

**Exhibit A
SCOPE OF WORK**

TECHNICAL TASK LIST

Task #	CPR	Task Name
1	N/A	Administration
2		Support Development of First Principles Dynamic Physical Models of Emerging CCHP Technologies
3		Support Dynamic Load and CCHP Technology Performance Data Acquisition
4		Support Field Installation & Verification of Performance
5		Support Extension of Controls to Fuel Cells and Other Emerging Technologies

KEY NAME LIST

Task #	Key Personnel	Key Subcontractor(s)	Key Partner(s)
1	Scott Samuelsen		
2	Jack Brouwer; Faryar Jabbari; Fabian Mueller		
3	Jack Brouwer, Scott Samuelsen		
4	Jack Brouwer, Fabian Mueller		
5	Jack Brouwer, Faryar Jabbari, Fabian Mueller		

GLOSSARY

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

Acronym	Definition
APEP	Advanced Power and Energy Program, UC Irvine
ARRA	American Recovery and Reinvestment Act of 2009
CCHP	Combined cooling heating and power
CPR	Critical Project Review
DOE	U.S. Department of Energy
Energy	California Energy Commission

Acronym	Definition
Commissi on	
HRSG	Heat Recovery Steam Generator
kW	kilowatt
Matlab- Simulink®	A commercial tool for numerical computing, modeling, simulating and analyzing multidomain dynamic systems, developed by The MathWorks.
MMBTU	Million British thermal unit
MCFC	Molten Carbonate Fuel Cell
PC	Personal computer
PAFC	Phosphoric Acid Fuel Cell
PEMFC	Proton exchange membrane fuel cell
PIER	Public Interest Energy Research
RD&D	Research, Development and Demonstration
SBT	Siemens Building Technologies
SCR	Siemens Corporate Research
SOFC	Solid oxide fuel cell
UCC.1	Uniform Commercial Code (Financing Statement)
UCI	University of California, Irvine
MWe	Megawatt of electricity

Problem Statement

The Advanced Power and Energy Program (APEP) of the University of California at Irvine (UCI) has received an award from the U.S. Department of Energy (DOE) under the American Reinvestment and Recovery Act (ARRA) in which it has partnered with Siemens Corporate Research (SCR) to develop advanced control technologies for combined cooling heating and power (CCHP). The California Energy Commission has agreed to cost share the effort to address the specific need for dynamic data acquisition, control system development and controls system application to emerging combined cooling, heating and power technologies for economic and environmental dispatch.

Goals of the Agreement

The goal of this Agreement is to support the DOE project awarded to APEP for data acquisition, development and testing of novel control strategies for dynamic economic and environmental dispatch of emerging CCHP systems.

Objectives of the Agreement

The objectives required to meet this goal are as follows:

- Objective 1: Develop first principles dynamic physical models of emerging CCHP technologies,

- Objective 2: Support installation of equipment to measure dynamic building loads and the dynamic performance characteristics of emerging CCHP technologies,
- Objective 3: Support field Installation and performance verification of the novel controls in a CCHP system, and
- Objective 4: Support extension of the control strategies to emerging CCHP systems and technology.

TASK 1.0 ADMINISTRATION

MEETINGS

Task 1.1 Attend Kick-off Meeting

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

The Contractor shall:

- Attend a “kick-off” meeting with the Commission Contract Manager, the Contracts Officer, and a representative of the Accounting Office. The Contractor shall bring their Project Manager, Contracts Administrator, Accounting Officer, and others designated by the Commission Contract Manager to this meeting. The administrative and technical aspects of this Agreement will be discussed at the meeting. Prior to the kick-off meeting, the Commission Contract Manager will provide an agenda to all potential meeting participants.

The administrative portion of the meeting shall include, but not be limited to, the following:

- Terms and conditions of the Agreement
- CPRs (Task 1.2)
- Match fund documentation (Task 1.7)
- Permit documentation (Task 1.8)

The technical portion of the meeting shall include, but not be limited to, the following:

- The Commission Contract Manager’s expectations for accomplishing tasks described in the Scope of Work;
- An updated Schedule of Deliverables
- Progress Reports (Task 1.4)
- Technical Deliverables (Task 1.5)
- Final Report (Task 1.6)

The Commission Contract Manager shall designate the date and location of this meeting.

