

WHAT IS A “SMART GRID” ?

There has been a lot of talk in the news lately about a smart grid. Part of the stimulus spending may upgrade grids to become “smarter”. Locally, the ICC has approved a \$270 million ComEd rate hike to study how to build a more responsive grid and introduce the next generation of meters.

A smart grid uses meters, sensors and computers to improve communication about how and when electricity is used.

With a smart grid, users would have real-time information about how much electricity costs each hour of the day. The consumer could then manage his consumption to take advantage of lower priced off peak pricing.

Appliances (such as water heaters, dishwashers, etc) and air conditioning units could be linked to the fluctuating electric prices to operate less frequently during the peak hours.

From 2003 – 2006, a local pilot program with 1500 participants realized ten percent savings.

Participants with access to control of their air conditioning realized even greater savings.

Some consumer groups have resisted these efforts. Some fear that utilities will use this new technology to phase in price increases, particularly in the peak hour periods. The utilities are also fighting the perception that they are simply passing on to consumers the cost of regular upgrades to their infrastructure.

A smarter grid could also help manage the increased use of wind and solar power. A smart grid would allow utilities to better integrate the fluctuations from the unpredictable solar and wind sources into the grid.

The “smart” technology could reduce power outages and help improve reliability. Research is underway to test special sensors and switches that can detect sudden changes in current through the wire. A utility then can quickly route power around the break, restoring electricity within seconds.

And the power system could be ready for a surge in use if plug-in hybrid vehicles find their way into American garages.

Recently, reports have detailed potential cyber attacks from the Russians and Chinese on our electric grid. Smarter grids could help ward off such attacks.

ComEd is working with the Galvin Electrical Initiative (a non-profit led by former Motorola chairman Robert Galvin) to help upgrade of the area’s electrical infrastructure.

The ISGI is a public-private working group formed to engage Illinoisans in examining the nature and potential benefits of a modernized electric grid, and to map a policy path for achieving those benefits for consumers and the economy.

Any organization in Illinois (including municipalities) can join this working group. You can learn more about the ISGI at www.ilsmartgrid.org.