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## Q1-2020 COLORADO DSM ROUNDTABLE

05.13.2020

# AGENDA

- 1:00 – 1:15 p.m. Welcome and DSM Regulatory Updates
- 1:15 – 2:00 p.m. DSM Programs: Q1-2020 Update
  - » Q1 Achievement and Highlights
  - » Covid-19 Response
    - Business Program
    - Residential and Low-Income Programs
  - » Additional Contingency Planning
- 2:00 – 2:30 p.m. Product Development Updates
- 2:30 – 2:45 p.m. Codes and Standards Research Update
- 2:45 – 3:15 p.m. Demand Response Evaluation Presentation



# **DSM Regulatory Updates Q1-2020**

**George McGuirk  
DSM Regulatory**

# 60/90-Day Notices

- Insulation and Air Sealing Rebate Update
  - *Posted: 1/20/2020*
  - *Implemented: 2/20/2020*
- Smart Thermostat Controls
  - *Posted: 1/20/2020*
  - *Implemented: 2/20/2020*
- Small Business Lighting and Commercial Refrigeration Update - 2020
  - *Posted: 3/13/2020*
  - *Implemented: 4/14/2020*
- 2019 Evaluations
  - *Posted: 3/13/2020*
  - *Implemented: 4/14/2020*
- Heating Efficiency Update - 2020
  - *Posted: 3/13/2020*
  - *Implemented: 4/14/2020*
- Peak Day Partners Update - 2020
  - *Posted: 3/13/2020*
  - *Implemented: 4/14/2020*
- Insulation and Air Sealing Update - 2020
  - *Posted: 3/13/2020*
  - *Implemented: Pending*

# DSM Regulatory Calendar

- **Upcoming Meetings – Save the Date!**

- Lighting Strategy Meeting:

***Zoom***

**Thursday, May 28, 2020**

- Q2-2020 DSM Roundtable Meeting:

***1800 Larimer\****

**Wednesday, August 12, 2020**

- **Upcoming Filings**

- 2021-2022 DSM Plan – July 1, 2020

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# **DSM Achievements Q1-2020**

**Mark Schoenheider  
Manager, Customer Energy Solutions**

# 2020 Q1 Achievement Highlights

## Electric Portfolio

- 100.7 GWh (20% of 501.7 GWh Target)
- 17.7 MW (19% of 92.3 MW Target)
- \$16.3M (17% of \$93.4M Budget)

## Business Programs

- 63 GWh (17% of Target)
- Lighting – Small Business 9.1 GWh (26%)
- New Construction 17.8 GWh (42%)
- Strategic Energy Management 8.1 GWh (23%)

## Residential / LI Programs

- 37.7 GWh (28% of Target)
- Home Lighting & Recycling – 23.1 GWh (34%)
- ENERGY STAR Homes – 2.7 GWh (92%)
- L.I. Single Family – .24 GWh (13%)

## Gas Portfolio

- 220,994 Net Dth (32% of 681,120 Target)
- \$3.5M Spend (23% of \$14.9M Budget)

## Business Programs

- 70,596 Net Dth (45% of Target)
- New Construction 48,461 Dth (95%)
- Commercial Refrigeration 6,587 Dth (117%)

## Residential / LI Programs

- 150,398 Net Dth (28% of Target)
- ENERGY STAR Homes – 32,401 Dth (43%)
- Residential Heating – 32,551 Dth (52%)
- L.I. SF Weatherization – 15,320 Dth (32%)

# Marketing Campaigns & Trade Outreach

## Business

- Second Benchmarking Workshop, Fort Collins Feb 26
- Compressed Air Trade Partner meetings with XE Energy Efficiency Engineering, Program Manager
- Plumbing Efficiency Workshop March 4 highlighting XE Gas DSM program in Fort Collins
- Attended EEBC Quarterly Membership meeting March 26- virtual meeting, presented XE updates, financing
- Data Center Workshop March 5, Auraria/Denver
- City and County of Denver Climate Task Force Meeting March 5
- (Ongoing) Energize Denver Advisory Group Meeting
- Energy Efficiency Partner Awards Recognition Meetings – rescheduling as needed due to COVID-19

## Residential

- 2019-2020 DSM
  - StayWarm campaign email sent to customers, promoting Insulation and Air Sealing, Water Heating, and Heating solutions and rebates [www.xcelenergy.com/staywarm](http://www.xcelenergy.com/staywarm)
- January 2020 Refrigerator Recycling \$25 bonus
- Water heaters
  - Bill onsert promoting heat pump water heaters was sent out in March to all Xcel Energy electric customers.
  - Direct mail piece has been developed in partnership with Lowes and AO Smith. Placed on hold due to COVID-19.





