

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

PROJECT 2.1 – ENHANCED LANDFILL GAS PRODUCTION USING BIOREACTORS

REPORT PREPARED BY: COMMONWEALTH ENERGY TEAM

October 2004

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|------------------------------|------------------------------|
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What we planned to accomplish this period:

It was anticipated that there would be limited activity on this project in October. The CE team expected that a project wrap up meeting involving the Technical Advisory Committee would be held, as such, meeting preparation activities were to be undertaken and CE Team members were expected to participate in the meeting under Task 2.1.6. Other activities on the Project were stopped in July 2004 therefore no other Project 2.1 activities were undertaken in October.

What we actually accomplished this period:

The project wrap up meeting under Task 2.1.6 was held on October 15, 2004 in Sacramento. This meeting marked completion of the task involving coordination activity with the Technical Advisory Committee on this project. Activities on individual tasks are summarized below.

Task 2.1.1 Characterize Waste to be Placed in Bioreactor:

- As the *Waste Characterization Report* was previously submitted, no activity on this task was undertaken in October. 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. The only activity related to this task that was undertaken in October was assembling the highlights of this work as it relates to the information presented in the project wrap up meeting completed under Task 2.1.6.

Task 2.1.3.a Conceptual Design for First Bioreactor

- Very limited activity on this task was completed in October as the draft report was submitted in April. The only activity undertaken in October was assembling the

highlights of this work as it relates to the information presented in the project wrap up meeting completed under Task 2.1.6.

Task 2.1.3.b Construction and Test Plans for First Bioreactor

- Very limited activity on this task was completed in October as the draft report was submitted to the Commission in July. The only activity undertaken in October was assembling the highlights of this work as it relates to the information presented in the project wrap up meeting completed under Task 2.1.6.

Task 2.1.6. Coordinate with Project Technical Advisory Committee

- This task was the focus of Project activity for this month. In October a presentation was prepared and given to the Technical Advisory Committee at the Project Wrap-Up Meeting that was held on October 15th in Sacramento. The meeting included an overview of the project, reasons for closing the project, and a summary of accomplishments and lessons learned. Particular emphasis was placed on permitting issues and also on what could be done in the future to support the bioreactor technology. Discussions were conducted on a variety of topics including how future projects could build on what had been learned on the planning, development and design options experience under this project, as well as lessons learned at the Yolo County bioreactor project. Activities included in this task summarized interactions with and input received from the Commonwealth Program RPAC and the Project 2.1 Technical Advisory Committees from the initial meetings in 2003 through July 2004 when the decision was made to not proceed with the project.

How we are doing compared to our plan:

Work has ceased on this project due to the decision not to proceed with the bioreactor elements of the liner extension project at Mid-Valley in July 2004. Work had been proceeding with a schedule for the bioreactor being able to accept waste in January of 2005, but when work ceased it was decided that the project would be considered completed after a “lessons learned/project wrap up” meeting was held. As outlined previously, that meeting involving the Technical Advisory Committee was held on October 15th at the Energy Commission in Sacramento.

Significant problems or changes:

The County needed to proceed with the construction of the Unit 3 liner extension project in order to ensure that construction of the liner extension would occur starting the summer of 2004. This was necessary so that waste could be placed in the Mid-Valley unit 3 cell in early 2005. Because the County could not delay the decision to proceed with the liner extension project, the bioreactor project was necessarily suspended indefinitely without including any of the bioreactor design elements.

What we expect to accomplish during the next period:

Limited activities are expected for November. The only activity remaining to be completed on this project is the review of the findings and results of the Project as they relate to input for future bioreactor projects in California. This focused *key learnings* effort, identified during the project wrap up meeting, will be conducted as part of the measurement and evaluation activity of this project.

