

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

PROJECT 2.1 – ENHANCED LANDFILL GAS PRODUCTION USING BIOREACTORS

REPORT PREPARED BY: COMMONWEALTH ENERGY TEAM

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What we planned to accomplish this period:

In February, the primary focus of activity was to be the continued collaboration with San Bernardino County's engineer related to design concept issues at the bioreactor project. The CE Team anticipated that they would focus on the preparation of technical information, which is to be included in the *Conceptual Design Report*, as well as in the construction and test plans. Additionally, tasks were planned, which would support subsequent design activity, as required on the integrated bioreactor design and the ongoing Mid-Valley design project, which is being prepared for the public bidding process. The team also planned to incorporate the design work of BAS into the PIER program activities to ensure close linkage with ongoing activities within San Bernardino County. Additionally, discussions were planned to continue on the draft *Memorandum of Understanding* (MOU).

What we actually accomplished this period:

Task 2.1.1 Characterize Waste to be Placed in Bioreactor:

- As the *Waste Characterization Report* was previously submitted and approved by the Commission, minimal tasks were undertaken in February. However, follow-up phone calls and internal CE Team discussion continued in order to facilitate the completion of the *Prioritization Report* and other Project 2.1 activities.

Task 2.1.3 Conceptual Design for First Bioreactor

- In February, activities continued on the preparation of the *Conceptual Design Report*, as well as ongoing coordination with the host, San Bernardino County. Consultations also continued with BAS, the County's design engineer as part of the effort to implement detailed plans for developing the bioreactor at Mid-Valley.

BAS was tasked with completing elements of the conceptual design and construction and test plans that link the bioreactor project with the ongoing design project of extending the liner, which will serve as the test area for the bioreactor. This effort includes both permitting and engineering elements, and in general, involves the integration of PIER bioreactor project elements into the ongoing design work of the Unit 3 expansion. Also in February the conceptual design effort was expanded to develop information consistent with the County's need for a design suitable for the public bidding process. Commonwealth Energy also initiated an additional \$20,000 in matching fund activity to develop an engineering and economic evaluation in order to integrate this project with other Commonwealth business planning activity.

- The CE Team moved forward on the first phase of the approach provided to Commission staff previously, implementing environmental permitting and design activities that link the PIER bioreactor project and the County's ongoing program. When the later phases of this plan are implemented, it will include linking approximately \$4 million in matching funds for construction and approximately \$4 million in matching funds for operations with the PIER program.
- Conference calls involving BAS and CH₂ continued. The primary focus of these calls was the exchange of information needed to complete the ongoing conceptual design activities linking work at Mid-Valley with the PIER program's bioreactor project – specifically in light of technical, environmental, schedule and funding considerations.

How we are doing compared to our plan:

Work is generally proceeding as anticipated. The CE Team continues to closely coordinate the work of the PIER program with that of the County's design engineer BAS, to ensure that the work is completed in a timely and efficient manner, and in accordance with PIER Program guidelines and timeframes.

Significant problems or changes:

There are no significant fiscal problems to report during this period and work is proceeding within Project budget. Progress and expenditures will result in the project being completed on time under the revised Exhibit B schedule and within budget.

What we expect to accomplish during the next period:

March's focus of activity will be to finalize the conceptual design and develop the construction and test plans for the bioreactor at the Mid-Valley site. As part of this effort, there will be continued collaboration with San Bernardino County's engineer to ensure that the conceptual design is integrated with the ongoing design of extension of the liner at the bioreactor project. The CE Team anticipates that a working draft of the *Conceptual Design*

Report will be completed in March for internal review. This report, and the related design tasks being undertaken by the County on its landfill liner extension project, will be integrated to ensure that information developed will be appropriate for subsequent design activity. This is an important component of the planning procedure, due to the public bidding process.

Status of Milestones and Deliverables:

Table 1 on the following page summarizes the status of Project 2.1 task deliverables as of the end of the current reporting period.

