<Photo - MichTech_Senior Design Team Photo>
Caption: Students on the award-winning Michigan Tech senior project team stand with their presentation (left to right): Connor Dziubinski, Jon Hohol, Daniel Parent and Andrew Martin.

Students develop useful tool with ATC design project

Senior Electrical Engineering students at Michigan Technological University collaborated on an ATC-sponsored project to solve a real-world problem. They completed the project over their final two college semesters and not only succeeded in creating a tool that ATC can use but gained valuable work experience, and won an award for it.

Occasionally, ATC receives requests from customers to determine if they can start a motor using ATC's transmission lines as the direct source. Generally, an ATC engineer would have to calculate these scenarios on a case-by-case basis to determine whether starting the motor would affect the system, making it time consuming and costly. When asked to provide ideas to students at Michigan Tech for a project that would receive ATC sponsorship, Paul Walter, manager-interconnection special studies, and his team challenged the students to create a guideline to more efficiently perform the task.

The topic proved to be a perfect challenge for students interested in power and motor drives. A team of ATC employees, including Kevin Demeny, transmission planning engineer-strategic; Adam Manty, senior transmission planning engineer-system; Curtis Roe, planning compliance engineer; and Mike Marz, principle transmission planning engineer-system, mentored the students throughout the year-long project with weekly phone calls to share insights and updates. With the ATC team's direction, the students designed guidelines and created a tool that can be used to determine whether or not it is safe to use ATC transmission lines to start a motor, and outlined the information needed to ensure a confident response to the customer.

The final project was presented to industry experts in April and won the Michigan Tech Electrical and Computer Engineering department's External Advisory Committee Industry Innovation Award. The award is given annually to the senior design team project that is considered to have the most impact on industry expectations and provides a benefit to its sponsor.

When asked what the students learned from the project, Trever J. Hassell, academic advisor/instructor at Michigan Tech's department of Electrical and Computer Engineering, said, "Several members of the team commented that they learned non-technical skills as well as technical concepts. They felt their participation on this project taught them how to prioritize tasks, work as a team and plan for the bigger picture, all of which they felt they had not experienced in the course of their degree."

The project had a positive impact on the students by giving them real electrical engineering work experience and provided an effective tool for ATC and its customers.