ROCKY MOUNTAIN POWER
A DIVISION OF PACIFICORP

1407 W. North Temple, Suite 330
Salt Lake City, Utah 84116

December 22, 2017

VIA ELECTRONIC FILING

Public Service Commission of Utah
Heber M. Wells Building, 4th Floor
160 East 300 South
Salt Lake City, UT 84114

Attn: Gary Widerburg
Commission Secretary

RE: Advice No. 17-17
Proposed Changes to Schedule 140, Non-Residential Energy Efficiency Program
Docket No. 17-035-T16

Enclosed for electronic filing are the proposed tariff sheets associated with Tariff P.S.C.U. No. 50 of PacifiCorp, d.b.a. Rocky Mountain Power (the "Company"), applicable to electric service in the State of Utah. Pursuant to the requirement of Rule R746-405-2(D), the Company states that the proposed tariff sheets do not constitute a violation of state law or Commission rule. The Company respectfully requests an effective date of January 22, 2018 for these changes.

Fourth Revision of Sheet No. 140.4	Schedule 140	Non-Residential Energy Efficiency
Third Revision of Sheet No. 140.5	Schedule 140	Non-Residential Energy Efficiency
Third Revision of Sheet No. 140.6	Schedule 140	Non-Residential Energy Efficiency
Sixth Revision of Sheet No. 140.9	Schedule 140	Non-Residential Energy Efficiency
Fourth Revision of Sheet No. 140.10	Schedule 140	Non-Residential Energy Efficiency
Second Revision of Sheet No. 140.13	Schedule 140	Non-Residential Energy Efficiency
Third Revision of Sheet No. 140.14	Schedule 140	Non-Residential Energy Efficiency
Third Revision of Sheet No. 140.24	Schedule 140	Non-Residential Energy Efficiency
Sixth Revision of Sheet No. 140.25	Schedule 140	Non-Residential Energy Efficiency

The purpose of this filing is to propose changes to the Non-Residential Energy Efficiency Program ("Program") administered through Electric Service Schedule No. 140, specifically to add and remove measures, and other miscellaneous cleanup. These tariff changes align with targets illustrated in Figure 1 below, and filed in the Demand Side Management November 1st Deferred Account and Forecast Report on November 1, 2017, in Docket No. 17-035-41. Proposed changes to the Schedule 140 tariff sheets are included as Exhibit A.

Figure 1 – 2018 Budget and Savings Forecast from Nov 1st Report

***	2018 MWH Savings Forecast	2018 Budget Forecast
*watt*smart Business	171,130	$ 33,005,360

DESCRIPTION OF CHANGES

Proposed adjustments are listed below, with further explanation provided in subsequent sections.

1. Add controls-only incentive offerings to the lighting system retrofits table;
2. Update terminology for LED case lighting offerings;
3. Remove induction and CFL offerings from new construction and major renovations;
4. Update federal standards for HVAC offerings and adjust incentives;
5. Lower offered incentive amounts for cool roof offerings;
6. Expand mid-market lighting offerings; and
7. Expand mid-market HVAC incentives to vendors.

Lighting System Retrofits

On August 10, 2017, lighting system retrofit offerings were modified to encourage the adoption of controls when replacing fixtures, pursuant to Docket No. 17-035-T09. To build on this structure, offerings for a controls only system upgrade are proposed to be added as a separate line item in Schedule 140 Table 1a to allow incentives to be adjusted separately for the controls only option without impacting the fixture replacement incentives. The controls only offerings to be added to Table 1a are listed below with the incentive amount to be initially offered. The maximum "up to" incentive amounts are the same as the current maximums listed in Table 1a in Schedule 140 for interior and exterior lighting categories.

Measure	Category	Eligibility Requirements		Offered Incentive	Maximum Incentive "up to"
Lighting System Retrofits	Interior Lighting	Controls-only Retrofit	Upgrade to Advanced Controls	$0.15/kWh	$0.20/kWh
			Upgrade to Basic Controls	$0.12/kWh	
	Exterior Lighting	Controls-only Retrofit	Upgrade to Advanced Dimming Controls	$0.08/kWh	$0.15/kWh

Non-General Illuminance Incentives

The Regional Technical Forum has adjusted savings calculations for case lighting measures. LED energy savings are now categorized as installed in medium temperature (refrigerators) and low temperature (freezer) applications rather than reach-in or open cases. Accordingly, the terminology in Table 1b in Schedule 140 has been updated to reflect this change.

New Construction/Major Renovation Exterior Lighting Incentives

LED lighting options now offer significant energy savings and reduced maintenance costs as compare to traditional lighting technologies. The advantages of LEDs are particularly noticed in exterior lighting applications. Accordingly, incentive offerings for induction and compact fluorescent lighting technologies are being discontinued from Table 1c in Schedule 140 to encourage the adoption of more efficient LED exterior lighting options.

HVAC Incentives

On January 1, 2018, federal standards are changing for air-cooled unitary commercial air conditioners and heat pumps that will reduce the reported energy savings for Consortium for Energy Efficiency ("CEE") Tiers 1 and 2. The CEE has also added a new "Advanced Tier" for the most efficient equipment. Accordingly, incentives for CEE Tier 1 will be removed for air-cooled unitary commercial air conditioners and reduced for air-cooled unitary commercial heat pumps, and incentives for CEE Tier 2 will be reduced for both equipment types. Additionally, an incentive for air-cooled unitary commercial air conditioners will be now be offered for the newly defined CEE Advanced Tier. These changes are detailed in the table below.

		Minimum Efficiency Requirements & Offered Customer Incentive					
Equipment Type	Sub-Category	CEE Tier 1		CEE Tier 2		CEE Adv. Tier	
		Current Customer Incentive	Proposed Customer Incentive	Current Customer Incentive	Proposed Customer Incentive	Current Customer Incentive	Proposed Customer Incentive
Unitary Commercial Air Conditioner (Air-Cooled)	All Equipment Sizes	$50/ton	$0/ton	$75/ton	$50/ton	N/A	$75/ton
Unitary Commercial Heat Pump (Air-Cooled)	< 65,000 Btu/hr (three phase)	$50/ton	$25/ton	$75/ton	$50/ton	N/A	$0/ton
	> 65,000 Btu/hr (three phase)	$50/ton	$25/ton	$75/ton	$50/ton	N/A	$0/ton

Building Envelope Incentives

The recent 2014-2015 Utah wattsmart Business Program Evaluation[1] showed that incremental costs and reported savings for cool roofs are lower and should be adjusted. In alignment with this evaluation recommendation and lower savings and incremental costs, the offered incentives for both cool roof retrofit and new construction/major renovation cool roof offerings will be lowered from $0.10/square foot to $0.05/square foot in Tables 4a and 4b in Schedule 140. The adjustments are also detailed in the table below.

