

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

PROJECT 3.1 – DAIRY WASTE TO ENERGY PROJECT

REPORT PREPARED BY: COMMONWEALTH ENERGY TEAM

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What we planned to accomplish this period:

Activities in March were to continue to focus on re-evaluating planned projects in light of Commonwealth's Business Plan. Additionally, it was anticipated that the proposed project prioritization decision-making framework would be applied to Project 3.1. The results of this effort were to be reviewed with Commission staff and incorporated into the Project 3.1 *Implementation Plan*, in order to develop a focus of future program activities on tasks that advance projects in the Chino Basin and other areas in California. It was anticipated that a meeting would be held with Commission staff to review the future direction of Project 3.1 in light of Commonwealth's business objectives. Other activities on this task were to focus on finalizing previously submitted work including the *Test Plan and Protocol* and *Digester Comparison Reports*, as well as working with Commonwealth to continue to link these projects with its business plan under the PIER program.

It was anticipated that work would continue to move forward on Task 3.1.6. The results of the February 5th workshop were to be reviewed and analyzed. Specialists in air quality, water quality, renewable energy were to begin to develop their sections of the Task 3.1.6 draft deliverable.

What we actually accomplished this period:

Task 3.1.1: Assess, Evaluate and Select Animal Waste to Energy Technology

- Efforts on this task focused primarily on evaluating technologies that would be most relevant for meeting the objectives of the Commonwealth Business Plan and the overall objectives of the Commonwealth PIER program. Input on the technologies being considered was used in the prioritization effort conducted under Project 1.1. The findings in this area were being used to shape the revised

Implementation Plan for Project 3.1, in light of the comments received from the Commission. Specific technologies evaluated under this task previously, were analyzed in the context of the objectives of the Commonwealth Business Plan.

- A planning meeting was held with Commission staff on March 9th to review the priorities and future direction of work under Project 3.1. The primary goal of the meeting was to present the results of the prioritization effort and to identify the areas of focus for the Program. The primary conclusion of the meeting, was that CE Team efforts should focus on a limited number of technologies and projects in order to concentrate on those projects and technologies most aligned with Commonwealth's objectives and, which would be most beneficial elsewhere in California. The result of the analysis and subsequent discussion was that there should be three tiers of projects. Tier 1 Projects were the highest priority and should be implemented. Tier 2 Projects were of a lower priority and should only be implemented if they did not divert focus from the Tier 1 projects. Tier 3 Projects were those that did not meet the Commonwealth or overall Program objectives to the degree necessary for them to be implemented. As a result of this meeting, it was determined that there was one Tier 1 Project; Co-digestion, and one Tier 2 Project; Gas cleaning. It was also concluded that more involvement of technologies would be appropriate if the gas cleaning projects were to be implemented. There were several Tier 3 Projects that were identified and are not being advanced further.

Task 3.1.3: Develop Bench Scale and Other Test Plans and Protocols

- CH₂ continued integration of the revisions to the prioritization list based upon the redirection of focus for locations other than the existing RP-5 plug flow facility. In March, work on the *Test Plans and Protocol Report* was limited to incorporating the Commission's comments on proposed projects as they relate to Commonwealth's Business Plan and the Project 3.1 *Implementation Plan*. Additional modifications to the draft *Test Plans and Protocols Report* submitted previously will be undertaken to ensure that it will be consistent with the Commission's Test Plan guidelines. Finalization of this report is anticipated upon completion of the interim Task 3.1.1 report. The revised *Test Plans and Protocols Report* will focus on co-digestion and will be consistent with feedback from the Commission on the Commonwealth Business Plan and the revised Project 3.1 *Implementation Plan*.

Task 3.1.6: Conduct Economic and Environmental Assessment

- Work continued on Task 3.1.6, building on information obtained during the site visits in December, as well as subsequent analysis completed in January and at the February 5th Workshop. This additional work included further analysis and revision of the expanded annotated outline of the *Monitoring, Reporting and Verification* protocol for quantifying the environmental benefits of the centralized digestion projects, which was distributed prior to the February 5th workshop.

