

STATE OF CALIFORNIA

STATE ENERGY RESOURCES
CONSERVATION AND DEVELOPMENT COMMISSION

RESOLUTION - RE: San Diego Gas and Electric Co.

RESOLVED, that the State Energy Resources Conservation and Development Commission (Energy Commission) approves Agreement PIR-11-003 to install an advanced, wireless communications system to monitor and control smart grid devices. This award will be cost-share for the Recipient's \$28.1 million American Recovery and Reinvestment Act of 2009 award for its \$63.1 million project. (PIER electricity funding.) Contact: Consuelo Sichon. (5 minutes)

FURTHER BE IT RESOLVED, that this document authorizes the Executive Director to 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 March 14, 2012.

AYE: [List of Commissioners]

NAY: [List of Commissioners]

ABSENT: [List of Commissioners]

ABSTAIN: [List of Commissioners]

Harriet Kallemeyn,
Secretariat

GRANTS/CONTINGENT AWARD REQUEST



To: Grants and Loans Office

Date: 11/7/2011

Project Manager: Consuelo Sichon

Phone Number: 916-327-2222

Office: Energy Systems Research Office

Division: Energy Research and Development

MS- 43

Project Title: Next-Generation Wireless Communications System for Smart Grid

Type of Request: (check one)

[X] New Agreement: (include items A-F from below) Agreement Number: PIR-11-003
Program: PIER E / Energy Technology Systems Integration
Solicitation Name and/or Number: PON08011.10-10 (ARRA Cost Share: Smart Grid Investment Grant)
Legal Name of Recipient: San Diego Gas & Electric Company
Recipient's Full Mailing Address: 9060 FRIARS RD SAN DIEGO, CA 92108-5855
Recipient's Project Officer: Corey McClelland Phone Number: 858-412-9545
Agreement Start Date: 5/1/2012 Agreement End Date: 6/1/2015

[] Amendment: (Check all that apply) Agreement Number:
[] Term Extension - New End Date:
[] Work Statement Revision (include Item A from below)
[] Budget Revision (include Item B from below)
[] Change of Scope (include Items A - F as applicable from below)
[] Other:

ITEMS TO ATTACH WITH REQUEST:

- A. Work Statement B. Budget C. Recipient Resolution, if applicable. (Resolution may be requested in Special Conditions if not currently available.) D. Special Conditions, if applicable. E. CEQA Compliance Form F. Other Documents as applicable: Copy of Score Sheets, Copy of Pre-Award Correspondence, Copy of All Other Relevant Documents

California Environmental Quality Act (CEQA)

[] CEC finds, based on recipient's documentation in compliance with CEQA:
[] Project exempt: NOE filed:
[] Environmental Document prepared: NOD filed:
[] Other:
[X] CEC has made CEQA finding described in CEC-280, attached

Funding Information:

*Source #1: PIER-E Amount: \$ 1,000,000.00 Statute: 10- FY: 11-12 Budget List #: 501.0271
*Source #2: Amount: \$ Statute: FY: Budget List #:
*Source #3: Amount: \$ Statute: FY: Budget List #:

If federally funded, specify federal agreement number:

* Source Examples include ERPA, PIER-E, PIER-NG, FED, GRDA, ARFVT, OTHER.

Business Meeting Approval: (refer to Business Meeting Schedule)

Proposed Business Meeting Date: 3/14/2012 [] Consent [X] Discussion
Business Meeting Participant: Consuelo Sichon Time Needed: 5 minutes

Agenda Notice Statement: (state purpose in layperson terms)

Possible approval of a [X] Grant / [] Contingent Award to...
Possible approval of Agreement PIR-11-003 for a grant of \$1,000,000 to San Diego Gas and Electric to install an advanced, wireless communications system to monitor and control smart grid devices. This award will be cost-share for the Recipient's \$28.1 million American Recovery and Reinvestment Act of 2009 award for its \$63.1 million project. (PIER electricity funding.) Contact: Consuelo Sichon (5 minutes)

GRANTS/CONTINGENT AWARD REQUEST



Project Manager	Date	Office Manager	Date	Deputy Director	Date
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Exhibit A WORK STATEMENT

TASK LIST

Task #	CPR	Task Name
1		Administration
2		System Engineering
3		Analysis of Alternatives
4	X	Fixed Pervasive Solution
5		Technology Transfer Activities

