2018 Second Quarter Colorado DSM Roundtable Update
August 15, 2018

Public Service Company of Colorado ("Public Service" or "the Company") provides the following update regarding product status including energy and demand savings achieved, product expenditures, implementation changes, and measurement and verification ("M&V") modifications.

Product Implementation Status
Please refer to the attached table for the preliminary second quarter 2018 (cumulative Jan. 1 – June 30, 2018) product energy and demand savings achieved, product expenditures, and CO₂ and SO₂ emissions avoided. In total, Demand-Side Management ("DSM") electric products have achieved savings of approximately 281 GWh and gas savings of 292,410 Dth in the 2018 calendar year. This represents approximately 70% of the 2018 electric DSM plan’s energy savings target of 429 GWh and 51% of the gas target of 573,139 Dth.

The following section provides product status activities for the second quarter of 2018 in the Business, Residential, Low-Income, and Demand Response Programs, as well as Indirect Products & Services and other related activities.

Business Program

- **Commercial Refrigeration Efficiency** – The product is not currently on pace to achieve the 2018 electric or gas savings targets. The focus of third quarter will be to build pipeline for the year; identifying ways to attain more engagement in the product, as well as potentially promoting and running campaigns more aggressively for specific measures. At the end of second quarter, the team decided to take the product to bid and began the RFP process. Every few years, the Company will typically issue an RFP to insure that the best implementer is representing the product. Focus for the third quarter will be geared towards the trade as they know the customers and the market best, finding strategies to attain the savings targets for the remainder of 2018, as well as building pipeline for 2019.

- **Compressed Air Efficiency** – The product isn’t on track to achieve its savings target. However, the product is on pace to stay with the trend of attaining the same savings as the last two previous years. In third quarter of 2018, the product will continue to focus on building pipeline and on the trade; to gain more engagement and participation, as well as gathering feedback on the product itself. This will be done through trade visits and a possible compressed air challenge later in the year. The compressed air challenge is an all-day training event, in which compressed air trade attend to either get a better grasp on or a refresher on the fundamentals of compressed air.

- **Computer Efficiency** – The product is not on track to meet the year-end forecast. Upstream participation has been slow in the second quarter; program management is working with the third party implementer as they transition through an acquisition. The Company has also posted a 90-Day Notice to terminate the product effective December 31, 2018 and transition the cost-effective measures to the Data Center Efficiency product.

- **Cooling** – The product continues to see significant growth in water source heat pumps and air-cooled chillers. Mini-split heat pumps and AC-only units have been transitioned to a midstream measure and the Company expects significant growth in participation. Midstream distributors are lagging in submitting applications due to the very hot summer and number of service calls. Submittals are expected to increase the second half of the year.
• **Custom Efficiency** – The product does not have a strong pipeline of electric projects as it enters into the third quarter. Program management is working with account managers to identify and promote custom projects. The product does have a very large gas project that is expected to close in the 2018.

• **Data Center Efficiency** – The product is not on track to meet its year-end savings target. A small number of projects were completed during the second quarter, with additional projects planned for completion during the second half of the year. The national advertising campaign to generate awareness of the new construction offering launched in the second quarter and will continue in the third quarter.

• **Energy Management Systems ("EMS")** – Seventeen projects were completed in the second quarter. The average savings per project was unusually low, resulting in relatively weak achievement. The pipeline of larger projects expected to complete by the end of the year remains relatively strong, so the full-year results should be near the target. Natural gas savings will nearly match last year’s achievement, but will fall short of the current year’s goal.

For the second half of the year, the Company will focus on prompting customers to complete large projects, and on the continued investment in Energy Information System (EIS) consulting. The Company expects to close the first year of engagement with two EIS customers while working on studies with software installations for 15 other EIS customers.

• **Heating Efficiency** – The product is not expected to achieve its year-end targets. While the bonus rebate was discontinued in the second quarter, the Company is evaluating strategies to drive additional 2018 participation include campaigns targeting commercial water heaters. Third party vendor initiatives will be promoted more heavily in the third quarter for direct installation offerings. The introduction of ozone laundry is another strategy to capture savings through the rest of 2018.