Equipment Type	Minimum Efficiency Requirement	Current Offered Incentive	Proposed Offered Incentive
Cool Roof - Retrofit	ENERGY STAR Qualified	$0.10/square foot	$0.05/square foot
Cool Roof - New Construction/Major Renovation	ENERGY STAR Qualified	$0.10/square foot	$0.05/square foot

[1] http://www.pacificorp.com/content/dam/pacificorp/doc/Energy_Sources/Demand_Side_Management/2017/2014-2015_RMP_Utah_wattsmart_Evaluation_Report.pdf.

Mid-Market Lighting

Mid-Market lighting offerings allow customers to receive point-of-purchase incentives and benefit from reduced paperwork. To build upon these benefits, measures are being added and more granularly defined in Table 13a in Schedule 140 to give customers expanded options to implement lighting upgrades and select replacement lamps or lighting system upgrades that best fit their needs and budgets.

Measure	Category	Eligibility Requirements	Offered Incentive	Maximum " up to" Incentive
LED	A-19 Lamp < 8 W, Medium Base	LED must be listed on qualified equipment list	$2/Lamp	$5/Lamp
	A-19 Lamp ≥ 8 W, Medium Base	LED must be listed on qualified equipment list	$2.50/Lamp	$5/Lamp
	A-21 Lamp > 12 W, Medium Base	LED must be listed on qualified equipment list	$4/Lamp	$10/Lamp
	PAR Reflector Lamp	LED must be listed on qualified equipment list	$9/Lamp	$15/Lamp
	BR Reflector Lamp	LED must be listed on qualified equipment list	$5.50/Lamp	$13/Lamp
	MR16 Reflector Lamp	LED must be listed on qualified equipment list	$7/Lamp	$10/Lamp
	PLC Pin-based Lamp < 10 W	LED must be listed on qualified equipment list	$4/Lamp	$10/Lamp
	PLC Pin-based Lamp > 10 W	LED must be listed on qualified equipment list	$4/Lamp	$15/Lamp
	PLL Pin-based Lamp	LED must be listed on qualified equipment list	$4/Lamp	$15/Lamp
	Decorative Lamp	LED must be listed on qualified equipment list	$5/Lamp	$10/Lamp
	Recessed Downlight Kit	LED must be listed on qualified equipment list	$10/Fixture	$15/Fixture
	T8 TLED Lamp – Type A, A/B Dual Mode	LED must be listed on qualified equipment list	$3/Lamp	$10/Lamp
	T8 TLED Lamp – Type B	LED must be listed on qualified equipment list	$5/Lamp	$15/Lamp
	T8 TLED Lamp – Type C	LED must be listed on qualified equipment list	$10/Lamp	$25/Lamp
	T5 TLED Lamp	LED must be listed on qualified equipment list	$5/Lamp	$15/Lamp
	HID Replacement Lamp < 40 W	LED must be listed on qualified equipment list	$20/Lamp	$50/Lamp
	HID Replacement Lamp ≥ 40 and < 80 W	LED must be listed on qualified equipment list	$35/Lamp	$70/Lamp
	HID Replacement Lamp ≥ 80 and < 150 W	LED must be listed on qualified equipment list	$45/Lamp	$90/Lamp
	HID Replacement Lamp ≥ 150W	LED must be listed on qualified equipment list	$60/Lamp	$110/Lamp
	Wall Pack Fixture	LED must be listed on qualified equipment list	$20/Fixture	$30/Fixture
	Wall Pack Fixture with Occupancy Sensor	LED must be listed on qualified equipment list	$60/Fixture	$75/Fixture
Fluorescent	Reduced Wattage T8 Lamp	≤28 W CEE Replacement Lamp	$0.50/Lamp	$0.75/Lamp
	Reduced Wattage T5 HO Lamp	≤51 W T5HO Lamp	$1/Lamp	$1/Lamp

Mid-Market HVAC

On April 1, 2017, unitary commercial air conditioners were introduced as a single line item in Table 13b in Schedule 140, with incentives further defined on the Company's website by size category and CEE Tiers 1 and 2. The CEE Advanced Tier is also being added as an available offering in the defined table on the Company's website. To accommodate this addition, the current maximum amount listed in Table 13b is being increased. Additionally, due to the updated CEE standards, the offered incentive amounts for CEE Tiers 1 and 2 are being decreased and increased, respectively.

Furthermore, to expand the reach of the Mid-Market HVAC offerings, a small incentive amount of $2/ton will be offered to distributors for participating. Some distributors have had challenges adopting new systems and processes that allow for point-of-purchase incentives. By adding an incentive for distributors, this should combat those barriers and allow for more distributors to participate in the program. The table below, maintained on the Company website, details the adjustments to the offered incentives for unitary commercial air conditioners and addition of the new CEE Advanced Tier and distributor incentives.

	Minimum Efficiency Requirements & Customer/Mid-Market Offered Incentive					
Size Category	**CEE Tier 1**		**CEE Tier 2**		**CEE Adv. Tier**	
	Current Customer Incentive	**Proposed Customer Incentive**	**Current Customer Incentive**	**Proposed Customer Incentive**	**Current Customer Incentive**	**Proposed Customer Incentive**
<65,000 Btu/h Single Phase	$0/ton	No Change	$45/ton	$48/ton	N/A	$73/ton
<65,000 Btu/h Three phase	$35/ton	$23/Ton	$45/ton	$48/ton	N/A	$73/ton
≥65,000 Btu/h and <135,000 Btu/h	$0/ton	No Change	$45/ton	$48/ton	N/A	$98/ton
≥135,000 Btu/h and <240,000 Btu/h	$0/ton	No Change	$45/ton	$48/ton	N/A	$98/ton
≥240,000 Btu/h and <760,000 Btu/h	$0/ton	No Change	$45/ton	$48/ton	N/A	$98/ton
≥760,000 Btu/h	$0/ton	No Change	$45/ton	$48/ton	N/A	$98/ton

*For each customer incentive processed at the point of sale, there will be an additional $2/Ton vendor incentive.

Subsequent changes to the customer and vendor incentives listed above will be made through the 45-day notice process using the maximum amount listed in Table 13b as a cap for the combined customer and vendor incentives.

STAKEHOLDER FEEDBACK

On September 5, 2017, the Company met with the DSM Steering Committee to discuss a variety of items, including upcoming changes to the wattsmart Business Program. On December 14, 2017, a draft filing package for these changes was shared with Steering Committee members. The Company did not receive any inquiries or preliminary concerns from Steering Committee members on the draft materials.

COST EFFECTIVENESS

Cost-effectiveness analyses for the Mid-Market program and wattsmart Business portfolio are attached hereto as Exhibits B and C, respectively, and were based on the maximum "up to" incentive levels. Table 5 below, and the other Table 5 below, pulled from Exhibits B and C, respectively, present the expected cost-effectiveness of the Mid-Market program and wattsmart Business portfolio for years 2018-2019 assuming the proposed changes in this filing. Additional details and inputs are included in Exhibits B and C, with sensitivity analyses included. The Mid-Market and wattsmart Business Programs are expected to remain cost-effective from the Utility Cost Test perspective under all scenarios.

