Consumers Energy Non-Wires Solutions

May 13, 2020
Agenda

Background

Pilot #1: Swartz Creek Substation
- Substation Summary
- Timeline and Approach
- Lessons Learned

Pilot #2: 4 Mile Substation
- Substation Summary
- Timeline
- Selection Process
- Quick Launch Programs
- Deep Dive Analysis
- Approach

- Field test of concepts
- Time limited

- Multi-year
- Designed for deferral

Working Group
Non-Wires Solutions (NWS) Pilots

- Pilot started in 2015 as collaboration between NRDC and Consumers Energy, before the concept of NWS gained momentum nationally
- Consumers Energy launched its first NWS pilot location at Swartz Creek in 2017
- In 2018 and beyond, NWS are being introduced into utility planning processes
- Pilots are focused on increased participation in existing Energy Waste Reduction (EWR) and Demand Response (DR) programs to determine if NWS are a viable lower cost option to infrastructure upgrades
- Pilots are currently funded and managed within the DR and EWR portfolios, but that may evolve over time
Pilot #1: Swartz Creek
Swartz Creek Overview

~4500 Residential Accounts
- 63% of total kWh
- ~6200 average kWh/year
- Lower than average income

~300 C&I Accounts
- 37% of total kWh
- ~50,000 average kWh/year
- No industrial load
- 2 largest customers ~50% of kWh

Load Reduction
- Target (2018) - 1.5MW
- Achieved (2018) - 560kW (measure savings)
Swartz Creek Timeline/Approach

Planning and Analysis
May 2017- July 2017

Program Development
Aug 2017- Oct 2017

Program Launch
Oct 2017- Dec 2018

Program Evaluation
Oct 2018- Feb 2019

Community Based
- Community Events
- Community Challenge
- School Program
- Door to Door Campaign

Bonus Incentives (July-Sept.)

560 kW load reduction
Lessons Learned

• Data driven Distributed Energy Resource (DER) analysis alone may not paint a full picture
  o Use of field visits cross referenced with site analysis are needed to establish realistic goals, strategies, and tactics
• Hyper marketing and approach may not be enough
  o Enable bonus incentives early on
• A “diverse” community will allow for better Pilot learning
  o Range of customers for both residential and C&I
• Direct interactions with C&I customers are optimal
  o Use assessment team to educate C&I customers
  o One-on-one interactions with C&I customers are most effective
  o Cover all in first interaction
• System peaks may occur outside of DR program windows
Pilot #2: Four Mile
Four Mile Overview

~4250 Accounts
- Diverse Community

~3500 Residential Accounts
- 18% of total kWh

~750 C&I Accounts
- 82% of total kWh
- ~250 Medium and Large accounts
- ~500 Small accounts

Load Reduction
- Target (2024) - .34MW
Site Selection Process and Criteria

12 Candidates (based on primary criteria)

Top 5 (based on primary & secondary criteria)

Top Choice (based on additional, deeper analysis)

Primary Criteria
- 5-20% estimated load relief needed
- $1 to $3 million project cost
- 3 to 5 years until project needed

Secondary Criteria
- Supervisory control and data acquisition (DSCADA) data for substation available
- Mix of customers
  - At least 60% business load
  - Not dominated by lower income
Four Mile Quick Launch Tactics

1. Significantly increased several C&I EWR incentives up to $1,000

2. Significantly increased Residential EWR incentives for AC Replacements, DR and Appliance Recycling

3. Engaged Trade Allies and CE Account Management Team

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<th>Measure</th>
<th>Typical Incentive</th>
<th>NWS Total Incentive</th>
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<td>HVAC- 14.5-14.99 SEER</td>
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<td>Appliance Recycling</td>
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Deep Dive Analysis

Three part analysis conducted fall of 2019

Task 1 - Construct combined utility and customer data set for comprehensive analysis. Identify customer segments most influential to timing and magnitude of substation need.

Task 2 - Apply combinations of Demand Side Management (DSM) measures to understand potential contributions to load reduction at peak. Estimate participation levels and determine cost-effective incentives.

Task 3 - Finalize full portfolio of DSM measures and design NWS program for deployment including measures, bonus incentives, and general implementation/marketing approach.

Expected Savings for 2020 – 270kW boosted by NWS
2020 Customer Acquisition Approach

• More direct messaging – “Why are we doing this?”
• Utilizing customer segments and propensity scores to inform customer acquisition plan
• Trade Ally Engagement
• C&I Focus
• Specific targeting of multifamily property management and residents
• Cross promotion of EWR and DR
• Piloting C&I Economic DR
Looking Ahead - NWS Working Group

Developing a cross-functional internal working group to support NWS planning and implementation

**Vision** - Plan and deploy NWS

**Purpose** - Develop a comprehensive NWS strategy integrating efforts into an efficient and scalable process

**Questions to Answer** - What does NWS maturity look like? What roles and capabilities are required in each business function (engineering, operations, customer, regulatory) to successfully deploy NWS?
Questions

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