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Federal stimulus grants go to Cree, ABB

BY JOHN MURAWSKI - Staff Writer

A pair of Triangle technology companies figured among the biggest winners of federal stimulus grants announced Monday for advanced energy research.

Cree, the Durham lighting company, and ABB, the Cary-based heavy electrical equipment maker, won \$7.9 million in grants to develop miniature components and to advance energy-storage technology.

The awards were part of \$92 million awarded by the U.S. Department of Energy for 43 research projects in 18 states. The grants announced Monday were the third and final round of stimulus grants totaling \$349 million. Previous local recipients include N.C. State University and RTI International.

"These are all high-risk projects," said Arun Majumdar, the energy department's director of advanced energy research. "There's a potential high rate of failure. You never know which one is going to succeed commercially."

ABB will lead a \$4.2 million research project to develop energy-storing magnets, and Cree will head up a \$3.7 million project to shrink the size of electrical transformers.

Cree's assignment: to develop mini-transistors that will replace today's massive, 8,000-pound distribution transformers with suitcase-sized, 100-pound transformers.

More nimble transformers will give greater flexibility to increase voltage and thereby increase efficiency in moving electricity over power lines. Lower voltage burns up more electricity in transit, putting a premium on high-voltage transmission.

"If they can pull this off, this is going to be amazing," Majumdar said. "This is really important for the smart energy grid."

Cree specializes in making light emitting diodes, or LEDs, which are used in new light bulbs that are more efficient than conventional bulbs. Cree also makes diodes for computer power components and solar energy components. For the DOE project, Cree will make silicon carbide transistors that can convey higher levels of voltage than standard equipment.

Cree employs 4,500 people worldwide, including about 2,300 in Durham. Cree will hire fewer than 10 people for the research project.

The company was founded in 1987 as a federal research project at N.C. State University, but in the intervening years it has reduced federal grants to about 2 percent of its revenue, said co-founder John Palmour, who is the company's chief technology officer for power and radio frequency.

ABB's research will be in developing a super-conducting magnetic energy storage device at an affordable price. The project will attempt to store power from the grid in a magnetic field of a coiled wire with virtually no loss of energy.

The battery-like technology already exists but is too expensive for commercial use. It would be used for backup power during outages as well as for intermittent renewable resources, such as wind energy and solar energy.

ABB employs about 300 at its North American headquarters in Cary and about 260 at its Raleigh office, home to its corporate research center and North American headquarters for its power division. The world headquarters are in Zurich, Switzerland.

It's not clear how many the company will hire for the stimulus project, said ABB spokesman Bill Rose.

john.murawski@newsobserver.com or 919-829-8932