



Advanced Electric Meter Update

Sandy Morgan – Facilities Energy Manager

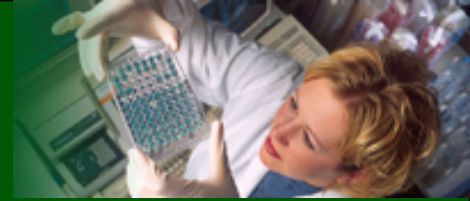




About ARS

- Research Arm of USDA
- 3,200 buildings in 95 locations
- Annual utility cost \$35 million
- Labs, greenhouses, animal facilities, agricultural buildings
- 13.5 Million SF
- \$1 Billion Agency
- 50,000 large animals, 400,000 acres





Federal Metering Requirement

- EPACT 2005
 - Install building level advanced electric meters where cost effective by FY 2012 (>10,000 SF)
- EISA
 - Install building level natural gas and steam meters where cost effective by FY 2016
- EO 13693
 - Install water meters
- DOE guidance

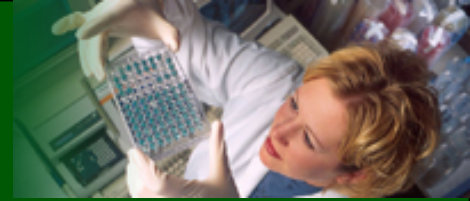




Our Approach

- Install building level meters
 - Met the FY 2012 goal
 - Met the FY 2016 goal
 - Wash, rinse, repeat
 - 215 meters installed to date
- Network meters
 - Square D ION 6.0 & Windows Server 2003





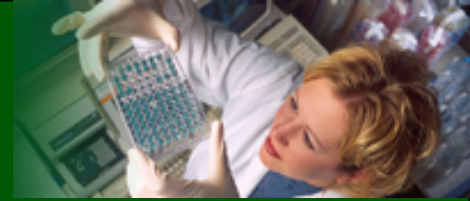
Cybersecurty Issues

- Patches and updates
- Windows 2003 end of life July 14, 2015
 - Purchase updates and patches for \$800/qtr
 - Obsolete box. Move from a physical server to a virtual server
 - Upgrade application to Schneider Electric PME 8.0
 - IP addresses changed
 - Update meters and reconnect them



HACU

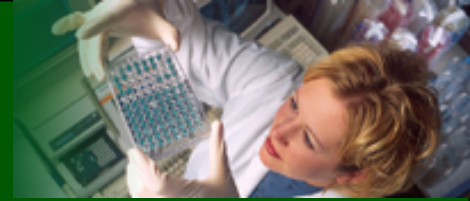
- ARS employs over 100 HACU interns
- FD hires Energy Manager Trainees
- Claudia Gamble, a University of MD Electrical Engineer, was tasked with updating meters and connecting them to the server. Not only did she do that but she wrote a manual on how to do it.



Updating Meters

- Check the firmware version in the meter
- Check the latest version on the manufacturer's website
- Download the upgrade
- Disable the meter
- Install the upgrade
- Enable the meter
- Don't stop and follow the steps





Connecting to the Server

- To configure a new device enter the information for the device in the server, the device appears, then select “connect.” If it can’t connect ping the IP address. If no reply, local IT help is needed.

Enabled	Group	Name	Type	Address	Site	Status
✓	ALBANY	NORTH_RISER_B	Enercept_Meter	10.200.52.12/502/9	NORTH_WING_VAULT	Site Available
✓	ALBANY	SOUTH_SB1	Enercept_Meter	10.200.52.13/502/2	SOUTH_WING_VAULT	Site Available
✓	ALBANY	SOUTH_MCC_PGEC	Enercept_Meter	10.200.52.13/502/3	SOUTH_WING_VAULT	Site Available
✓	ALBANY	SOUTH_PNL_L	Enercept_Meter	10.200.52.13/502/4	SOUTH_WING_VAULT	Site Available
✓	ALBANY	SOUTH_MCC_1	Enercept_Meter	10.200.52.13/502/5	SOUTH_WING_VAULT	Site Available
✓	ALBANY	SOUTH_PFCC	Enercept_Meter	10.200.52.13/502/7	SOUTH_WING_VAULT	Site Available
✓	ALBANY	SOUTH_DPGH	Enercept_M		SOUTH_WING_VAULT	Site Available
✓	ALBANY	SOUTH_PNL_M	Enercept_M		SOUTH_WING_VAULT	Site Available
✓	ALBANY	SOUTH_PNL_DP1	Enercept_M		SOUTH_WING_VAULT	Site Available
✓	AMES	NLAE_MAIN	ION 7650		net/ARSCOFTC3AP3>	Cannot Connect
✓	ATHENS	MAIN_BLDG35	ION 7650		net/ARSCOFTC3AP3>	Device Connected
✓	ATHENS	RRC	ION 7650		net/ARSCOFTC3AP3>	Device Connected
✓	AUBURN	NSDL_MAIN	PM800 Seri		net/ARSCOFTC3AP3>	Device Connected
✓	AUBURN	AAHRL_MAIN	PM800 Seri		net/ARSCOFTC3AP3>	Device Connected
✓	BELTSVILLE	NAL_Device1	Eaton_PX_		net/ARSCOFTC3AP3>	Device Connected
✓	BELTSVILLE	NAL_Device2	Eaton_PX_		net/ARSCOFTC3AP3>	Device Connected
✓	BROOKINGS	MAIN	ION 7550	10.133.167.249/7700	<Ethernet/ARSCOFTC3AP3>	Device Connected
✓	BROOKINGS	CHILLER	Enercept_Meter	10.133.167.249/7802/19	BROOKINGS_GATE	Site Available
✓	BROOKINGS	T2_NEW_SWBD	Enercept_Meter	10.133.167.249/7802/18	BROOKINGS_GATE	Site Available
✓	BROOKINGS	T1_DP1	Enercept_Meter	10.133.167.249/7802/17	BROOKINGS_GATE	Site Available
✓	BUSHLAND	MAIN	Eaton_PX_2000	10.200.154.245/502/1	<Ethernet/ARSCOFTC3AP3>	Cannot Connect

243 Device(s) Displayed



Success Story

- Graduating
December 2018





Questions?

Thank you!
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