Colorado DSM Roundtable

February 19, 2013
1:00 – 4:00 pm

03G01, 1800 Larimer St.
Denver, CO
Welcome and Introductions

Shawn White
Manager, DSM Regulatory Strategy & Planning
P: 612-330-6096
E: Shawn.M.White@xcelenergy.com
Agenda

1:00 – 1:05 p.m. Welcome and Introductions

1:05 – 2:15 p.m. DSM Programs: Q4-2013
- Summary
- Business
- Residential
- Energy Efficiency Financing (Bus & Res)
- Low-Income

2:15 – 3:45 p.m. Pilots & Product Development
- Data Access & Data Privacy
- Stakeholder Idea Submissions
- Advanced Pricing Pilot
- In-Home Smart Device Pilot
- Community Energy Program

3:45 – 4:00 p.m. Regulatory Look-Ahead
Colorado DSM Achievements
Q4-2013

Bill Conrad
Manager, Energy Efficiency Marketing
2013 DSM Achievements

Electric DSM Achievements:
- 383 GWh (Net Gen)
- 108% of goal
- 90% of budget
- Over 769,000 participants

Natural Gas DSM Achievements:
- 571,966 Net Dth
- 134% of goal
- 103% of budget
- Over 256,000 participants

Managed budget flexibility and kept all programs open
High-Performing Business Products

Business – Electric
219 GWh
- Lighting Efficiency 71 GWh
- New Construction 32 GWh
- Motors & Drives 22 GWh
- Small Business Lighting 17 GWh
- Computer Efficiency 13 GWh

Business – Natural Gas
117,273 Dth
- New Construction 74,899 Dth
- Heating Efficiency 13,145 Dth
- Recommissioning 12,219 Dth
High-Performing Residential Products

Residential – Electric
164 GWh
- Home Lighting & Recycling 117 GWh
- Refrigerator Recycling 5 GWh
- School Education Kits 4 GWh
- *Low-Income Kits 4 GWh
- Evaporative Cooling 3.8 GWh

Residential – Natural Gas
454,693 Dth
- ENERGY STAR® New Homes 100,128 Dth
- *Low-Income Single-Family Weatherization 79,941 Dth
- Heating System Rebates 59,462 Dth
- Insulation 44,940 Dth

*Products are for residential customers, as part of the Low-Income Program.
Trade Allies, Contractors, & Consultants

- Over 850 trade allies participating in Business Program
- Over 750 trade allies participating in Residential Program
  - Many work in residential HVAC
  - Lighting Efficiency & Small Business Lighting had over 400 trade allies in 2013
- Energy Efficiency Partner Award
  - Awards based on total projects by program, total savings and rebate dollars
  - Recognition at training events
  - Use of Xcel Energy’s Efficiency Partner logo

[Image of Efficiency Partner logo]
Business Program Highlights

Jennifer Elling
Team Lead, DSM Marketing
What are upstream / midstream programs?

- **Upstream Rebates** – Incentivize manufacturers to focus on production of energy efficiency products
- **Midstream Rebates** – Incentivize distributors or retailers to stock / sell energy efficiency products

**Examples:** Computer Efficiency and Home Lighting & Recycling

- Savings potential increase because customers do not need to apply for a rebate; already received via reduced product cost
DSM Business Program Highlights
New Upstream/Midstream Initiatives

- **Lighting Efficiency Product**
  - Midstream incentive opportunity currently in RFP stage
  - LED screw-in lighting

<table>
<thead>
<tr>
<th>ENERGY STAR®-Qualified Interior LED Lamps**</th>
<th>Replace Incandescent or Halogen lamps with an ENERGY STAR-qualified LED that uses 3–6 times less energy (e.g., a 20W LED lamp replace a 60W–120W incandescent).</th>
<th>$7.00/lamp</th>
<th>$12.00/lamp</th>
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<tr>
<td>5W or less</td>
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<td>Greater than 5W to 10W</td>
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<tr>
<td>Greater than 10W to 20W</td>
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</tbody>
</table>

