Solar ABC’s – Discussion Forum #1
Topic #1: Time-of-Use, AMI, and Net Metering

Introduction and Overview of Project

December 14, 2007, Conference Call
Presented by: Keith McAllister and J. V. Ward
The Energy Policy Act of 2005 required state commissions to consider time-based pricing through Automated Metering Infrastructure (AMI).

While most state commissions are not mandating an AMI policy, many utilities are proceeding with full or partial AMI deployment—primarily to reduce operating costs.

Where is this happening? Ontario, Canada; major utilities in California, AEP, PSEG, Duke Energy … and many others.

AMI, and time-of-use pricing, has the ability to eventually correlate wholesale electricity prices to retail prices.

AMI and time-of-use pricing will likely eliminate the typical one-to-one retail-rate net metering payment to distributed generators and replace it with a wholesale rate, unless regulators retain the one-to-one retail rate for other policy objectives.
An AMI system has three components

- **Meters** with an integrated, or retro-fitted, communications system

- *A communications system* with:
  - A local area network (LAN) to transmit data from the meter to the local collection point
  - A wide area network (WAN) to transmit data from the local collection point to a data repository, such as a meter data management system

- *A meter data management system*
Why are utilities jumping on the AMI bandwagon?

**Current** operational savings include:
- Eliminate manual meter reading
- Improve outage response time
- Improve metering and billing accuracy
- Reduce call center calls
- Reduce GHG “footprint” through better load management and reduction of peaking needs

**Future** operational savings include:
- Increased demand-side management participation
- Remote connect / disconnect capability
- Possible consumer e-commerce channels
- Correlate wholesale and retail prices

A utility’s primary objective is to reduce operating costs, increase shareholder value, and provide reliable service to ratepayers at the lowest possible cost.
Some implications of AMI for small distributed generation

- Will one-to-one retail-based net metering become one-to-one wholesale-based net metering?

- Will other states follow the lead of Connecticut and Maryland in requiring AMI meters to have net metering capability?

- Will the sophistication of AMI meters eliminate the typical utility requirements for an external disconnect switch and excessive liability insurance?

- Will AMI facilitate the aggregation of demand-side management to the extent that small distributed generation becomes a more expensive resource?
Today’s objective

- Brainstorm implication / ramification “topics”
- Please identify your name, affiliation, and briefly state your thoughts
- We will capture your ideas and produce a draft table of contents to be posted for comment on the SolarABCs website
- If you have, or can produce, a written analysis of your specific implication / ramification, please e-mail it to jvward@ncsu.edu for inclusion in the report

The content and usefulness of our final report is up to you!