- The outcome of the February 5th workshop was used by authors of the Project 3.1.6 draft report to further develop their investigations into air quality, water quality, renewable energy and greenhouse gas components of the analysis. This information was included in working drafts of the Task 3.1.6 draft deliverable. This initial draft includes a description of the baseline conditions with and without the digester. The initial baseline did not include the water quality element and there were a number of questions that had to be considered related to air quality emissions. The draft water quality baseline was developed in March with finalization expected in April. The air emissions estimates were being reviewed in March as compared to permit conditions and source test results. Additional information on emission estimates was collected from IEUA by the lead subcontractor on this task, ERT and it was anticipated that the revised baseline would be finalized in April

How we are doing compared to our plan:

As indicated previously, the overall efforts on Project 3.1 were delayed pending incorporation of the results of the Commonwealth Business Plan and subsequent guidance from Commission staff. The meeting held with the Commission on March 9th enabled development of a revised schedule and also permitted CE Team members to focus their efforts on developing a co-digestion program that meets the Commonwealth Business Plan and overall PIER program objectives.

Significant problems or changes:

It continues to be clear that a key element on the project is the definition and quantification of the environmental and economic benefits of the dairy waste to energy project. This is particularly true for centralized dairy projects, which may offer the best potential for achieving environmental benefits for a range of dairy digestion projects. The CE Team continues to work with IEUA and is seeking cost information for centralized dairy waste to energy projects in a form that can be appropriately used to present the relative benefits of on-farm and centralized facilities in Europe and North America. CH₂ also continues to identify an approach to quantify the environmental benefits to help the overall economic performance of the project. As reported previously, the CE Team submitted a proposal to accelerate work on Task 3.1.6. This acceleration was approved and is being implemented, and will be an important component of the overall program, as efforts are needed to ensure that future centralized systems are optimized in order to see that economic and environmental benefits are maximized.

There are no significant fiscal problems to report during this period and work is proceeding within budget. Progress and expenditures will result in project being completed on time under a revised schedule and within budget based upon the near-term acceptance of the revised project plan.

What we expect to accomplish during the next period:

Activities in April will focus on completing the technology review under Project 3.1., with the primary focus being on co-digestion. A plan of co-digestion projects will be developed for RP-1 that will enable the testing of various feedstocks on digestion performance and increased gas production. Initial efforts to re-evaluate the project in light of Commonwealth's Business Plan initiated earlier this year will be largely completed in April, with finalization of the Task 1.1.10 *Prioritization Report* under Task 1.1. This will enable the detailed work on co-digestion to proceed. In addition, vendors will be contacted to determine their interest in participating in gas cleaning tasks. As noted earlier, this Tier 2 project could only be continued if it did not divert focus from co-digestion efforts and if additional vendor participation occurred. Other activities on this task will focus on finalizing previously submitted work including the *Test Plan and Protocol* and *Digester Comparison Reports*, as well as working with Commonwealth to continue to link these projects with its business plan under the PIER program.

Activities will continue to move forward on Task 3.1.6. The results of the February 5th workshop, subsequent analysis and a review of pending South Coast Air Quality Management District (SCAQMD) rules will be completed. This will be undertaken in conjunction with the latest emission estimates for the base line with and without the centralized digester. Specialists in air quality, water quality, renewable energy will begin to develop their sections of the Task 3.1.6 deliverable.

Status of Milestones and Deliverables:

Table 1 on the following page summarizes the status of Project 3.1 task deliverables as of the end of the current reporting period.

Table 1: Summary of Project Status and Deliverables – Project 3.1

Task No.	Description	Start Date		Due Date		Status (%)
		Planned	Actual	Planned	Actual	
3.1.1a(1)	Technical Memorandum Comparing Plug Flow and Complete-Mix Digestion Performance & Economics	01/24/02	04/04/03	06/27/03	06/27/03	95%
3.1.1a (2)	Preliminary Draft Process Recommendation Report	01/24/02	04/04/03	10/25/03		25%
3.1.1a (3)	Draft Processes Recommendations Report	01/24/02		11/18/03		
3.1.1.b	Assess Evaluate, and Select Animal Waste to Energy Technology	01/24/02		01/17/04		40%
3.1.2	Site Selection	01/24/02		12/20/03		
3.1.3a	Test Plan and Protocols	03/25/02	04/04/03	09/10/03		90%
3.1.6a	Conduct Economic and Environmental Assessment	07/12/05	12/04	12/13/05		50%
3.1.8	Coordinate with RPAC	01/24/02		05/12/06		