- **Cooling Efficiency Product**
  - Upstream incentive in early stage
  - Internal planning meetings
DSM Business Program Highlights
Commercial Refrigeration Efficiency

- Commercial Refrigeration product launched July 2013
  - On-site refrigeration focused assessments
  - Direct installation services
    - LED lamps, faucet aerators, coil cleaning
  - Prescriptive and custom measures
  - Turn-key services

- Target market segments:
  - Small- / mid-sized businesses
  - Grocery stores, liquor stores, restaurants, convenience
Participation since product launch:
- 300+ customer site assessments
- 5+ GWh pipeline established and growing
- 750,000+ kWh committed savings

2014 Forecast:
- 9.25 GWh energy savings
Residential & Low-Income Program Highlights

David Hueser
Team Lead, DSM Marketing
DSM Residential Program
Home Lighting & Recycling

- **Exceeded 2013 savings goal on retail CFL sales**
- **8% lower 2014 goal – reduced EISA baselines**

- 76.5 GWh goal in 2014, 839K participants
- 265,000 unit sales LED in 2014 goal, roughly triple 2013 actual sales of 86,000
- 2014 retail promotions for specialty CFLs and LED lamps
- 60-Watt incandescent phase-out starting in 2014
- LED lamps likely to be included in 2014 School Ed. Kits
DSM Residential Program
Home Lighting & Recycling

- **Top selling CFLs in multi-packs, primarily spirals, some reflectors**
- **Sales distribution: warehouse clubs, home centers, grocery/drug, and deep discounters**

![TCP 14W Spiral 4-pack](#)
**Home Depot**

![GE 13W spiral 8-pack](#)
**Sams Club**

![Greenlite 13W spiral 2- and 4-packs](#)
**Dollar Tree, King Soopers**

![Feit 23W Mini Twist 6-packs](#)
**Costco**

![GE 26W spiral 4-pack](#)
**Sams Club**
DSM Residential Program
Home Lighting & Recycling

- Top selling LED Lamps, primarily singles
- A-line lamps or reflectors replace incandescent lamps
- Sales distribution skews to warehouse clubs, home centers

Philips 11-12W A-Line
Home Depot

Feit 13W BR30
Reflector Costco

Utilitech 13.5W
A19 Lowes
DSM Residential Program
School Education Kits

Significant program cost savings realized in 2013 via competitive bid

- Conducted competitive bid in 2013 across three states – CO, MN, NMx
  - Selected vendor: AM Conservation Group
  - $1.5 million savings over three-year period within three states, driving down Program costs
- In 2013, Colorado program achieved 100% of participation and 104% of electric savings goals on 97% spend
- In 2014, LED lamps, CFLs, Showerheads, Aerators and other components will be included in School Education Kits
DSM Residential Program
Energy Efficient Showerheads

Achieved 108% of 2013 gas participation goal, 116% of gas savings and spend

- Two-step direct mail primarily targets participants
- Cost-effective: 5.07 Gas and 7.03 Electric MTRC in 2012
- 2013 YE: 26,440 Dth gas savings; 350,000 kWh electric savings
- In 2014, Bathroom and Kitchen Aerators added to Energy Efficient Showerheads customer kits

1.5 gallon-per-minute (GPM) showerhead
DSM Residential Program
Residential Pool Pumps (w/VSD)

Instant $100 point-of-sale rebate for variable speed pool pump. Up to 70% energy savings

- Result of Innovative Technology RFP in 2012
- Program implemented via 60-Day Notice in January 2013
- Ecova is third-party implementer, 13 trade partners
- Under-performed goals, slow marketplace traction
- Initial $100 rebate covered 17% of incremental costs; increasing to $200 (34% of incremental cost) to increase participation
- Program scaled back in 2014 on lower expected participation, to strive for cost-effectiveness
DSM Residential Program
ENERGY STAR® DSM Products

◆ ENERGY STAR® New Homes likely to remain open in ‘14
◆ Home Performance with ENERGY STAR® 2014 goal increased from 400 to 500

