

IIT to implement first-of-its-kind power grid

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One university claims it's on the road to perfect power.

The Illinois Institute of Technology unveiled a new system Wednesday that it hopes will be a model for other colleges and municipalities.

If your power system is perfect, does that mean it'll never fail? "Never" may be a bit too far, but "almost never" would seem to be a reasonable expectation for the power grid that IIT is launching. It is a first-of-its-kind system that has the potential of becoming a national model.

The Illinois Institute of Technology is flush with bright students and cutting-edge research, but it is fed by an electrical system that is old and tired and suffers on average of three power outages every year. That's going to change.

"You'll always be assured when you flip the switch, the lights will come on and your computers will continue to operate," said Kurt Yeager, Galvin Electricity Initiative.

On Wednesday, IIT and its partners celebrated the beginning of what they call "the perfect power system." The entire campus will be served by a redesigned electricity micro-grid. No longer will an electrical line failure in one building mean that other buildings on the same line lose power too. High-tech switches throughout the system will detect trouble and reroute the power.

"Now, if there's a fault, these switches will sense the fault; they're very smart switches. They'll sense the fault and isolate it, so you never lose power to that building," said John Kelly, Endurant Energy.

There'll be nearly 40 of the switches on campus. They are designed so that the curious squirrel will not be able to chew on the cable.

"Nothing can get into this box. Basically all this high voltage equipment is isolated from the outside," said Tom Tobin, S&C Electric.

The concept is not new, but the technology has come of age and helped by \$7 million in federal energy money. IIT hopes this "first-of-its-kind system" will blaze a trail.

"By creating perfection at a small place like IIT and extending that to cities like Chicago and the rest of the country, perhaps there'll be a day when there'll be fewer outages that affect so many people," said Dr. Mohammad Shahidehpour, IIT electrical and computer engineering chair.

Part of the project calls for IIT to generate its own power. It will do that with rooftop, solar panels and wind generation on some of its buildings. IIT is investing \$5 million into the project. It expects to save four times that amount in its first decade of operation.

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