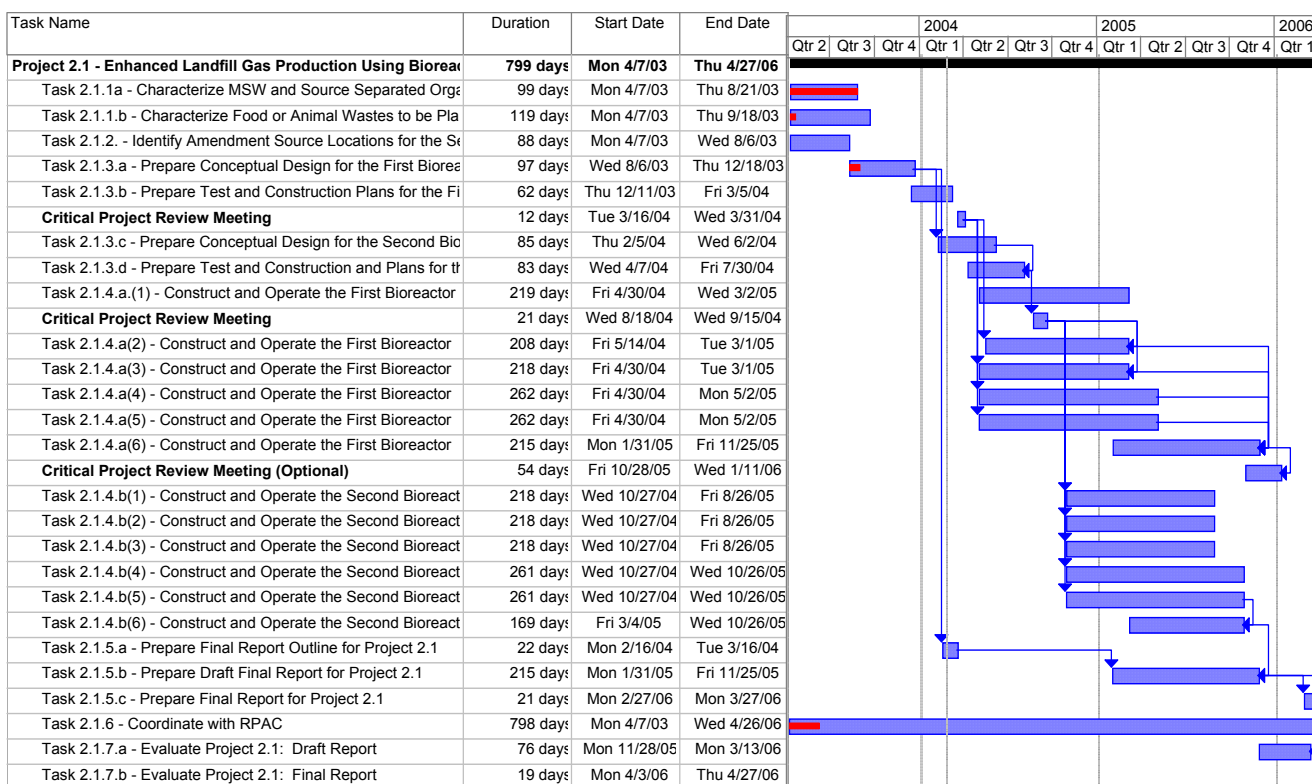
Table 1: Summary of Project Status and Deliverables – Project 2.1

Task No.	Description	Start Date		Due Date		Status (%)
		Planned	Actual	Planned	Actual	
2.1.1a	Characterize MSW and Source-Separated Organic Waste to be Placed in Both Bioreactors	01/10/02	1/24/03	05/31/02 08/21/03	DR: 08/20/03	100%
2.1.1b	Characterize Food or Animal Wastes to be Placed as Amendment in the Second Bioreactor	03/25/02	1/24/03	On Hold		8%
2.1.2	Identify Amendment Source Locations for the Second Bioreactor	05/26/02		On Hold		
2.1.3a	Prepare Conceptual Design for the First Bioreactor	09/28/02		12/18/03		35%
2.1.6	Coordinate with RPAC/TAC	01/10/02		04/26/06		

Explanation of any Difference(s) in Schedule:

Task 2.1.1a – Landfill Feedstock Characterization Report – Information needed to complete this report took longer to collect than anticipated as the primary data to be used was not available in an electronic format. This delay will not affect the overall schedule for the project as that is being affected by the issuance of R&D exemption mentioned above and other developments that could affect the overall development of the bioreactor.

Overall Schedule for Project 2.1:



Overview of Fiscal Status:

Table 2 below summarizes the fiscal status of Project 2.1 by task/deliverable as of the end of the current reporting period.

Table 2: Fiscal Status By Task – Project 2.1

Task Number	Budget	Invoiced To-Date ¹	Fiscal Status *
2.1.1 a	\$52,117	\$52,117	OT
2.1.1 b	\$53,064	\$0	OT
2.1.2	\$40,476	\$0	OT
2.1.3 a	\$103,578	\$0	OT
2.1.6	\$45,024	\$0	OT

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

¹ Invoiced To-Date indicates the total amount invoiced prior to 10% retention being withheld