

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

Contract
Number: 582-11-11141-3264

Grantee: GRIDbot, LLC

Report for the **Date**
Monthly period: 2/05/11 – 3/07/11 **Submitted:** 3/10/11

Section I. Accomplishments

Provide a bulleted list of project accomplishments as well as a description of their importance to the project.

- First monthly Progress Report and Financial Status Report were submitted.
- Continued information sharing and project coordination with representatives from City of Houston (COH), Good Company, Houston Advanced Research Consortium (HARC), and GRIDbot, along with several contractors, to provide input on updated planning, permitting, and project timeline.
- Electrical certification to determine the capacity of the Tranquility Garage location was obtained. This has eliminated the need for the utility to provide Vault Service Connection for this project, and a significant savings.
- First 2 vehicle Purchase Orders have been executed by the COH and continued communications between COH and Nissan indicate that the remaining vehicles will be available sometime after July 1st.
- GRIDbot continues to provide manufacturers with specification review and technical support, with delivery of 30 charging stations expected by the end of March.
- Technical support from GRIDbot for the ongoing UL listing tests, expected to be completed by 3/25/11. Once the testing is completed, products may be field labeled by the manufacturer, enabling rapid deployment.
- GRIDbot has provided technical support to the contractors for the electrical plan and installation layout. Electrical plans for the site have been drafted and the plan will be reviewed with the City Permitting office on 3/09/11. This is the first installation of its kind, so we are working with them to be sure all the information is adequate. Permitting fees and timeline have been agreed upon.
- HARC reviewed vehicle specific data available from the on-board diagnostics.
- HARC prepared more detailed data specifications and data collection processes, identified four primary data sources, and assembled their team for technical support.
- GRIDbot identified a contractor to design necessary firmware, or database collection interface for the charging stations.
- GRIDbot identified that Texas Solar Company would also provide installation of the Transformer and the 2 distribution panels.
- GRIDbot completed a final draft of installation manual.

- User instructions are being developed by Good Company, to coordinate and support the charging station's simplicity. These will be made available both online and in the vehicle. Charging access will be designed with a specific RFID for each vehicle, which will enable the data collecting on each.

The location at Tranquility Garage was confirmed to have capacity for 28 charging stations to support the City of Houston plan for a centralized pool. Plans are being drafted for this installation to be permitted as one project, but the installation will occur in three phases:

- Phase I will include all the electrical support (transformers and distribution panels) and concrete coring for the entire project (April).
- Phase II will be the wiring and installation of the first 14 charging stations (April).
- Phase III will be the wiring and installation of the second 14 charging stations (July).

These timing decisions have been made to reflect the arrival of the vehicles, as well as to reduce disruption to the parking garage and to reduce any unnecessary costs.

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

Task 1: Planning and Design – all activities under Task 1 have been completed or are in final stages of completion. In addition, Tasks 2.2.2, 2.3.4 and 2.4.1 have been initiated. Reporting continues to meet the requirements under Task 6.

Section II: Problems/Solutions

Problem(s) Identified: Report anticipated or unanticipated problem(s) encountered and its effect on the progress of the project

- a) We have hit additional delays in the UL Listing process, which is now expected to be completed by March 25th. These delays have come with additional and unexpected expense to GRIDbot.
- b) Continued delay by the vehicle manufacturer to provide cars. We are told that this is due to the extremely generous incentive that was provided by Japan, to keep the first wave of vehicles in that country. This incentive runs out this spring, making vehicles more available to the US after that. Nissan is currently developing the US production facility as quickly as they can.
- c) Limited information available on vehicle specifics prior to the vehicle delivery.
- d) Due to the capital expenditure that is going into both the vehicles and the charging stations, COH has requested that we provide security camera's into the area that will be wired into their central garage Security Office.

Proposed Solution(s): Report any possible solution(s) to the problem(s) that were considered/encountered

- a) Due to the delay in the UL Listing, we are proposing to all partners to delay the installation until we are able to secure this certification and the funding that will be required to fund this project. No reimbursement will be requested until GRIDbot is assured that the project can go forward as planned.
- b) COH has agreed to provide PHEV vehicles, in addition to the limited number of EV's that are being purchased, so that we can begin to assess the data collection and customer user preferences. HARC will be expanding their data collection to include all these vehicles.
- c) On-going requests are being submitted by COH and HARC for information from Nissan, as well as reviews of all publicly available data. HARC is also actively reviewing approaches being used by other entities for vehicle data collection, including identification of possible equipment options.
- d) We have requested a bid for cameras to be installed in the location of the electric charging stations, from the COH vendor who provides them with security systems and cameras for other locations.

Action(s) Conducted and Results: Describe the action(s) taken to resolve the problem(s) and its effect

We will continue to submit progress reports, but no request for reimbursement until the UL Listing is completed. The first deliverable report will outline any other specific changes and solutions that have been incorporated in this project plan. We have not found any insurmountable issues.

Section III. Goals and Issues for Succeeding Period:

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

- Completion of UL testing and certification.
- Manufacturing and assembly completed of 30 stations, for April delivery.
- Review of electrical engineering plans with COH Permitting Department, followed by submission for the Electrical Permit for installation of all 28 stations. They expect to take 5 days to review and issue permit. No other permits are needed.
- Schedule coordination with COH Facility Manager for the April site installation.
- Working with COH, HARC and GCA to continue to define data collection requirements and scenarios, including driver experience/data input requirements, fleet management software data collection, and onboard data collection.
- Finalize protocol for fleet management system, reservations, and charging procedures for the COH staff. Develop educational materials for employees with access to use the EV Fleet.
- Troubleshooting instructions and basic training will be developed for the COH security staff that work in the garage.
- COH will work with us to order wheel stops and signage for the EV area, due to the layout, we will need 56 wheel stops for the 28 reserved spaces.
- Legal support for permitting process if needed.
- Continued reporting of progress and deliverables.

Date: 3/10/11

Authorized Project Representative's Signature

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.*