• **LED Street Lights** – The rate of installations has slowed significantly relative to the last two years as interest from customers is decreasing. No units were retrofitted in the second quarter. The product is not on track to meet its electric savings target.

• **Lighting Efficiency** – The product achieved its filed target in the second quarter. Achievement was the highest in LED tubes, LED exterior lighting and LED troffer categories. In addition the product posted a 60-Day Notice to update several components of the product. The intent of the Notice was to make the product easier for customer and trade partners to participate in as well as improve the cost effectiveness of the product. The product will continue to explore ways to improve the customer and trade partner experience as well as improve cost effectiveness.

• **Lighting – Small Business** – The product is on track to exceed its forecast for electric energy savings, the achievement year-to-date was highest for the LED Troffer, LED Area Lighting and LED Tube measures. The product posted a 60-Day Notice to optimize the cost effectiveness of the measures and improve the customer and trade partner experience. The product is not on track to meet the gas target.

• **Motor & Drive Efficiency** – The product is on track to meet and potentially exceed its 2018 savings target. The focus for the third quarter will be to continue to build pipeline and engage both customers and trade. Most of the savings committed and completed thus far are from participation and installation of Variable Frequency Drives (VFDs).

• **Multifamily Buildings** – The Multifamily Buildings product saw a great second quarter and continues to build a strong pipeline. The Company is currently forecasting overachievement of both gas and electric targets which is being supported by direct install measures as well as larger “stage three” prescriptive and custom measures. The Company is carefully monitoring the
amount of participation coming in and scheduling customers accordingly to ensure the best customer experience possible while balancing the program budget, savings targets, and pipeline for 2019.

- **New Construction** – The New Construction product has performed well throughout the 2018 year and is currently on track to meet or exceed its 2018 electric savings targets. Gas achievement is behind its mid-year target, and not on track to meet its year-end target due to delays with larger-scale projects, though the product is forecasted to achieve more gas savings in the third and fourth quarters. While these delays on the construction activity side have incurred impacts on the final steps of individual projects, project enrollment and pipeline remains strong within the overall product.

- **Process Efficiency** – The product’s second quarter included an exceptional number of project completions. Most of the projects had been recommended and promoted over the last 12 to 36 months. A broad range of participants included customers from food process, wastewater treatment, manufacturing, and a municipality. The projects culminated in savings of more than a third of the full-year target, and the Company expects the product to meet or exceed its full-year target. Product expenses remain in-line with achievement. Next quarter, the Company will focus on additional project completions and on customer participation in 2019.

- **Recommissioning** – The product is not expected to achieve its year-end electric or natural gas savings targets. There was a slight uptick in completed studies during the second quarter. Additional efforts will focus on implementation of recommendations from the recently completed studies. The summer promotion for the Small Building Tune-Up offering launched during the second quarter and has been extended into the third quarter. The summer promotion, launched in partnership with the Business Energy Analysis product, provides a tune-up to eligible customers for $99.

- **Self-Direct** – The product is not on track to meet its year-end savings target in 2018. The first project of the year was completed during the second quarter, but the pipeline is minimal for the second half of the year. The remainder of the pipeline is scheduled for completion in the coming years. The Company had an informal discussion in the second quarter with a participating vendor to discuss the product offering. The Company will conduct additional informal discussions during the second half of the year.

**Residential Program**

- **Energy Efficiency Showerheads** – The product has had lower rates of participation from its marketing campaigns than in previous years and may underachieve this year.

- **Energy Feedback Residential** – The product is on track to exceed year-end savings targets. Most of the participants from the 2017 rolling enrollment group have now been receiving reports for one year, and they are now showing gas and electric. The Company continues to leverage the Home Energy report to promote other DSM products. As a part of a summer “cooling bundle”, a module promoting the AC Rewards offering launched in June.

- **ENERGY STAR® New Homes (“ESNH”)** – The ENERGY STAR® New Homes product was back up to “normal” participation levels in the second quarter when benchmarked against 2017. Over half of the qualifying homes were either on the 2012 or 2015 IECC codes. The Company expects to see this number continue to increase as more areas adopt these higher energy codes. The product is forecasting to over-achieve both gas and electric targets in 2018.

