Wave Power, Phase II

Hamblin, Neldon

Alternative energy is important as the world looks toward an energy source other than the current use of coal and fossil fuels. There are currently several costly and inefficient methods of producing electricity using the environment including wind turbines, hydroelectricity, and geothermal energy. Previous attempts at harnessing the raw power of the ocean have been made but have been too costly or inefficient. The purpose of this project was to create a device that would harness the kinetic energy of water in the most efficient and nonpolluting manner. The device created consists of a triangular structure that supports ten neodymium magnets and three copper coils of 2,098 feet each, for a total of 8,100 feet. A centrally located float relies upon buoyancy to pass the magnets through the copper coils, producing an electric current with each movement. By increasing the size and amount of the copper coil and the amount of pull force in the magnets, a dramatic improvement from one volt to 20.275 volts was observed. The apparatus was tested eighty times at various wave heights in a controlled environment, and an additional test was conducted in the field. Results indicate that the future of alternative energy lies in one of our largest resources: the ocean.

Awards Won: