



## SMALL WIND TURBINE TESTING: HOVER ENERGY, LLC

A CASE STUDY

### INTRODUCTION: GROUP NIRE

Group NIRE was formed in 2010 by Texas Tech University and has successfully become an independent company while maintaining a collaborative relationship with the university's renowned researchers.

Group NIRE's vast field site provides optimal real-world conditions with consistent wind speeds throughout the year. Manufacturers have a larger window in this part of the country to test a wind turbine to its limits.



### THE CLIENT: HOVER ENERGY, LLC

Hover Energy came to Group NIRE's field site to test their latest small wind turbine technology in real-world conditions. Hover's turbine offers a unique combination of aerodynamics, magnetic levitation and magnetic power generation. Its goal is to solve the obstacles facing wind energy, while lessening cost and footprint.

The expectation of this Dallas-based company's turbine is to transform the current wind energy market by providing higher efficiency and a wider range of applications.



### THE SETTING: FIELD SITE IN LUBBOCK, TEXAS

Hover first approached Texas Tech University with the project. Group NIRE was able to provide the services they needed, while also lending the expertise of Dr. Carson Westergaard, a professor in the university's department of mechanical engineering.

The project was able to be executed quickly, as the prototype only needed a test site with power to be provided to it. The first step was to approach South Plains Electric Coop, a local utility company, for a transformer. One of Group NIRE's landowners already had an electric line built onto their property for another project, so the transformer was installed onto the location and Hover was able to connect their prototype directly.



## GROUP NIRE'S PAD SITES OFFER A STRONG 8.7 MPS YEARLY AVERAGE WIND CONDITION

### THE PROCESS: PROTOTYPE TESTING

The entire process took under three months to complete. Group NIRE's 540 facility at Reese Technology Center served as a base camp for Hover during testing. The 6,000 square foot warehouse is on a microgrid with a transfer switch. With the available power and communications, Hover could test the aerodynamic limits of their prototype, and record the outcomes.

Hover was able to bring its investors to the field site so they could physically place their hands on the turbine and see it working, thus increasing their buy-in. The location of the site allowed for all parties to easily fly in and enjoy big city accommodations.

### WHAT GROUP NIRE CAN DO FOR YOUR ORGANIZATION

Group NIRE's overall goal is to accelerate the development, commercialization, certification and adoption of new technologies in the energy industry. Group NIRE provides project development and consulting services for both commercial and research purposes. With a field site of over 2,000 acres, they are a top choice for real world testing and certification.

Project managers are on hand to help fill in any blanks that may come up during the process, so your organization only has to have contract with one vendor.

In short, **GROUP NIRE IS THE PLACE TO TEST.**



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