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MONTHLY PROGRESS REPORT
(NTRD Program - TCEQ Contract Number 582-5-70807-0007)

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SUBJECT: June 2005 Progress Report

Date: June 15, 2005

The NOTICE TO PROCEED for this project was issued by TCEQ on May 31, 2005 and this is the first Monthly Progress Report. Specifically, the following progress has been made during this performance period:

1. NOTICE TO PROCEED Received and Lamar Account Established

The project received the Notice to Proceed from TCEQ on June 7, 2005 and a local account was established at Lamar University on June 8, 2005 for carrying out the project.

2. Students Recruited and Work Plan Discussed

In addition to the four Co-PIs, i.e., Drs. Ho, Lin, Chu and Kim, three students have been recruited to join the team to carry out the project. The recruited students are: Mr. Dan Rutman, Mr. Sameer Pallavkar, and Mr. Hemal Rupani. Several meetings between the Co-PIs and the students have been held to discuss the work plan of the project.

3. Task 1 Proceeded and Materials Ordered

The overall objectives of this project are to:

- (1). Construct the adsorptive filter prototypes for demonstrating simultaneous NO_x, VOC and soot emissions control from stationary diesel generators;
- (2). Evaluate the adsorption efficiency of NO_x/VOC and filtration efficiency of soot for the constructed units;
- (3). Evaluate the destruction efficiency of NO_x/VOC and soot upon microwave irradiation;
- (4). Investigate the optimal design and operation parameters; and
- (5). Develop a commercialization plan for the technology.

During the first six months of this development, Task 1 of the project will be focused. The carrying out of Task 1, which is entitled "The Construction of Adsorptive Filter Prototypes for the Simultaneous NOx, VOC and Soot Emissions Control from Stationary Diesel Generators," has been planned and proceeded. Several essential start-up equipments have been specified and ordered, including a diesel engine, a particulate sampler, and a NOx/SO₂ analyzer as well as necessary fittings and piping materials. The characterization of the diesel exhausts will first be performed as soon as these ordered equipments are received.

4. Manufacturer Consulted for Prototype Designs

In addition to the diesel engine and the necessary analyzing equipments, several proposed filter prototypes have been designed and consulted with a potential manufacturer, the CTI (Ceramiques Techniques and Industrielles) of France. The orders for the prototypes will be placed once the designs are technically certified.

The next Monthly Progress Report will be submitted to TCEQ on July 15, 2005.