KEY NAME LIST

Task #	Key Personnel	Key Subcontractor(s)	Key Partner(s)
1	Corey McClelland		
2	Keith Nater		
3	Jon Hertzog		
4	Corey McClelland		
5	Jon Hertzog		

GLOSSARY

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

Term/Acronym	Definition
Energy Commission	California Energy Commission
CPR	Critical Project Review
CPUC	California Public Utility Commission
DOE	United States Department of Energy
GHz	Gigahertz
IEEE	Institute of Electrical and Electronics Engineers
PIER	Public Interest Energy Research
RD&D	Research, Development, and Demonstration
WiMAX	Worldwide Interoperability for Microwave Access, IEEE 802.16d or IEEE 802.16e standard.

Problem Statement:

California utilities need an advanced data communications systems to monitor, communicate with, and control transmission and distribution equipment to deploy smart grid applications and devices. Existing communications systems for utilities cannot support all smart grid functions. A consolidated, data communications system with greater performance, efficiency, security, and interoperability is needed to provide reliable and affordable electric service to customers.

Exhibit A WORK STATEMENT

Goals of the Agreement:

The goal of this Agreement is to implement a wireless, smart grid data communication system that will not only demonstrate wireless connectivity to smart grid devices, but will also be used as the core support production system for these types of devices.

Objectives of the Agreement:

The objectives of this Agreement are to:

1. Implement an advanced wireless communication system that allows a utility to monitor, communicate with, and control transmission and distribution equipment.
2. Support Smart Grid functions never envisioned for existing communications systems.
3. Improve grid security, lower electricity rates, improve grid resiliency, and support future Smart Grid technologies.

Product Guidelines:

For complete product guidelines, refer to Section 5 in the Terms and Conditions.

TASK 1 ADMINISTRATION

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 Recipient shall:

- Attend a "Kick-Off" meeting with the California Energy Commission (Energy Commission) Project Manager, the Grants Officer, and a representative of the Accounting Office. The Recipient shall bring its Project Manager, Agreement Administrator, Accounting Officer, and others designated by the Energy Commission Project Manager to this meeting. The administrative and technical aspects of this Agreement shall be discussed at the meeting. Prior to the Kick-Off meeting, the Energy Commission Project 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:

- Discussion of the terms and conditions of the Agreement
- Discussion of Critical Project Review (CPR) (Task 1.2)
- Match fund documentation (Task 1.6)
- Permit documentation (Task 1.7)

Exhibit A WORK STATEMENT

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

- The Energy Commission Project Manager's expectations for accomplishing tasks described in the Work Statement
- An updated Schedule of Products
- Discussion of Progress Reports (Task 1.4)
- Discussion of Technical Products (Product Guidelines located in Section 5 of the Terms and Conditions)
- Discussion of the Final Report (Task 1.5)

The Energy Commission Project Manager shall:

- Designate the date and location of this meeting.

Recipient Products:

- Updated Schedule of Products (no draft)
- Updated List of Match Funds (no draft)
- Updated List of Permits (no draft)

Energy Commission Project Manager Product:

- Kick-Off Meeting Agenda (no draft)

Task 1.2 Critical Project Review Meetings

The goal of this task is to determine if the project should continue to receive Energy Commission funding to complete this Agreement and to identify any needed modifications to the tasks, products, schedule, or budget.

CPRs provide the opportunity for frank discussions between the Energy Commission and the Recipient. CPRs generally take place at key, predetermined points in the Agreement, as determined by the Energy Commission Project Manager and as shown in the Task List above. However, the Energy Commission Project Manager may schedule additional CPRs as necessary, and any additional costs shall be borne by the Recipient.

Participants include the Energy Commission Project Manager and the Recipient and may include the Energy Commission Grants Officer, the Public Interest Energy Research (PIER) Program Team Lead, other Energy Commission staff and Management, as well as other individuals selected by the Energy Commission Project Manager to provide support to the Energy Commission.

If the United States Department of Energy (DOE) is conducting similar meetings, the Recipient shall notify and invite the Energy Commission Project Manager to participate, either by teleconference or by actual meeting attendance. The DOE-required meetings may be used in place of the Energy Commission's CPR meetings, at the discretion of the Energy Commission Project Manager.