- **Evaporative Cooling** – Manufacturer representatives are expecting this to be a flat sales year, at best. Also, portable evaporative coolers are well-stocked by retailers this year, but they do not
qualify for a rebate. It is likely that customers are buying portable coolers instead of rebate-qualifying permanently installed cooler types. If so, this market shift will result in decreased participation and energy savings. The Company will explore whether a new portable cooler product measure could be added to the product.

- **High Efficiency Air Conditioning** – The product is performing slightly behind forecast but the Company expects the product will achieve its forecast as applications are processed. The newest measure, ductless mini-split heat pumps, is gaining traction; it has been rebated more in the first half of 2018 than in all of 2017.

- **Home Energy Squad** – Participation continues to be slow for the product, however its per-household electric savings continue to be higher than expected. Close involvement with Partners in Energy communities and the Energy Resources team continue to be pursued, in addition to Spanish-language outreach and cross-marketing with the Refrigerator Recycling and School Education Kits products. The first Enhanced Home Energy Squad visits were conducted in customer homes, with initial feedback being very positive.

- **Home Lighting & Recycling** – The product has achieved 60% of its forecast in the first half of 2018. Efforts to increase sales during second quarter included bill onserts, updated point of purchase displays, educational opportunities at community events and a promotion with the Colorado Rockies.

- **Home Performance with ENERGY STAR® (“HPwES”)** – The Home Performance with ENERGY STAR product is on track to achieve about half of its participation and savings targets. The product has seen a decline in participation over the past couple years, however, the product is benchmarking close to 2017 achievement. The Company posted a 60-Day Notice during the second quarter to help more customers qualify for the product. This change should lead to an increase in participation during the second half of the year.

- **Insulation & Air Sealing** – The insulation and air-sealing product had a successful second quarter. It is currently on track to achieve its electric targets and is forecasting to slightly overachieve its gas target. The Company is currently marketing the product through a bundled summer campaign and will switch to a bundled winter campaign in the fourth quarter.

- **Refrigerator & Freezer Recycling** – Participation increased quickly in the second quarter, coinciding with the launch of a multi-channel seasonal marketing campaign. Close involvement with Partners in Energy communities will continue, as will cross-marketing with the Home Energy Squad and School Education Kits products. An additional marketing push is planned for the third quarter, centered on a sweepstakes for participating customers that resulted in a jump in participation last year. Despite the increase in monthly participation rates, the product is not expected to achieve its energy savings targets. It is on-track to stay under its budget for the year. Additionally, the Company anticipates posting a 60-Day Notice to add tandem pick-up of room air conditioners as a new measure.

- **Residential Heating** – The 95% AFUE gas furnace measure has met its 2018 targets, and it has exceeded the budget, due to the large bonus rebate offering in the first quarter. The EC [furnace fan] Motor measures are on track to meet their targets.

- **School Education Kits** – More than 7,000 kits were shipped to participating schools in the second quarter, bringing total participation for the spring semester to over 19,000 or 51% of the target for the year. The product is on-pace to achieve its annual participation forecast, and will likely exceed its electric and gas savings targets again this year.

- **Water Heating** – The product is on track to meet the natural gas targets. The natural gas tankless measure continues to see a gradual increase in participation relative to the tank
measure. Participation for electric heat pump water heaters has not met expectations year-to-date. In June, an “instant rebate” tactic was launched at retail locations to drive more participation.

**Low-Income Program**

- **Energy Savings Kits** – The product saw early participation due to a late 2017 direct mail campaign. The 2018 campaign launched at the beginning of June, and response rates are trending downward compared to previous years. This is mostly due to saturation of the market and a declining number of eligible participants in the Low-Income Energy Assistance program.

- **Multifamily Weatherization** – The product is on track to meet year-end savings targets. Several large electric projects were completed in the second quarter, and outreach was successful in building up a pipeline for the rest of the year. The Company continues to focus on reaching customers outside of the Denver Metro area with projects recently closed in Silt and Grand Junction.

