MONTHLY PROGRESS REPORT FOR CONTRACT NO. 500-00-036

PROJECT 1.1 – PROGRAM PLANNING AND ANALYSIS

REPORT PREPARED BY: COMMONWEALTH ENERGY TEAM

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What we planned to accomplish this period:

The Commonwealth Energy Team (CE Team) plans to complete the final versions of the renewable resource assessment review report and the initial mini-grid definition and map. The CE Team plans to complete the sewage treatment plant and landfill facilities, which will serve as host for bioreactor, database and associated Inventory Reports. The CE Team also hopes to complete most of the data collection and database development work on the agricultural facilities database. The CE Team is anticipating not being able to finalize the agricultural facilities database for submittal, until November. We anticipate this delay from the original schedule in order to be able to incorporate a recently released update of data from agricultural facilities as well as data from food processing facilities that we are presently collecting. Additionally, the CE Team also plans to start the Agricultural Waste Inventory Report in September.

The CE Team plans to continue developing the BI-PV database under Task 1.1.5 with an emphasis on detailed information on public buildings within the mini-grid area. The detailed information will support the prioritization of potential sites for Project 3.3.

The CE Team plans to complete most of the local T & D data collection from Southern California Edison under Task 1.1.6 and begin developing local T & D model under Task 1.1.9a.

Work on Task 1.1.7 is expected to begin around the middle of next month. This work will mostly involve collecting cost information on the various technologies to be examined in the mini-grid market potential study.

RER plans to continue developing the PV generation profiles and start developing the Waste Water Treatment, landfill and dairy waste to energy generation profiles under Task 1.1.8.

What we actually accomplished this period:

Task 1.1.1- Review Previous Statewide/Southern CA Renewable Resource Technical & Market Potential Assessments and Transmission/Distribution Mini-Grid Definition:

- RER continued addressing these issues and making revisions to the draft renewable resource assessment review report for California where applicable. We also continued to address comments received from the Commission Project Manager on the initial mini-grid definition and map that had been sent to the Commission for review.

Task 1.1.2 Develop Database of Agricultural Facilities in So. California, targeting the Chino Basin:

- CH_2MHill continued the data collection and database development activity for agricultural facilities and REDI continued to participate in conference calls regarding data collection needs. There was some difficulty in collecting information electrical loads at 8 representative dairies as planned. In general, operators viewed such information as proprietary and were reluctant to share this information. CH_2MHill started working with the Milk Producers Council to develop a mechanism to collect this information from selected dairies and then present representative dairy loads in our database and report without linking it to an individual operation.

Task 1.1.3 Serve as Host for Bioreactor Demonstration Project:

- CH_2MHill continued the data collection and database development activity for landfill facilities that could serve as a host for a bioreactor facility. Additionally, work continued on the draft Inventory Report and REDI participated in conference calls regarding the data collection needs.

  As noted in last month's report, the data was not received in as timely a manner an originally anticipated, however, CH_2MHill made repeated attempts to collect this data. The primary result of these attempts was that we learned that a number of entities did not provide information on their facilities because they did not wish to be considered as a potential host for a bioreactor. This information will be included in our database and analyses. In general, we have received data for approximately 70% of the facilities from which we requested such data. We have further determined that most of the other facilities will not be providing such data for the reasons just listed. Thus, we estimate that we are approximately 90% complete in our data gathering efforts.

Task 1.1.4 Collect Information on Sewage Treatment Plants:

- CH_2MHill continued the data collection and database development activity for sewage treatment facilities that could serve as a host for a bioreactor facility. All

previously requested information was received by late September. Activity focused on populating the database and linking it with the GIS for this project. After the data was received, CH_2MHill sought review comments on the data and determined that they would modify the structure of the database slightly. This was initiated at the end of the month, and will be completed in the first part of October. REDI continued working from the data collected by CH_2MHill on the Wastewater Treatment Plants within the mini-grid study area in order to add information regarding deploying PV systems at these locations. REDI focused on the methods used to determine the technical potential for each site, and began preparing a database of PV system specifications and Technical Potential to be added to CH_2MHill's database of biogas resources.