Exhibit A WORK STATEMENT

The Energy Commission Project Manager shall:

- Determine the location, date, and time of each CPR meeting with the Recipient. These meetings generally take place at the Energy Commission, but they may take place at another location.
- Send the Recipient 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 modifications are needed to the tasks, schedule, products, and/or budget for the remainder of the Agreement. Modifications to the Agreement may require a formal amendment (please see the Terms and Conditions).
- Provide the Recipient with a written determination in accordance with the schedule. The written response may include a requirement for the Recipient to revise one or more product(s) that were included in the CPR.

The Recipient 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 products identified in this Work Statement. The Recipient shall submit these documents to the Energy Commission Project 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 Recipient's work and summaries and results of project review meetings with DOE.

Energy Commission Project Manager Products:

- Agenda and a list of expected participants (no draft)
- Schedule for written determination (no draft)
- Written determination(no draft)

Recipient Products:

- CPR Report(s) (no draft)

Exhibit A WORK STATEMENT

- DOE correspondence and reporting (no draft)

Task 1.3 Final Meeting

The goal of this task is to closeout this Agreement. If DOE is conducting a similar final meeting, the Recipient shall notify and invite the Energy Commission Project Manager to participate, either by teleconference or by actual meeting attendance. The DOE-required meeting may be used in place of the Energy Commission's Final Meeting, at the discretion of the Energy Commission Project Manager. However, all items listed in this task shall be covered in the meeting.

The Recipient shall:

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

This meeting shall be attended by, at a minimum, the Recipient, the Energy Commission Grants Office Officer, and the Energy Commission Project Manager. The technical and administrative aspects of Agreement closeout shall be discussed at the meeting, which may be two separate meetings at the discretion of the Energy Commission Project Manager.

The technical portion of the meeting shall present an assessment of the degree to which project and task goals and objectives were achieved, findings, conclusions, recommended next steps (if any) for the Agreement, and recommendations for improvements. The Energy Commission Project Manager will determine the appropriate meeting participants.

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

- What to do with any equipment purchased with Energy Commission funds (Options)
- Energy Commission's request for specific "generated" data (not already provided in Agreement products)
- Need to document 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 schedule for completing the closeout activities for this Agreement
- 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 Energy Commission Project Manager, the Recipient

Exhibit A WORK STATEMENT

shall provide copies of any DOE correspondence (emails, reports, letters, etc.) that relate to project performance.

Recipient Products:

- Written documentation of meeting agreements (no draft)
- Schedule for completing closeout activities (no draft)
- DOE correspondence and reports on project findings and results (no draft)

Task 1.4 Monthly 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 on time and within budget.

The objectives of this task are to summarize activities performed during the reporting period, to identify activities planned for the next reporting period, to identify issues that may affect performance and expenditures, and to form the basis for determining whether invoices are consistent with work performed.

With prior approval from the Energy Commission Project Manager, the Recipient may submit a DOE Progress Report in lieu of the required Energy Commission progress report if it contains the information listed in Attachment 1 of the Terms and Conditions.

The Recipient shall:

- Submit copies of monthly DOE Progress Reports that summarize all Agreement activities conducted by the Recipient 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 Energy Commission Project Manager within 10 days of the end of the reporting period. The recommended specifications for each progress report are contained in Exhibit A, Attachment A-2.
- Unless otherwise directed by the Commission Project Manager, each Progress Report shall contain any reports made to DOE, including summaries of meetings with DOE, as it relates to the project outcome and performance. Include names and contacts of DOE representatives.

Products:

- Monthly DOE Progress Reports (Summary and Financial metrics) (no draft)
- Copies of any other DOE reporting and meeting summaries (no draft)

Task 1.5 Final Report

The goal of the Final Report is to assess the project's success in achieving its goals and objectives, advancing science and technology, and providing energy-related and other benefits to California.

Exhibit A WORK STATEMENT

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 may 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 the DOE, the Recipient shall 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 the Recipient submits it to the DOE.

The Final Report shall be a public document. If the Recipient has obtained confidential status from the Energy Commission and will be preparing a confidential version of the Final Report as well, the Recipient shall perform the following activities for both the public and confidential versions of the Final Report.

The Recipient shall:

- Provide a draft copy of the Final Report including a copy of the draft submitted to the DOE in response to the American Recovery and Reinvestment Act Funding Opportunity Notice for which an award was received. The Final Report shall be completed on or before the end of the Agreement Term.
- Submit written correspondence from DOE regarding acceptance of the final report.