ENERGY STAR New Homes
- **2013 actual**: 2,883 homes; 110,787 Dth; 2 GWh
- **2014 goals**: 2,544 homes; 95,294 Dth; 1.7 GWh

Home Performance with ENERGY STAR
- Comprehensive Program Evaluation near complete
- **2013 actual**: 554 homes; 18,591 Dth; 0.48 GWh
- **2014 goals**: 500 homes; 8,439 Dth; 0.3 GWh
Low-Income Program
Single-Family Weatherization

- Achieved 135% of gas savings stretch goal
- Fell short of electric savings goal in 2013
- Additional gas-savings measures added in 2012/13 Plan Settlement; goals increased
- Colorado Energy Office is the primary Program implementer
- Partnered with Energy Outreach Colorado—identified and implemented energy-savings measures in 11 Denver Housing Authority properties in Q4 2013, with significant savings. Will continue this partnership in 2014.

<table>
<thead>
<tr>
<th>Participants</th>
<th>kWh savings</th>
<th>Dth savings</th>
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<tbody>
<tr>
<td>Denver HA</td>
<td>1,944</td>
<td>459,545</td>
</tr>
<tr>
<td>Pueblo HA</td>
<td>271</td>
<td>4,941</td>
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<tr>
<td>Total</td>
<td>2,215</td>
<td>459,545</td>
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</table>
Energy Efficiency Financing for Residential & Business Customers

- **Continuing partnership with financial allies**
  - *Residential*: WJ Bradley, Bank of Colorado & Elevations Credit Union
  - *Commercial*: TIP Capital & Elevations Credit Union

- **Q4 2013 Highlights:**
  - Individual trade partner meetings to develop contractor tools, calculators & resources
  - Continued collaborative marketing efforts

- **Q1 2014 Updates:**
  - Trade Partner trainings: 2 residential & 1 commercial
  - 2014, second invitation to ally
  - Program Evaluation to begin Q2-2014
DSM Data Access & Data Privacy

Drew Quirk – Product Development
Objectives

- Describe Xcel Energy’s approach to Data Privacy and Confidentiality
- Define Xcel Energy’s current strategy for integrating data services into our portfolio of products and services
Data Privacy and Confidentiality: A Balancing Act
Our customers are universally...unique
Xcel Energy seeks direction
DSM Data Access

The Three Legs

1. Publicly Available Data
2. Individual Customer Access & Analytics Solutions
3. Robust DSM Offerings
Data Access and Analytics Framework

- Access
- Insights
- Social Motivators
- Personal Motivators
- Call to Action
Publicly Available Datasets
Individual Customer Access & Analytics
DSM Offerings
Summary

- Xcel Energy looks forward to...
  - …continuing the regulatory discussion and generating guidelines that work for everyone in the area of Customer Data Privacy and Confidentiality
  - …delivering more products and services in the future that our customers and communities want and value
Create choices to help customers save on energy, support their environmental values and improve their overall experience with Xcel Energy
# 2013 New Products

<table>
<thead>
<tr>
<th>New Products Filed in 2013</th>
<th>2013 GWh</th>
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<tbody>
<tr>
<td>Commercial Refrigeration</td>
<td>9.0 GWh</td>
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<tr>
<td>LED Parking Garages Lamps</td>
<td>5.8 GWh</td>
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<tr>
<td>Business Energy Feedback</td>
<td>5.5 GWh</td>
</tr>
<tr>
<td>Online Energy Feedback</td>
<td>4.2 GWh</td>
</tr>
<tr>
<td>Pool Pumps</td>
<td>2.2 GWh</td>
</tr>
<tr>
<td>DEPACC</td>
<td>1.7 GWh</td>
</tr>
<tr>
<td>Building Tune-up</td>
<td>1.4 GWh</td>
</tr>
<tr>
<td>Community EE Partnerships</td>
<td>0.0 GWh</td>
</tr>
</tbody>
</table>
Facilitated process to prioritize DSM product development efforts for 2014

- Opportunities vs. concepts
- Screening criteria
- Market insight
- Top ideas prioritized for 2014 development
Where do ideas come from?