Contractor Deliverables:

- An Updated Schedule of Deliverables
- An Updated List of Match Funds
- An Updated List of Permits

Commission Contract Manager Deliverables:

- Final Report Instructions

Task 1.2 CPR Meetings

The goal of this task is to determine if the project should continue to receive Energy Commission funding to complete this Agreement and if it should, are there any modifications that need to be made to the tasks, deliverables, schedule or budget.

CPRs provide the opportunity for frank discussions between the Energy Commission and the Contractor. CPRs generally take place at key, predetermined points in the Agreement, as determined by the Commission Contract Manager and as shown in the Technical Task List above and in the Schedule of Deliverables. However, the Commission Contract Manager may schedule additional CPRs as necessary, and, if necessary, the budget will be reallocated to cover the additional costs borne by the Contractor, but the overall contract amount will not increase.

Participants include the Commission Contract Manager and the Contractor, and may include the Commission Contracts Officer, the PIER Program Team Lead, other Energy Commission staff and Management as well as other individuals selected by the Commission Contract Manager to provide support to the Energy Commission.

If DOE is conducting similar meetings, the Contractor shall notify and invite the Commission Contract Manager to participate, either by teleconference or by actual meeting attendance. The DOE required meetings can be used in place of the Commission's CPR meetings, at the discretion of the Commission Contract Manager.

The Commission Contract Manager shall:

- Determine the location, date and time of each CPR meeting with the Contractor. These meetings generally take place at the Energy Commission, but they may take place at another location.
- Send the Contractor the agenda and a list of expected participants in advance of each CPR. If applicable, the agenda shall include a discussion on both match funding and permits.
- Conduct and make a record of each CPR meeting. One of the outcomes of this meeting will be a schedule for providing the written determination described below.
- Determine whether to continue the project, and if continuing, whether or not to modify the tasks, schedule, deliverables and budget for the remainder of the

Agreement, including not proceeding with one or more tasks. If the Commission Contract Manager concludes that the project needs a formal amendment or that satisfactory progress is not being made and the project needs to be ended, these conclusions will be referred to the Commission's Research, Development and Demonstration Policy Committee for its concurrence.

- Provide the Contractor with a written determination in accordance with the schedule. The written response may include a requirement for the Contractor to revise one or more deliverable(s) that were included in the CPR.

The Contractor shall:

- Prepare a CPR Report for each CPR that discusses the progress of the Agreement toward achieving its goals and objectives. This report shall include recommendations and conclusions regarding continued work of the projects. This report shall be submitted along with any other deliverables identified in this Scope of Work. Submit these documents to the Commission Contract Manager and any other designated reviewers at least 15 working days in advance of each CPR meeting.
- Present the required information at each CPR meeting and participate in a discussion about the Agreement.
- Provide copies of any DOE correspondence (emails, reports, letters, etc.) that relate to the project status. This includes copies of project performance reviews on Contractor work and summaries and results of project review meetings with DOE.

Contractor Deliverables:

- CPR Report(s)
- CPR deliverables identified in the Scope of Work
- DOE correspondence and reporting

Commission Contract Manager Deliverables:

- Agenda and a List of Expected Participants
- Schedule for Written Determination
- Written Determination

Task 1.3 Final Meeting

The goal of this task is to closeout this Agreement. If DOE is conducting a similar final meeting, the Contractor shall notify and invite the Commission Contract Manager to participate, either by teleconference or by actual meeting attendance. The DOE required meeting can be used in place of the Commission's final meeting, at the discretion of the Commission Contract Manager. However, all items listed in this task will need to be covered in the meeting.

The Contractor shall:

- Meet with the Energy Commission to present the findings, conclusions, and recommendations. The final meeting must be completed during the closeout of this Agreement.

This meeting will be attended by, at a minimum, the Contractor, the Commission Contracts Officer, and the Commission Contract Manager. The technical and administrative aspects of Agreement closeout will be discussed at the meeting, which may be two separate meetings at the discretion of the Commission Contract Manager.

The technical portion of the meeting shall present findings, conclusions, and recommended next steps (if any) for the Agreement. The Commission Contract Manager will determine the appropriate meeting participants.

