diego. In addition to demonstrating cost-effective pathways to achieving maximum energy efficiency in the small commercial and municipal building sector, this project will engage in a multiyear, flexible, and transparent collaboration aimed at uncovering, testing, verifying and publicizing strategies for integrating energy efficiency, energy storage, solar PV, and other demand side resources in municipal facilities to get the three existing project sites closer to ZNE and to prove the financial value proposition for IDSM. The approach is based on a comparison of different packages of ECMs and controls, integration of IDSM technologies to achieve ZNE or near-ZNE operations, and an investigation of the feasibility of monetizing existing and future revenue streams associated with demand charge mitigation, DR, and participation in California Independent Systems Operator (CAISO) wholesale markets.

EXHIBIT A

Scope of Work

C. Goals and Objectives of the Agreement

Agreement Goals

The goals of this Agreement are to:

- Create a replicable blue print for local governments to achieve ZNE in 50% of existing buildings by 2025;
- Demonstrate the technical capacity of IDSM technologies to deliver ZNE in existing non-residential, municipal buildings;
- Demonstrate the value proposition of IDSM technologies, including pre-commercial efficiency technologies, to deliver ZNE in existing commercial buildings;
- Demonstrate the value proposition of revenue models made possible through IDSM and DR, specific to small commercial buildings, in municipal and private sectors;
- Engage visitors and surrounding communities with education and outreach to library patrons on the direct energy savings of IDSM and DR technology.

Ratepayer Benefits:²

This Agreement will result in greater reliability in electrical services through the use of distributed energy resources to reduce electricity demand. Grid benefits will be experienced as a result of reduced electricity use achieved through the application of innovative energy efficiency technologies including phase-change materials, integrated wireless monitoring, and controls and battery storage. Combining energy efficiency and building automation with solar PV and storage systems results in a suite of IDSM technologies capable of responding to DR or wholesale market signals from utilities or the CAISO, thereby reducing grid stress and increasing grid reliability for all ratepayers at times of peak demand.

Technological Advancement and Breakthroughs:³

This Agreement will lead to technological advancement and breakthroughs in automated demand response technologies, phase change materials, and wireless monitoring systems in achieving ZNE and IDSM in small commercial buildings, as well as municipally-owned, community-based learning facilities. These advancements will be brought about through the analysis and demonstration of cost-effective IDSM technologies and disseminating the results to other public agencies, policy makers and stakeholders. California has set goals for 50% of existing state-owned municipal buildings to be ZNE by 2025, and for 50% of existing commercial buildings to be ZNE by 2030. Many local government agencies are adopting similar goals for their own municipal facility portfolios via adoption of policies and ordinances. Local government efforts to achieve ZNE in existing municipal facilities will help inform broader adoption in their communities by demonstrating what technologies and approaches can be employed to achieve ZNE. Similarly, this Agreement will help inform ZNE and IDSM projects

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.

EXHIBIT A

Scope of Work

among other local government agencies by demonstrating feasible financing mechanisms, revenue models and effective community and occupant engagement strategies that achieve sustainable energy savings.

The results of this project will inform public agencies, policy makers and other stakeholders, pointing the way toward more cost-effective integration that helps maximize cost and energy savings and builds political and community will for similar projects across municipal and commercial building portfolios.

Agreement Objectives

Specific objectives for this project include:

- Complete energy-efficient retrofits at three public libraries in the San Diego area;
- Install renewable generation and energy storage at the same three public libraries in the San Diego area;
- Assess the feasibility of employing a suite of IDSM technologies including phase-change material, building automation, solar PV, energy storage and participation in DR programs to achieve cost-effective energy use reductions, and ZNE or near-ZNE at three public libraries;
- Assess varying financing mechanisms that support installation of IDSM technology packages at municipal facilities;
- Assess the viability of utilizing a portfolio of aggregated automated DR-enabled facilities in providing services to the grid, e.g. through integration into the CAISO wholesale market, proxy DR program, etc.;
- Uncover interconnection, metering, and telemetry barriers to the market integration of IDSM resources;
- Verify energy savings and benefits via commissioning, recommissioning, and ongoing building monitoring;
- Gather pre- and post-installation energy consumption data, solar PV production data, and energy storage charge and discharge data;
- Analyze post-installation measured data to identify performance interactions between the IDSM technologies and their effects on energy consumption, behavior, and indoor air quality;
- Engage and educate library visitors (including disadvantaged community members) and staff about IDSM and ZNE, and investigate the role of occupant behavior in achieving long-term, sustainable energy savings through a behavior analysis;
- Engage multiple market players, including municipal building operators; real estate assets groups; and local commercial development groups, on the benefits of employing ZNE and IDSM strategies in existing small commercial and municipal buildings with the longer-term goal of increasing building valuation;
- Share information on feasible IDSM and ZNE solutions with local government agencies to spur implementation of similar strategies in the municipal sector.

