



# DEMAND RESPONSE

**Ameren Illinois Utilities**

**March 3, 2009**

**Illinois Stakeholder Advisory Group**

# Overview

- Information
- Challenges
- Programs

# Ameren Illinois DR Goals

Reduce peak demand by 0.1% over the prior year  
For eligible retail customers = **5 MW per year**

## •Challenge #1

**Demand Response subject to:**

**TRC**

**Budget Caps**

# Challenge #2:

## Can only offer to limited #customers

- Act: Reduce peak demand for “eligible retail customers”
- “Eligible retail customers”
  - those retail customers that purchase energy under fixed-price bundled service tariffs
  - **Limits Ameren’s eligible customers to those under 400 kW taking fixed price “Basic Generation Service”**
  - Definition explicitly excludes customers electing hourly pricing
    - AIU offers Rider RTP, Rider PSP for residential customers, and Rider RTP-LI for large customers
    - ✓ **None of these hourly products can count towards the DR goal**
  - ***Results of SB 1299 may further reduce “eligible retail customers”***

# Challenge #3: Rules of the Bulk Power Transmission System

- Power is transmitted by regional transmission organizations
  - AIU: Midwest Independent Transmission System Operator (MISO)
  - ComEd: PJM Interconnection

# MISO DR Rules

- A Market Participant Applicant seeking to submit Demand Response Resource Offers in the Energy Markets shall:
  - (i) demonstrate to the satisfaction of the Transmission Provider that it has exclusive rights through ownership, operational control or other contractual rights to the output of Demand Response Resources **capable of responding to the Dispatch Instructions**;
  - (ii) **designate those Resources as Demand Response Resources** with the Transmission Provider; and
  - (iii) **demonstrate to the satisfaction of the Transmission Provider that it complies with** all metering, telemetry, data storage and communication protocols, and other reliability, operation, planning and accounting standards and requirements for operating in the Transmission Provider Region necessary to allow the Transmission Provider to validate the ability of the Demand Response Resource to respond to the Dispatch Instructions provided by the Transmission Provider.

# MISO Module E

- Present rules emphasize central control of DR Resource
- Programs where customer can over-ride curtailment presently not likely to be accepted
- The AIU, ICC and other parties have engaged MISO to permit forms of Demand Response Resources other than those that are capable of responding to “Dispatch Instructions”, such as price responsive demand

# “Smart” Thermostat

- Program Design:
  - Free Programmable Thermostat
  - Free Installation
  - AIU cycles AC during “critical periods”
  - June – September, 1-5 pm
  - Monday – Friday, no holidays
  - Limit of 15 events per year



# Web Enabled

- Login function
- Tab and menu options



Login to the system below

Username

Password

Submit

Forgot your password? Please contact customer support at 1-866-733-1807.

**Heat Mode**  
Settings

**Cool Mode**  
Settings

**Vacation Mode**  
Settings

**Control Override**  
Settings

**Profile**  
Settings

# Remote Programming

- Program heat and cooling, remotely at anytime
- Vacation settings option

## ▶ Start Times & Temperature Set Points

Use the form below to set the start time of each time period and input the desired Set Point

### Primary Heat Settings

Select a Day

Specify all your settings, then click the SAVE button

Morning

Time  :

Set Point  °F

Day

Time  :

Set Point  °F

Evening

Time  :

Set Point  °F

Night

Time  :