Exhibit B Table 5 – Mid-Market Cost-Effectiveness Results – 2018-2019 (Expected Participation)

Cost-Effectiveness Test	Levelized $/kWh	Costs	Benefits	Net Benefits	Benefit/Cost Ratio
Total Resource Cost Test (PTRC) + Conservation Adder	$0.0269	$7,033,142	$12,816,039	$5,782,896	1.82
Total Resource Cost Test (TRC) No Adder	$0.0269	$7,033,142	$11,650,944	$4,617,802	1.66
Utility Cost Test (UCT)	$0.0145	$3,790,068	$11,650,944	$7,860,876	3.07
Rate Impact Test (RIM)		$21,869,571	$11,650,944	-$10,218,627	0.53
Participant Cost Test (PCT)		$9,106,640	$27,466,792	$18,360,152	3.02
Lifecycle Revenue Impacts ($/kWh)					$0.0000282020
Discounted Participant Payback (years)					3.26

Exhibit C Table 5 – wattsmart Business Portfolio Cost-Effectiveness Results – 2018-2019 (Expected Participation)

Cost-Effectiveness Test	Levelized $/kWh	Costs	Benefits	Net Benefits	Benefit/Cost Ratio
Total Resource Cost Test (PTRC) + Conservation Adder	$0.0325	$35,846,533	$53,578,917	$17,732,384	1.49
Total Resource Cost Test (TRC) No Adder	$0.0325	$35,846,533	$48,708,106	$12,861,574	1.36
Utility Cost Test (UCT)	$0.0131	$14,500,971	$48,708,106	$34,207,136	3.36
Rate Impact Test (RIM)		$90,777,547	$48,708,106	-$42,069,441	0.54
Participant Cost Test (PCT)		$46,274,904	$114,187,282	$67,912,378	2.47
Lifecycle Revenue Impacts ($/kWh)					$0.0000060245

It is respectfully requested that all formal correspondence and staff requests regarding this matter be addressed to:

By E-mail (preferred): datarequest@pacificorp.com
michael.snow@pacificorp.com

By regular mail: Data Request Response Center
PacifiCorp
825 NE Multnomah Blvd., Suite 2000
Portland, OR 97232

Informal inquiries regarding this matter may be directed to me at (801) 220-4214.

Sincerely,

Michael S. Snow
Manager, DSM Regulatory Affairs

Enclosures

cc: Division of Public Utilities
Office of Consumer Services

Exhibit A

ELECTRIC SERVICE SCHEDULE NO. 140 - Continued

Table 1a - Lighting System Retrofits

Measure	Category	Eligibility Requirements		Maximum Incentive "up to"
Lighting System Retrofits	Interior Lighting	Full Fixture Replacement	Advanced Controls	$0.20/kWh
			Basic Controls	
			Without Controls	
		Fixture Retrofit Kits	With Controls	
			Without Controls	
		Controls-only Retrofit	Upgrade to Advanced Controls	
			Upgrade to Basic Controls	
	Exterior Lighting	Full Fixture Replacement	Advanced Dimming Controls	$0.15/kWh
			Without Controls	
		Fixture Retrofit Kits	Advanced Dimming Controls	
			Without Controls	
		Street Lighting	Advanced Dimming Controls	
			Without Controls	
		Controls-only Retrofit	Upgrade to Advanced Dimming Controls	

Notes for Table 1a:

1. To be eligible for the incentives listed, the new lighting system must use less energy than the existing lighting system replaced or the baseline lighting system as determined by the Company.
2. Incentives are capped at 70 percent of Energy Efficiency Project Costs and will not be available to reduce the Energy Efficiency Project simple payback below one year. Energy Efficiency Project costs are subject to Company approval.
3. Eligible retrofit lighting equipment is defined in qualified equipment lists posted on the Utah energy efficiency program section of the Company's website.

(continued)

ELECTRIC SERVICE SCHEDULE NO. 140 - Continued

Table 1b – Non-General Illuminance Incentives (Retrofit Only)

Measure	Category	Eligibility Requirements	Incentive "up to"
Non-General Illuminance	Exit Sign	LED or photoluminescent replacing incandescent or fluorescent	$15/Sign
	LED Message Center Sign	LED replacing existing incandescent signage	$5/Lamp
	LED Channel Letter Sign	LED replacing existing neon or fluorescent signage	$5/Linear Foot
	LED Marquee/Cabinet Sign	LED replacing existing fluorescent signage	$5/Linear Foot
	LED Case Lighting – Refrigerated Case	LED replacing fluorescent lamp in refrigerated cases. LED must be listed on qualified equipment list.	$10/linear foot
	LED Case Lighting – Freezer Case		$10/linear foot
	Refrigerated Case Occupancy Sensor	Installed in existing refrigerated case with LED lighting	$1/linear foot
Custom	Custom	Not listed above	$0.15/kWh annual energy savings

Notes for Table 1b:
1. To be eligible for the incentives listed, the new lighting system must use less energy than the existing lighting system replaced or the baseline lighting system as determined by the Company.
2. Incentives are capped at 70 percent of Energy Efficiency Project Costs and incentives will not be available to reduce the Energy Efficiency Project simple payback below one year. Energy Efficiency Project Costs are subject to Company approval.
3. Qualified equipment lists for measures referenced in the above table are posted on the Utah energy efficiency program section of the Company's website.

LED - Light-emitting Diode

(continued)

ELECTRIC SERVICE SCHEDULE NO. 140 - Continued

Table 1c – New Construction/Major Renovation Lighting Incentives

Measure	Category	Eligibility Requirements	Incentive "up to"
Interior Lighting*	Lighting and Lighting Control	1. The total connected interior lighting power for New Construction/Major Renovation projects must be at least 10% lower than the interior lighting power allowance calculated under the applicable version of the state energy code. For New Construction/Major Renovation projects not included in the state energy code, the total connected lighting power must be at least 10% lower than common practice as determined by the Company. 2. Energy savings is subject to approval by the Company	$0.08/kWh annual energy savings
Exterior Lighting	LED Outdoor Pole/Roadway, decorative	<75W; LED must be listed on qualified equipment list	$75/Fixture
	LED Outdoor Pole/Roadway	≤200W; LED must be listed on qualified equipment list	$100/fixture
		>200W; LED must be listed on qualified equipment list	$400/fixture
	LED Canopy/Soffit	LED must be listed on qualified equipment list	$125/fixture
	LED Wall Packs	<50 Watts; LED must be listed on qualified equipment list	$50/fixture
		≥50 Watts; LED must be listed on qualified equipment list	$75/fixture
	LED Flood Lights	<100 Watts; LED must be listed on qualified equipment list	$75/fixture
		≥100 Watts; LED must be listed on qualified equipment list	$150/fixture
	Custom	Not listed above	$0.08/kWh annual energy savings
	Exterior Dimming Control	Must control LED technology in an exterior lighting application. Control must be integral to LED fixture or fixture-mounted and reduce fixture power by 75% or more for a minimum of 6 hrs per night or when the space has been unoccupied for 15 minutes or less. e	$0.34/Watt controlled**

*Project Cost Caps of 70% and 1-Year Simple Payback Caps apply to New Construction and Major Renovation projects that are not subject to state energy code. The 1 year simple payback cap means incentives will not be available to reduce the simple payback of a project below one year. If required, individual measure incentives will be adjusted downward pro-rata so the project has a simple payback after incentives of one year.

** Exterior lighting controls required by the applicable version of the state energy code are not eligible for incentives.

LED - Light-Emitting Diode

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ELECTRIC SERVICE SCHEDULE NO. 140 - Continued

Table 3a – HVAC Incentives (Continued)

Notes for table 3a - HVAC equipment incentive table

1. Equipment that meets or exceeds the efficiency requirements listed for the size category in the above table may qualify for the listed incentive. Equipment must meet all listed efficiency requirements to qualify for the listed incentives.
2. PTHPs can replace electric resistive heating, which must be removed.
3. Incentives for heat pumps are available per ton of cooling capacity ONLY. No incentives are paid per ton of heating capacity. Heat Pumps must meet both the cooling mode and heating mode efficiency requirements to qualify for per ton cooling efficiency incentives.
4. Equipment size categories and capacities are specified in terms of net cooling capacity at AHRI standard conditions as determined by AHRI Standard 210/240 for units <65,000 Btu/hr, AHRI Standard 340/360 for units ≥65,000 Btu/hr, AHRI Standard 310/380 for PTAC and PTHP units, and AHRI Standard 1230 for VRF systems.
5. Ground and Water Source Heat Pumps must meet or exceed listed efficiency requirements when rated in accordance with ISO-13256-1 to qualify for the listed incentive.
6. Efficiency requirements align with the Unitary Air-Conditioning and Heat Pump Specification maintained by the Consortium for Energy Efficiency for equipment with heating sections other than electric resistance. CEE minimum efficiency requirements are listed on the Company website.

AHRI = Air-Conditioning, Heating, and Refrigeration Institute
CEE = Consortium for Energy Efficiency
COP = Coefficient of Performance
EER = Energy Efficiency Ratio
HSPF = Heating Seasonal Performance Factor
HVAC = Heating, Ventilation and Air-Conditioning
IEER = Integrated Energy Efficiency Ratio
IPLV = Integrated Part Load Value
PTAC = Packaged Terminal Air Conditioner
PTHP = Packaged Terminal Heat Pump
SEER = Seasonal Energy Efficiency Ratio
VFR = Variable Refrigerant Flow

(Continued)

ELECTRIC SERVICE SCHEDULE NO. 140 - Continued

Table 3b –Other HVAC Incentives

Equipment Type	Size Category	Sub-Category	Minimum Efficiency Requirement	Incentive "up to"
Evaporative Cooling	All sizes	Direct or Indirect		$0.06/ CFM
Indirect-Direct Evaporative Cooling (IDEC)	All sizes	--	Applicable system components must exceed minimum efficiencies required by energy code	$0.15/kWh annual energy savings See Note 2
Chillers	All except chillers intended for backup service only	Serving primarily occupant comfort cooling loads (no more than 20% for process cooling loads)	Must exceed minimum efficiencies required by energy code	$0.15/kWh annual energy savings See Note 3
365/366 day Programmable or Occupancy-based Thermostat	All sizes in portable classrooms with mechanical cooling	Must be installed in portable classroom unoccupied during summer months	365/366 day thermostatic or occupancy based setback capability	$150/thermostat
Occupancy Based PTHP/PTAC control	All sizes with no prior occupancy based control		See Note 5	$50/controller
Evaporative Pre-cooler (Retrofit Only)		For single air-cooled packaged rooftop or matched split system condensers only	Minimum performance efficiency of 75%. Must have enthalpy controls to control pre-cooler operation. Water supply must have chemical or mechanical water treatment.	$75/ton of attached cooling capacity (See Note 5)
Advanced Rooftop Unit Control	≥ 5 tons and ≤ 10 tons	Must be installed on existing unitary packaged rooftop units (no split-systems), ≥ 5 tons nominal cooling capacity with constant speed supply fans.	Controls must include: - Either a supply fan VFD or multi-speed supply fan motor with controller that meets ventilation and space conditioning needs - Digital, integrated economizer control	$2,000
	> 10 tons and ≤ 15 tons			$2,800
	> 15 tons and ≤ 20 tons			$4,000
	> 20 tons			$4,500

Notes for Table 3b

1. Equipment that meets or exceeds the efficiency requirements listed for the equipment category in the above table may qualify for the listed incentive.
2. Incentives paid at $0.15/kWh annual energy savings. IDEC energy savings subject to approval by the Company.
3. Incentives paid at $0.15/kWh annual energy savings. Chiller energy savings subject to approval by the Company.
4. Controller units must include an occupancy based control and include the capability to set back the zone temperature during extended unoccupied periods and set up the temperature once the zone is occupied.
5. Incentives for Evaporative Pre-coolers are capped at 70 percent of Energy Efficiency Project Costs and incentives will not be available to reduce the Energy Efficiency Project simple payback below one year.
6. Energy Efficiency Project Costs are subject to Rocky Mountain Power approval.
7. Evaporative pre-cooler incentives are subject to the project cost cap and the one-year payback cap.

CFM = Cubic Feet per Minute
HVAC = Heating, Ventilating and Air Conditioning
IDEC = Indirect Direct Evaporative Cooling
PTAC = Packaged Terminal Air Conditioner
PTHP = Packaged Terminal Heat Pump

(Continued)

ELECTRIC SERVICE SCHEDULE NO. 140 - Continued

Table 5 – Food Service Equipment Incentives

Equipment Type	Equipment Category	Minimum Efficiency Requirement	Incentive/Unit "up to"
Residential Dishwasher	Used in a Business	See Home Energy Savings Program	See Note 2
Commercial Dishwasher (High Temperature models w/ electric boosters only)	Undercounter	ENERGY STAR Qualified	$100
	Stationary Rack, Single Tank, Door Type		$400
	Single Tank Conveyor		$1,000
	Multiple Tank Conveyor		$500
Electric Insulated Holding Cabinet	V ≥ 28	ENERGY STAR Qualified	$400
	13 ≤ V < 28		$300
	V < 13		$200
Electric Steam Cooker	3-, 4-, 5- and 6-pan or larger sizes - Tier 1	ENERGY STAR Qualified	$130
	3-, 4-, 5- and 6-pan or larger sizes - Tier 2	ENERGY STAR Qualified w/ Heavy Load Efficiency ≥ 68%	$300
Electric Convection Oven	--	ENERGY STAR Qualified	$350
Electric Griddle		ENERGY STAR Tier 2 Qualified	$150
Electric Combination Oven	6-15 pans	ENERGY STAR Qualified	$1,000
	16-20 pans	ENERGY STAR Qualified	$275
Electric Commercial Fryer	Tier 1	ENERGY STAR Qualified	$200
	Tier 2	ENERGY STAR Qualified w/Cooking Efficiency ≥ 85%, Idle Energy Rate ≤ 860 Watts	$300
Ice Machines (Air-Cooled Only)	Tier 1: Harvest Rate < 500 lbs/day	ENERGY STAR Qualified	$125
	Tier 1: Harvest Rate ≥ 500 lbs/day		$150
	Tier 2: Harvest Rate < 500 lbs/day	CEE Tier 2 Qualified	$250
	Tier 2: Harvest Rate ≥ 500 lbs/day		$400
Residential Refrigerator	Used in a Business	See Home Energy Savings Program	See Note 2