Task 1.1.5 Collect Information on PV System Siting Requirements & Identify Potential Candidate sites for Commercial PV Systems:

- REDI continued its identification of further sources, correlation of the data and projections of the potential market for photovoltaic power systems,
- REDI added SIC codes to the Public Sector Database "type" field and then ran a query to count by SIC codes,
- REDI started a reference file of information from public planning documents and related data. Followed-up with contracts made in August to state and regional planning officials,
- A methodology for determining the technical potential for BI-PV applications was initiated between REDI and RER, Inc. Both public and private sector facilities will be included in this study,
- Data sources were collected from the Commission that contained a forecast for the electrical market potential for years 2007 and 2012. The data collected also showed relevance to clarifying the methodology for the current BI-PV technical potential research efforts,
- Regulatory data was gathered through phone conversations with permitting agencies within the mini-grid zone and through web based material that assisted in the BI-PV siting requirements analysis, and
- Mapping software from Rand McNally was purchased to explore GIS mapping applications. The software allows an existing database to be inserted into the program, which then plots the points to the appropriate locations.

Task 1.1.6 Collect Information on Transmission/Distribution System:

- Zaininger Engineering Company (ZECO) prepared for and met with Southern California Edison (SEC) in Rosemead on September 6th. Collected (proprietary) 66/12 kV sub transformer and load data, and associated 12 kV feeder layouts for seven subs in Chino Study Area. Collected (proprietary) local 66 kV sub-transmission data. Additionally collected hourly load shape data for various classes of SCE customers.

Task 1.1.7 Collect Cost Information on BIPV and Biogas Technologies

- RER began collecting cost information on biogas technology systems. This included capital costs as well as operating and maintenance costs.

Task 1.1.8 Develop Generation Profiles of the combined biogas resources and PV based upon 1) proposed program; and 2) fully realized mini-grid market potential:

- RER completed the development of PV generation profiles as well as biogas generation profiles, which will be used in the power flow modeling in Task 1.1.9. Initiated write-up of the profile development process.

Task 1.1.9 Conduct Power Flow Analysis within Mini-Grid Target Area:

- ZECO started developing representative local T&D model. Reviewed data collected from SCE. Began developing appropriate electrical parameters for local 66 kV sub-transmission system, 66/12 kV transformers and 12 kV feeders for load flow study model.

How we are doing compared to our plan:

Several tasks have fallen behind schedule:

- Task 1.1.1 has fallen behind as a result of the need to address questions and comments raised by the Commission Project Manager.
- Tasks 1.1.2a, 1.1.3b and 1.1.4b, were delayed as a result of not receiving all the information requested for the associated databases, and as such, we were unable to complete the databases and the inventory reports as originally planned/scheduled.
- As of this report, Tasks 1.1.2, 1.13 and 1.1.4 are behind scheduled by approximately three weeks. Overall, these delays should not impact the overall plan for Project 1.1 because the information being collected will be readily usable for prioritizing projects in subsequent phases.
- Task 1.1.6 is essentially on Task, however, we may need to return to SCE for more data in October while developing the local T&D load flow model.
- Task 1.1.9a and Task 1.1.9b are on track.

Significant problems or changes:

Task 1.1.2 a Develop Database of Agricultural Facilities in So. California, targeting the Chino Basin

The most significant remaining challenge in this task is the difficulties in collecting the load information from the dairies. As noted above, we are working with the Milk Producers

Council to resolve this question. There are no significant fiscal problems to report during this period, and work is proceeding within budget.

Task 1.1.3 and Task 1.1.4:

The late receipt of the sewage treatment plant and landfill data, as reported last month, delayed submittal of the databases. The inventory report completion dates also lagged more than anticipated. The delay in the receipt of the facility characteristics and electric load information from the dairies is delaying the agricultural database task. It is expected that this issues will be resolved prior to the next monthly reporting period.

Progress and expenditures will result in Project 1.1. being completed on time and within budget. As indicated above, the minor delays in the abovementioned tasks, should not impact the overall Project 1.1 targeted completion date.