- External stakeholders
- Conference & market intelligence
- Utility organizations
- Customers
- Sales & customer care teams
- Trade partners & consulting firms
- Regulators
- Potential vendors
- And more!
Which Ideas to Pursue?

- Size of Opportunity (GWh, Dth)
- Market Advantage (alignment with market, industry trends)
- Strategic Fit
- Product Advantage (likely market share)
- Feasibility (ease of development and approval)
- Customer Choice (impact to customers)
## The Best of the Best

<table>
<thead>
<tr>
<th>2014 Development Plan (impacts 2015+)</th>
<th>37GWh*</th>
<th>PD Stage</th>
</tr>
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<tbody>
<tr>
<td>LED Troffers</td>
<td>1.1 GWh</td>
<td>4</td>
</tr>
<tr>
<td>Large C&amp;I Data Analytics</td>
<td>6.0 GWh</td>
<td>3</td>
</tr>
<tr>
<td>Holistic Multifamily</td>
<td>4.5 GWh</td>
<td>3</td>
</tr>
<tr>
<td>Smart Thermostats</td>
<td>2.5 GWh</td>
<td>3</td>
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<tr>
<td>SME Direct Install</td>
<td>3.9 GWh</td>
<td>3</td>
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<tr>
<td>Midstream LED Rebates</td>
<td>3.0 GWh</td>
<td>3</td>
</tr>
<tr>
<td>LED Area Lighting</td>
<td>2.1 GWh</td>
<td>3</td>
</tr>
<tr>
<td>Upstream strategy &amp; DOE RTU Challenge</td>
<td>0.0 GWh</td>
<td>3</td>
</tr>
<tr>
<td>Process Efficiency for SME</td>
<td>6.0 GWh</td>
<td>2</td>
</tr>
<tr>
<td>Convenience Store Comprehensive Offering</td>
<td>4.4 GWh</td>
<td>2</td>
</tr>
<tr>
<td>Advanced Lighting Design</td>
<td>2.5 GWh</td>
<td>2</td>
</tr>
<tr>
<td>Whole House Revamp</td>
<td>1.0 GWh</td>
<td>2</td>
</tr>
</tbody>
</table>

Early projections of savings may change during development. Not all concepts will progress into filed products.
NEW: PD Express
2014 PD Express
Potential Products

- LED high bay lighting
- Energy recovery ventilators
- Home Energy Squad
- LED area lighting
- Pool equipment (pumps, gas heaters, covers)
- EC plug fans in data centers
- Mini-split ductless air conditioning
- DEPACC for Refrigeration
- Commercial refrigerator/freezer rebates
- Western cooling control device
- Rooftop unit controls
- Air source heat pump to replace electric resistance heat
Stakeholder DSM Idea Submissions

Presented by Pat Goggin

Program ideas can be submitted on Xcel Energy’s DSM website at:

http://www.xcelenergy.com/About_Us/Rates_&_Regulations/Regulatory_Filings/CO_DSM
Stakeholder DSM Idea Submissions

1. Fluorescent to LED Retrofits in Reach-in Display Cases via GE
2. ShowerStart via ShowerStart LLC
3. MasterMetered Multi-Family via SmartWatt
1. Fluorescent to LED Retrofits

**Description:**
- Provide a prescriptive incentive for LED light bars used in open deck refrigerated cases

**Evaluation Result:**
- We offer rebates for vertical case lights, a horizontal option makes sense
- Estimated Energy Savings:
  - 304.6 kW
  - 2.33 GWh

*Move to Concept Evaluation*
2. ShowerStart

**Description:**
- Prescriptive program to offer incentives for the installation of SmartStart device in residential showers

**Evaluation Result:**
- SmartStart showerhead closes water flow to a trickle once the water reaches bathing temperature; once customer is ready to begin shower they pull a tab and water flow returns to normal
- Estimated Energy Savings:
  - 0.33 GWh
  - 8,714 Dth