(continued)

ELECTRIC SERVICE SCHEDULE NO. 140 - Continued

Table 5 – Food Service Equipment Incentives (Continued)

Commercial Transparent Door Refrigerator	0 < V < 15	ENERGY STAR Qualified	$25
	15 ≤ V < 30		$50
	30 ≤ V < 50		$75
	50 ≤ V		$125
	Chest Configuration		$50
Commercial Transparent Door Freezer	0 < V < 15	ENERGY STAR Qualified	$25
	15 ≤ V < 30		$50
	30 ≤ V < 50		$75
	50 ≤ V		$100
	Chest Configuration		$100
Demand Controlled Kitchen Ventilation Exhaust Hood (Retrofit Only)	Must be installed on commercial kitchen exhaust system.	Variable speed motors must be controlled to vary fan speed depending upon kitchen demand, as indicated by connected sensors.	$0.15/kWh annual energy savings (See note 3)
Anti-Sweat Heater Controls (Retrofit Only)	Low-Temp (Freezing) Cases	Controls that reduce energy consumption of anti-sweat heaters based on sensing humidity.	$20/linear foot (case length)
	Med-Temp (Refrigerated) Cases		$16/linear foot (case length)

Notes for Table 5:
1. Equipment that meets or exceeds the efficiency requirements listed for the equipment category in the above table may qualify for the listed incentive.
2. Refer to Company's Home Energy Savings program for efficiency requirements and incentives for listed residential appliances used in a business.
3. Incentives are paid at $0.15/kWh annual energy savings. Demand controlled kitchen ventilation exhaust hood energy savings subject to approval by Company.

CEE = Consortium for Energy Efficiency
MDEC = Maximum Daily Energy Consumption
V = Association of Home Appliance Manufacturers (AHAM) Volume (cubic feet)

(Continued)

ELECTRIC SERVICE SCHEDULE NO. 140 - Continued
Small Business Direct Install (Retrofit only)

Incentives and participation for small business direct installations may include but not be limited to lighting, plug load, HVAC measures, and areas being canvassed. Participating customers are required to pay for up to 25% of the qualifying equipment costs.

Table 12 – Incentives for Small Business Direct Installation (Retrofit only)

Eligible Customer Rate Schedules	Eligibility Requirements	Incentive "up to"	Customer Co-pay "up to"	
			Minimum	Maximum
6	Non-residential facilities not in excess of 200 kW demand monthly in the last twelve months.	$5,000 per facility	10%	25%
6a	Non-residential facilities not in excess of 200 kW demand monthly in the last twelve months.	$5,000 per facility	10%	25%
6b	Non-residential facilities not in excess of 200 kW demand monthly in the last twelve months.	$5,000 per facility	10%	25%
23		$5,000 per facility	10%	25%

Table 13a – Mid-Market Incentives -Lighting

Measure	Category	Eligibility Requirements	Incentive "up to"
LED	A-19 Lamp < 8 W, Medium Base	LED must be listed on qualified equipment list	$5/Lamp
	A-19 Lamp ≥ 8 W, Medium Base	LED must be listed on qualified equipment list	$5/Lamp
	A-21 Lamp > 12 W, Medium Base	LED must be listed on qualified equipment list	$10/Lamp
	PAR Reflector Lamp	LED must be listed on qualified equipment list	$15/Lamp
	BR Reflector Lamp	LED must be listed on qualified equipment list	$13/Lamp
	MR16 Reflector Lamp	LED must be listed on qualified equipment list	$10/Lamp
	PLC Pin-based Lamp < 10 W	LED must be listed on qualified equipment list	$10/Lamp
	PLC Pin-based Lamp > 10 W	LED must be listed on qualified equipment list	$15/Lamp
	PLL Pin-based Lamp	LED must be listed on qualified equipment list	$15/Lamp
	Decorative Lamp	LED must be listed on qualified equipment list	$10/Lamp
	Recessed Downlight Kit	LED must be listed on qualified equipment list	$15/Fixture
	T8 TLED Lamp – Type A, A/B Dual Mode	LED must be listed on qualified equipment list	$10/Lamp
	T8 TLED Lamp – Type B	LED must be listed on qualified equipment list	$15/Lamp
	T8 TLED Lamp – Type C	LED must be listed on qualified equipment list	$25/Lamp
	T5 TLED Lamp	LED must be listed on qualified equipment list	$15/Lamp
	HID Replacement Lamp < 40 W	LED must be listed on qualified equipment list	$50/Lamp
	HID Replacement Lamp ≥ 40 and < 80 W	LED must be listed on qualified equipment list	$70/Lamp
	HID Replacement Lamp ≥ 80 and < 150 W	LED must be listed on qualified equipment list	$90/Lamp
	HID Replacement Lamp ≥ 150W	LED must be listed on qualified equipment list	$110/Lamp
	Wall Pack Fixture	LED must be listed on qualified equipment list	$30/Fixture
	Wall Pack Fixture with Occupancy Sensor	LED must be listed on qualified equipment list	$75/Fixture
Fluorescent	Reduced Wattage T8 Lamp	≤28 W CEE Replacement Lamp	$0.75/Lamp
	Reduced Wattage T5 HO Lamp	≤51 W T5HO Lamp	$1/Lamp

(Continued)

ELECTRIC SERVICE SCHEDULE NO. 140 – Continued

Notes for Table 13a:

1. Incentives for measures listed in the table above are available at the point of purchase through approved distributors/retailers or via a post-purchase customer application process.
2. Incentives are capped at 70 percent of qualifying equipment costs. Qualifying equipment costs are subject to Company approval.
3. Qualified equipment lists referenced in the above table are posted on the Utah energy efficiency program section of the Company's website.

A = Arbitrary (standard lamp shape)
PAR = Parabolic Aluminized Reflector
BR = Bulged Reflector
HID = High Intensity Discharge (e.g. high pressure sodium, metal halide)
HO = High Output
MR = Mirrored Reflector
PLC = Pin Lamp Compact Fluorescent
PLL = Pin Lamp Long Compact Fluorescent
TLED = Tubular Light Emitting Diode
W = Watt

Table 13b – Mid-Market Incentives –HVAC

Measure	Category	Eligibility Requirements	Customer/Mid-Market Incentive "up to"
Unitary Commercial Air Conditioners	Air-Cooled – Packaged Systems Only	As defined in CEE Commercial Unitary Air-conditioning and Heat Pumps Specification	$100/Ton

Notes for Table 13b incentive tables:

1. Qualified equipment lists referenced in the above table are posted on the Utah energy efficiency program section of the Company's website.
2. Incentives included in the mid-market incentive tables are available through Company-approved retailers/distributors or a customer application process.