III. TASK 1 GENERAL PROJECT TASKS

PRODUCTS

Subtask 1.1 Products

EXHIBIT A

Scope of Work

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 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.

EXHIBIT A

Scope of Work

The Recipient shall:

For products that require a draft version, including the Final Report Outline and Final Report

- 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.
- Consider incorporating all CAM comments into the final product. 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 product 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.

For products that require a final version only

- Submit the product to the CAM for acceptance. The CAM may request minor revisions or explanations prior to acceptance.

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.

EXHIBIT A Scope of Work

○ **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:

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

Any exceptions to the 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:

- Terms and conditions of the Agreement;
- Administrative products (subtask 1.1);
- CPR meetings (subtask 1.3);
- Match fund documentation (subtask 1.7);
- Permit documentation (subtask 1.8);
- Subcontracts (subtask 1.9); 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 products (subtask 1.1);

EXHIBIT A

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- Progress reports and invoices (subtask 1.5);
 - Final Report (subtask 1.6);
 - Technical Advisory Committee meetings (subtasks 1.10 and 1.11); and
 - 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.

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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).

EXHIBIT A

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- 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:
 - Summarize progress made on all Agreement activities as specified in the scope of work for the preceding month, including accomplishments, problems, milestones, products, schedule, fiscal status, and 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.
- Submit a monthly or quarterly *Invoice* that follows the instructions in the "Payment of Funds" section of the terms and conditions, including a financial report on Match Fund and in-state expenditures.

Products:

- Progress Reports
- Invoices

EXHIBIT A Scope of Work

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 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 the 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. (See Task 1.1 for requirements for draft and final products.)

Recipient Products:

- Final Report Outline (draft and final)

CAM Product:

- Style Manual
- Comments on Draft Final Report Outline
- Acceptance 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 (**required**)
 - Credits page on the reverse side of cover with legal disclaimer (**required**)
 - Acknowledgements page (optional)
 - Preface (**required**)
 - Abstract, keywords, and citation page (**required**)
 - Table of Contents (**required**, followed by List of Figures and List of Tables, if needed)
 - Executive summary (**required**)
 - Body of the report (**required**)
 - 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)

EXHIBIT A

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- 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.

EXHIBIT A Scope of Work

The Recipient shall:

- Prepare a *Match Funds Status Letter* that documents the match funds committed to this Agreement. If no match funds 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 no permits 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.

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- 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,

EXHIBIT A

Scope of Work

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

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Scope of Work

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

IV. 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: ESTABLISH BASELINE

The goal of this task is to determine the baseline level of energy and water usage for each facility, data that is critical in identifying appropriate ECMs and performing ongoing measurement & verification (M&V). This task will be achieved via American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) Level II Audits and installation of end-use monitoring hardware at all three libraries. Monitoring hardware and software will collect data regarding lighting, Heating, Ventilation & Air Conditioning (HVAC), plug loads, process loads, solar PV output and energy storage (as appropriate).

The Recipient shall:

- Conduct an ASHRAE Level II audit at all three libraries and prepare *ASHRAE Level II Audit Reports* for each library facility.
- Deploy end-use monitoring hardware (lighting, HVAC, plug loads, process load, PV, etc.) and software at all libraries.

EXHIBIT A

Scope of Work

- Collect three months of baseline data at all libraries to establish the actual end-use consumption (at data collection intervals of 15 minutes).
- Prepare *Baseline Reports* for each library facility discussing the baseline data collection.

Products:

- ASHRAE Level II Audit Reports
- Baseline Reports

TASK 3: DEVELOP ENERGY MODELS

The goal of this task is to develop site-specific energy models for each of the three library buildings using industry standard energy modeling software, such as EnergyPro or eQuest; and using building and equipment data gathered in Task 2, such as geometry, location, materials (R-values, u-values, etc.), equipment quantities and capacities, design specifications, operation schedules, setpoints, and space types/zones. The models will identify and depict heating and cooling loads, airflows, and optimal consumption patterns and equipment sizing that, when considered alongside solar and storage performance as well as 2016 Title 24 building energy codes, will be used to identify ideal ECMs to achieve ZNE or near-ZNE at each facility. The models will also be used to inform facility retrocommissioning after ECMs are installed.