Products:

- 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 DOE final report (no draft)

Task 1.6 Identify and Obtain Match 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. Although the PIER budget for this task is zero dollars, the

Exhibit A WORK STATEMENT

Recipient may utilize match funds for this task. Match funds shall be spent concurrently or in advance of PIER funds for each task during the term of this Agreement. Match funds shall be identified in writing and the associated commitments obtained before the Recipient can incur any costs for which the Recipient will request reimbursement.

The Recipient shall:

- Prepare a letter documenting the match funding committed to this Agreement and submit it to the Energy Commission Project Manager at least 2 working days prior to the Kick-Off meeting. The letter needs to identify the following at a minimum:
 - 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 Recipient shall identify its owner and provide a contact name, address, and telephone number, and the address where the property is located.
- Provide 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 reduced or not obtained as committed, at the Kick-Off meeting. If applicable, match funds shall be included as a line item in the progress reports and will be a topic at CPR meetings.
- Provide the appropriate information to the Energy Commission Project Manager if during the course of the Agreement additional match funds are received.
- Notify the Energy Commission Project Manager within 10 days if during the course of the Agreement existing match funds are reduced. Reduction in match funds shall be approved through a formal amendment to the Agreement and may trigger an additional CPR.

Products:

- A letter regarding match funds (no draft)
- Copy(ies) of each match fund commitment letter(s) (if applicable) (no draft)
- Letter(s) for new match funds (if applicable) (no draft)
- Letter that match funds were reduced (if applicable) (no draft)

Exhibit A WORK STATEMENT

Task 1.7 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 not reimbursable under this Agreement. Although the PIER budget for this task is zero dollars, the Recipient shall budget match funds for any expected expenditures associated with obtaining permits. Permits shall be identified in writing and obtained before the Recipient can make any expenditure for which a permit is required.

The Recipient shall:

- Prepare a letter documenting the permits required to conduct this Agreement and submit it to the Energy Commission Project Manager at least 2 working days prior to the Kick-Off meeting. If there are no permits required at the start of this Agreement, then state such in the letter. 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
- Provide a schedule the Recipient will follow in applying for and obtaining these permits.
- Discuss the list of permits and the schedule for obtaining them at the kick-off meeting and develop a timetable for submitting the updated list, schedule, and the copies of the permits. The implications to the Agreement if the permits are not obtained in a timely fashion or are denied shall also be discussed. If applicable, permits shall 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, provide the appropriate information on each permit and an updated schedule to the Energy Commission Project Manager.
- As permits are obtained, send a copy of each approved permit to the Energy Commission Project Manager.
- If during the course of the Agreement permits are not obtained on time or are denied, notify the Energy Commission Project Manager within 10 days. Either of these events may trigger an additional CPR.

Products:

- Letter documenting the permits or stating that no permits are required (no draft)
- A copy of each approved permit (if applicable) (no draft)

Exhibit A WORK STATEMENT

- Updated list of permits as they change during the term of the Agreement (if applicable) (no draft)
- Updated schedule for acquiring permits as changes occur during the term of the Agreement (if applicable) (no draft)

Task 1.8 Project Management

The goal of this task is to provide all other required project management activities not specified under Tasks 1.1 through 1.7 required by the DOE for this project.

The Recipient shall:

- Provide the overall project management functions for this project including initiation, planning, execution, tracking, DOE reporting activities, and program close-out. These activities include preparing project plans, security plans and assessments, detailed project schedules and budgets, and Earned Value Management metrics and reporting. The Monthly Progress Reports specified in Subtask 1.4 shall summarize the results of this task.

Product:

- Other project management activities reported in Monthly Progress Reports (no draft)

TECHNICAL TASKS

TASK 2 System Engineering

The goal of this task is to provide program-wide consistent and comprehensive system engineering practices applied to the grid communication system and its constituent parts.

The Recipient shall:

- Analyze and define the grid communication system architecture as it fits within and inter-operates with the larger wired/wireless networking and computing systems architecture.
- Produce cohesive wireless architecture that is a secure and transparent extension of the wired architecture.
- Develop system requirements and design specifications for core use cases. Submit a System Requirements document to the Commission Project Manager.
- Develop comprehensive design documents (both preliminary and detailed) based on requirements. Submit a system Design Specification document to the Commission Project Manager.
- Generate a Test Plan defining component and system tests based on the system requirements and design specifications. Submit the Test Plan to the Commission Project Manager.