- **Non-Profit** – The product is on track to meet or exceed year-end savings targets. A large amount of electric projects closed in the second quarter, and there is a good pipeline of gas projects expected to be completed in the last two quarters of the year.

- **Single-Family Weatherization (“SFWx”)** – The Single Family Weatherization product had a successful second quarter and remains on track to achieve year-end targets. The product continues to see participation from multiple weatherization agencies implementing the Weatherization Assistance Program, as well as the Colorado Affordable Residential Energy Program.

**Indirect Program**

- **Business Education** – In the second quarter of 2018, the Business Education product achieved approximately 31% of the year-end participation target and generated 274 customer leads. Participation and outreach through key community and trade association events continue to create a meaningful conversation with customers. By the end of the second quarter, the Company provided outreach through 10 community-based event days. In addition, the product has been supported through energy efficiency messaging via the Energy Solutions newsletter, as well as a mass marketing print campaign. The combination of these initiatives continues to support DSM achievements.

- **Business Energy Analysis** – Marketing efforts in the third quarter of 2018 continue to include social media, direct mail, and e-mail campaigns, as well as an on-site energy audit summer promotion that has been extended. Currently, the product is forecasting to be slightly under target due to a decline in participation after the benchmarking deadline passed on June 1st. To encourage participation, the summer promotion that has been marketed to Broomfield and Englewood businesses through Partners in Energy events and communications will be now be promoted through email to all businesses customers and extended until the end of August. This promotion is designed to increase participation through the end of summer and into fall with a fall promotion still as an option if necessary.

- **Consumer Education** – In the second quarter of 2018, Consumer Education achieved approximately 57% of the year-end participation target and generated 1,852 customer leads and 168 signups. Participation and outreach through key community events continues to create a meaningful opportunity to address energy efficiency with customers. By the end of second quarter, the Company provided outreach through 44 community-based event days. In addition, the product has been supported through conservation messaging in residential newsletters and
web-based channels. The combination of these initiatives continues to drive participation in DSM products.

- **Energy Efficiency Financing** – The Company continues to develop its partnerships with LendKey and the Elevations Credit Union. Over 60 trade partners have signed up to offer these products to customers across the state. The Company is working to promote awareness of these products by including financing messaging in marketing efforts for all relevant products and trade partner trainings, and by including a Financing section in the Heating, Ventilation, Air Conditioning, and Refrigeration web portal, where customers can easily find which trade partners can offer them the rebate and financing option they want.

  The Commercial Financing Program sponsored a trade workshop which included Financing as a key component:

  **Influencing Efficiency Upgrades – Tips, Tools, and Techniques for Selling an Efficiency Project**
  - Thursday June 7th at PPA Event Center
  - Two sessions - 7:00-9:30 AM and 11:00 – 1:30 PM
  - 60 commercial trade partners in attendance

  Another round of webinars for trade partners are also scheduled:

  **Commercial Energy Efficiency Financing Webinars for Trade Partners:**
  - Wednesday April 4th 9:00 – 10:00 am
  - Thursday April 19th 10:00 – 11:00 am
    - Tuesday 6/19 – 9:00 am
    - Thursday 6/21 – 3:00 pm
    - Wednesday 6/27 – 9:00 am
  - 10 – 20 trade partners in attendance per webinar

  The Xcel Energy Commercial Financing Program is going to be featured in the upcoming “ESource DSM Roundup” which highlights Innovative commercial programs.

- **Home Energy Audit** - The Home Energy Audit product is seeing slightly lower participation than where it was at the end of the second quarter of 2017. However, the Company expects to see an increase in audits during the second half of the year once it starts teaming up with Home Energy Squad and offering a co-marketed, discounted visit that the Company is referring to as, “Enhanced Home Energy Squad”.

- **Energy Benchmarking** - The Company supports municipalities within its service territory to reach their benchmarking goals. During the second quarter, 854 new participant buildings were added. This brings the total Colorado building count to 3,193.

