

# **WAL-MART STORES, INC. MANAGING ENERGY COSTS**

**Pennsylvania Public Utility Commission  
En Banc Hearing**

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# Wal-Mart Stores, Inc.

- As of August, 2008, Wal-Mart's presence in Pennsylvania includes:
  - 83 Supercenters
  - 41 Discount Stores
  - 23 Sam's Clubs
  - 4 Distribution Centers

# Wal-Mart Stores, Inc.

- As of September, 2008, Wal-Mart has 51,754 associates in Pennsylvania.
- In FYE 2008, Wal-Mart purchased over \$5 billion of merchandise and services with 1,688 suppliers located within Pennsylvania
- As a result of our relationship with these suppliers, Wal-Mart supports 165,168 supplier jobs within the state.
- Wal-Mart is the largest private consumer of energy in the United States with annual energy expenditures of over \$1.9 billion.
- Wal-Mart takes service from all major electric and gas utilities and the majority of smaller utilities.

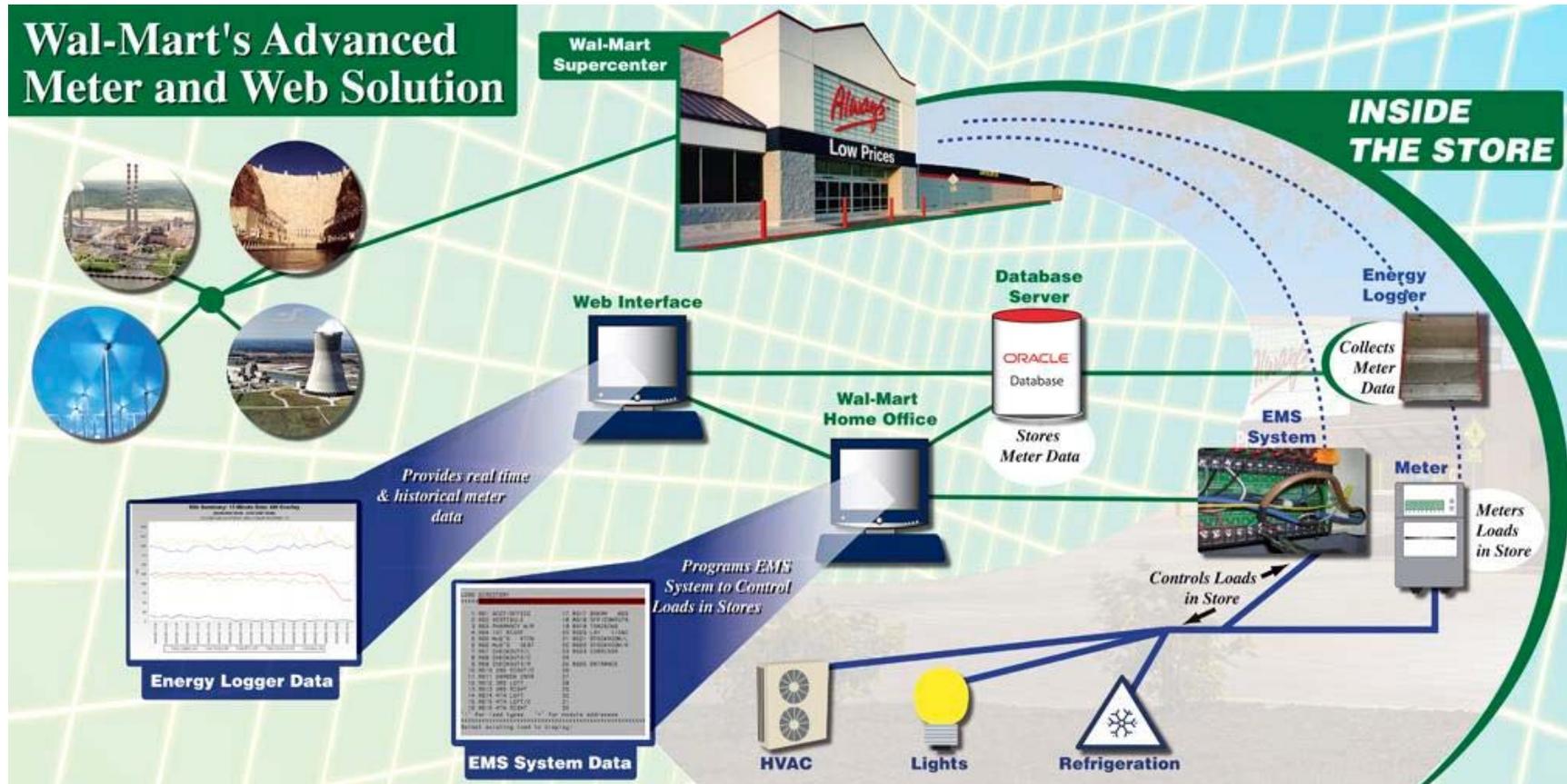
# Energy Efficiency Measures

- Daylight Harvesting System
  - Skylights
  - Electronic Dimming Ballasts
  - Computer Controlled Daylight Sensors
- White Membrane Roofs
  - High solar reflectivity reduces cooling loads
- High Efficiency HVAC
  - SEER Rating of 15.5 – 16.1
  - More efficient than the most strict U.S. Energy Code
- T-8 Fluorescent Lamps
  - All new facilities
  - Retrofit over 90% complete
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# Energy Efficiency Measures

- LED Lighting
  - Internally illuminated exterior signage
  - Refrigeration cases
- Heat Reclaim System
  - Heat from our refrigeration is reclaimed
  - Provides approximately 70% of hot water needs
- Dehumidification
  - Actively dehumidify our buildings
  - Higher temperatures/less electrical usage

