

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

PROJECT 3.1 – DAIRY WASTE TO ENERGY PROJECT

REPORT PREPARED BY: COMMONWEALTH ENERGY TEAM

February 2004

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What we planned to accomplish this period:

Activities in February would continue to focus on efforts to re-evaluate the project in light of Commonwealth's Business Plan. Additionally, the proposed project prioritization decision-making framework was to be undertaken. Once this information was developed, it was to be 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, which have distinct business objectives related to community aggregation and other 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.

Activities were to continue under Task 3.1.6, as the CE team prepared for the Environmental Benefits Peer Review Team workshop, to be held on February 5th. This workshop was to provide a forum where the Peer Review Team could offer their opinions on the baseline analysis as well as the draft and expanded annotated outline for the *Monitoring, Reporting and Verification* protocol prepared in January.

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 analyzing and developing 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.

Additional information was collected so that these could be analyzed as part of the prioritization activity.

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

- CH₂ continued its 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 February, 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 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 receipt of feedback 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 (the accelerated) Task 3.1.6, building on information obtained during the site visits in December and subsequent analysis completed in January. This included analysis 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 5 workshop.
- As anticipated, the CE Team conducted a workshop on environmental issues associated with centralized anaerobic digestion projects on February 5th in Sacramento. Approximately 30 individuals participated in the workshop with about two-thirds participating in person and approximately one-third participating by phone. During the workshop the results of the December field activities conducted at six farms in the Chino Basin, were reviewed. Participants were provided with the annotated outline of the *Monitoring, Reporting and Verification* protocol for quantifying environmental benefits of the centralized digestion projects prior to the workshop. Extensive discussions were held on the material and information presented during the workshop. There was considerable interest on the work being conducted in the Chino Basin and its relevancy to issues else where in California.
- The results of the February 5th workshop were also used by authors of the Project 3.1.6 report to further develop their investigations into air quality, water quality, renewable energy and greenhouse gas components of the analysis. This information will be presented in the draft deliverable, which will be prepared in March and distributed to the Commission and Peer Review Team members in April.

How we are doing compared to our plan:

As indicated previously, the CE Team is awaiting Commission comments on the Project 3.1 *Implementation Plan*.

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 the 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 March will continue to focus on efforts to re-evaluate the project in light of Commonwealth's Business Plan. Additionally, the proposed project prioritization decision-making framework will be undertaken. When this information is developed, it will 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 is anticipated that a meeting will 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 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 the accelerated Task 3.1.6. The results of the February 5th workshop will be reviewed and analyzed. 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		20%
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		35%
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:

Task Name	Duration	Start Date	End Date	2003				2004				2005			
				Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4
Project 3.1 - Dairy Waste to Energy	1040 days?	Wed 2/5/03	Tue 1/30/07												
Task 3.1.1 - Assess, Evaluate, and Select Animal Waste to Energy	45 days	Mon 3/17/03	Fri 5/16/03												
Task 3.1.1a(1) - Technical Memorandum Comparing Plug Flow and	75 days?	Mon 3/17/03	Fri 6/27/03												
Task 3.1.1a(2) - Preliminary Draft Process Recommendation Repo	188 days?	Wed 2/5/03	Fri 10/24/03												
Task 3.1.1a(3) - Assess, Evaluate, and Select Animal Waste to En	205 days?	Wed 2/5/03	Tue 11/18/03												
Task 3.1.1.b - Assess, Evaluate, and Select Animal Waste to Ener	248 days	Wed 2/5/03	Fri 1/16/04												
Task 3.1.2 - Site Selection	228 days	Wed 2/5/03	Fri 12/19/03												
Task 3.1.3 - Prepare Pilot Plant Final Design & Dairy Waste to I	190 days?	Mon 3/17/03	Fri 12/5/03												
Task 3.1.3a - Prepare Test Plan and Protocols	128 days?	Mon 3/17/03	Wed 9/10/03												
Task 3.1.3b - Conduct Bench Scall and Other Testing Activitie	105 days?	Mon 7/14/03	Fri 12/5/03												
Critical Project Review Meeting (Optional)	29 days	Tue 12/30/03	Fri 2/6/04												
Task 3.1.4(a)1 - Construct Pilot Plant(s)	131 days	Thu 5/13/04	Thu 11/11/04												
Task 3.1.4(a)2 - Construct Pilot Plant(s)	174 days	Thu 5/13/04	Tue 1/11/05												
Task 3.1.4(a)3 - Construct Pilot Plant(s)	174 days	Wed 8/11/04	Mon 4/11/05												
Task 3.1.4(b) - Construct Pilot Plant(s)	130 days	Mon 2/28/05	Fri 8/26/05												
Task 3.1.4(c) - Construct Pilot Plant(s)	66 days	Mon 2/28/05	Mon 5/30/05												
Task 3.1.5 - Operate and Test Pilot Plant(s)	306 days	Mon 7/12/04	Mon 9/12/05												
Task 3.1.6.a - Conduct Economic and Environmental Assessment	251 days	Mon 12/1/03	Thu 11/30/06												
Task 3.1.6.b - Conduct Economic and Environmental Assessment	22 days	Fri 12/1/06	Mon 1/1/07												
Task 3.1.7.a - Prepare Final Report Outline for Project 3.1	17 days	Fri 11/28/03	Mon 12/22/03												
Task 3.1.7.b - Prepare Draft Report for Project 3.1	47 days	Wed 11/9/05	Thu 1/12/06												
Task 3.1.7.c - Prepare Final Report for Project 3.1	21 days	Tue 1/2/07	Tue 1/30/07												
Task 3.1.8 - Coordinate with RPAC	853 days	Wed 2/5/03	Fri 5/12/06												
Task 3.1.9.a - Evaluate Project 3.1: Draft Evaluation Report	96 days	Fri 10/14/05	Fri 2/24/06												
Task 3.1.9.b - Evaluate Project 3.1: Final Evaluation Report	22 days	Tue 3/28/06	Wed 4/26/06												

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)