

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

PROJECT 2.2 – ENHANCED ENERGY RECOVERY THROUGH OPTIMIZATION OF
ANAEROBIC DIGESTION AND MICROTURBINES PROJECT

REPORT PREPARED BY: COMMONWEALTH ENERGY TEAM

March 2003

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What we planned to accomplish this period:

Information collection and analysis activities will continue as related to the process selection. Activity as related to enhanced energy production, gas cleaning and advanced energy recovery will continue. Communications with technology developers for the technologies under consideration will also continue.

What we actually accomplished this period:

Task 2.2.1 Process Selection:

- Information was collected on different processes that are being analyzed as part of the Process Selection task. Data assembled during the completion of the Sewage Treatment Database and Inventory Report on enhanced anaerobic digestion systems was supplemented by more detailed information on the technologies being considered (ultrasound and thermal hydrolysis). Initial activities related to process conceptual design were undertaken so that information such as the process flow diagram can be developed for inclusion in the process selection report. In addition to these vendor contacts, firms with expertise in biogas cleaning were contacted. Ingersoll-Rand, supplied some preliminary information on a new fuel conditioning system it is developing for its microturbine. Discussions were initiated with Ingersoll-Rand on the potential for using some of their equipment in the project.
- Work on the process selection report is continuing although completion of the biogas portion of the report cannot be completed until the power flow work being completed as a part of Project 1.1 is completed. It is anticipated that these power flow results will be available in late May or early June and efforts to complete the prioritization report will be concluded following the availability of that information.

- The kickoff meeting for Project 2.2. was also held on February 28 in Sacramento and the meeting summary prepared. The work scope elements, as well as an overview of the findings of the Planning and Analysis Project that affected Project 2.2 were summarized and task activities were initiated on the technologies summarized at the meeting. This includes processes to be employed to increase biogas production (e.g. thermal hydrolysis and ultrasound), gas cleaning (e.g. gas blending and Ingersoll-Rand fuel processing module) and advanced energy generation (i.e., organic rankine as a bottoming cycle) were presented. The overall approach in developing the process selection report will be to identify, prioritize and define the processes that will best enable the project goals and objectives to be achieved.

How we are doing compared to our plan:

Work is primarily proceeding as anticipated. However, as stated above, the uncertainty of the project recommended for funding, may push the deliverable due date for the Process Selection Report back.

Significant problems or changes:

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

What we expect to accomplish during the next period:

Information collection and analysis activities will continue as related to process selection. Activity related to enhanced energy production, gas cleaning and advanced energy recovery will continue. Communications with technology developers for the technologies under consideration will continue.

Status of Milestones and Deliverables:

Table 1 below summarizes the status of Project 2.2 task deliverables as of the end of the current reporting period.

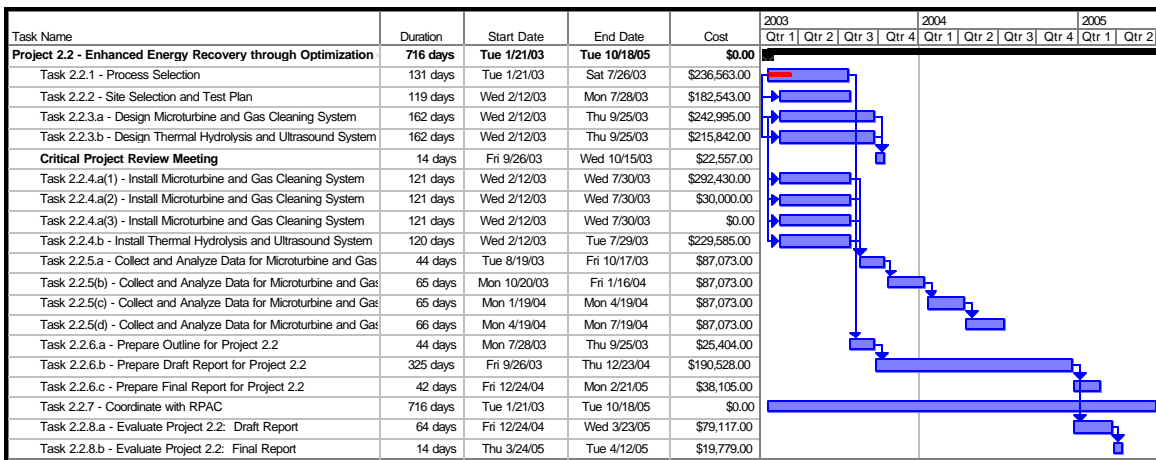
Table 1: Summary of Project Status and Deliverables – Project 2.2

Task No.	Description	Start Date		Due Date		Status (%)
		Planned	Actual	Planned	Actual	
2.2.1	Process Selection	01/21/03		07/26/03		30%
2.2.2	Site Selection and Test Plan	02/12/03		07/28/03		
2.2.3.a	Design Microturbine and Gas Cleaning System	02/12/03		09/25/03		
2.2.3.b	Design Thermal Hydrolysis and Ultrasound System	02/12/03		09/25/03		
2.2.7	Coordinate with RPAC	01/21/03		10/18/05		

Explanation of any Difference(s) in Schedule

Work is proceeding as anticipated, however it is possible that Task 2.2.1’s deliverable date may be revised.

Overall Schedule for Project 2.2:



Overview of Fiscal Status:

Table 2 below summarizes the fiscal status of Project 1.1 by task as of the end of the current reporting period.

Table 2: Fiscal Status By Task – Project 2.2

Task Number	Budget	Invoiced To-Date	Fiscal Status *
2.2.1	\$236,563	\$0	OT
2.2.2	\$182,543	\$0	OT
2.2.3.a	\$242,995	\$0	OT
2.2.3.b	\$215,842	\$0	OT
2.2.7	\$22,557	\$0	OT

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