Exhibit A WORK STATEMENT

- Oversee technical implementation activities and review all testing activities.
- Perform cyber security analysis and assessment of system design and components.
- Perform penetration testing of system from end to end.

Products:

- System Requirements Specification (no draft)
- System Design Specification (no draft)
- Test Plan (no draft)

TASK 3 Analysis of Alternatives

The goals of this task are to determine the appropriate technical wireless solutions to satisfy the original use cases and evaluate the various designs in terms of their feasibility and total cost of ownership.

The Recipient shall:

- Identify possible solution technologies and vendors and develop estimates of feasibility, costs, and schedules for fixed and mobile use cases.
- Develop a Request for Quote for a fixed-price solution based on the system requirements and send out to industry for bid. After a competitive evaluation, select a vendor to develop an alternative solution.
- Acquire a dedicated, 2.3-Gigahertz (GHz) spectrum to provide dedicated wireless frequencies for the fixed radio system.
- Evaluate Worldwide Interoperability for Microwave Access (WiMAX) IEEE802.16d fixed solution.
- Deploy several pilot sites of 3.65-GHz, lightly licensed spectrum to investigate its capabilities in our environment for both fixed and mobile operations.
- Analyze up to three potential wireless mobile data solutions and submit an Analysis Report on Potential Wireless Mobile Data Solutions to the Commission Project Manager.

Product:

- Analysis Report on Potential Wireless Mobile Data Solutions (no draft)

TASK 4 Fixed Pervasive Solution

The goal of this task is to design and implement a comprehensive fixed radio network solution that covers 98% of the utility's fixed electrical assets (e.g., transformers, reclosers, capacitor banks, etc.) such that Smart Grid endpoints can be connected as required. This solution shall be built on the purchased 2.3-GHz dedicated spectrum.

Exhibit A WORK STATEMENT

The Recipient shall:

- Implement a WiMAX 16e pilot to validate the technical radio design and verify that the site acquisition and site installation processes operate properly.
- Implement a full-scale system implementation of WiMAX 16e fixed to support Smart Grid endpoints. This work includes advertising a Request for Proposal for competitive fixed price bids and selecting a winning vendor. Provide a solution for central monitoring and control of the network. Provide the appropriate backhaul design to include microwave and existing fiber optic connections. Implement as many sites as can be afforded within existing budgets.
- Develop system acceptance test procedures.
- Perform a rigorous acceptance test on the implemented system. Initial testing shall occur at the site level and as various groups of sites are completed to ensure that there is minimal interference between sites and proper operation occurs for all sites in the group.
- When all sites are completed, perform a full-scale system acceptance test to ensure proper performance, reliability, functionality, and security of the system. As part of the testing processes, all the coverage requirements and cyber security requirements shall be checked and verified.
- Upon successful validation and testing, develop the operational procedures for the entire system. Submit a summary of System Operations Procedures to the Commission Project Manager.
- Upon successful completion of equipment installation and acceptance testing at each site, submit a Notice of Completed Equipment Installation for each completed site. The Recipient's Project Manager shall sign the Notice stating that the proper equipment has been installed and passed the acceptance test for a specified site. The final test results for the specified site shall be attached to the Notice. The Energy Commission will reimburse the Recipient \$10,000 for each submitted Notice with its attachment up to a maximum amount of \$1,000,000.
- Submit CPR Report and present information at the CPR Meeting in accordance with Subtask 1.2.

Products:

- System Acceptance Test Procedures (no draft)
- System Operational Procedures (no draft)
- Notices of Completed Equipment Installation (no draft)

Comment [cjs1]: The test results for each site will be attached to their respective Notice of Completed Equipment Installation.

TASK 5 Technology Transfer Activities

The goal of this task is to make the knowledge gained, experimental results, and lessons learned available to key decision-makers.

Exhibit A WORK STATEMENT

The Recipient shall:

- Prepare a Technology Transfer Plan. The plan shall explain how the knowledge gained in this project will be made available to the public. Key elements from this plan shall be included in the Final Report for this project.
- Report the project results and lessons learned to other utilities, user groups, and other information sharing meetings. These activities shall be reported in the Monthly Progress Reports.

