

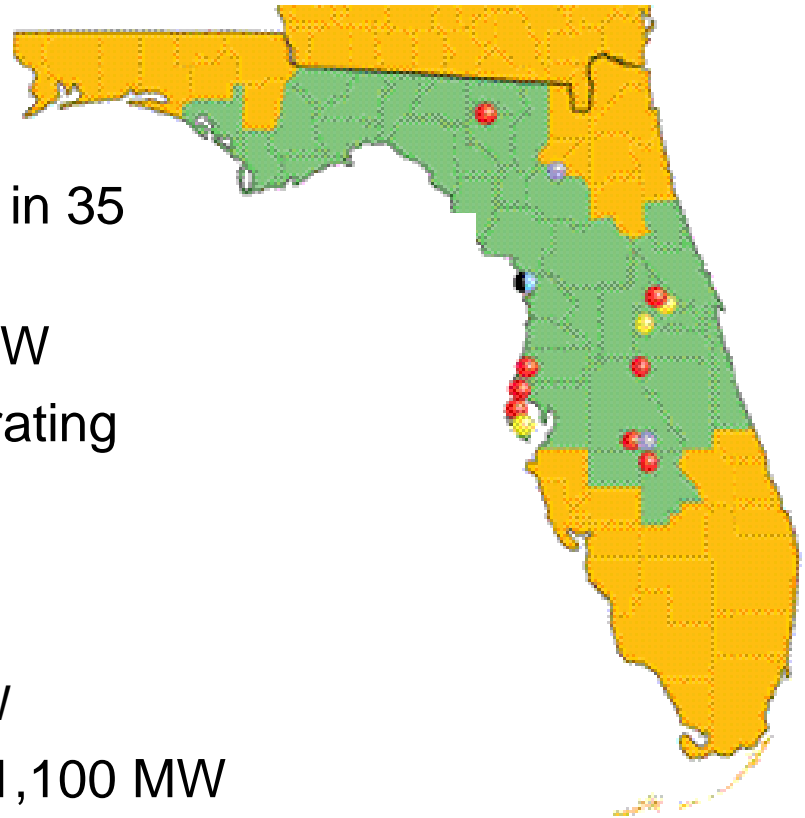
Progress Energy's Demand Response Programs

National Town Meeting for Demand Response & Smart Grid
July 14, 2011
Washington, DC



Progress Energy Florida Overview

- Quick Facts
 - 1.6 million customers in 35 counties
 - Winter peak 10,989MW
 - 10,013 MWs of generating capacity
 - Coal - 2,267 MW
 - Nuclear - 860 MW
 - Gas/Oil - 6,886 MW
 - Demand Response -1,100 MW



PEF In-House Business Model



Telecommunications

- Own and operate RF simulcast paging network
- Internally developed load management control software



Customer Call and Field Services

- Technical experts for customer inquiries and call handling
- Field order dispatch for installation and maintenance



Onsite reporting

- Customer Data, Marketing, Analytics on staff
- Regulatory compliance and filing



Monitoring and Verification

- Ongoing end-use metering studies
- System performance verifications

PEF Residential - DR Programs

EnergyWise Home

- 400,000 Participants
- Legacy System – 30 years old



Pool Pumps

- 38,985 participants
- \$2.50 monthly credit



Water Heaters

- 371,883 participants
- \$3.50 monthly credit



HVAC

- 372,132 participants
- \$5 cooling credit
- \$8 heating credit

Total Peak Potential Shed 730 MW*

PEF CIG - DR Programs

Standby Generation (SBG)

- Commercial customer owned generators
- Voluntary participation



- 243 Customer Accounts = 85 MW
- Cellular 2-Way Communications
- Metered Real Time kW Readings
- Bill Credits: \$2.30/kW plus \$.05/kWh



PEF CIG – DR Programs

Interruptible Service (IS)

- Commercial, Industrial, Governmental customers
- Contractual agreement



- 149 customer accounts = ~ 330MW
- Agree to have service interrupted

Curtable Service (CS)

- Commercial, Industrial, Governmental customers
- Self-curtail to pre-determined value upon notification
- Contractual agreement



- 4 customer accounts = ~ 21MW
- Agree to curtail their consumption

PEF DR – Value Proposition

Responsiveness - Water heater controls for system disturbances avoid more than 300 CT starts/year

Reliability – Proven impacts to reduce/shift system loads during high-demand periods

DR offsets the need to build high-cost generation and transmission.