Table 14 – HVAC Check-up Incentives

Measure	Category	Eligibility Requirements	Incentive "up to"
Maintenance Agreement	3 year maintenance agreement	Maintenance agreements must include a minimum of two system checks per year (heating and cooling seasons), one condenser coil cleaning per year, and a thermostat reprogramming and calibration.	$75/ RTU
Thermostats	Programmable Thermostat	Replace existing non-programmable thermostat with programmable thermostat with a minimum of 7-day occupied/unoccupied settings.	$50/Thermostat
	Smart Thermostat	Replace non-programmable thermostat with programmable smart thermostat with a minimum of 7-day occupied/unoccupied settings. Smart thermostats must be Wi-Fi enabled, online dashboard and/or mobile device app, with occupancy sensor enabled.	
Economizer	Economizer Repair	--	$150/RTU
Refrigerant	Proper Refrigerant Charge	--	$35/Ton RTU Capacity

Notes for Table 14:

1. Incentives are capped at 70 percent of qualifying cost. Qualifying costs are subject to Company approval.

ELECTRIC SERVICE SCHEDULE NO. 140 - Continued

Table 1a - Lighting System Retrofits

Measure	Category	Eligibility Requirements		Maximum Incentive "up to"
Lighting System Retrofits	Interior Lighting	Full Fixture Replacement	Advanced Controls	$0.20/kWh
			Basic Controls	
			Without Controls	
		Fixture Retrofit Kits	With Controls	
			Without Controls	
		Controls-only Retrofit	Upgrade to Advanced Controls	
			Upgrade to Basic Controls	
	Exterior Lighting	Full Fixture Replacement	Advanced Dimming Controls	$0.15/kWh
			Without Controls	
		Fixture Retrofit Kits	Advanced Dimming Controls	
			Without Controls	
		Street Lighting	Advanced Dimming Controls	
			Without Controls	
		Controls-only Retrofit	Upgrade to Advanced Dimming Controls	

Notes for Table 1a:

1. To be eligible for the incentives listed, the new lighting system must use less energy than the existing lighting system replaced or the baseline lighting system as determined by the Company.
2. Incentives are capped at 70 percent of Energy Efficiency Project Costs and will not be available to reduce the Energy Efficiency Project simple payback below one year. Energy Efficiency Project costs are subject to Company approval.
3. Eligible retrofit lighting equipment is defined in qualified equipment lists posted on the Utah energy efficiency program section of the Company's website.

(continued)

ELECTRIC SERVICE SCHEDULE NO. 140 - Continued

Table 1b – Non-General Illuminance Incentives (Retrofit Only)

Measure	Category	Eligibility Requirements	Incentive "up to"
Non-General Illuminance	Exit Sign	LED or photoluminescent replacing incandescent or fluorescent	$15/Sign
	LED Message Center Sign	LED replacing existing incandescent signage	$5/Lamp
	LED Channel Letter Sign	LED replacing existing neon or fluorescent signage	$5/Linear Foot
	LED Marquee/Cabinet Sign	LED replacing existing fluorescent signage	$5/Linear Foot
	LED Case Lighting – ~~Reach in~~Refrigerated Case	LED replacing fluorescent lamp in refrigerated cases. LED must be listed on qualified equipment list.	$10/linear foot
	LED Case Lighting – ~~Open~~ Freezer Case		$10/linear foot
	Refrigerated Case Occupancy Sensor	Installed in existing refrigerated case with LED lighting	$1/linear foot
Custom	Custom	Not listed above	$0.15/kWh annual energy savings

Notes for Table 1b:
1. To be eligible for the incentives listed, the new lighting system must use less energy than the existing lighting system replaced or the baseline lighting system as determined by the Company.
2. Incentives are capped at 70 percent of Energy Efficiency Project Costs and incentives will not be available to reduce the Energy Efficiency Project simple payback below one year. Energy Efficiency Project Costs are subject to Company approval.
~~3. Incentives for Advanced Daylighting Controls may not be combined with Occupancy Control or Daylighting Control incentives.~~
~~4. Watt controlled refers to the total wattage of lighting fixtures down circuit from the control.~~
3~~5~~. Qualified equipment lists for measures referenced in the above table are posted on the Utah energy efficiency program section of the Company's website.

~~PIR = Passive Infrared~~
~~Dual Tech = Sensors combining ultrasonic and passive infrared~~
LED - Light-emitting Diode

(continued)

ELECTRIC SERVICE SCHEDULE NO. 140 - Continued

Table 1c – New Construction/Major Renovation Lighting Incentives

Measure	Category	Eligibility Requirements	Incentive "up to"
Interior Lighting*	Lighting and Lighting Control	1. The total connected interior lighting power for New Construction/Major Renovation projects must be at least 10% lower than the interior lighting power allowance calculated under the applicable version of the state energy code. For New Construction/Major Renovation projects not included in the state energy code, the total connected lighting power must be at least 10% lower than common practice as determined by the Company. 2. Energy savings is subject to approval by the Company	$0.08/kWh annual energy savings
Exterior Lighting	~~Induction Fixture~~	~~All Wattages, New Fixtures Only~~	~~$75/Fixture~~
	LED Outdoor Pole/Roadway, decorative	<75W; LED must be listed on qualified equipment list	$75/Fixture
	LED Outdoor Pole/Roadway	≤200W; LED must be listed on qualified equipment list	$100/fixture
		>200W; LED must be listed on qualified equipment list	$400/fixture
	LED Canopy/Soffit	LED must be listed on qualified equipment list	$125/fixture
	LED Wall Packs	<50 Watts; LED must be listed on qualified equipment list	$50/fixture
		≥50 Watts; LED must be listed on qualified equipment list	$75/fixture
	LED Flood Lights	<100 Watts; LED must be listed on qualified equipment list	$75/fixture
		≥100 Watts; LED must be listed on qualified equipment list	$150/fixture
	~~CFL Wall Pack~~	~~All Wattages, Hardwire Fixtures Only~~	~~$30/Fixture~~
	Custom	Not listed above	$0.08/kWh annual energy savings
	Exterior Dimming Control	Must control LED technology in an exterior lighting application. Control must be integral to LED fixture or fixture-mounted and reduce fixture power by 75% or more for a minimum of 6 hrs per night or when the space has been unoccupied for 15 minutes or less. e	$0.34/Watt controlled**

*Project Cost Caps of 70% and 1-Year Simple Payback Caps apply to New Construction and Major Renovation projects that are not subject to state energy code. The 1 year simple payback cap means incentives will not be available to reduce the simple payback of a project below one year. If required, individual measure incentives will be adjusted downward pro-rata so the project has a simple payback after incentives of one year.