Products:

- Technology Transfer Plan (no draft)
- Technology transfer activities reported in Monthly Progress Reports (no draft)

Exhibit A
Attachment A-1
Schedule of Products and Due Dates

Task Number	Task Name	Product(s)	Planned Start Date	Due Date	
1.1	Attend Kick-off Meeting		5/1/2012	5/4/2012	
		Updated Schedule of Products (no draft)	5/1/2012	5/4/2012	
		Updated List of Match Funds (no draft)	5/1/2012	5/4/2012	
		Updated List of Permits (no draft)	5/1/2012	5/4/2012	
		Kick-Off Meeting Agenda (CEC) (no draft)	5/1/2012	5/4/2012	
1.2	Critical Project Review Meetings		9/2/2013	12/16/2013	
		CPR Report (no draft)	9/2/2013	11/18/2013	
		DOE correspondence and reporting (no draft)	9/2/2013	11/18/2013	
		1st CPR Meeting	Agenda and a list of expected participants (CEC) (no draft)	9/2/2013	10/25/2013
			Schedule for written determination (CEC) (no draft)	11/18/2013	11/18/2013
			Written determination (CEC) (no draft)	11/18/2013	12/16/2013
		1.3	Final Meeting		2/27/2015
Written documentation of meeting agreements (no draft)	2/27/2015			2/27/2015	
Schedule for completing closeout activities (no draft)	2/27/2015			3/2/2015	
DOE correspondence on project findings and results (no draft)	2/27/2015			5/20/2015	
1.4	Monthly Progress Reports		5/1/2012	5/1/2015	
		Monthly DOE Progress Reports (Summary and Financial metrics) (no draft)	5/1/2012	5/1/2015	
		Copies of any other DOE reporting and meeting summaries (no draft)	As needed	As needed	
1.5	Final Report		6/2/2014	5/20/2015	
		Draft Final Report, including a copy of the draft report submitted to DOE	6/2/2014	10/1/2014	
		Final Report, including a copy of the final report submitted to DOE	10/2/2014	2/20/2015	
		Written correspondence from DOE regarding acceptance of final report (no draft)	4/30/2015	5/20/2015	
1.6	Identify and Obtain Match Funds		5/1/2012	1/30/2015	
		A letter regarding match funds (no draft)	5/1/2012	5/1/2012	
		Copy(ies) of each match fund commitment letter(s) (if applicable) (no draft)	5/1/2012	1/30/2015	
		Letter(s) for new match funds (if applicable) (no draft)	N/A	Within 10 days of identifying new match funds	
		Letter that match funds were reduced (if applicable) (no draft)	N/A	Within 10 days of identifying new match funds	

Exhibit A
Attachment A-1
Schedule of Products and Due Dates

1.7	Identify and Obtain Required Permits	5/1/2012	1/30/2015
	Letter documenting the permits or stating that no permits are required (no draft)	5/1/2012	5/1/2012
	A copy of each approved permit (if applicable) (no draft)	N/A	1/30/2015
	Updated list of permits as they change during the term of the Agreement (if applicable) (no draft)	N/A	Include in Monthly Progress Reports
	Updated schedule for acquiring permits as changes occur during the term of the Agreement (if applicable) (no draft)	N/A	Include in Monthly Progress Reports
1.8	Project Management	5/1/2012	2/2/2015
	Other project management activities reported in Monthly Progress Reports (no draft)	5/1/2012	2/2/2015
2	System Engineering	5/1/2012	11/1/2012
	System Requirements Specification (no draft)	5/1/2012	7/2/2012
	System Design Specification (no draft)	5/1/2012	8/31/2012
	Test Plan (no draft)	5/1/2012	11/1/2012
3	Analysis of Alternatives	5/1/2012	6/29/2012
	Analysis Report on Potential Wireless Mobile Data Solutions (no draft)	5/1/2012	6/29/2012
4	Fixed Pervasive Solution	5/1/2012	5/1/2015
	System Acceptance Test Procedures (no draft)	5/1/2012	3/30/2015
	System Operational Procedures (no draft)	5/1/2012	3/30/2015
	Notices of Completed Equipment Installation (no draft)	5/1/2012	5/1/2015
5	Technology Transfer Activities	6/2/2014	5/1/2015
	Technology Transfer Plan (no draft)	6/2/2014	3/31/2015
	Technology transfer activities reported in Monthly Progress Reports (no draft)	6/2/2014	5/1/2015

Exhibit A
Attachment A-1
Schedule of Products and Due Dates

Exhibit A
Attachment A-1
Schedule of Products and Due Dates

**EXHIBIT A, ATTACHMENT A-2
CONTENT AND FORMAT OF PROGRESS REPORTS**

**PROGRESS REPORT for
Project Title, Agreement Number
Month, Year**

Recipient Project Manager:
Commission Project Manager:

What we planned to accomplish this period

[This is taken directly from the section on “What we expect to accomplish during the next period” from the last progress report]

What we actually accomplished this period

[Concise description of major activities and accomplishments.]