Availability - Accurate and conservative estimates of load control cover the margin even when not deployed

Flexibility - Regional DR deployment to mitigate transmission and distribution constraints.

The Value of Demand Response

\$60+M annual deferred generation cost

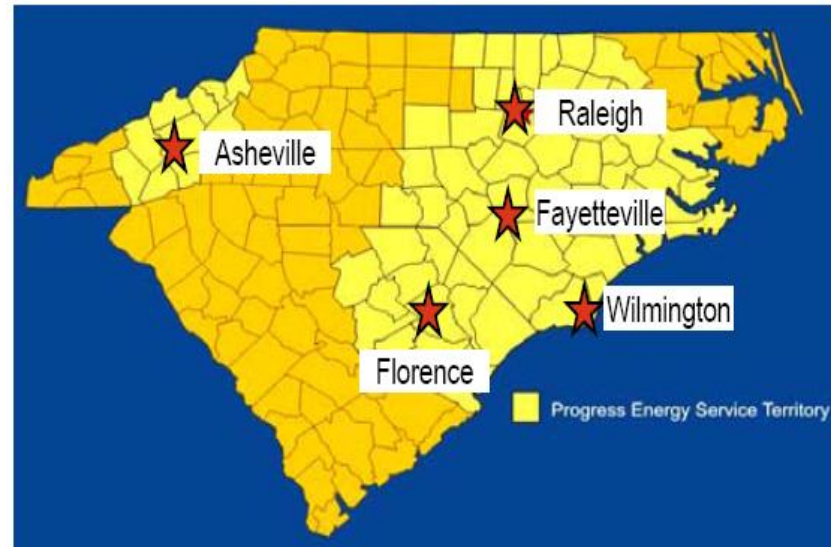


\$3.2M in annual O&M and fuel savings

- Operational support for State Reserve Sharing
- 67 events YTD – 142 avoided CT starts
- Regional control for localized constraints
- Peak demand reduction

Progress Energy Carolinas Overview

- Quick Facts
 - 1.5 million customers
 - Summer peak 12,656 MW
 - 12,593 MW Generating Capacity
 - Coal 5,190 MW
 - Nuclear 3,490 MW
 - Gas CC/CT 3,688 MW
 - Hydro 225 MW
 - Purchases 1,450 MW
 - Demand Response = 400 MW



PEC EnergyWise Home Outsource Business Model



Comverge

- Technology Vendor & Paging Provider via 3rd Party Public Network
- Provider of Switches and Load Management System



GoodCents

- Implementation Vendor
- Switch Installation & Service, Customer Call Services



Direct Options

- Customer Data Management, Marketing Services, Analytics

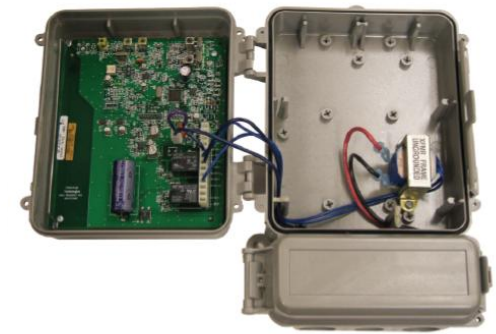


Navigant Consulting

- M&V Contractor
- Impact & Process Evaluation

PEC EnergyWise Home

- Launched 2009
 - DLC Switches - one-way paging
 - No thermostats
 - AC System-wide
 - WH & HP Strip Heat – Western region only
 - Growth rate – 3,000 installs/mo
 - 70 MW AC & 4.5 MW WH



PEC Residential - DR Programs

EnergyWise Home

- 60,000+ participants & growing



Summer Program

- Available to residential customers in NC & SC
- Central AC only
- \$25 annual bill credit
- Summer Season: May – September
- Can request override 2 times per season
- Can leave program at any time