The administrative portion of the meeting shall be a discussion with the Commission Contract Manager and the Contracts Officer about the following Agreement closeout items:

- What to do with any state-owned equipment (Options)
- Need to file UCC.1 form re: Energy Commission's interest in patented technology
- Energy Commission's request for specific "generated" data (not already provided in Agreement deliverables)
- Need to document Contractor's disclosure of "subject inventions" developed under the Agreement
- "Surviving" Agreement provisions, such as repayment provisions and confidential deliverables
- Final invoicing and release of retention
- Copies of all correspondence and reports discussing DOE's findings on the project, and future disposition of the project, if applicable. When directed by the Commission Contract Manager, recipient will provide copies of any DOE correspondence (emails, reports, letters, etc.) that relate to project performance.

- Prepare a schedule for completing the closeout activities for this Agreement.

Deliverables:

- Written documentation of meeting agreements and all pertinent information
- Schedule for completing closeout activities
- DOE correspondence on project findings and results

REPORTING

See Exhibit D, Reports/Deliverables/Records.

Task 1.4 Quarterly Progress Reports

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

With Commission Contract Manager approval, the Contractor can submit a DOE Progress Report in lieu of the required Commission report if contains the information listed in Attachment 1 of the Terms and Conditions.

The Contractor shall:

- Prepare progress reports which summarize all Agreement activities conducted by the Contractor for the reporting period, including an assessment of the ability to complete the Agreement within the current budget and any anticipated cost overruns. Each progress report is due to the Commission Contract Manager within 10 working days after the end of the reporting period. Attachment A-2, Progress Report Format, provides the recommended specifications.
- Unless otherwise directed by the Commission Contract Manager, each Progress Report must contain any reports made to DOE, including summaries of meetings with DOE, as such relates to the project outcome and performance. Include names and contacts of DOE representatives.

Deliverables:

- Quarterly Progress Reports
- Copies of DOE reporting and meeting summaries

Task 1.5 Test Plans, Technical Reports and Interim Deliverables

The goal of this task is to set forth the general requirements for submitting test plans, technical reports and other interim deliverables, unless described differently in the Technical Tasks. When creating these deliverables, the Contractor shall use and follow, unless otherwise instructed in writing by the Commission Contract Manager, the latest version of the PIER Style Manual published on the Energy Commission's web site:

<http://www.energy.ca.gov/contracts/pier/contractors/index.html>

The Contractor shall:

- Unless otherwise directed in this Scope of Work, submit a draft of each deliverable listed in the Technical Tasks to the Commission Contract Manager for review and comment in accordance with the approved Schedule of Deliverables. The Commission Contract Manager will provide written comments back to the Contractor on the draft deliverable within 10 working days of receipt. Once agreement has been reached on the draft, the Contractor shall submit the final deliverable to the Commission Contract Manager. The Commission Contract Manager shall provide written approval of the final deliverable within 5 working days of receipt. Key elements from this deliverable shall be included in the Final Report for this project.

Task 1.6 Final Report

The goal of this task is to prepare a comprehensive written Final Report that describes the original purpose, approach, results and conclusions of the work done under this Agreement. The Commission Contract Manager will review and approve the Final Report. The Final Report must be completed on or before the termination date of the Agreement. When creating these deliverables, the Contractor shall use and follow, unless otherwise instructed in writing by the Commission Contract Manager, the latest version of the PIER Style Manual published on the Energy Commission's web site:

<http://www.energy.ca.gov/contracts/pier/contractors/index.html>

The final report shall describe the following at a minimum: a) original purpose, approach, activities performed, results and conclusions of the work done under this Agreement; b) how the project advanced science and technology to the benefit of California's ratepayers and the barriers overcome; c) assessment of the success of the project as measured by the degree to which goals and objectives were achieved; d) how the project supported California's economic recovery in the near term and number of jobs created or sustained; e) how the project results will be used by California industry, markets and others; f) projected cost reduction impact and other benefits resulting from the project; g) discuss the project budget, including the total project cost and all the funding partners and their cost share; h) discuss how the Energy Commission funding was spent on the project, including any unique products and benefits; i) observations, conclusions and recommendations for further RD&D projects and improvements to the PIER project management process.

If a final report is required by DOE, the Recipient will include a copy of it along with the Energy Commission's final report requirements. In addition, the Recipient shall submit the draft final DOE report to the Energy Commission for review at the same time it submits it to DOE.