# **Covid-19 Response Business Program**

**Adam White**  
**Team Lead, Customer Energy Solutions**

# Remote Audits

- Help customers and identify business opportunities during pandemic
- Optimize systems or minimize energy use during business shut-down
- Business Energy Audits
  - Engage vendor partner to utilize a new delivery method of auditing
  - Requirement: customers who can access equipment
  - Access: Eliminate customer fees for facilities larger than 50k sqft.
- Data Analytics
  - Engage vendor partner to analyze 15-minute interval meter data
  - Will work through our Account Management staff two-ways:
    - PTO identifies high potential prospects for AMs
    - AMs identify interested prospects for vendor partner

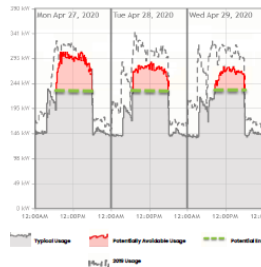
# Supporting C&I Customers Impacted by COVID With Remote Data & Analytics

## Short Term- Fast Track Recommissioning

- Identify interval metered customers who have not changed their operations to align with their building usage

### Inefficient COVID Shutdown

Worksheet: B - Potential Savings



#### COVID Shutdown Opportunity

Estimated Monthly Cost Avoided:  
**\$9,000**

Occurrence:  
**Temporary**

Potential kWh Saved Monthly:  
**100,000**

#### Observation

- This facility energy usage profile is similar to a facility with HVAC and Lighting scheduled daily, but little or no occupants in the building.
- Assuming that this facility is less than 50% occupied, 50kW of HVAC and lighting reductions should be avoidable during the COVID shutdown period.
- Assuming that this facility could operate with reduced HVAC and Lighting levels for unoccupied areas, the energy load could be reduced by 50 kW for 10 hours each weekday.
- This change in operation could reduce energy costs by \$9,000 for every month with minimal occupancy.
- If the building is fully unoccupied, significantly more energy usage could be avoided.

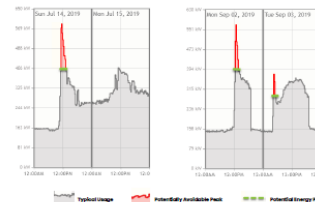
#### Recommendation

Review occupant schedules and ensure that no regularly unoccupied areas are scheduled for lighting systems and HVAC systems to operate. Temporarily change HVAC and lighting schedules to meet the current reduced occupancy needs.

### PowerTakeOff

### Inefficient Startup Sequence

Worksheet: B - Potential Savings



#### Startup Opportunity Summary

Estimated Annual Cost Avoided:  
**\$10,200**

Occurrence:  
**6 months per year**

Potential kW Reduction:  
**100 kW per month**

#### Observation

- This facility has a startup sequence for HVAC that is causing very high peak demand.
- Starting up all equipment at once is causing a peak that is around 100kW higher than needed to meet occupant comfort.
- Assuming that this is occurring 8 months per year and could be avoided. Assuming that half of peaks will happen in summer months and half in winter months and demand rates are approximately \$19/kW in summer and \$15/kW in winter, \$10,200 per year could be avoided in demand charges.

#### Recommendation

Review the facility startup sequence and consider having a new sequence used to start HVAC operation. Using a comparison between indoor temperature and the setpoint, the startup time can be adjusted and HVAC staging and VFD speeds can be limited for a period of time until the facility achieves the desired temperatures. This should be achievable without significant additional energy consumption due to equipment sometimes starting slightly earlier.

[More information on the \\$0 rate can be found here.](#)

## Long Term- Recommissioning

- Engage customers in longer-term operational improvements

# Remote Measurement & Verification

- Prescriptive
  - Utilizing approach that prioritizes safety
    - Indoors - Depending on product, Intend to (or already are) utilizing pictures of equipment nameplates
    - Outdoors - Will evaluate equipment in-person where/when necessary
  - No concerns about YE documentation achievements at this time
- Custom
  - Identifying alternative metering opportunities



# **Covid-19 Response Residential and Low Income Programs**

**Michelle Beaudoin  
Team Lead, Customer Energy Solutions**

# Thermostat Optimization – eco+

- eco+
  - A free thermostat optimization service pushed to all ecobee customers
  - Customers select on a comfort scale from 1 – 5
  - Adjusts customers thermostats
- Customer Benefits
  - Adaptive
  - Energy savings
  - Easy DR enrollment