What we expect to accomplish during the next period:

RER plans to complete the final versions of the renewable resource assessment review report and the initial mini-grid definition and map.

CH_2MHill plans to complete and submit the Sewage Treatment Plant and Landfill Facilities, which will serve as host for bioreactor Database(s), and associated Inventory Reports, under Tasks 1.1.3 and 1.1.4. Additionally, we plan to resolve the current problem of the lack of detailed facility and electric load information from selected individual "representative" dairies by working through the Milk Producers Council. We will also continue analyzing the existing data collected, focusing on prioritizing the potential sites for demonstration projects. As part of this effort, we plan to meet with RER to review our planned approach for prioritizing potential projects and commencing work in the subsequent emphasis areas.

RER and REDI plan to complete the BI-PV database under Task 1.1.5 with an emphasis on detailed information on public buildings within the mini-grid area. We anticipate that work will begin on developing the BI-PV technical potential for the target area. The results of the technical potential will be used in Task 1.1.7 and feed into the power flow modeling effort if Task 1.1.9.

Work on Task 1.1.7 is expected to continue next month. This work will involve collecting cost information on the various technologies as well as starting to develop the business models to be used in assessing the mini-grid market potential.

The CE Team plans to develop a report on the process used to develop the PV generation profiles and the Waste Water Treatment, landfill and dairy waste to energy generation profiles under Task 1.1.8.

ZECO plans to complete most of the local T&D model development under Task 1.1.9a.

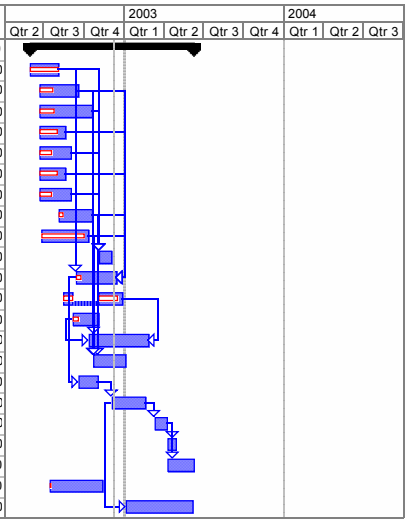
Status of Milestones and Deliverables:
Table 1 below summarizes the status of Project 1.1 task deliverables as of the end of the current reporting period.

Table 1: Summary of Project Status and Deliverables – Project 1.1

Task No.	Description	Start Date		Due Date		Status (%)
		Planned	Actual	Planned	Actual	
1.1.1	Review previous CA technical and market potential assessments.	6/5/02	6/5/02	8/4/02		99%
1.1.1	"Preliminary definition" of Program mini-grid region	6/5/02	6/5/02	8/4/02		99%
1.1.2a	Develop DB of Agricultural Facilities.	6/19/02	7/20/02	10/18/02		35%
1.1.2b	Develop Ag GIS report.	6/19/02	8/12/02	11/18/02		30%
1.1.3a	Develop Landfill DB.	6/19/02	6/19/02	8/19/02		70%
1.1.3b	Develop Landfill GIS report.	6/19/02	6/19/02	9/3/02		40%
1.1.4a	Develop WWT facility DB.	6/19/02	6/19/02	8/19/02		70%
1.1.4b	Develop WWT GIS report.	6/19/02	6/19/02	9/3/02		40%
1.1.5	Develop BIPV systems DB	8/5/02	8/5/02	10/18/02		35%
1.1.6	Develop T&D System DB	6/5/02	6/26/02	9/19/02		90%
1.1.7	Market Assessment	9/13/02	9/13/02	12/13/02		10%
1.1.8	Develop Generation Profiles	10/14/02	8/15/02	12/27/02		85%
1.1.9a	Conduct Power Flow Analysis (T&D Model)	09/04/02		11/03/02		20%
1.1.9 b	Conduct Power Flow Analysis (Summ. Report)	09/26/02		02/11/03		
1.1.13	Develop M&E Plans	6/5/02	7/15/03	6/07/03		1%

Overall Schedule for Project 1.1:

Task Name	Duration	Start Date	End Date	Cost
Project 1.1 - Program Planning and Analysis	**267.5 days**	**Thu 5/30/02**	**Mon 6/9/03**	**$0.00**
Task 1.1.1 Review Tech & Market Assessments	43 days	Thu 5/30/02	Fri 8/2/02	$18,902.00
Task 1.1.2a - Dev. DB of Agri. Facilities	66 days	Wed 6/19/02	Wed 9/18/02	$85,561.50
Task 1.1.2b - Agri Facilities GIS Inventory Rpt	88 days	Wed 6/19/02	Fri 10/18/02	$85,561.50
Task 1.1.3a - Landfill DB	43 days	Wed 6/19/02	Mon 8/19/02	$66,865.00
Task 1.1.3b - Landfill GIS Inventory Rpt.	54 days	Wed 6/19/02	Tue 9/3/02	$66,865.00
Task 1.1.4a - WWT DB	43 days	Wed 6/19/02	Mon 8/19/02	$93,136.00
Task 1.1.4b - WWT GIS Inventory Rpt.	54 days	Wed 6/19/02	Tue 9/3/02	$93,136.00
Task 1.1.5 - BIPV DB	55 days	Mon 8/5/02	Fri 10/18/02	$78,177.00
Task 1.1.6 T&D System DB	77 days	Wed 6/26/02	Thu 10/10/02	$63,391.00
Critical Program Review Meeting	21 days	Mon 11/4/02	Tue 12/3/02	$20,678.00
Task 1.1.7 - Market Potential Assessment	66 days	Fri 9/13/02	Fri 12/13/02	$44,896.00
Task 1.1.8 - Generation Profiles	55 days	Thu 8/15/02	Fri 12/27/02	$11,363.00
Task 1.1.9a - Power Flow Analysis Model	44 days	Wed 9/4/02	Mon 11/4/02	$29,000.00
Task 1.1.9b - Power Flow Analysis Report	99 days	Fri 10/11/02	Wed 2/26/03	$165,623.00
Task 1.1.10 - Prioritized List of Pilot Projects	54 days	Mon 10/21/02	Fri 1/3/03	$172,132.00
Task 1.1.11a Prepare Draft Rpt Outline	32 days	Thu 9/19/02	Fri 11/1/02	$18,540.00
Task 1.1.11b - Draft Report for Proj. 1.1	54 days	Tue 12/3/02	Mon 2/17/03	$139,046.00
Task 1.1.11c - Final Report for Proj. 1.1	21 days	Mon 3/10/03	Tue 4/8/03	$157,586.00
Critical Program Review Meeting	15 days	Tue 4/8/03	Tue 4/29/03	$20,679.00
Task 1.1.12 - Coordination with RPAC	44 days	Tue 4/8/03	Mon 6/9/03	$0.00
Task 1.1.13a - M&E Plans for Proj. 3.2	86 days	Mon 7/15/02	Mon 11/11/02	$0.00
Task 1.1.13b - M&E Plans for Overall Program	111 days	Fri 1/3/03	Fri 6/6/03	$35,251.00



Overview of Fiscal Status:

Table 2 below summarizes the fiscal status of Project 1.1 by task as of the end of the current reporting period.

Table 2: Fiscal Status By Task – Project 1.1

Task Number	Budget	Invoiced To-Date	Fiscal Status *
1.1.1	$18,902.00	$0	OB
1.1.2a	$85,562.00	$0	OT
1.1.2b	$85,562.00	$0	OT
1.1.3a	$66,865.00	$0	OT
1.1.3b	$66,865.00	$0	OT
1.1.4a	$93,136.00	$0	OT
1.1.4b	$96,136.00	$0	OT
1.1.5	$78,177.00	$0	OT
1.1.6	$63,391.00	$0	OT
1.1.7	$44,896.00	$0	OT
1.1.8	$11,363.00	$0	OT
1.1.9 a	$29,000	$0	OT
1.1.9b	$165,623	$0	OT
1.1.13	$35,251.00	$0	OT

*Fiscal Status – Please indicate if you are "On Track" (OT), OverBudget (OB), or UnderBudget (UB)