Status of Milestones and Deliverables:

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

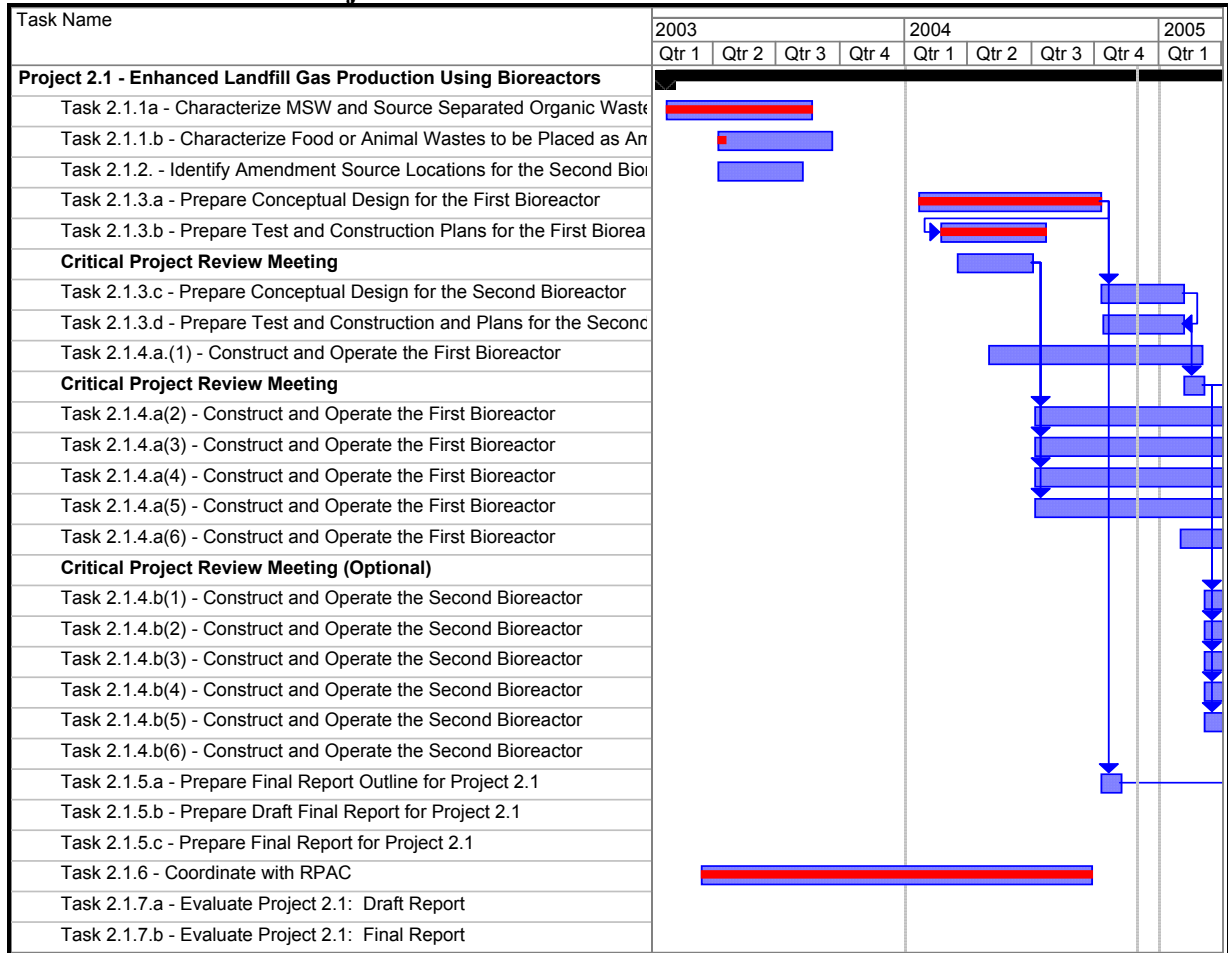
Table 1: Summary of Project Status and Deliverables – Project 2.1

| 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 | | On Hold | | |
| 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 | 1/20/04 | 12/18/03 | 4/22/04 | 100% |
| 2.1.3.b | Prepare Construction and Test Plans for First Bioreactor | 12/11/03 | 2/20/04 | 3/6/04 | 7/20/04 | 100% |
| 2.1.6 | Coordinate with RPAC/TAC | 01/10/02 | 3/15/03 | 04/26/06 | 10/15/04 | 100% |

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 did not affect the overall schedule for the project as the County’s schedule for extending the liner was not affected by the delay in this report. The County schedule for the liner extension was the critical path item for this project.

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 |
| 2.1.3 a | \$243,000 | \$0 | OT |
| 2.1.3.b | \$92,334 | \$0 | OT |
| 2.1.6 | \$22,512 | \$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