

# Indiana's Smart Grid Experience

**National Conference of State Legislatures**

Louisville, KY

July 26, 2010

State Senator Beverly Gard

# Overview

- Legislative background
- Indiana Regulatory Commission (IURC) perspective
- Electric industry perspective
- Telecommunications perspective
- Other smart grid initiatives

# Legislative Background

- Introduced legislation
  - 2008 and 2009
  - Stakeholders
    - Investor owned electrics
    - Rural electric co-ops
    - Investor owned telecoms
    - Rural telecom co-ops
    - Unions
    - Citizen consumer groups (CAC)
  - Failed both years

# IURC Considerations

- Electrics must file a petition with IURC for deployment and cost recovery of smart grid
- Priorities of commission in considering petitions
  - Consider the specific smart grid requests in the context of benefits and costs to attain benefits
  - General observation: costs of smart grid related projects are better known than the related benefits
  - Especially true in projects that rely heavily on customer response to new pricing structures to capture benefits

# IURC Considerations

- Two basic components of smart grid projects
  - Transmission or distribution (T&D) infrastructure and related communication infrastructure
  - Metering infrastructure and related communication infrastructure
- Energy Independence and Security Act of 2007 (EISA07)
  - Effectively required the IURC consider adoption of Federal suggested standards related to the planning and cost recovery of smart grid investments

# IURC Considerations

- IURC investigation showed it was unnecessary presently to adopt suggested federal standards
- IN's statutes provide the IURC sufficient authority to consider smart grid investments without formally adopting federal standards
- Adopting “mandatory” standards might inhibit the optimal development and deployment of smart grid technology
- ITA made recommendations to ensure “competitive safeguards”
- IURC declined because a certificate of territorial authority is required and provides proper forum

# Investor Owner Electrics

- Duke: most active company
- 2008 filed with IURC seeking approval and cost recovery for a \$450 M smart grid investment
  - Install 800,000 smart meters and other SOTA technology over 5-6 years
- Settlement agreement with IOUCC and consumer groups (CAC) put forth settlement agreement
- Nov. 2009: IURC rejected petition asking for more information and a phased-in program
- Dec. 2009: Duke and settling groups set a different course to move smart grid forward

# IOEs (cont)

- April 2010: Duke filed scaled back proposal
  - Wanted approval to deploy smart grid near central IN
  - Would encompass 39,000 residential customers and 1,000 small businesses NW of Indianapolis
  - Smart energy meters installed that can be read remotely
  - Explore charging electric rates, on a voluntary basis, that vary with time of day power is being used
  - Automated equipment added to the power distribution system
  - Pilot: 5 homes would get solar photovoltaic arrays, stationary battery storage and electric vehicle charging infrastructure for electric vehicles made available
  - No action yet by the IURC

## IOEs (con't)

- Duke: received \$200 M in stimulus dollars for smart grid for use in OH, KY, NC, SC and IN
- Not sure how much will be used in IN since petition has not been acted on
- AEP: received \$20 M for smart grid activities
- Indiana Michigan Power (IMP)
  - Small metering pilot for 10,000 South Bend customers
  - Will pilot time-of-day rates and direct load control programs

## IOEs (con't)

- Indianapolis Power and Light (IPL)
  - Also received stimulus money
  - Will deploy IPL's own advanced technology infrastructure giving customers full benefit of such funds
  - IURC approved deployment of replacement meters to all commercial and industrial customers and up to 22,000 residential and small commercial customers

# Telecommunications Perspective

- Includes investor owned and telecom co-ops
- Smart grid viewed as an opportunity and a threat
- Worry that electric utilities will convert facilities to commercial telecom purposes and compete for telecom services, i.e. broadband over power lines
- Opportunity to partner with electric utilities for upgrades and utilize facilities on a contract basis to implement smart grid for electric utilities
- Electric utilities should rely on commercially available broadband providers wherever possible

# Telecoms (con't)

- Electricians should NOT be permitted to create a commercial broadband network financed by captive electric ratepayers under the guise of developing a smart grid
- FCC encourages, in a recently released National Broadband Plan, the use of commercially available broadband networks where possible
- FCC has clearly signaled to state regulators the important role they play or should play in encouraging use of existing communications networks

# Telecoms (con't)

- Critical considerations
  - Who is going to build and operate a smart grid network?
  - Build, buy, rent, or lease?
  - Concern by telecoms over possible retail communications services in competition with telecom providers
  - Electric ratepayers subsidy issue
- IURC has not adopted ITA recommendations to adopt separate smart grid accounting or cost allocation requirements

# Telecom's (con't)

- IURC has not adopted policies that either mandate or prohibit a particular technology
- Competition and cooperation issues: no pending requests from electricians to offer retail communications services
- IURC urges collaboration between parties to better understand the communications needs of electricians and the capabilities of both utilities
- Cooperation and communication are the key

# Telecom's (con't)

- Federal Involvement
  - Federal Communications Commission (FCC)
  - National Telecommunications and Information Administration (NTIA)
  - National Institute of Standards and Technology (NIST)
  - Federal Energy Regulatory Commission (FERC)
  - U.S. Department of Energy (DOE)

# Telecom's (con't)

- Data and customer privacy issues
  - July 22, 2002: NARUC unanimously adopted a resolution that calls on state utility commissions to recognize and protect consumer privacy rights during development of smart grid infrastructure
- Resolution handout

# Indiana Rural Co-ops

- Telecom Co-ops
  - Same position as IOE's
- Electric Co-ops
  - Many co-ops have started integration of technology for smart grid
  - Lack of high speed connection infrastructure in rural areas
  - Rates are member driven
- 2010 merger bill

# Other Smart Grid Initiatives

- EnerDel: lithium-ion battery manufacturer
- Investing \$237 M in a new facility in IN
- Creating 1,400 new clean technology jobs
- State incentives: \$69.9 M
- Hancock Co. incentives: \$48.6 M
- Applied for \$9 M from Federal Government
- Technology pioneered at the Argonne National Laboratory
- Produce battery packs for 600,000 hybrids or 60,000 battery electric cars
- Electric utility application

# Questions?