Set Point  °F

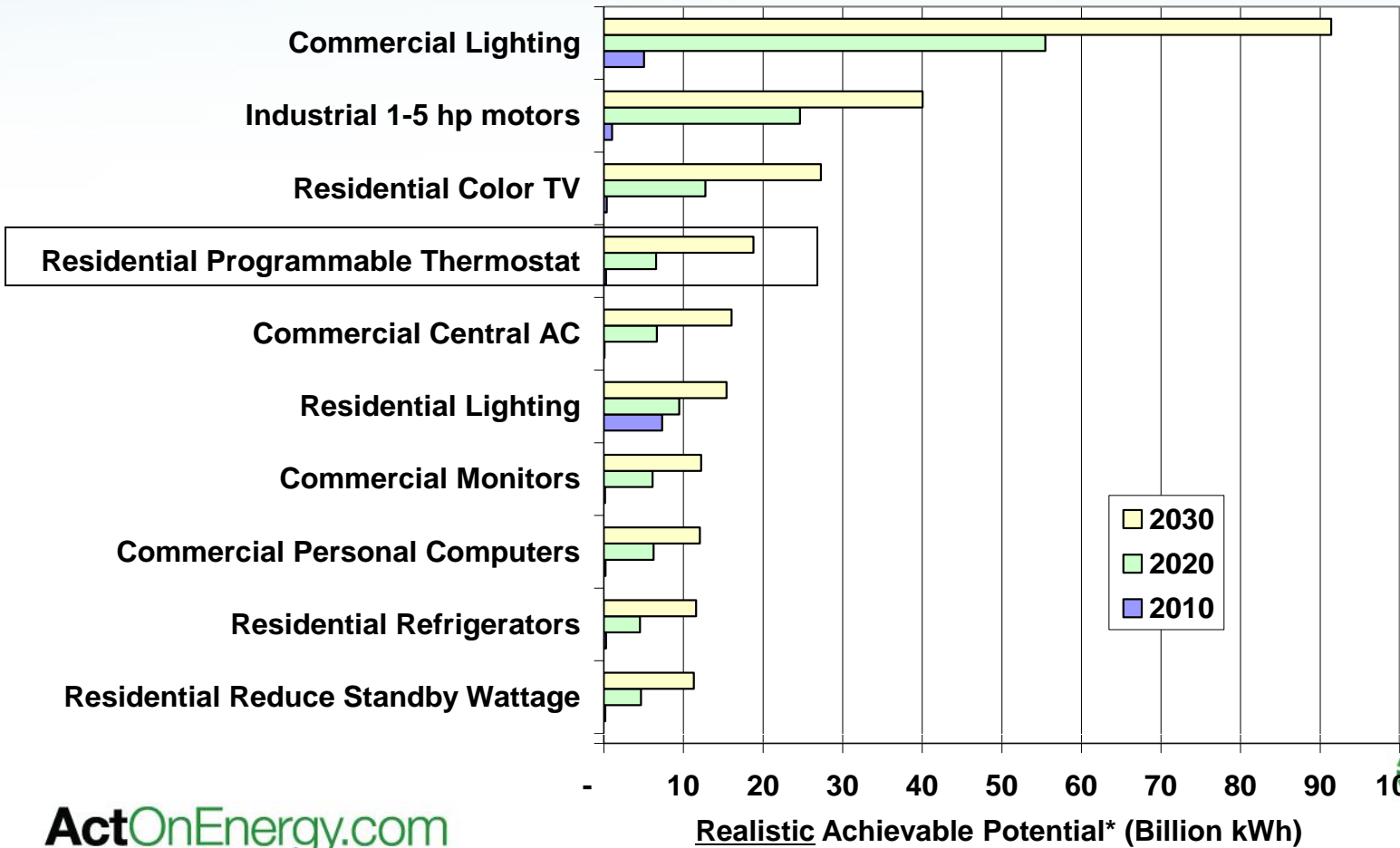
## ▶ Primary Vacation Settings

Use the form below for specific vacation settings

Start Date	Stop Date	Temp F	Status	
<input type="text" value=""/> <input type="text" value="12:00 AM"/>	<input type="text" value=""/> <input type="text" value="12:00 AM"/>	<input type="text" value=""/>	New	<input type="button" value="NEW"/>
<input type="text" value="04/30/2008"/> <input type="text" value="12:00 AM"/>	<input type="text" value="05/15/2008"/> <input type="text" value="12:00 AM"/>	<input type="text" value="70"/>	Pending	<input type="button" value="MODIFY"/> <input type="button" value="CANCEL"/>

# epr: Opportunities for Energy Efficiency Savings

Top 10 Energy Efficiency Achievable Potentials Includes . . .



# “Smart” Thermostat

- Cost Effective
  - Electric kWh Savings
  - Natural Gas Therm Savings
  - Demand savings would enhance cost effectiveness, but benefit difficult to quantify under evolving MISO rules
- Target Customers
  - Residential and Small Commercial Customers (under 400kW) within paging area

# DR Program Under Consideration

- Peak Time Rebate (PTR)
  - Later this year
  - For all customers, including thermostat users
  - PTR Credit:
    - Summer critical peak period (June-Sept, 2-7pm)
    - (\$0.50)/kWh for reduced kWh used as compared to Baseline use
    - Will never result in charge

# Other Existing DR Programs

## **Real Time Pricing (RTP) and Hourly Supply Service (HSS)**

- (under 400kW and over 400 kW)
- Customer pays fluctuating hourly market price for electricity.
- Energy is priced at actual hourly MISO Locational Marginal Prices (LMP) and provided by an Ameren Illinois utility
- Requires interval metering
- Allows unlimited switching to and from a Supplier – subject to switching rules

**Can not be counted towards Energy Efficiency Goals**

**Cannot be used as an Energy Efficiency program**

(not “eligible retail customers”)

# Impact of Smart Grid?