Year Round Program

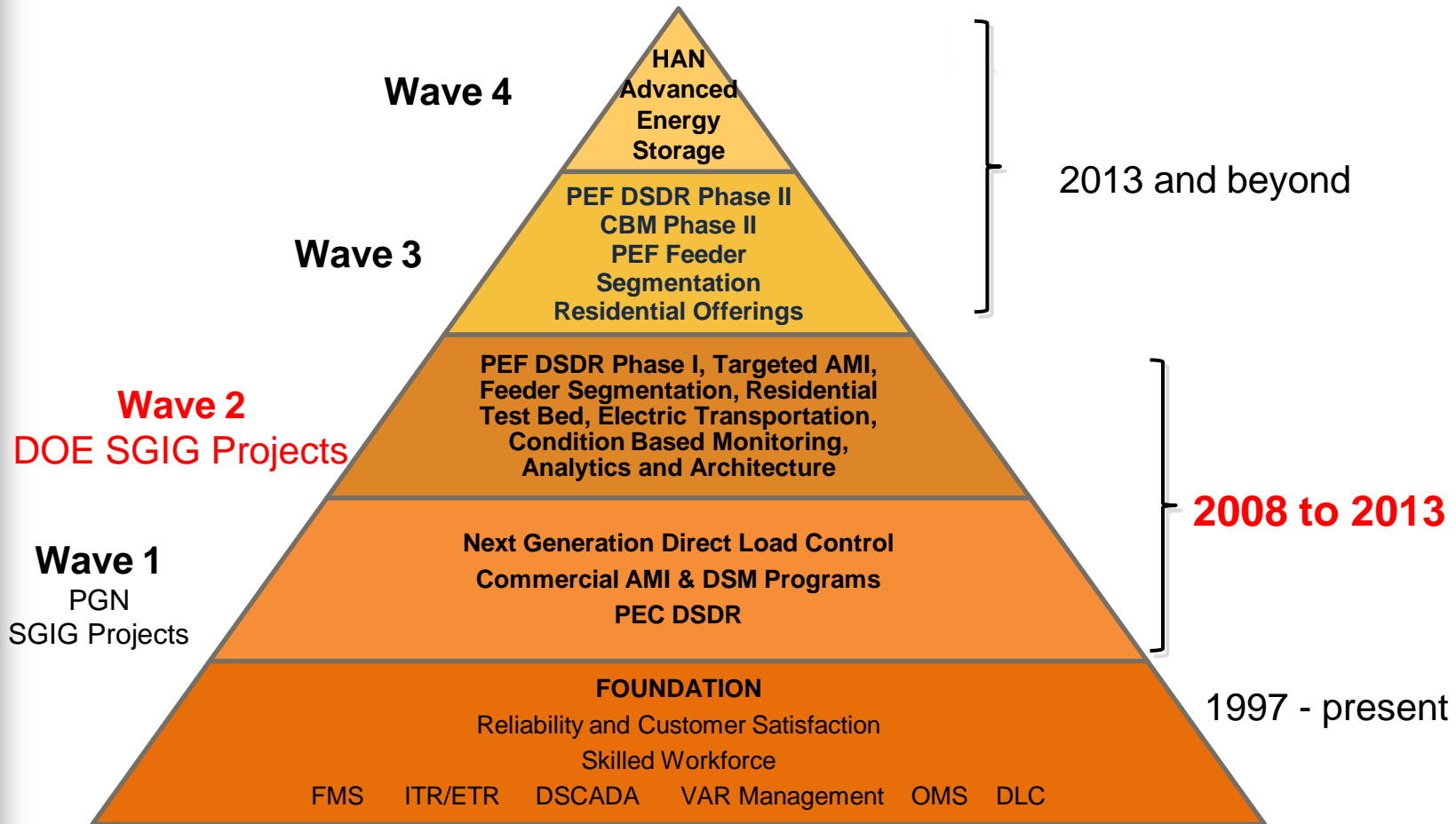
- Central AC, heat pump with heat strip or electric water heater
- \$25 /yr. bill credit / appliance enrolled – up to \$75 total
- Summer & Winter Season
- Override 2 times per season
- Can leave program at any time

PEC C&I DR Automation

- Launched – Dec. 2009
 - Customers can Opt-out of DSM/EE Rider
 - Two-way cellular communication
 - $\geq 200\text{kW}$ Demand with Curtailment $\geq 75\text{kW}$
 - Events/yr. = 3 minimum, 10 maximum
 - One-time Participation Incentive = \$50/kW
 - Monthly & Event Credits
 - 12 MW enrolled



Integrating DR into the Smart Grid



PEF Next Generation DR

- PEF Residential DLC Switch Change-out
 - ~400K customers & ~ 500K switches
- 2-way via NAN Mesh Technology
- 2 LM Systems during transition period

- Commercial AMI Deployment
- Commercial Direct Load Control - AC
- Building Management Systems Interface
- Customer Awareness via Web Portal, etc.

In Conclusion

- PE has 2 Virtual Power Plants with 2 different operational models
- Going Forward Challenges:
 - Replace Legacy System
 - Develop Overall DR Strategy
 - Continue to Increase Operational Value
 - Integrate Demand Response into the Smart Grid

Thank You!

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