*Include in next concept prioritization round*
3. Master-Metered Multifamily Program

- Received November 18, 2013

**Description:**
- Turnkey program to install prescriptive energy efficiency measures in master-metered multi-family buildings and complexes

**Evaluation Result:**
- Master-metered multi-family properties already participate in our programs
- Company agreed to launch a pilot for multi-family housing as part of the 2014 Plan Settlement – October 29, 2013
- Estimated Energy Savings: Insufficient data to estimate

**Concept already included in multi-family pilot**
Pilot Updates

Andre Gouin
Ryan Matley
David Hueser
SmartGridCity™ Pricing Pilot

Overview

- Three-year pilot concluded September 2013
- Three Pricing Options; Shift & Save (TOU), Peak Plus Plan (CPP), Reduce-Your-Use Rebate (PTR)
- Customers within SmartGridCity were eligible to participate
- Goal to determine if time differentiated pricing reduces peak demand and energy consumption
- Results filed with Commission in December 2013
SmartGridCity™ Pricing Pilot Results Summary

- 4,029 Participants recruited (Nearly 20% of eligible population)
- Outreach – Recruitment plan and materials developed and deployed
- Education & Engagement – Developed strategic plan, deploy tactics
- People – Cross-functional effort with Business Systems, Metering, Billing, Customer Care, Marketing Operations, Product Development, Regulatory, Community Relations
- Process – Developed process to effectively deliver the program.
- Technology – Leveraged infrastructure to deliver rates and event notification.
- Consistent with findings from other pricing studies
- “Stick” (CPP) beat “Carrot” (PTR) for peak kW reduction (22-29% vs. 8-14%)
- Behavior change generated year round energy savings (~5%)
- TOU load reduction of 5-9% across the life of the pilot
Pricing Pilot – kW Reduction, kWh Savings

**CPP**
- Significant peak reduction (25%)
- Energy savings throughout the year (7.5%)

**PTR**
- Peak reduction (12%)
- Energy savings throughout the year (4.5%)

**TOU**
- Peak reduction (7%)
- Little annual energy savings (<1%)
Pricing Pilot - Lessons Learned

- All rates encourage behavior change year round
- CPP provides greatest savings
- Non-summer events provide little load relief
- Opt-in out performs opt-out
- Cost-effectiveness - significant hurdles to overcome before rates can be offered on a broader basis
- Customers with A/C and high loads benefited most, provided the most benefit
- PTR baseline presents significant challenges in this climate
- 2:00 – 8:00 event window is appropriate
- Attrition driven by customer moves not customer choice
- Event impact lessoned over time, implies the need for automated controls
In-Home Smart Device (IHD) Pilot

Presented by Ryan Matley
IHD Pilot Background

Objectives:

- **Energy savings:**
  - IHD feedback induces behavior change

- **Demand savings:**
  - Thermostat setback: 5 degrees for 6 hours
  - Appliance sockets disabled
  - No participation incentives offered
  - Participants can opt-out at any time

- **Understand customer perception of device/pilot structure**
Customer Satisfaction

- Perception of savings using an IHD is critical to satisfaction

Overall Satisfaction with IHD Pilot

- Savings (No): 63%
- Savings (Yes): 86%
- 2013 Survey: 74%

91% Positive (6-10)

% Very Positive (8-10)

How satisfied are you with the In Home Device pilot program?
Demand Savings

Bookends of IHD Savings (2013):
- **0.52 kW** (All IHDs in pilot)
- **0.99 kW** (Event Participants)

Increased event participation
Energy Savings

Monthly Savings

Avg. Energy Savings = 2.9%

Are statistically significant

Fixed Effects Regression Analysis
Cost-effectiveness: Now and Future

- The pilot was not cost effective – MTRC ~ 0.3
- The bigger question is what do the pilot results say about the cost-effectiveness of a future program?
  - Results are promising
  - Focusing only on the thermostat reduces cost significantly
  - Increasing event participation rates raises demand savings
- Results of the pilot are informing our smart thermostat pilot design
- Pilot evaluation published early Q2 2014
Community Energy Program

Presented by David Hueser
Product Development Update

Community Energy Program

Community Energy Program

Proposed offering to support collaborative partnering between a community and PSCo in the development and implementation of strategic energy plans

- Incorporates the early findings of the Community Energy Efficiency Planning Pilot
  - Expand implementation resources
  - Leverages all PSCo products
  - Outlines community commitment
What does it look like?