The Final Report shall be a public document. If the Contractor has obtained confidential status from the Energy Commission and will be preparing a confidential version of the

Final Report as well, the Contractor shall perform the following subtasks for both the public and confidential versions of the Final Report.

Task 1.6.1 Final Report Outline

The Contractor shall:

- Prepare a draft outline of the Final Report.
- Submit the draft outline of Final Report to the Commission Contract Manager for review and approval. The Commission Contract Manager will provide written comments back to the Contractor on the draft outline within 10 working days of receipt. Once agreement has been reached on the draft, the Contractor shall submit the final outline to the Commission Contract Manager. The Commission Contract Manager shall provide written approval of the final outline within 5 working days of receipt.

Deliverables:

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

Task 1.6.2 Final Report

The Contractor shall:

- Prepare the draft Final Report for this Agreement in accordance with the approved outline, including a copy of the draft submitted to the U.S. DOE in response to the American Recovery and Reinvestment Act Funding Opportunity Notice for which an award was received. The Final Report must be completed on or before the end of the Agreement Term.
- Submit the draft Final Report to the Commission Contract Manager for review and comment. The Commission Contract Manager will provide written comments within 10 working days of receipt.

Once agreement on the draft Final Report has been reached, the Commission Contract Manager shall forward the electronic version of this report for Energy Commission internal approval. Once the approval is given, the Commission Contract Manager shall provide written approval to the Contractor within 5 working days.

- Submit written correspondence from DOE regarding acceptance of the final report.
- Submit one bound copy of the Final Report with the final invoice.

Deliverables:

- Draft Final Report, including a copy of the draft report submitted to DOE

- Final Report, including a copy of the final report submitted to DOE
- Written correspondence from DOE regarding acceptance of final report

MATCH FUNDS, PERMITS, AND ELECTRONIC FILE FORMAT

Task 1.7 Identify and Obtain Matching Funds

The goal of this task is to ensure that the match funds planned for this Agreement are obtained for and applied to this Agreement during the term of this Agreement.

The costs to obtain and document match fund commitments are not reimbursable through this Agreement. While the PIER budget for this task will be zero dollars, the Contractor may utilize match funds for this task. Match funds shall be spent concurrently or in advance of PIER funds during the term of this Agreement. Match funds must be identified in writing, and the associated commitments obtained before the Contractor can incur any costs for which the Contractor will request reimbursement.

The Contractor shall:

- Prepare a letter documenting the match funding committed to this Agreement and submit it to the Commission Contract Manager at least 2 working days prior to the kick-off meeting:
 1. 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 such in the letter.
 2. 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 each cash match fund, its source, including a contact name, address and telephone number and the task(s) to which the match funds will be applied.
 - Amount of each in-kind contribution, a description, documented market or book value, and its 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 Contractor shall identify its owner and provide a contact name, address and telephone number, and the address where the property is located.
 - A copy of the letter of commitment from an authorized representative of each source of cash match funding or in-kind contributions that these funds or contributions have been secured.

- Discuss match funds and the implications to the Agreement if they are significantly reduced or not obtained as committed, at the kick-off meeting. If applicable, match funds will be included as a line item in the progress reports and will be a topic at CPR meetings.
- Provide the appropriate information to the Commission Contract Manager if during the course of the Agreement additional match funds are received.
- Notify the Commission Contract Manager within 10 working days if during the course of the Agreement existing match funds are reduced. Reduction in match funds may trigger an additional CPR.

Deliverables:

- A letter regarding Match Funds or stating that no Match Funds are provided
- Letter(s) for New Match Funds
- A copy of each Match Fund commitment letter
- Letter that Match Funds were Reduced (if applicable)

Task 1.8 Identify and Obtain Required Permits

The goal of this task 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 reimbursable under this Agreement. Permits must be identified in writing before the Contractor can incur any costs related to the use of the permit(s) for which the Contractor will request reimbursement.

The Contractor shall:

- Prepare a letter documenting the permits required to conduct this Agreement and submit it to the Commission Contract Manager at least 2 working days prior to the kick-off meeting:
 1. If there are no permits required at the start of this Agreement, then state such in the letter.
 2. If it is known at the beginning of the Agreement that permits will be required during the course of the Agreement, provide in the letter:
 - A list of the permits that identifies the:
 - Type of permit
 - Name, address and telephone number of the permitting jurisdictions or lead agencies
 - Schedule the Contractor will follow in applying for and obtaining these permits.