# Refrigerator and Freezer Recycling

- January Promotion - \$75 incentive
  - **1,000** units collected (875 Refrigerator, 119 Freezer, 6 AC)
  - January 2019: 489 units (\$50 rebate)
- COVID- 19 Response (mid-March)
  - Deemed essential business under Solid/Hazardous Waste Removal
  - ARCA call center and Xcelenergy.com
    - No-Contact Pickups (release form, gloves, sanitize)
  - Positive feedback

# Home Energy Squad Virtual Visits

- Free to customers
- Virtual home assessment identifies opportunities and equipment needs
- No-cost, customized, energy-saving items delivered for DIY installation
- Virtual installation support
- Follow-up virtual visit to confirm installations and plan next steps



# Multifamily Virtual Audits

- Remote walkthrough of common areas and vacant units
- Captures same information as in-person assessment
- Photo/video documentation of efficiency upgrade opportunities with full post-assessment report
- Successful test run completed last week of April
- 30+ properties in program pipeline

# Home Energy Efficiency Kits

- New (free) kit options to help customers save while staying home
- Online ordering portal, shipped direct to customers



## HOME ENERGY EFFICIENCY KIT

Resources to help you save while you're at home.



# School Kits Enhancement

- Now shipping kits direct to customer homes
- Enable teachers to present content while tele-learning
- Allows family to participate, install energy-saving measures
- Incentives realigned to promote kit orders & installations



# Home Energy Insights (f.k.a. Energy Feedback Residential)

## Franklin Energy MyEnergy portal active in XE MyAccount

- Transition to Home Energy Insights opens new opportunities for two-way communications with customer and a wider range of topics
  - Rates and customer choices like Renewable Connect
  - Demand Management
  - Electric Vehicles
  - HomeSmart, other new and expanded products
- Customer-provided information, preferences and enhanced data advances better Customer Solutions targeting
- Updated Home Energy Reports mail and email in Q2

# Low Income Single-family Weatherization

## Partnering with Denver and Front Range Food Banks

- LED 4-Pack giveaways coordinated with local foodbanks allow low-income customers to quickly lower electric bills
- Effort started on a smaller scale in 2019, ramping up in 2020
- Negotiated directly with supplier Greenlite who bulk ships to food banks or Energy Outreach Colorado for local distribution, keeping costs down
- Low-Income customers continue to benefit from LED retail buy-downs





# **Covid-19 Response Additional Contingency Planning**

**Jon Packer  
Manager, Customer Energy Solutions**



# **DSM Pilot and Product Development Q1-2020 Highlights**



**Thor Bjork**  
**Product Developer, Customer Energy Solutions**

# Charging Perks pilot

- **Background:**

- A smart charging pilot that will manage when a residential customer charges their electric vehicle by sending a schedule directly to the EV

- **Status:**

- In contract negotiations with four automakers
- Automakers are developing software solutions for participation in the pilot
- Targeting 2020 pilot launch pending contract agreement



# Residential Battery Demand Response pilot

- **Background:**

- A pilot to test the ability of residential, customer-owned batteries to respond to demand response signals to reduce peak load, charge on demand, and shift solar export

- **Status:**

- In contract negotiations with two vendors
- Targeting a 2020 pilot launch pending contract agreement(s)

# Behavioral Demand Response Pilot

- **Background:**

- A pilot program to assess the impact of behavioral demand response with residential customers on a TOU rate
- Participants receive communications with social comparison and energy-saving tips to encourage reduction of energy use during peak events

- **Status:**

- Project kick-off in February
- Currently working with implementer on pilot design and messaging
- Originally planned for 2020 event season, now postponed to later date due to complications around Covid-19 and shelter-in-place orders

# Water Heater Demand Response

- In development
- Water heaters will be used as a form of thermal energy storage, to shift loads away from peak times
- Residential only
- For new heat pump water heaters
- 60-day notice planned for this summer



# Business Smart Thermostat Demand Response

- **Background:**

- Filed measures within all direct installation programs to expand thermostat DR into commercial and multifamily sector
- Impacts proved to be roughly twice that of residential thermostats

- **Status:**

- Program launched in April
- Open for customer sign-ups, installations will resume when it's safe to do so