** Exterior lighting controls required by the applicable version of the state energy code are not eligible for incentives.

~~CFL – Compact Fluorescent Lamp~~

(continued)

ELECTRIC SERVICE SCHEDULE NO. 140 - Continued

LED - Light-Emitting Diode

(continued)

ELECTRIC SERVICE SCHEDULE NO. 140 - Continued

Table 3a – HVAC Incentives (Continued)

Notes for table 3a - HVAC equipment incentive table

1. Equipment that meets or exceeds the efficiency requirements listed for the size category in the above table may qualify for the listed incentive. Equipment must meet all listed efficiency requirements to qualify for the listed incentives.
2. PTHPs can replace electric resistive heating, which must be removed.
3. Incentives for heat pumps are available per ton of cooling capacity ONLY. No incentives are paid per ton of heating capacity. Heat Pumps must meet both the cooling mode and heating mode efficiency requirements to qualify for per ton cooling efficiency incentives.
4. Equipment size categories and capacities are specified in terms of net cooling capacity at AHRI standard conditions as determined by AHRI Standard 210/240 for units <65,000 Btu/hr, AHRI Standard 340/360 for units ≥65,000 Btu/hr, AHRI Standard 310/380 for PTAC and PTHP units, and AHRI Standard 1230 for VRF systems.
5. Ground and Water Source Heat Pumps must meet or exceed listed efficiency requirements when rated in accordance with ISO-13256-1 to qualify for the listed incentive.
6. Efficiency requirements align with the Unitary Air-Conditioning and Heat Pump Specification maintained by the Consortium for Energy Efficiency for equipment with heating sections other than electric resistance. CEE minimum efficiency requirements are listed on the Company website.
~~7. Evaporative pre-cooler incentives are subject to the project cost cap and the one-year payback cap.~~

AHRI = Air-Conditioning, Heating, and Refrigeration Institute
CEE = Consortium for Energy Efficiency
COP = Coefficient of Performance
EER = Energy Efficiency Ratio
HSPF = Heating Seasonal Performance Factor
HVAC = Heating, Ventilation and Air-Conditioning
IEER = Integrated Energy Efficiency Ratio
IPLV = Integrated Part Load Value
PTAC = Packaged Terminal Air Conditioner
PTHP = Packaged Terminal Heat Pump
SEER = Seasonal Energy Efficiency Ratio
VFR = Variable Refrigerant Flow

ELECTRIC SERVICE SCHEDULE NO. 140 - Continued

Table 3b –Other HVAC Incentives

Equipment Type	Size Category	Sub-Category	Minimum Efficiency Requirement	Incentive "up to"
Evaporative Cooling	All sizes	Direct or Indirect		$0.06/ CFM
Indirect-Direct Evaporative Cooling (IDEC)	All sizes	--	Applicable system components must exceed minimum efficiencies required by energy code	$0.15/kWh annual energy savings See Note 2
Chillers	All except chillers intended for backup service only	Serving primarily occupant comfort cooling loads (no more than 20% for process cooling loads)	Must exceed minimum efficiencies required by energy code	$0.15/kWh annual energy savings See Note 3
365/366 day Programmable or Occupancy-based Thermostat	All sizes in portable classrooms with mechanical cooling	Must be installed in portable classroom unoccupied during summer months	365/366 day thermostatic or occupancy based setback capability	$150/thermostat
Occupancy Based PTHP/PTAC control	All sizes with no prior occupancy based control		See Note 5	$50/controller
Evaporative Pre-cooler (Retrofit Only)		For single air-cooled packaged rooftop or matched split system condensers only	Minimum performance efficiency of 75%. Must have enthalpy controls to control pre-cooler operation. Water supply must have chemical or mechanical water treatment.	$75/ton of attached cooling capacity (See Note 5)
Advanced Rooftop Unit Control	≥ 5 tons and ≤ 10 tons	Must be installed on existing unitary packaged rooftop units (no split-systems), ≥ 5 tons nominal cooling capacity with constant speed supply fans.	Controls must include: - Either a supply fan VFD or multi-speed supply fan motor with controller that meets ventilation and space conditioning needs - Digital, integrated economizer control	$2,000
	> 10 tons and ≤ 15 tons			$2,800
	> 15 tons and ≤ 20 tons			$4,000
	> 20 tons			$4,500

Notes for Table 3b

1. Equipment that meets or exceeds the efficiency requirements listed for the equipment category in the above table may qualify for the listed incentive.
2. Incentives paid at $0.15/kWh annual energy savings. IDEC energy savings subject to approval by the Company.
3. Incentives paid at $0.15/kWh annual energy savings. Chiller energy savings subject to approval by the Company.
4. Controller units must include an occupancy based control and include the capability to set back the zone temperature during extended unoccupied periods and set up the temperature once the zone is occupied.
5. Incentives for Evaporative Pre-coolers are capped at 70 percent of Energy Efficiency Project Costs and incentives will not be available to reduce the Energy Efficiency Project simple payback below one year.
6. Energy Efficiency Project Costs are subject to Rocky Mountain Power approval.

~~6.~~7. Evaporative pre-cooler incentives are subject to the project cost cap and the one-year payback cap.

CFM = Cubic Feet per Minute
HVAC = Heating, Ventilating and Air Conditioning
IDEC = Indirect Direct Evaporative Cooling

(Continued)

ELECTRIC SERVICE SCHEDULE NO. 140 - Continued

PTAC = Packaged Terminal Air Conditioner
PTHP = Packaged Terminal Heat Pump

ELECTRIC SERVICE SCHEDULE NO. 140 - Continued

Table 5 – Food Service Equipment Incentives

Equipment Type	Equipment Category	Minimum Efficiency Requirement	Incentive/Unit "up to"
Residential Dishwasher	Used in a Business	See Home Energy Savings Program	See Note 2
Commercial Dishwasher (High Temperature models w/ electric boosters only)	Undercounter	ENERGY STAR Qualified	$100
	Stationary Rack, Single Tank, Door Type		$400
	Single Tank Conveyor		$1,000
	Multiple Tank Conveyor		$500
Electric Insulated Holding Cabinet	V ≥ 28	ENERGY STAR Qualified	$400
	13 ≤ V < 28		$300
	V < 13		$200
Electric Steam Cooker	3-, 4-, 5- and 6-pan or larger sizes - Tier 1	ENERGY STAR Qualified	$130
	3-, 4-, 5- and 6-pan or larger sizes - Tier 2	ENERGY STAR Qualified w/ Heavy Load Efficiency ≥ 68%	$300
Electric Convection Oven	--	ENERGY STAR Qualified	$350
Electric Griddle		ENERGY STAR Tier 2 Qualified	$150
Electric Combination Oven	6-~~14~~ 15 pans	ENERGY STAR Qualified	$1,000
	~~15~~16-20 pans	ENERGY STAR Qualified	$275
Electric Commercial Fryer	Tier 1	ENERGY STAR Qualified	$200
	Tier 2	ENERGY STAR Qualified w/Cooking Efficiency ≥ 85%, Idle Energy Rate ≤ 860 Watts	$300
Ice Machines (Air-Cooled Only)	Tier 1: Harvest Rate < 500 lbs/day	ENERGY STAR Qualified	$125
	Tier 1: Harvest Rate ≥ 500 lbs/day		$150
	Tier 2: Harvest Rate < 500 lbs/day	CEE Tier 2 Qualified	$250
	Tier 2: Harvest Rate ≥ 500 lbs/day		$400
Residential Refrigerator	Used in a Business	See Home Energy Savings Program	See Note 2