The Recipient shall:

- Develop a model for each facility based on the data gathered in Task 2 using energy modeling software such as EnergyPro or eQuest.
- Calibrate models based on:
 - 12-month utility billing; and
 - The site-specific baseline data gathered in Task 2; and
 - Weather data.
- Complete successful model calibration within $\pm 3\%$ of accuracy of the above calibration metrics.
- Submit a *Modeling Report* for each library facility to include results of the activities in this task.

Products:

- Modeling Reports

TASK 4: IDENTIFY & PROCURE ENERGY CONSERVATION MEASURES

The goal of this task is to assess opportunities to integrate innovative demand side management technologies to achieve deep energy efficiency savings and ZNE or near-ZNE for all three libraries. Taking into consideration the solar PV performance, the size of the energy storage system, baseline energy consumption, site constraints, and a review of opportunities to secure revenue from participation in demand response and distributed energy resources programs, ECMs and a control system appropriate for each library will be identified and procured. The ECMs and control system will be designed to achieve as close to ZNE as possible within a cost of 10% of Title 24-compliant buildings using standard cost estimated reference material, while also meeting or exceeding Title 24 2016 building energy standards.

EXHIBIT A

Scope of Work

The Recipient shall:

- Identify ideal ECMs and control systems for each library.
 - All ECMs will meet the requirements established by the utility OBF program where applicable.
- Procure ECMs and control systems for each library.
- Create a *Report of Integration Activities and Financial Considerations* regarding the participation in demand response and distributed energy resources programs, financial budgets for ECM and control system procurements and installations at each library, and permits required and secured.
- Secure permits for applicable ECMs (see Task 1.8).

Products:

- Report of Integration Activities and Financial Considerations (draft and final)

TASK 5: INSTALL ENERGY CONSERVATION MEASURES

The goal of this task is to upgrade each facility with identified ECMs and control systems.

The Recipient shall:

- Install ECMs, control systems, solar photovoltaic panels, and energy storage at each library.
- Work to avoid library closures are avoided and any disruption to regular service is explained to visitors within the context of the ZNE and IDSM demonstrations.
- Engage in community outreach activities on the ZNE and IDSM demonstrations.
- Integrate ECMs, solar photovoltaic panels, and energy storage with building controls to facilitate building automation and participation in DR programs
- Submit *Report of Installation Activities* that includes descriptions of work and results of integrating ECMs, solar, and energy storage with building controls.

Products:

- Report of Installation Activities

TASK 6: COMMISSION AND RETROCOMMISSION

The goal of this task is to ensure all new equipment and controls are commissioned and remaining existing equipment and controls are retrocommissioned to ensure that all systems are operating as designed and are in sync with each other, after installation of ECMs.

The Recipient shall:

- Submit a *Retro-Commissioning Plan* that identifies commissioning and retrocommissioning activities performed at each library.
- Execute retro-commissioning of the HVAC systems and controls, lighting controls, domestic hot water and other applicable on-site systems.
- Submit *Retro-Commissioning Reports* for each library facility.
- Provide a *CPR Report* and participate in a CPR meeting as per Task 1.3.

EXHIBIT A

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Products:

- Retro-Commissioning Plan
- Retro-Commissioning Reports
- CPR Report

TASK 7: MEASUREMENT AND VERIFICATION and Ongoing Retrocommissioning

The goal of this task is to collect real-time end-use data from each facility, using the installed measurement hardware and software to measure ongoing energy savings. Ongoing measurement and verification of systems performance will help achieve maximum energy savings, enable optimal demand shifting and shedding, and reveal the need for ongoing retrocommissioning. Additionally, ongoing data collection over 12 months will facilitate evaluation of the performance interactions between energy, behavior, indoor air quality, and market impacts among the technologies installed, including a cost-benefit analysis. A retrocommissioning plan will be developed to address variances from optimal performance on an ongoing basis throughout the grant agreement. The project team will lead the ongoing M&V and retrocommissioning efforts with assistance from library facility managers and close coordination with SDG&E's Emerging Technology Program.

