



TEXAS TECH UNIVERSITY

Wind Science and Engineering Research Center™

Bi-Weekly Newsletter: Faculty, Staff and Ph.D. Student Updates

Advanced Wind Energy Test Facility Makes a Move:



The test facility will house turbines similar to these. *(Photo courtesy of Sandia National Laboratories.)*

Texas Tech, Sandia National Laboratories and Group NIRE will operate a facility that will primarily perform research and development (R&D) work in turbine-to-turbine interactions and will evaluate innovative rotor technologies. The facility is expected to be operational sometime in the spring of 2012. The parties will finalize their contractual relationships over the next few months.

“We have been looking to expand our federal collaborations in wind energy and this is the first such opportunity for Texas Tech University. I could not be more proud of our work to establish this collaborative partnership,” said Texas Tech University System Chancellor Kent Hance. “This adds further value to our recent Emerging Technology Fund award from the state of Texas in wind energy. Texas Tech is on the move!”

A Powerful Partnership

Guy Bailey, president of Texas Tech said, “This is wonderful news for Texas Tech to be able to host a national laboratory R&D facility here that allows for long term R&D collaboration with the U. S. Department of Energy. This is a great opportunity for our faculty and our students.”

The site, to be located at Texas Tech’s 67-acre wind science and engineering research facility at Reese Technology Center, includes an initial installation of two wind turbines and three anemometer towers, with the potential to expand to nine or more wind turbines, which will allow researchers to examine how individual turbines and whole wind farms can be more productive and collaborative. “This is a fabulous opportunity for Texas Tech University and all that we do in wind energy,” said Taylor Eighmy, Texas Tech’s vice president for research. “It is very special indeed to have a long-term, collaborative research and development partner like Sandia National Laboratories. The impact of this facility and collaboration will be immense for us. We look forward to a long and beneficial relationship with our federal partner.”

The work builds on Texas Tech’s more than 40-year history in wind science research.

“This is an exciting project for Texas Tech,” said John Schroeder, director of Texas Tech’s Wind Science and Engineering Research Center (WISE). “The combination of capabilities offered by Sandia National Laboratories, Group NIRE and Texas Tech provides a powerful partnership for future wind energy research and technology transfer. We look forward to working closely with our partners to bring the facility online later this year.”

Quality Wind

Potential wind farm and wind research sites fall into classes of one through five, with class five winds being the preferred wind for research and for harvesting energy. However, only a small percentage of available sites are class five.

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Wind Energy Test Facility cont'd:

Winds vary year-round and change seasonally, so the site needed to be carefully characterized to ensure year-round quality wind for rapid evaluation of technologies.

“We looked for a location that not only had a great wind resource, but also had a true commitment to wind energy; the partnership with Texas Tech does just that,” said Jon White, Sandia project lead.

Group NIRE will provide direct pathways for technology transfer to industry and install additional megawatt-scale wind turbines at an adjacent site for testing and collaboration.

Group NIRE is a clean energy company providing project development, finance and consulting services. It is currently developing wind projects in six states and working with several international renewable energy component manufacturers to commercialize new products and technologies.

The Department of Energy’s Office of Energy Efficiency and Renewable Energy is funding Sandia’s work. Sandia National Laboratories is a multi-program laboratory with main facilities in Albuquerque, N.M., and Livermore, Calif. Sandia has major R&D responsibilities in national security, energy and environmental technologies, and economic competitiveness.

(Article from the Office of Communications and Marketing Resources, Texas Tech University.)

Reducing the Chance of Vehicle Fires:

To reduce the chance of vehicle fires, State Farm® advises motorists to inspect their vehicles often during this extreme summer :



The extreme heat experienced in communities across the U.S. makes conditions ripe for vehicle fires. State Farm reminds car owners to be vigilant and have their autos inspected and properly maintained during severe hot weather.

“Nobody wants to be that person standing by the side of the road watching helplessly as their car is engulfed in flames. And the very hot conditions across the country increase the chance of a vehicle fire—especially in older models,” said Tom Hollenstain, research administrator at the State Farm Vehicle Research Facility. “But if you keep your car in good operating condition, you’ll do a lot to help avoid that danger.”

The National Fire Protection Association® says most highway vehicle fires occur in the months of July and August on Friday afternoons. This report also cited *mechanical or electrical failure* (leaks, breaks, worn-out parts) as causing approximately 49 percent of U.S. highway vehicle fires.

To lessen the likelihood of a highway vehicle fire, State Farm recommends the following car care tips:

- **Engine Coolant** – Maintaining the coolant at the proper level is vital during hot summer weather. Refer to the vehicle’s owner’s manual for additional instruction or consult with an automotive technician. Never remove the engine’s coolant cap if the vehicle has been in operation.
- **Engine Oil Level** – Motor oil is the life blood of the engine. It not only provides lubrication, it also assists in engine cooling. Maintaining the oil level at the proper range will reduce the chances of engine damage or failure.
- **Belts & Hoses** – During hot weather, additional stress is placed on the engine’s belts and hoses. Gaskets and seals may leak, hoses might deteriorate, and belts could become brittle causing oil consumption to increase. A failed hose or broken belt may cause the engine to overheat. Before turning on the engine, inspect the belts and hoses for unusual wear and cracks.
- **Keep it Clean** – Have the engine degreased to cut down on the buildup of oil and grease.
- **Slow and Easy** – All vehicles should be driven easier during hot weather. If there is a heat advisory, motorists should try to avoid heavy traffic, idling, high speeds and aggressive driving, all of which contribute to the vehicle’s engine overheating.