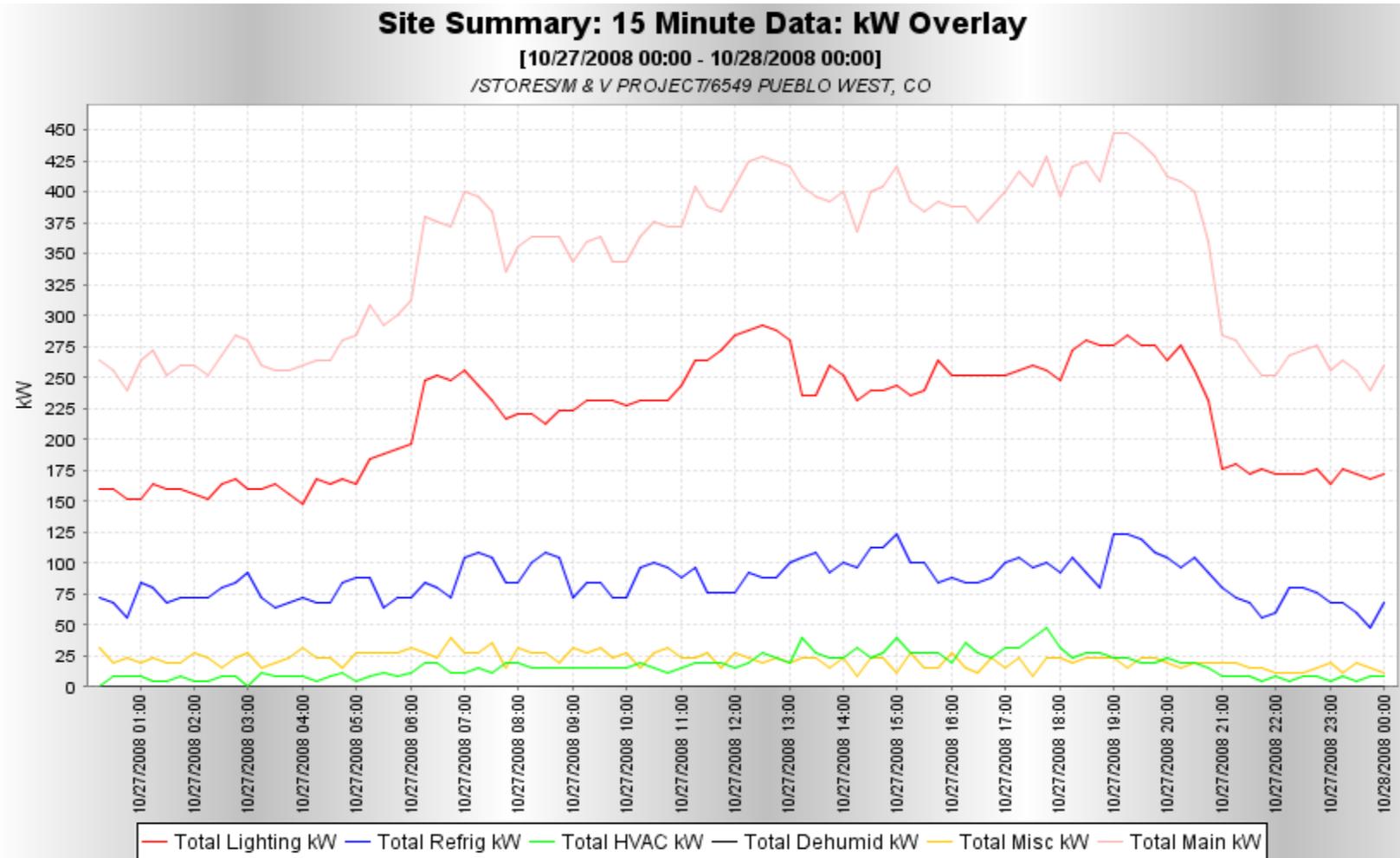
# Advanced Meters and Web Solution



# Advanced Meters and Web Solutions

- Wal-Mart has installed or is in the process of installing our own advanced meters
- Usage and demand data tracking
  - Data accessible as soon as interval is complete
  - Most installations are set up for 15-minute data, but several go down to 5-minute data for demand response program compliance
- Real-time data monitoring from any computer with an internet connection

# Advanced Meters and Web Solutions



# Advanced Meters and Web Solutions

Modbus Real-Time Data											
Node ID	Name	Meter Type	Timestamp	Volt 1	Volt 2	Volt 3	Amp 1	Amp 2	Amp 3	PF	KW
1	MAIN 1	Hawkeye 2400A	22:39:27	283	282	282	481	453	387	0.952	356
2	MAIN 2	Hawkeye 2400A	22:39:28	282	282	281	392	373	389	0.863	281
6	LIGHTING 1	Hawkeye 300A	22:39:28	283	282	282	88	80	56	0.999	63
7	LIGHTING 2	Hawkeye 300A	22:39:29	282	283	282	70	50	48	0.998	48
8	LIGHTING 3	Hawkeye 300A	22:39:29	282	282	281	41	38	36	0.998	32
11	HVAC 1	Hawkeye 800A	22:39:21	283	283	282	16	13	19	0.785	11
12	HVAC 2	Hawkeye 800A	22:39:22	282	283	282	58	60	59	0.636	32
13	HVAC 3	Hawkeye 300A	22:39:22	282	282	280	3	2	3	0.685	1
14	HVAC 4	Hawkeye 100A	22:39:23	283	281	282	0	0	0	0.000	0
16	REFRIG HOUSE 1	Hawkeye 800A	22:39:23	282	282	281	142	160	161	0.742	97
17	REFRIG HOUSE 2	Hawkeye 300A	22:39:24	282	282	281	28	28	27	0.643	15
21	DEHUMID 1	Hawkeye 300A	22:39:24	282	283	281	24	24	24	0.784	16

# THANK YOU

