

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

PROJECT 2.1 – ENHANCED LANDFILL GAS PRODUCTION USING BIOREACTORS

REPORT PREPARED BY: COMMONWEALTH ENERGY TEAM

July 2004

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**What we planned to accomplish this period:**

It was anticipated that July 2004 would be a critical month for the Program's bioreactor project. The County needed to proceed with its liner extension project in early July in order to meet its schedule to accept waste in early 2005. A meeting of the Technical Advisory Committee (TAC) was planned for early July to review the plans for the bioreactor project. It was anticipated that the *Construction and Test Plans* would be submitted. It was also anticipated that the *Memorandum of Understanding* between Commonwealth Energy and San Bernardino County would be finalized and prepared for authorized signature.

**What we actually accomplished this period:**

In early July, San Bernardino County determined that it needed to proceed with the liner extension project at Mid-Valley without the bioreactor elements in order to be able to accept waste by early 2005. This key decision meant that the bioreactor project could not be implemented at Mid-Valley as planned. At the time this decision was made, it was determined that work on the Commonwealth Project would be stopped and that a Technical Advisory Committee meeting would be scheduled in September to review the issues and lessons learned on this project so that they could be applied to future projects. This step is important as the Commission reiterated its support for the bioreactor concept. It was also agreed that the *Construction and Test Plan*, which was about to be finalized and distributed, would be submitted and reviewed and be made available to participants in the Technical Advisory Committee meeting to be scheduled in September. Activities on individual project tasks are summarized below.

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 July. Data from this effort

were reviewed and used to facilitate the completion of the Project 1.1, Task 1.1.10 *Prioritization Report* and other Project 2.1 activities.

*Task 2.1.3.a Conceptual Design for First Bioreactor*

- In July, activities on the conceptual design were very limited. The draft report was submitted in April and the only activity since that time had been on efforts to incorporate the results of the *Conceptual Design Report* into the construction and test plans, as well as ongoing coordination with the host, San Bernardino County. Once the decision not to proceed with the bioreactor project was made, all activities on this project ceased.

*Task 2.1.3.b Construction and Test Plans for First Bioreactor*

- Using information presented in the Conceptual Design Report, the team completed work on elements of the construction and test plans that link the bioreactor project with the ongoing design project of extending the liner, a portion of which will serve as the test area for the bioreactor. This effort included permitting (being undertaken under separate effort funded by the County), engineering and construction elements, and in general, involves the integration of PIER bioreactor project elements into the ongoing work of the Unit 3 expansion. BAS, the County's design engineer, worked with the contractor related to the addendum to the design document prepared earlier so that the County's contractor would be able to proceed with implementation of the bioreactor elements of the project once Commission approval was received. Once the decision was made not to proceed with the bioreactor, work on this task ceased and the report that was being prepared by the Commonwealth team was submitted to the Commission. This will be available to participants in the Technical Advisory Committee to be scheduled in September.

**How we are doing compared to our plan:**

Work was ceased on this project because of the decision not to proceed with the bioreactor elements of the liner extension project at Mid-Valley. Work had been proceeding with a schedule for the bioreactor being able to accept waste in January of 2005. The project schedule will be reviewed at the Technical Advisory Committee that the CE Team plans to schedule in September.

**Significant problems or changes:**

The County needed to proceed with the construction of the Unit 3 liner extension project, so that construction of the liner extension would occur starting this summer. This was needed so that waste could be placed in the Mid-Valley unit 3 Cell early next year. Because the County could not delay further the decision to proceed with the liner extension project, the bioreactor project was stopped without including the bioreactor elements.

**What we expect to accomplish during the next period:**

No activities are expected for August. It is anticipated that efforts will be undertaken in September to schedule and conduct the Technical Advisory Committee meeting.

**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	4/22/04	100%
2.1.3.b	Prepare Construction and Test Plans for First Bioreactor	12/11/03		3/6/04		100%
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**

Task Name	2003							2004
	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1
<b>Project 2.1 - Enhanced Landfill Gas Production Using Bio</b>	[Gantt bar spanning Qtr 2 2003 to Qtr 1 2004]							
Task 2.1.1a - Characterize MSW and Source Separated				[Gantt bar: Qtr 1 to Qtr 2]				
Task 2.1.1.b - Characterize Food or Animal Wastes to be				[Gantt bar: Qtr 1 to Qtr 2]				
Task 2.1.2. - Identify Amendment Source Locations for th	[Gantt bar: Qtr 2 to Qtr 3]							
Task 2.1.3.a - Prepare Conceptual Design for the First Bi					[Gantt bar: Qtr 3 to Qtr 4]			
Task 2.1.3.b - Prepare Test and Construction Plans for th					[Gantt bar: Qtr 3 to Qtr 4]			
<b>Critical Project Review Meeting</b>								
Task 2.1.3.c - Prepare Conceptual Design for the Second								
Task 2.1.3.d - Prepare Test and Construction and Plans f								
Task 2.1.4.a.(1) - Construct and Operate the First Biorea								
<b>Critical Project Review Meeting</b>								
Task 2.1.4.a(2) - Construct and Operate the First Bioreac								
Task 2.1.4.a(3) - Construct and Operate the First Bioreac								
Task 2.1.4.a(4) - Construct and Operate the First Bioreac								
Task 2.1.4.a(5) - Construct and Operate the First Bioreac								
Task 2.1.4.a(6) - Construct and Operate the First Bioreac								
<b>Critical Project Review Meeting (Optional)</b>								
Task 2.1.4.b(1) - Construct and Operate the Second Bior								
Task 2.1.4.b(2) - Construct and Operate the Second Bior								
Task 2.1.4.b(3) - Construct and Operate the Second Bior								
Task 2.1.4.b(4) - Construct and Operate the Second Bior								
Task 2.1.4.b(5) - Construct and Operate the Second Bior								
Task 2.1.4.b(6) - Construct and Operate the Second Bior								
Task 2.1.5.a - Prepare Final Report Outline for Project 2.								
Task 2.1.5.b - Prepare Draft Final Report for Project 2.1								
Task 2.1.5.c - Prepare Final Report for Project 2.1								
Task 2.1.6 - Coordinate with RPAC					[Gantt bar: Qtr 2 to Qtr 1]			
Task 2.1.7.a - Evaluate Project 2.1: Draft Report								
Task 2.1.7.b - Evaluate Project 2.1: Final Report								

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**

<b>Task Number</b>	<b>Budget</b>	<b>Invoiced To-Date<sup>1</sup></b>	<b>Fiscal Status *</b>
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	\$243,000	\$0	OT
2.1.3.b	\$92,334	\$0	OT
2.1.6	\$45,024	\$0	OT

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

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