How we are doing compared to our plan

[Explain the differences, if any, between the planned and the actual accomplishments. Describe what needs to be done, if anything, to get back on track.]

Significant problems or changes

[Describe any significant technical or fiscal problems. Request approval for significant changes in work scope, revised milestone due dates, changes in key personnel assigned to the project, or reallocation of budget cost categories. If none, include the following statement: “Progress and expenditures will result in project being completed on time and within budget.”]

What we expect to accomplish during the next period

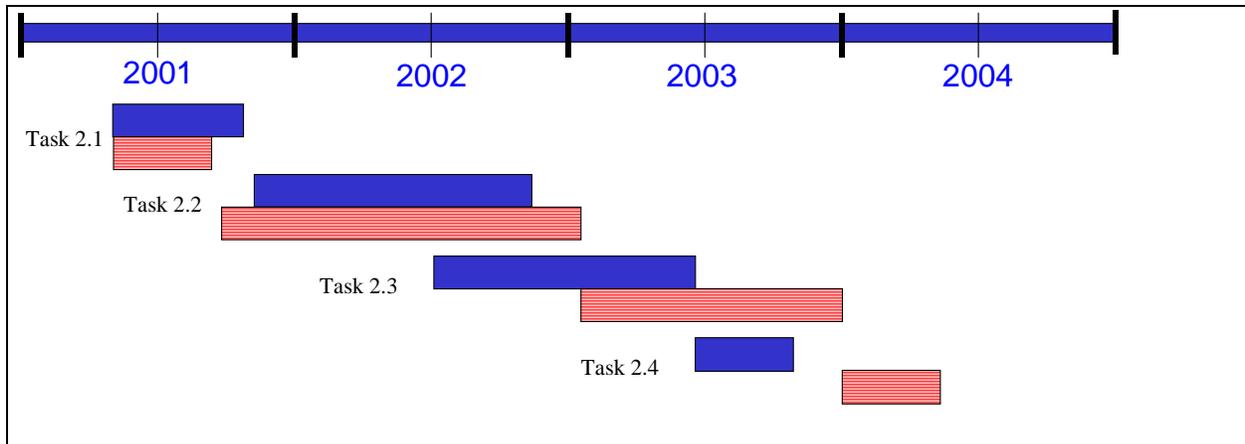
[Concise description of major activities and accomplishments expected. This will be transferred to the next progress report]

Status of Milestones and Products:

[This should be the complete list as contained in the revised scope of work and Exhibit B. Highlight differences between actual and planned.]

Description	Start Date		Due Date		Status (%)
	Planned	Actual	Planned	Actual	
Identify top 3 assessment candidates	4/15/12	4/15/12	5/1/12	5/1/12	Ontime 100%
Develop test plan	4/20/12	4/10/12	7/7/12	6/10/12	Ahead 100%
Analyze experimental data	5/1/12	6/1/12	1/1/13	2/1/13	Delayed 25%

EXHIBIT A, ATTACHMENT A-2 CONTENT AND FORMAT OF PROGRESS REPORTS



Overall schedule for the _____ project.

[Planned is solid blue, actual is red striped. This work flow diagram needs to correlate with the schedule in Exhibit B. This example has been prepared as a Word Picture, but a comparable Excel diagram or Gantt chart is fine.]

Overview of Fiscal Status: (See invoices for detail.)

[It is useful to track the rate of expenditure of project funds. The most useful way to do this is to compare the actual expenditure rate with the planned expenditure rate. You get the planned rate at the beginning of the project, so it becomes a baseline. If you change course at a critical project review, you should show the original and the modified baseline, and then track against the new one.]

Photographs:

[Include photographs where appropriate to document progress.] The photos shall be shot with color print film or be very high quality digital photos (at least 300 dpi).

Evidence of Progress:

If there is a long time between interim products, then attach evidence of the progress being made (e.g., test data, product mock-ups, field site descriptions, preliminary analyses) to the progress reports to allow the Commission Project Manager to review progress and gauge the quality of research results.

The progress report on each project should be 1-2 pages long (plus photographs) and take about 1 hour to prepare for each reporting period.