

## **NTRD Program Disclaimers**

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**Texas Commission on Environmental Quality  
New Technology Research & Development (NTRD) Program  
Monthly Project Status Report**

Performing Party – WOW Energy Inc. I.D. 68-0554788

Contract Number: **TCEQ New Technology Research and Development Grant  
Contract 582-5-70807-0010**

Grantee: **TCEQ**

Date Submitted: **September 10th, 2006**

Report for the **Monthly** period:

Starting Date **September 1<sup>st</sup> 2006**                      Ending Date **September 30<sup>th</sup> 2006**

Section I. Accomplishments

- **The month of September saw the completion dismantling of the FFGC unit at the AES Deepwater and transported to a biomass 40 MW power installation in Maine.**
- **The unit was hooked up in Maine and testing took place.**
- **Data from second testing provided consistent results and pollution levels were reduced as planned.**
- **An additional Independent testing will be undertaken for the second test site.**

Indicate which part of the Grant Activities as defined in the grant agreement, the above accomplishments are related to:

**Task One:    Test Site Selection  
(July 14<sup>th</sup> 2005 to September 8<sup>th</sup> 2005)  
Commenced January 3<sup>rd</sup> 2005 and is 100% complete**

Task One: A contractual detailed agreement with AES Deepwater is complete. Test Plan and Safety Execution which is complete including the final determination of the chemicals to be used. WOW personnel continue to have a presence on AES Deepwater facilities and have now begun working towards the second installation at Texas Municipal Power Authority's (TMPA) coal burning facility in Carlos, TX. Final date for commencement of testing has been delayed resulting from late arrival of unit to Houston and timetable conflicts with AES Deepwater arising from delay. Holcim, Midlothian testing discussions are continuing but Texas Municipal Power Authority's (TMPA) coal burning facility in Carlos, TX has replaced this plant as the second testing facility.

2.1.1.1            The baseline flue gas analysis and testing procedures are complete subject to site testing.

- 2.1.1.2 The expansion of testing sites and agreements continues beyond the initial 2 sites.
- 2.1.1.3 Shop Testing took place on October 3, 2005 at the Eisenmann Corporation facilities and the unit passed all tests. The unit is now in the Houston area.
- 2.1.1.4 Safety planning is complete.
- 2.1.1.5 Texas Municipal Power Authority's (TMPA) coal burning facility in Carlos, TX is now the second test site.

Completion of Task One is complete.

**Task Two: FFGC Pilot Plant Design  
(July 14<sup>th</sup> 2005 to November 2<sup>nd</sup> 2005)  
Commenced April 15<sup>th</sup> 2005 and is 100% complete.**

- 2.2.1.1 The modifications to the existing scrubber design is complete.
- 2.2.1.2 The design of the serpentine section of the second stage is complete.
- 2.2.1.3 Vendors and specific equipment for UV components is complete.
- 2.2.1.4 The definition of the size and number of the FFGC-PP chemical additive vessels is complete.
- 2.2.1.5 The definition of the size and number of by product vessels in complete and has been relayed to AES Deepwater. Existing plant storage and treatment systems review is complete.
- 2.2.1.6 The FFGC-PP systems and subsystems are all procured.
- 2.2.1.7 The type of semi-trailer has been selected for transportation.
- 2.2.1.8 The design of the electrical and instrumentation systems is complete.
- 2.2.1.9 The control system and control logic design is complete.
- 2.2.1.10 The final layout drawings including the trailer mounting details is complete.

**Task Three: Fabrication & Construction  
(July 14<sup>th</sup> 2005 to January 26<sup>th</sup> 2006)  
Commenced May 1<sup>st</sup> 2005 and is 100% complete.**

Eisenmann has completed the unit construction based on our submitted production schedule. Wow Energy, Inc. has approved the Eisenmann Quality Control and Inspection Plan.

- 2.3.1.1 The selection of major component suppliers is complete and major procurements are complete.
- 2.3.1.2 The baseline production schedule is approved.
- 2.3.1.3 Quality Control and Inspection Plan review is complete.
- 2.3.1.4 The final construction drawings release is complete.
- 2.3.1.5 The shop test plan draft is complete.
- 2.3.1.6 As-built drawings are complete.
- 2.3.1.7 Conduct shop test successfully completed.

**Task Four: Operating and Test Plan  
(July 14<sup>th</sup> 2005 to January 26<sup>th</sup> 2006)  
Commenced May 1<sup>st</sup> 2005 and is 100% complete.**

Wow Energy has selected the chemical additives to be used in the FFGC-PP. The initial flow rates and quantities have been determined and used to size the pumps, sumps and vessels.

- 2.4.1.1 Task complete.
- 2.4.1.2 The chemical additives have been selected, task complete.
- 2.4.1.3 The Safety Execution Plan is complete.
- 2.4.1.4 The initial chemical quantities and storage requirements are complete for AES Deepwater.
- 2.4.1.5 As the FFGC-PP design basis was to recycle the used solutions and by-products, there should be very little waste or by-product. We are analyzing and quantifying the amount of by-product for each test site.
- 2.4.1.6 The analysis and quantity of by-products for each test site continues to be developed.
- 2.4.1.7 Final baseline of the Test Plan continues to be developed.

**Task Five 100% complete**

2.5.1.1 The unit was successfully constructed on the AES Deepwater facility and was hooked up to the flue to enable testing to begin. CEMS units had to be calibrated, measurement accuracy, software and probes were tested. Flow rates from flue gas were established and additional work had to be undertaken on pumps, ducting, flow meters and other equipment to enable good repeatability in the testing procedures and results.  
Testing of the unit began at the end June 2006.  
Data from testing provided consistent results and pollution levels were reduced as planned.  
Independent pollution monitoring took place in August and it confirmed the results obtained by WOW Energy, Inc.  
The unit was dismantled towards the end of August.

**Task Six is scheduled to commence in August 2006 – 50% complete**

Task six began in late August and will continue through the month of October.

**Task Seven is ongoing throughout the project commencing on January 3<sup>rd</sup> 2005.**

Section II: Problems/Solutions

<p>Problem(s) Identified</p> <p><i>(Please report anticipated or unanticipated problem(s) encountered and its effect on the progress of the project)</i></p>	
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<p><b>Proposed Solution(s)</b></p> <p><i>(Please report any possible solution(s) to the problem(s) that were considered/encountered)</i></p>	
<p><b>Action(s) Conducted and Results</b></p> <p><i>(Please describe the action(s) taken to resolve the problem(s) and its effect)</i></p>	

**Section III. Goals and Issues for Succeeding Period:** *(Please provide a brief description of the goal(s) you hope to realize in the coming period and identify any notable challenges that can be foreseen)*

- *Writing of report on results of FFGC.*
- *Design of full scale unit.*

Martin Brau

  
Authorized Project Representative's Signature

Date: 10 September, 2006

**NOTE:** *Please attach any additional information that you feel should be a part of your report or that may be required to meet the deliverable requirements for tasks completed during this reporting period.*

**TCEQ New Technology Research and Development Grant  
Contract 582-5-70807-0010  
Performing Party – WOW Energy Inc. I.D. 68-0554788  
Notice to Proceed Issued July 14<sup>th</sup> 2005**

**Narrative**

Tasks One, Two, Three and Four are complete and the unit is now in the Houston area. Testing of the unit was successful. Task Seven is ongoing in accordance with the above reports. Tasks Five began in mid April 2006. Task 6 has commenced following site testing.

In accordance with the contract, we will continue to hold monthly project reviews, as well as, day to day project discussions. We are now focused on designing the full scale unit and completing the second site testing.