# Thermal Energy Storage

- Custom measure with streamlined assessment available that engages low temperature refrigeration facilities
- Thermal storage medium (phase change material or other) must be located within the refrigerated space



# Business Energy Assessments

## Goals of Assessment Program Redesign

- Provide a clear, progressive suite of “right-sized, right detail” offerings to meet the needs of each business customer segment
- Create a streamlined experience for trade partners and customers
- Increase the implementation rate to increase customer savings and improve cost effectiveness overall

New Product >>>	Small Business Solutions Walk-Thru	Commercial Streamlined Assessment	Building Assessment	Targeted Building Assessment	In-Depth Study
Current Study	N/A	CO: Business Energy Analysis	Recommissioning		Engineering Assistance Study
Cost to Customer	Free	\$	\$\$	\$\$\$	\$\$\$\$
Target Market	Smallest to Mid	Small to Mid	Mid to Large	Engaged/Targeted	High Opportunity
Onsite Activity	Operations & Equipment Eval Direct Installs DM Enrollment	Operations & Equipment Eval Direct Installs RCx Lite; DM Enrollment	Operations & Equipment Eval Approved RCx DM Enrollment	Operations & Equipment Eval Approved RCx DM Enrollment	Equipment Eval
Implementation Support?	Yes	Yes	Yes	Yes	No

## Product idea submissions

Share your Product Ideas:

[www.xcelenergy.com/productideas](http://www.xcelenergy.com/productideas)



# **Codes and Standards Research Q1-2020 Update**

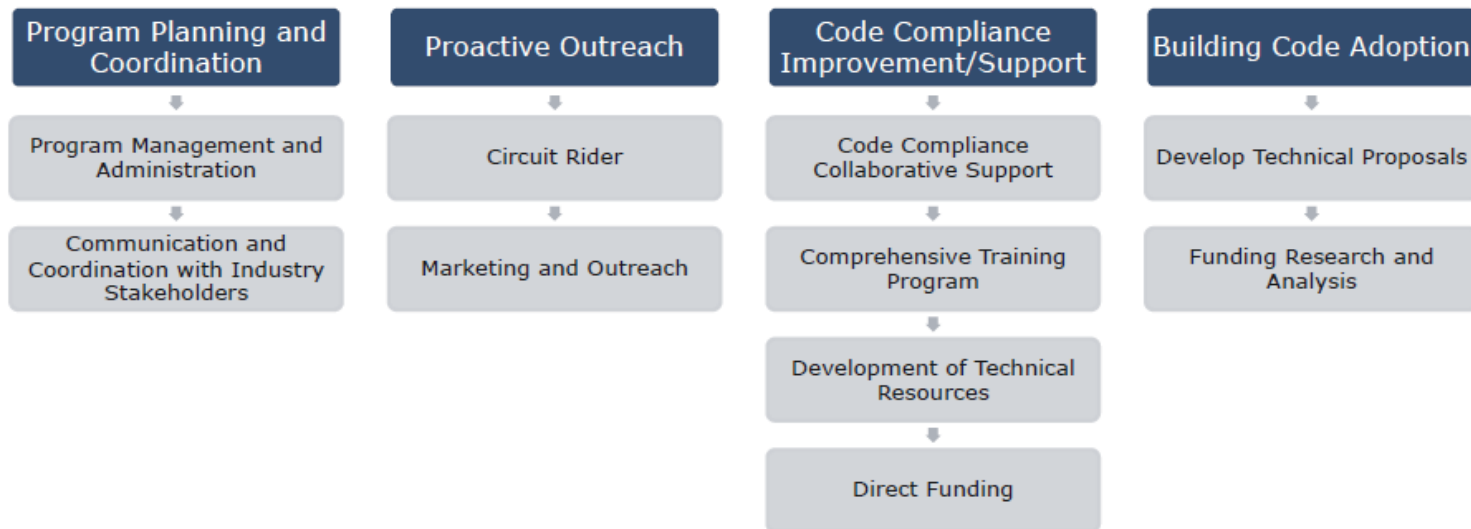
**Julie Herman**  
**Product Developer, Customer Energy Solutions**



# Codes & Standards Research Project

- **Background:**

- Phase 1: Exploration of utility compliance programs and the landscape of codes and standards in CO and MN
- Phase 2: Program and savings methodology recommendations



# Codes & Standards Programs



## Codes & Standards Research and Filing

- **Filing:**
  - Build cost benefit analysis
  - File June 2020
- **Status:**
  - Update at Q3 Roundtable
  - Continue research on appliance standards