1. Enroll a community (Application Process)

2. Engage stakeholders and community leaders in planning process (Stage 1)

3. Support strategy implementation (Stage 2)

4. Track & communicate results, award bonuses

Goals & Strategies

PSCo & City Profile

Bonus & PR

Joint Marketing
Product Development Update
Community Energy Program

1. Plan Development
   - Facilitated planning process
   - Goals and strategies include:
     - Energy Efficiency
     - Renewables
     - Business Operations (billing, payment, online access)

2. Implementation
   - Configure unique program with Xcel Energy product and community resources
   - Provide project management resources to assist in implementing tactics
   - Support tracking and promotion through community specific web site, advertising and public events
Product Development Update
Community Energy Program

**Program Objectives:**

1. Develop new DSM delivery channel
   - Leverages community brand to promote PSCo products
2. Expand distribution of renewables
   - Wind and Solar
3. Strengthens relationships with communities
   - Provides more options and services
DSM Regulatory Updates

Presented by Shawn White

Compliance information available on Xcel Energy’s DSM website:
http://www.xcelenergy.com/About_Us/Rates_&_Regulations/Regulatory_Filings/CO_DSM
Historical Achievement / Cost Trends

### Energy Efficiency

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<th>Year</th>
<th>kWh</th>
<th>Actual Spend</th>
<th>$/kWh (First Year)</th>
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<td>2010¹</td>
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<td>$42,227,987</td>
<td>$0.168</td>
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<tr>
<td>2011²</td>
<td>311,358,676</td>
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<td>2012³</td>
<td>400,198,618</td>
<td>$67,144,200</td>
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<tr>
<td>2013⁴</td>
<td>382,526,905</td>
<td>$63,487,550</td>
<td>$0.166</td>
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</table>


⁴ Q4-2013 Program Achievements (Docket No. 11A-631EG). (Total kWh & Spend do not include Saver’s Switch). Available: [https://www.dora.state.co.us/pls/efi/efi.show_document?p_dms_document_id=302393&p_session_id=](https://www.dora.state.co.us/pls/efi/efi.show_document?p_dms_document_id=302393&p_session_id=)
60-Day Notices

- **DEPACC**
  - Cooling Efficiency (Business) product
  - **Posted:** 12/17/2013
  - **Comments Received:** None
  - **Implemented:** 1/17/2013

- **LED Parking Garage and Troffer Fixtures**
  - Lighting Efficiency (Business) product
  - **Posted:** 1/21/2014
  - **Comments due:** 2/19/2014
Regulatory Look-Ahead to 2014

Upcoming DSM Filings / Meetings

- **Mar 2014** *(anticipated)*: 2014 DSM Plan Decision
- **Apr 1, 2014**: 2013 DSM Annual Status Report
- **Apr 22-24, 2014**: DSM Strategic Issues Hearing
- **May 8, 2014** *(Thursday)*
  - Q1-2014 DSM Roundtable Meeting
- **June 2014** *(anticipated)*:
  - DSM Strategic Issues Decision
- **October 30, 2014**:
  - 2015/2016 Biennial DSM Plan
Q&A
Appendices – Data Access & Data Privacy

- Green Button Examples
### Green Button Format - .csv

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<tr>
<th>Name</th>
<th>Address</th>
<th>Account Number</th>
<th>TYPE</th>
<th>START DATE</th>
<th>END DATE</th>
<th>USAGE</th>
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