

ENERGY: New storage devices

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with at least 10 percent overall efficiency after a zero- to five-minute pause.

There were originally nine teams competing with a budget of \$400. They had five weeks to design the projects and six weeks to purchase materials and build them. The concepts were presented in March, and the best five designs were chosen for construction by the audience.

The five teams were due to demonstrate their machines on Tuesday at 2:15 p.m. For the demonstration, the teams had 15 minutes to charge their energy storage system using the 120-watt solar panel. Their system was then to be connected to a measuring device—a motor and belt ‘horse-race’ counter—to determine how much electrical energy was effectively stored.

James Painter and his team built the induction pendulum energy storage system. At first glance, it looks like a swing set. However, in place of swings there are two concrete-filled, 300-pound barrels suspended from the upper crossbar by steel poles, which swing like pendulums. Basically, electric current is induced as the pendulums, with magnets attached on the sides, swing past coils of wire and the current flows to the output motor.

“A tally could not be kept of the amount of times we said, ‘There’s no way this is going to work,’” said Painter. Their hard

work did help them make it to the end, though. “It’s one thing to read and hear what a team project requires to run smoothly, but to really grasp what makes a successful project requires you to go out and perform it.”

Garry Brock and Duane Breneman, who each worked on projects for the demonstration, agreed it was a learning process.

“You have to be willing to try new ideas if you want to have a successful project,” said Breneman.

“We faced many problems [with the flywheel] and have had to find creative methods to fix them,” said Brock.

Patrick Gianelli, whose team built the ultracapacitor, said they tried to be very environment-friendly with their project.

“It’s 100 percent safe within the environment, in that all materials used to make it are contained in a hermetically sealed container and cannot escape,” said Gianelli. “Disposal of the capacitors is not a problem, as the materials can be recycled and used again in the process of making ultra capacitors.”

“The students did a great job on their projects,” said McBride. “The designs were very creative and I think people will be impressed by the scale and quality of their designs.”

As of 3 p.m. on Tuesday, the demonstrations could not be completed due to the lack of sunlight (and thus no solar power),

and therefore, no winner could be determined. Fullerton said that doesn’t matter, though.

“Our feeling is that all the teams are winners on this project,” she said. “Some of our teams have encountered major problems and they have shown character and teamwork in dealing with them. These types of projects are a key to the strength of the E’town engineering program.”

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