

What is the Naperville Smart Grid Initiative (NSGI)?

- The NSGI is a modernization of Naperville’s \$356 million electricity network using digital technology to help the utility and its customers better track and manage their purchase and use of energy, preparing Naperville for increased energy demand and for the future of energy conservation.
- This project involves a combination of utility infrastructure upgrades, operational efficiencies and system automation designed to manage costs, increase reliability and support responsive, proactive customer service.
- It is fundamentally about providing more choices and control over how you use electricity and what you pay for it. Moving to a smart grid will completely transform the way we use electricity, much as the Internet has changed the way we bank or shop, and mp3s have transformed the way we listen to music.

Who is paying for this?

- This \$22 million project is funded partly by an \$11 million federal matching grant through the American Recovery and Reinvestment Act (ARRA).
- To pay for this project, the city is using the electric utility’s enterprise fund, which is funded entirely by utility customers when they pay their utility bills.
 - **No general fund (property tax) dollars are being used for this project.**

What does this mean to me as a resident?

- **More Choices and Control** With new tools to monitor and manage their energy use, customers may choose to continue to pay a flat rate for energy as they do now, or choose to participate in time-of-use pricing that can save them money. It is entirely up to customers to select the rate structure and electricity programs that work best for them.
- **Increased Reliability** Naperville’s city-owned utility has set a high standard for reliable electric service. But NSGI will further increase electric reliability in our community when fully operational through an automated grid that communicates with a central command center to diagnose and quickly remedy problems and outages -- without having to send linemen out to identify and fix the problem.
- **Cost Savings** NSGI will save Naperville and its customers a projected \$30 million over the next 15 years on what they otherwise would have paid for electricity. Projected cost savings come from: lower operation and maintenance costs associated with an automated grid; reduction in the amount of electricity purchased – especially at the most expensive periods of peak demand; and customer participation in voluntary programs.
- **Creating a More Efficient, Sustainable Community** NSGI will make Naperville a more sustainable community by paving the way for adoption of new technologies, like electric cars and alternative energy sources (solar, wind, geothermal), and will lay the groundwork for new infrastructure to support electric vehicles. NSGI will reduce carbon emissions by 180,000 tons, the equivalent of taking more than 31,000 cars off the road for a year.

What is a “Smart Meter”?

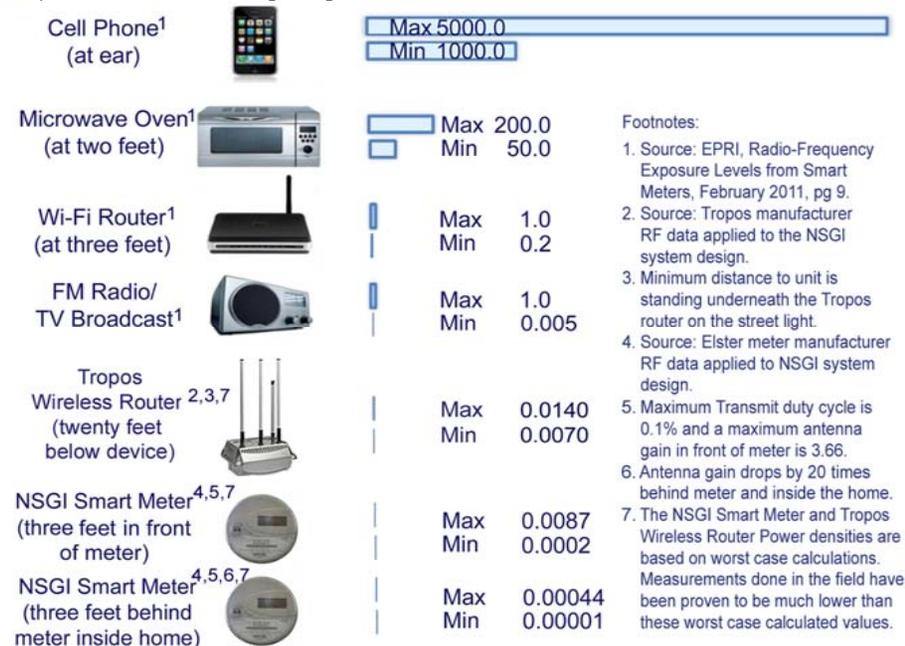
- A smart meter is just a digital version of your current analog home-electricity meter. What makes it “smart” is that it measures energy use in near-real time and remotely reports to the utility company without a meter reader having to manually read the meter.
- It communicates with the utility over a network that is similar to existing applications in Naperville, such as Edward Hospital, Libraries and schools, etc.
- Currently, the utility must be notified by a customer about any power outages. The smart meter will alert the utility about service outages and automatically begin to “heal” itself.
- It helps ensure everyone pays their fair share for their energy usage (reduces theft).
- It also helps reduce billing inaccuracies.

What happens to my usage data collected from the Smart Meter?

- Data generated from smart meters will be available to utility customers through a secure and interactive website and mobile application to allow them to view and manage their energy consumption.
- Inside the utility, the data will only be used for customer billing and to better manage utility operations.
- The data will be kept secure to ensure customer privacy as dictated by the **Naperville Smart Grid Initiative Customer Bill of Rights.**

Are Smart Meters safe?

- Smart meters are approved by the Federal Communications Commission (FCC) and meet several other safety standards. There are no mainstream studies that suggest that exposure to radio frequency (RF) has a negative effect on a person's health.
- Each data transmission from a smart meter takes only a few seconds for a total meter communication time of a maximum of 78 seconds per day.
- The chart below depicts the amount of exposure a human being is subject to near a smart meter relative to other everyday sources of RF exposure. Units are measured in $\mu\text{W}/\text{cm}^2$ (micro watt per square centimeter):



Is the system secure?

- The City of Naperville has closely adhered to the stringent Department of Energy (DOE) security protocol standards throughout the NSGI project.
- The City created and submitted a comprehensive security plan that has undergone extensive review and has been approved by both the federal government and independent security experts. The approval of this security plan is one of the many federal requirements of the Smart Grid Investment Grant.
- The City will engage an independent cyber security expert (not associated with the project) to conduct an audit of the strength of the cyber security design as implemented.
- The City will make any necessary modifications required by the audit to ensure all security precautions have been considered and addressed.

Can I opt-out of this program?

- All Naperville electric customers will receive a new meter as a part of this project.
- For those concerned about the wireless communication feature of the new meters, an alternative communication method for the meters is currently being investigated.
- There will likely be an additional cost to the customer for this alternative meter and the corresponding additional maintenance and support it will require.
- More information about this alternative will be made available to utility customers as soon as a solution has been developed.

How will this affect my electric bill?

- Naperville is lucky to enjoy some of the lowest electricity rates in the region. But the U.S. Department of Energy projects energy prices across the country will rise 50 percent over the next 25 years.
- **Resident electric bills will NOT increase due to the NSGI.** But it will help us manage rising global energy costs.
- Rates are not tied to the implementation of this technology unless residents **choose** to participate in the optional time-of-use rate programs being offered in 2012.
- The utility will be rolling out new electric bills to provide more information regarding your usage. More information will be available later in 2011 relating how to read the new bill format.

Why implement the Smart Grid system now?

- The City has been operating under a continuous improvement model for the past twenty years and complete system automation (smart grid) would have been completed throughout the next 10 to 15 years with a projected cost of more than \$22 million.
- The ARRA grant allows the City to accelerate those long-term plans, benefit from federal stimulus funds and incorporate the full efficiencies, customer benefits and savings much sooner.
- The City chose to take advantage of the matching grant dollars as additional savings to pass along to its customers.

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