

# You're a *what?*

## Tower technician

**I**n his career, Billy Smith has reached great heights. As a tower technician, Billy climbs up the face of telecommunications towers to remove, install, test, maintain, and repair a variety of equipment—from antennas to light bulbs.

Tower technicians also build shelters and radiofrequency shields for electronic equipment, lay coaxial and fiber optic cables, and remove pests and weeds. Sometimes, they set supports and stack construction pieces to build the tower itself.

Billy is usually part of a four-person crew: himself and one other technician; a rigger, who moves heavy equipment; and a supervisor, who oversees the job. At the beginning of each workday, the crew members meet to discuss the site they're working on, the work they will be doing, and any potential safety issues. The crew then travels to the tower site and inspects the tower for hazards, such as power lines or beehives.

When the crew is responsible for installing new equipment on a telecommunications tower, Billy and the other technician climb the tower while the supervisor and rigger stay on the ground. The supervisor and rigger send up the necessary equipment and materials to the technicians, who then follow manufacturer specifications or engineers' blueprints to install the equipment.

After installing the equipment, tower technicians need to test it. Simple equipment may need only to be turned on and off. But with sophisticated equipment—such as antennas and fiber optic cable—Billy and the other technician might need to use handheld testing

devices to verify the equipment is properly installed. For example, they might test fiber optic cables for signal loss. The technicians report to engineers any problems, along with recommended solutions, such as adjusting the tilt or location of an antenna.

Technicians must be mentally prepared and in good physical shape to climb cell phone towers up to 200 feet tall and broadcasting towers up to 2,000 feet tall. The climb is even more difficult because the heavy equipment they carry—such as replacement parts and tools—can weigh more than 90 pounds. “It can feel like you're carrying another person,” Billy says.

Climbing towers is dangerous work. To stay safe, tower technicians maintain radio contact with the ground crew at all times. But slips, falls, and other accidents—such as overheating from improperly shielded radio-frequency equipment—can happen. To help minimize risk, Billy and other technicians use climbing and safety equipment that latches onto anchors built into the tower frame. This equipment, known as the Personal Fall Arrest System, includes a safety belt, harness, hooks, and lanyards.

Technicians use the equipment, along with their hands and feet, to stay safe while they are on the tower. For example, Billy might hook a safety cable to the tower and climb with his hands and feet. But when he needs to hang in place and work with his hands, he wraps a lanyard through an anchor on the tower and then secures it through two loops on his safety belt.

Dennis Vilorio

*Dennis Vilorio is an economist in the Office of Occupational Statistics and Employment Projections, BLS. He can be reached at (202) 691-5711 or vilorio.dennis@bls.gov.*

Weather is another threat to technicians' safety, says Billy. Heavy winds can blow a technician off the tower, for example, and ice causes slippery conditions. During the summer, heat and sunlight can lead to overheating or heatstroke. Technicians also have to watch out for lightning, which can strike the tower from a storm many miles away.

Over the years, Billy has learned to judge the weather and to take action to protect himself and his crew. If conditions are poor, Billy's crew can delay work on the tower until conditions improve. But if he and another technician are already on the tower and the weather suddenly changes, they can rappel down the tower quickly and safely.

Before they ascend or descend towers, technicians receive safety training paid for by their employer. The training usually includes instruction in first aid, cardiopulmonary resuscitation (CPR), proper use of safety equipment, emergency procedures, and rescue operations. "We don't have to wait for an emergency crew," says Billy. "We are all trained to do our own rescues."

Employers may also pay for technical training, from troubleshooting equipment to channeling fiber optic cables. On-the-job training typically lasts about 6 weeks. There is no school for tower climbing, and educational requirements are minimal. "You learn most things on the field through trial and error," Billy says.

But technicians usually bring some skills to the job. An aptitude for computers, mechanics, and climbing are particularly helpful, says Billy, as are dependability and attention to detail. Tower technicians also must pass random drug tests and be willing to travel on assignments, often for months at a time.

Many tower technicians enter the occupation through personal connections. Billy, for example, was recruited by a cousin who worked in the tower business. "I was climbing oil rigs, but jobs were becoming scarce," he says. "It was easy to switch to climbing telecommunications towers."

Other tower technicians find work through job advertisements. Online portals that specialize in the tower business are particularly useful. In addition to job ads, these portals often include news, training courses, and other career resources related to tower work.

The U.S. Bureau of Labor Statistics (BLS) does not collect employment and wage data specific to tower technicians. However, BLS does collect data on a related occupation, telecommunication line installers and repairers, whose workers specialize more on the lines themselves than on climbing the towers to do technical tasks. There were almost 149,000 telecommunication line installers and repairers in May 2011, according to BLS, and they earned a median annual wage of \$51,720, or an hourly wage of \$24.87.

Anecdotal information suggests that the typical wage for experienced tower technicians is about \$20 per hour. Entry-level technicians earn about \$15 per hour. These wages are usually supplemented with hotel accommodations and money for daily expenses when they are on travel for work.

Many tower technicians do not work in the occupation long. Some find the work too dangerous, can't cope with the stress of the climbs, or don't like the lengthy travel schedule. Others work in the field temporarily while looking for another job.

Consequently, experienced tower technicians often earn excellent job security and are competitively recruited by different companies. Many also find that mastering telecommunications line technologies is exciting and rewarding. "Every tower is a completely different challenge," Billy says, "and a new learning experience."

Billy knows that the risks of being a tower technician might dissuade some people from making a career of it. But for him, the perks of his work outweigh the danger associated with it. He enjoys the travel and the chance to meet many different people at each site and on the road. And most of all, he says, he enjoys using his skills to do important work: "I feel proud to build something that will last and help others."