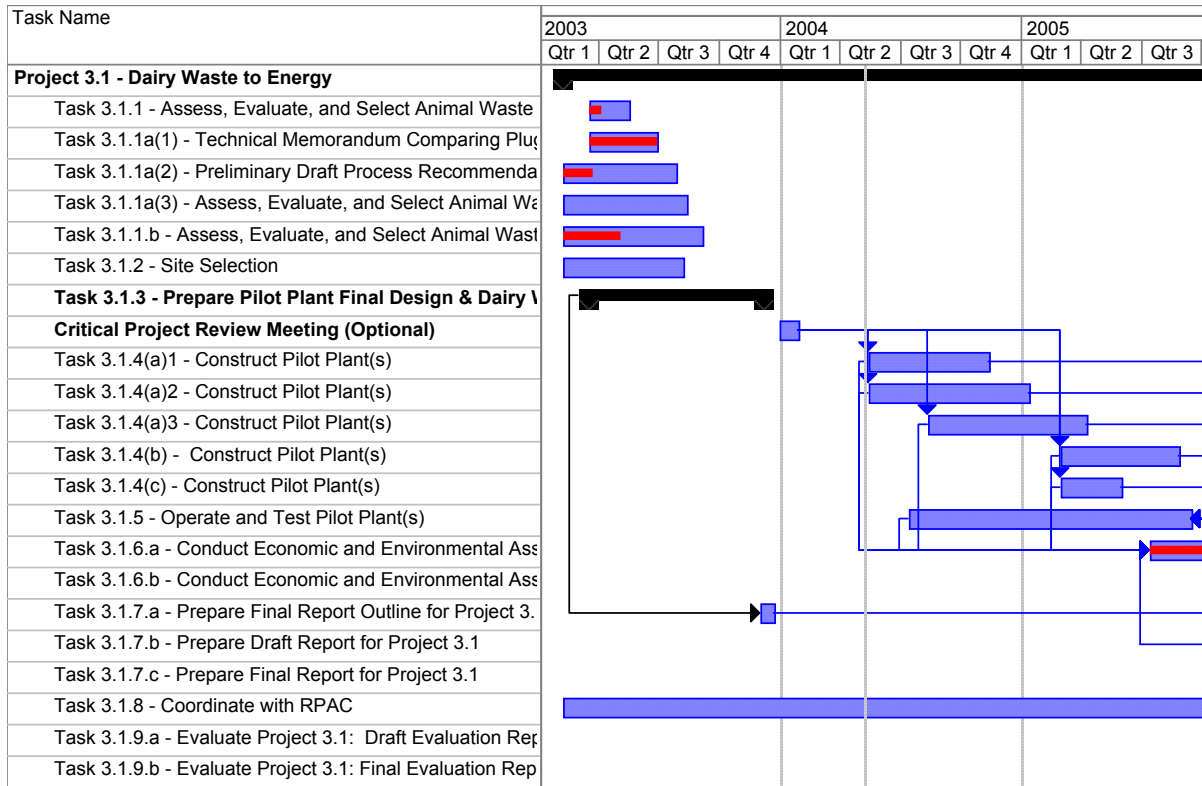
Explanation of any Difference(s) in Schedule

The following listing provides the explanation for the reported changes in the schedule at the project task/deliverable level.

Task 3.1.3.a – Test Plan and Protocols – The initial Test Plan and Protocols Report was originally based on plans to conduct tests at RP-5. Due to comments received from the Commission, no PIER projects are planned at RP-5. The Test Plan and Protocol Report has been revised to reflect that situation. In addition, the report will be revised to be consistent with the Commission Test Plan guidelines and the revised Implementation Plan for Project 3.1 that has been prepared as a follow up to discussions held in conjunction with the Program CPR meeting.

Once the Commission has accepted the plan for Project 3.1, the remaining tasks on Project 3.1 can be completed. The plan, which identifies a number of tasks that are to be implemented, will provide a sound platform for future centralized dairy projects. The overall schedule for Project 3.1 will be revised once the plan is approved.

Overall Schedule for Project 3.1:



Overview of Fiscal Status:

Table 2 below summarizes the fiscal status of Project 3.1 by task as of the end of the current reporting period.

Table 2: Fiscal Status by Task – Project 3.1

Task Number	Budget	Invoiced To-Date	Fiscal Status *
3.1.1 a (1)	\$48,000	\$0	OT
3.1.1 a (2)	\$72,000	\$0	OT
3.1.1 a (3)	\$120,706	\$0	OT
3.1.1.b	\$240,706	\$0	OT
3.1.2	\$171,240	\$0	OT
3.1.3	\$301,177	\$0	OT
3.1.6a	\$320,754	\$0	OT

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