- The list of permits and the schedule for obtaining them will be discussed at the kick-off meeting, and a timetable for submitting the updated list, schedule and the copies of the permits will be developed. The implications to the Agreement 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 the progress reports and will be a topic at CPR meetings.
- If during the course of the Agreement additional permits become necessary, then provide the appropriate information on each permit and an updated schedule to the Commission Contract Manager.
- As permits are obtained, send a copy of each approved permit to the Commission Contract Manager.
- If during the course of the Agreement permits are not obtained on time or are denied, notify the Commission Contract Manager within 5 working days. Either of these events may trigger an additional CPR.

Deliverables:

- A letter documenting the Permits or stating that no Permits are required
- Updated list of Permits as they change during the Term of the Agreement
- Updated schedule for acquiring Permits as it changes during the Term of the Agreement
- A copy of each approved Permit

Task 1.9 Electronic File Format

The goal of this task is to unify the formats of electronic data and documents provided to the Energy Commission as contract deliverables. Another goal is to establish the computer platforms, operating systems and software that will be required to review and approve all software deliverables.

The Contractor shall:

- Deliver documents to the Commission Contract Manager in the following formats:
 - Data sets shall be in Microsoft (MS) Access or MS Excel file format.
 - PC-based text documents shall be in MS Word file format.
 - Documents intended for public distribution shall be in PDF file format, with the native file format provided as well.
 - Project management documents shall be in MS Project file format.
- Request exemptions to the electronic file format in writing at least 90 days before the deliverable is submitted.

Deliverables:

- A letter requesting exemption from the Electronic File Format (if applicable)

TECHNICAL TASKS

The Contractor shall prepare all deliverables in accordance with the requirements in Task 1.5. Deliverables not requiring a draft version are indicated by marking “(no draft)” after the deliverable name.

Task 2 SUPPORT DEVELOPMENT OF FIRST PRINCIPLES DYNAMIC PHYSICAL MODELS OF EMERGING CCHP TECHNOLOGIES

The goal of this task is to support the development dynamic physical component models of emerging CCHP technologies, such as fuel cells, that APEP is working to develop with support from the U.S. DOE under an ARRA contract.

The Contractor shall:

- Work with the U.S. DOE and the Energy Commission to develop CCHP technology dynamic models in Matlab-Simulink® based upon solution of the governing physical, chemical and electrochemical processes that govern operation of the components. Geometric resolution of temperature, pressure and flow fields of interest within the CCHP components will also be considered. The models shall be developed in a special manner that does not resolve all geometric features or all physical and chemical processes, but rather, makes simplifying assumptions to enable solution of the dynamic equations that govern the integrated systems. Specific models shall include:
 - Proton Exchange Membrane Fuel Cell (PEMFC)
 - Solid Oxide Fuel Cell (SOFC)
 - Molten Carbonate Fuel Cell (MCFC)
 - Phosphoric Acid Fuel Cell (PAFC)

Deliverables:

- List with description of physical dynamic models of emerging fuel cell CCHP technologies (no draft)
- Report on the development and testing of the physical models (no draft)

Task 3 SUPPORT DYNAMIC LOAD AND CCHP TECHNOLOGY PERFORMANCE DATA ACQUISITION

The goal of this task is to support the installation of all equipment required to measure dynamic electrical, cooling and heating demands from typical light industrial, commercial and institutional applications, and to measure existing CCHP technology performance.

The Contractor shall:

- Identify and delineate the buildings and institutions for which measurements will be acquired.

- Garner approval from the Energy Commission regarding the list of buildings and institutions slated for measurement.
- Identify and delineate the existing CCHP installations for which measurements will be acquired.
- Garner approval from the Energy Commission regarding the list of CCHP installations slated for measurement.
- Develop a draft list of the measurements required for buildings, institutions and CCHP technologies.
- Garner approval from the Energy Commission for the list of the measurements required for buildings, institutions and CCHP technologies.
- Work with the U.S. DOE to install dynamic performance monitoring equipment in the approved buildings and institutions.
- Work with the U.S. DOE to install dynamic performance monitoring equipment in the approved CCHP installations of interest.
- Acquire all the required dynamic performance data, with appropriate resolution, from approved buildings, institutions, and CCHP installations.
- Develop a report on the data acquired.