- **DSM Planning & Administration** – During the second quarter the Commission reached a decision to modify the Non-unanimous Comprehensive settlement agreement reached during the first quarter. Currently, the proceeding is going through the rehearing phase as a number of parties, including Public Service, filed a request. Hearings are scheduled for August 17.

- **Program Evaluations** – Follow-up research to clarify the findings from the 2017 Data Center Efficiency evaluations was substantially complete at the conclusion of the second quarter. 2018 evaluations are progressing with most programs finishing evaluation planning and staff interviews in late in the quarter.

- **Measurement & Verification** – The Company’s third-party verification contractor, Nexant, completed random field inspections for prescriptive products for the 2018 M&V year, with no significant variances.

- **Market Research** – The Home Use Survey is currently in process. Reports from the vendor are expected during August for internal review.
• **Product Development** – Current development efforts include:

  - A 60-Day Notice to enhance the Lighting Efficiency and Small Business Lighting products. Two notable modifications include a new measure, networked lighting controls; and an update to the existing prescriptive stand-alone lighting control rebates to better align with the new networked lighting control measure proposed in this modification request.
  - A 60-Day notice for ozone laundry technology which is an add-on retrofit generator for improving the energy and water efficiency of multi-load washers in commercial laundry applications. The principal value of ozone laundry equipment is in the potential gas savings because the need to heat water is significantly reduced or eliminated.
  - Advanced Energy Communities which are district-scale development projects that have aggressive energy goals and include multiple energy systems (energy efficiency, demand response, advanced grid, renewable energy, storage, and electric vehicles.) The Company is looking into product designs that can help meet the needs of these projects.
  - Advanced roof top unit controllers that operate a variable frequency drive using advanced economizer and demand-controlled ventilation.
  - Offering a rebate via upstream product leveraging current partners for variable refrigerant flow heat pump systems that can deliver up to 40 percent energy savings above minimum codes.
  - Create a pilot that tests the use of residential batteries to provide demand response.
  - Create a pilot that deploys energy efficiency and demand response into a specific location in the distribution system in order to defer or avoid traditional distribution investments to meet a need for additional distribution capacity.
  - Add a measure to the refrigerated recycling program for tandem pick-up of room air conditioners.

• **Thermostat Optimization Pilot** – Nest Seasonal Savings winter optimization program provided initial savings results of 3-4% of heating energy usage. In addition, a Peak Aware Seasonal Savings recruitment and learning began in mid-June 2018, resulted in quick adoption, and electric savings will include additional focus on demand reduction (not demand response) during the hours of 2-6 pm for pilot participants. This pilot also includes a deployment of Tendril’s Orchestrated Energy optimization to ecobee customers as well as an employee-only pilot with Nest devices.

• **ENERGY STAR® Retail Products Platform Pilot** – The pilot is on track to meet the forecast for electric savings/spend, but is not likely to meet the forecast for gas with the removal of basic clothes dryers at the beginning of the year. M&V work with the third-party contractor is on schedule, with results expected near the end of the third quarter.

**Demand Response Program**

• **Residential Demand Response** – As of the end of the second quarter the Company has installed about 800 Saver’s Switches and enrolled about 1,200 thermostats. As of the end of the quarter, the Company had about 2,000 Saver’s Switch enrollment pending installation; although, a sizeable percentage of those do not materialize into completed installations. The company is evaluating options for boosting customer participation and enhancing the enrollment process post equipment purchase.

• **Critical Peak Pricing Pilot** – As of the end of first quarter, there were seven participants enrolled in the Critical Peak Pricing pilot product with the potential of 2.989 MW of controllable load. Several presentations were given to potential customers, with the 3-4 interested in joining the pilot the summer of 2018.
• **Peak Partner Rewards** – As of the end of second quarter, the product has 14 participants and 13.6 MW of load. Efforts in the second quarter continued to focus on meeting with potential customers and enrolling new customers. The Company anticipates adding new customers in 2018 and engaged with interested stakeholders on the Peak Partner Rewards product during an April update meeting. This meeting was a condition of the Company's 2017/2018 DSM Plan settlement agreement.