Energy tower has teaching power

Anytime children are touring the Discovery Place hands-on museum in Birmingham, chances are the lights, levers and pedals of the Alabama Power energy tower won't get a rest.

"Children make a beeline for the tower when they get here," says Diane Presley, the museum's director of education. "The design is very strong."

The four-sided tower, used as the base for lessons in kinetic, static, magnetic and human energy, was built with part of a $3,000 donation to the museum from Alabama Power. The donation also funded the creation of an energy mural behind the exhibit.

The colors, lights and activities of the energy exhibit are so attractive that "children learn about the forces of energy without realizing what they're doing," Presley says.

The Discovery Place, located at 1320 22nd St. S., is a privately owned museum filled with hands-on exhibits that allow children and adults to have fun while learning about science, technology, the arts and humanities. More than 50,000 people visited the Discovery Place in 1985, Presley says.

Alabama Power's contribution to the tower's creation did not stop with funding. The Birmingham Division provided the technical expertise and labor to build it. **Tom Killian**, senior engineer I, Birmingham District, worked with Jeffrey Baer, the museum's exhibits designer, to plan the energy exhibit. **Tom Hunt**, Birmingham Division agricultural engineer, gave technical advice.

The 14-foot tower is a scaled version of an actual transmission tower and was built with aluminum from the company's General Warehouse. "It's built from the real thing," Killian says. "The insulators on it are the ones we actually use on the poles."

Birmingham Division employees who helped Killian build the tower at the division's service building are **William McNeill**, superintendent-buildings; **Clinton Whittaker**, building serviceman I; and **Ken McCombs**, building serviceman I. **William Thompson**, storekeeper, Birmingham Division garage, helped the exhibit builders acquire parts for the tower.

The designers began the project in fall 1985, and the builders completed it that winter.

One side of the tower teaches not only about kinetic energy, but also about cooperation. At least five people must work together to maneuver a ball to the top of the tower by using an inclined plane, a screw-and-lever, a pulley, a wheel-and-axle and a crane. If the team members are successful, they can watch the ball trigger lights and bells as it falls through a pinball maze.

Visitors attracted to the second side of the tower can learn about magnetic energy by using a magnet and metal filings to create sculptures.

The third side teaches about human energy and shows how a generator produces electricity from other energy sources. Children are instructed to create human energy by pedaling a stationary bicycle. The bicycle is attached by a belt to an automotive generator, which is connected to an electric circuit controlling lights arranged against the tower in a pyramid-shaped building.

The cyclist's goal is to light the entire building by pedaling hard enough to generate 12 volts—300 watts—of electrical power. Some of the younger children cannot pedal hard enough to light the top floors of the building, but they can light a few of the bottom floors, Killian says. "It demonstrates that it's not easy to generate electricity."

Tom Hunt (standing) and Tom Killian (kneeling) show Cahaba Heights Community School students how "pedal power" can light up a pyramid building on one side of the Alabama Power energy tower at The Discovery Place museum in Birmingham.