Deliverables:

- Draft list of buildings and institutions slated for measurement
- Final list of buildings and institutions slated for measurement
- Draft list of CCHP installations slated for measurement
- Final list of CCHP installations slated for measurement
- Draft list of measurements required
- Final list of measurements required
- Report on data acquired for buildings, institutions and CCHP installations of interest (no draft)

Task 4 SUPPORT FIELD INSTALLATION AND VERIFICATION OF PERFORMANCE

The goal of this task is to support the U.S. DOE supported effort to install and verify the novel control strategies in a field installation of CCHP.

The Contractor shall:

- Install and verify overall CCHP system performance using the novel control algorithms and architecture in a CCHP system.
- Use hardware components from SCR (main components) and from various other subcontractors (minor components, supplies and materials), to be acquired through DOE funds, for the control system installation.
 - The hardware required includes sensors (temperature, voltage, current, etc.), data acquisition equipment, controllers, and actuators (control valves, solenoids, switches, etc.).
- Install the novel control system at the Central Plant of the University of California, Irvine (UCI). The UCI Central Plant contains a CCHP system that is available to the team through Facilities Management. This system represents a state-of-the-art institutional installation of advanced gas turbine combined cooling, heat and power.

- The UCI system is a 19 megawatt electricity (MWe) cogeneration plant comprised of one 13.5 MWe natural gas fired gas turbine generator, one 5.5 MWe steam turbine generator, a heat recovery steam generator (HRSG), and a duct burner rated at 73 million British thermal unit per hour (MMBtu/hr).
- The plant is used to generate electricity and produce hot water that is distributed throughout the campus for space heating and re-heating for air conditioning.
- Install the appropriate hardware and software to allow the new novel control algorithms developed in the previous tasks to be tested. Note that this must be done without disturbing the overall performance and reliability of the installation. Close coordination with the Facilities Management team will be required.
- Prepare report on the field installation of the developed novel controls.
- Test and acquire data regarding the novel control infrastructure sufficient to prove an advantage compared to traditional control strategies.
- Prepare report on the performance of the novel controls as applied to a field installation.

Deliverables:

- Report on field installation (no draft)
- Novel controls performance report (no draft)

Task 5 SUPPORT EXTENSION OF CONTROLS TO FUEL CELLS AND OTHER EMERGING TECHNOLOGIES

The goal of this task is to support the U.S. DOE supported extension of the control strategies to emerging CCHP systems and technology, such as fuel cell systems.

The Contractor shall:

- Develop a draft list of emerging CCHP technologies and applications for consideration of the Energy Commission. These emerging technologies include molten carbonate fuel cells, solid oxide fuel cells, high temperature proton-exchange membrane fuel cells, new phosphoric acid systems, absorption chillers, ultra-capacitors, deep-cycle high efficiency batteries and charge-discharge algorithms, thermo-cline thermal energy storage, condensing heat exchangers, and other technologies.
- Garner approval of the Energy Commission for the final list of emerging CCHP technologies under consideration.
- Identify at least one physical site that contains some of the emerging technologies of interest for application of the novel controls. A candidate site is TST, Inc. in Fontana, California. TST, Inc. is the largest specification aluminum ingot producer in the Western US. TST operates several co-generation systems on the site of their aluminum processing plant that includes installation of two 250 kilowatt (kW) molten carbonate fuel cells and four 60 kW micro-turbine generators.
- Garner approval from the Energy Commission for the site(s) to be used for application of the novel controls to emerging CCHP technologies.
- Apply the novel controls developed to the emerging CCHP technologies of interest.

- Develop a report that fully describes the installation and application of novel controls to emerging CCHP systems including the observed performance of the novel control strategies.

Deliverables:

- Draft list of emerging CCHP technologies considered
- Final list of emerging CCHP technologies considered
- Draft list of potential sites that contain emerging CCHP technologies
- Final list of potential sites that contain emerging CCHP technologies
- Report on application of controls to emerging CCHP technologies (no draft)
- Report on the extension of the novel control strategies to emerging CCHP technologies of interest (no draft)

STAFF DRAFT