The Recipient shall:

- Coordinate ongoing M&V and retrocommissioning efforts with library facility managers and SDG&E's Emerging Technology Program.
- Perform ongoing M&V of ECMs, controls, solar PV, and energy storage systems.
- Develop an *Ongoing Retrocommissioning Plan* to address variances from optimal or modeled performance .
- Perform ongoing retrocommissioning to maximize energy savings and enable optimal demand shifting or shedding
- Collect 12 months of ECM, controls, solar PV, and energy storage M&V data at each library facility.
- Provide training for facility operators on technologies deployed at each site and training on monitoring and maintenance processes for continued operations.
- Perform on-going data collection and commissioning based on real-time M&V reporting.
- Provide the facility maintenance and engineering staff with granular daily and weekly reports for the end-use equipment and controls operation.
- Provide *Quarterly and Annual M&V reports* in PDF format to building operators and the CAM that will include, but not be limited to, the date collected, results, and any conclusions drawn from the results.
- Provide the facility management and respective cities' sustainability program staff with high-level energy resource utilization reports for budgeting and management use.
- Develop facility-customized educational dashboards with cloud-based communication for library staff and visitors, including an ability to see how each facility is performing on hourly, daily, weekly, monthly, quarterly and annual bases.
- Submit detailed *Cost-Benefit Report* for each library utilizing at least 12 months of measured data and utility interval data.

Products:

- *Ongoing Retrocommissioning Plan*

EXHIBIT A

Scope of Work

- Quarterly and Annual M&V Reports
- Cost-Benefit Report

TASK 8: BEHAVIOR ANALYSIS

The goals of this task are to identify interactions between energy, behavior, indoor air quality, and market impacts among the technologies installed in Task 5, and to build on data collected in Task 2 (Establish Baseline) and Task 7 (M&V).

The Recipient shall:

- Collect historic electric interval data from prior to the project start obtained from the City of San Diego
- Develop historical weather normalized energy baseline profiles
- Perform a conditional demand analysis, a multivariate regression model approach, to determine the effect of temperature on energy load.
- Analyze data from Task 7 to understand user-thermostat interaction behavior and overriding patterns
- Create a *Occupant Behavior Analysis Methodology Memo*, to include a comparison of historical weather normalized energy profiles to actual energy use profiles and an analysis or decomposition of the difference between external factors (e.g. heating or cooling degree days, etc.) and the behavior of the occupants
- Design and administer *Occupant Surveys* to gauge library employees' understanding of their interaction with the ECMs, their perception of the impacts of the ECMs and their motivations and engagement towards the ECMs. Submit the survey results to the CAM.
- Analyze the data from the surveys in a *Behavior Analysis Summary Report* that will include, but not be limited to:
 - Behavior analysis that determines baseline occupant behavior and identifies opportunities to improve behavior to ensure sustainable savings;
 - A report for building operators that informs changes to operation that increase comfort and satisfaction among occupants while maintaining savings and ability to participate in DR programs;
 - Results of reports from building operators.
- Assess results of occupant engagement activities via review of M&V data.

Products:

- Occupant Behavior Analysis Methodology Memo
- Occupant Survey Results
- Behavior Analysis Summary Report

EXHIBIT A Scope of Work

TASK 9: EVALUATION OF PROJECT BENEFITS

The goal of this task is to report the additional 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:
 - For Product Development Projects and Project Demonstrations:
 - 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.

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- 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 have 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

TASK 10: 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.

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- 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.
- When directed by the CAM, participate in annual EPIC symposium(s) sponsored by the California Energy Commission.
- Provide at least (6) six *High Quality Digital Photographs* (minimum resolution of 1300x500 pixels in landscape ratio) of pre and post technology installation at the project sites or related project photographs.
- Prepare a *Technology/Knowledge Transfer Report* on technology transfer activities conducted during the project.

Products:

- Initial Fact Sheet (draft and final)
- Final Project Fact Sheet (draft and final)
- Presentation Materials (draft and final)
- High Quality Digital Photographs
- Technology/Knowledge Transfer Plan (draft and final)
- Technology/Knowledge Transfer Report (draft and final)

V. PROJECT SCHEDULE

Please see Exhibit A Attachment A-1.

STATE OF CALIFORNIA

STATE ENERGY RESOURCES
CONSERVATION AND DEVELOPMENT COMMISSION

RESOLUTION - RE: CENTER FOR SUSTAINABLE ENERGY

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-15-085 from GFO-15-308 with Center for Sustainable Energy for a \$2,715,516 grant to demonstrate emerging energy efficiency technologies at three City of San Diego libraries. The libraries will also utilize match funding to install renewable energy generation and energy storage which, together with the energy efficiency technology, will bring the sites closer to being zero net energy; 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 June 14, 2016.

AYE: [List of Commissioners]

NAY: [List of Commissioners]

ABSENT: [List of Commissioners]

ABSTAIN: [List of Commissioners]

Cody Goldthrite,
Secretariat