



You're a *what?*

WIND TURBINE SERVICE TECHNICIAN

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After 4 years in the Air Force, Brandon Johnson was seeking a new job. He found what he was looking for when one possibility—a career as a wind turbine service technician—blew him away.

Wind turbine service technicians, also called wind techs, repair and maintain the complicated machinery inside wind turbines. Repairs include everything from fixing circuit boards and motors to inspecting turbine blades to replacing generator components. Maintenance involves more routine tasks, such as replacing light bulbs inside the turbine. “There’s a lot of variety in the work I do,” says Brandon. “No day is the same as the one before.”

As the lead technician on a wind farm—an area where a group of wind turbines produces electricity from wind power—Brandon

consults an internal Web site to check the status of each of the farm’s turbines. He and the site supervisor assign jobs to the other wind techs, usually at a morning meeting. With roughly 1 technician for every 10 turbines, and each turbine containing many intricate pieces, there’s a lot of work to be done on the farm.

The basic parts of a wind turbine are the tower, the blades, and the nacelle. The nacelle is a rectangular box resting atop the tower that houses the turbine’s gears, drive shaft, generator, and other mechanical and electrical components. Wind techs service the blades or nacelle by entering the turbine through the base of the tower and climbing a ladder or riding an elevator up through the tower shaft. When working outside of the nacelle—repairing the sensors that measure wind speed

and direction, for example—wind techs are suspended hundreds of feet in the air. The risks of operating at high elevation mean that they must take precautions to stay safe on the job. Standard safety procedures include ensuring that turbines have been turned off before entering them, having at least two technicians work together, and requiring that they wear gear such as safety harnesses, hardhats, and safety goggles.

Other risks may arise from one job to another, so the morning meetings at Brandon's worksite are also used for daily safety briefings. Technicians fill out job preparation sheets and receive warnings about potential hazards so they can plan additional precautions. For example, wind techs scheduled to work on high-voltage assignments wear special suits for added protection.

Safety isn't the only concern for most of these workers, however. Nacelles are compact, and working in one requires wind techs to maneuver in cramped spaces. Technicians must also be available to work at all times to keep turbines running. Brandon admits that the hours can be difficult sometimes. "You're like a doctor—a turbine doctor," he says, "and when you're on call, even if it's midnight, you have to respond."

Wind turbine service technicians are employed by many different kinds of companies, including energy providers, manufacturers, and project developers. Brandon works for a turbine manufacturer that provides turbine technicians for a wind farm while the turbines are under warranty. He speaks regularly with company engineers to troubleshoot problems or to offer design feedback based on his observations in the field. Input from experts like Brandon helps the manufacturer improve its design and keep the turbines running smoothly.

Regardless of who their employer is, most wind techs work at wind farms in the Midwest, Texas, or California. These farms are frequently in remote locations, but opportunities exist for wind techs to leave the site and travel. Some technicians are attached to a specific farm; others travel routinely from

site to site, staying stationary only for brief periods.

Brandon received his training as a wind tech through a program at Iowa Lakes Community College in Estherville, Iowa. Because of the complexity of the electrical and mechanical systems inside turbines, prospective wind techs learn about electrical theory, motors, generators, and hydraulics. Brandon also received hands-on knowledge working on school-owned turbines and blades and touring manufacturing facilities.

The wind industry is relatively new, so there are currently no standard certifications for wind turbine service technicians. Completing a training program, like the one Brandon attended, should improve jobseekers' chances of getting hired but isn't always required to find work in the occupation. Many companies seek new employees who have electrical experience, and they offer on-the-job training to instruct technicians in the particulars of wind turbines.

The U.S. Bureau of Labor Statistics does not yet collect data for wind turbine service technicians. According to anecdotal information, entry-level wind techs earn around \$15 per hour. As they gain more experience, workers can take on more management responsibilities to become lead technicians. These technicians, including Brandon, have paperwork and site-safety duties in addition to their repair and maintenance work. But experienced technicians earn significantly more: up to \$50 an hour.

According to the American Wind Energy Association, the amount of energy provided by wind turbines grew by 39 percent per year from 2004 to 2009. As new turbines are constructed, new opportunities for turbine technicians should follow.

With career opportunities come chances for personal advancement—including the occasion to interact with new people in a growing global market. "It's a very diverse group," says Brandon of the wind-energy workforce, "and we have a great opportunity to learn from each other. Everyone brings different strengths to the industry."