(continued)

ELECTRIC SERVICE SCHEDULE NO. 140 - Continued

Table 5 – Food Service Equipment Incentives (Continued)

Commercial Transparent Door Refrigerator	0 < V < 15	ENERGY STAR Qualified	$25
	15 ≤ V < 30		$50
	30 ≤ V < 50		$75
	50 ≤ V		$125
	Chest Configuration		$50
Commercial Transparent Door Freezer	0 < V < 15	ENERGY STAR Qualified	$25
	15 ≤ V < 30		$50
	30 ≤ V < 50		$75
	50 ≤ V		$100
	Chest Configuration		$100
Demand Controlled Kitchen Ventilation Exhaust Hood (Retrofit Only)	Must be installed on commercial kitchen exhaust system.	Variable speed motors must be controlled to vary fan speed depending upon kitchen demand, as indicated by connected sensors.	$0.15/kWh annual energy savings (See note 3)
Anti-Sweat Heater Controls (Retrofit Only)	Low-Temp (Freezing) Cases	Controls that reduce energy consumption of anti-sweat heaters based on sensing humidity.	$20/linear foot (case length)
	Med-Temp (Refrigerated) Cases		$16/linear foot (case length)

Notes for Table 5:
1. Equipment that meets or exceeds the efficiency requirements listed for the equipment category in the above table may qualify for the listed incentive.
2. Refer to Company's Home Energy Savings program for efficiency requirements and incentives for listed residential appliances used in a business.
3. Incentives are paid at $0.15/kWh annual energy savings. Demand controlled kitchen ventilation exhaust hood energy savings subject to approval by Company.

CEE = Consortium for Energy Efficiency
~~ASTM = American Society for Testing and Materials~~
MDEC = Maximum Daily Energy Consumption
V = Association of Home Appliance Manufacturers (AHAM) Volume (cubic feet)

(Continued)

ELECTRIC SERVICE SCHEDULE NO. 140 - Continued
Small Business Direct Install (Retrofit only)

Incentives and participation for small business direct installations may include but not be limited to lighting, plug load, HVAC measures, and areas being canvassed. Participating customers are required to pay for up to 25% of the qualifying equipment costs.

Table 12 – Incentives for Small Business Direct Installation (Retrofit only)

Eligible Customer Rate Schedules	Eligibility Requirements	Incentive "up to"	Customer Co-pay "up to"	
			Minimum	Maximum
6	Non-residential facilities not in excess of 200 kW demand monthly in the last twelve months.	$5,000 per facility	10%	25%
6a	Non-residential facilities not in excess of 200 kW demand monthly in the last twelve months.	$5,000 per facility	10%	25%
6b	Non-residential facilities not in excess of 200 kW demand monthly in the last twelve months.	$5,000 per facility	10%	25%
23		$5,000 per facility	10%	25%

Table 13a – Mid-Market Incentives -Lighting

Measure	Category	Eligibility Requirements	Incentive "up to"
LED	A-19 Lamp < 8 W, Medium Base	LED must be listed on qualified equipment list	$~~57~~/Lamp
	A-19 Lamp ≥ 8 W, Medium Base	LED must be listed on qualified equipment list	$5/Lamp
	A-21 Lamp > 12 W, Medium Base	LED must be listed on qualified equipment list	$10/Lamp
	PAR Reflector Lamp	LED must be listed on qualified equipment list	$15/Lamp
	BR Reflector Lamp	LED must be listed on qualified equipment list	$13/Lamp
	MR16 Reflector Lamp	LED must be listed on qualified equipment list	$10/Lamp
	PLC Pin-based Lamp < 10 W	LED must be listed on qualified equipment list	$10/Lamp
	PLC Pin-based Lamp > 10 W	LED must be listed on qualified equipment list	$15/Lamp
	PLL Pin-based Lamp	LED must be listed on qualified equipment list	$15/Lamp
	~~Candelabra/Globe~~Decorative Lamp	LED must be listed on qualified equipment list	$10/Lamp
	Recessed Downlight Kit	LED must be listed on qualified equipment list	$15/Fixture
	T8 TLED Lamp – Type A, A/B Dual Mode	LED must be listed on qualified equipment list	$10/Lamp
	T8 TLED Lamp – Type B	LED must be listed on qualified equipment list	$15/Lamp
	T8 TLED Lamp – Type C	LED must be listed on qualified equipment list	$25/Lamp
	T5 TLED Lamp	LED must be listed on qualified equipment list	$15/Lamp
	~~Tubular LED "TLED"~~	~~LED must be listed on qualified equipment list~~	~~$10/Lamp~~
	~~HID Replacement Lamp <50 W~~	~~LED must be listed on qualified equipment list~~	~~$60/Lamp~~
	~~HID Replacement Lamp ≥50 and < 150 W~~	~~LED must be listed on qualified equipment list~~	~~$65/Lamp~~
	HID Replacement Lamp < 40 W	LED must be listed on qualified equipment list	$50/Lamp
	HID Replacement Lamp ≥ 40 and < 80 W	LED must be listed on qualified equipment list	$70/Lamp
	HID Replacement Lamp ≥ 80 and < 150 W	LED must be listed on qualified equipment list	$90/Lamp
	HID Replacement Lamp ≥ 150W	LED must be listed on qualified equipment list	$110/Lamp

(Continued)

ELECTRIC SERVICE SCHEDULE NO. 140 - Continued

	Wall Pack Fixture	LED must be listed on qualified equipment list	$30/Fixture
	Wall Pack Fixture with Occupancy Sensor	LED must be listed on qualified equipment list	$75/Fixture
Fluorescent	Reduced Wattage T8 Lamp	≤28 W CEE Replacement Lamp	$0.75/Lamp
	Reduced Wattage T5 HO Lamp	≤51 W T5HO Lamp	$1/Lamp

ELECTRIC SERVICE SCHEDULE NO. 140 – Continued

~~13a – Mid-Market Incentives–Lighting (Continued)~~

~~Measure~~	~~Category~~	~~Eligibility Requirements~~	~~Incentive "up to"~~
~~LED~~	~~Wall Pack Fixture with Occupancy Sensor~~	~~LED must be listed on qualified equipment list~~	~~$75/Fixture~~
~~Fluorescent~~	~~Reduced Wattage T8 Lamp~~	~~≤28 W CEE Replacement Lamp~~	~~$0.75/Lamp~~
	~~Reduced Wattage T5 HO Lamp~~	~~≤51 W T5HO Lamp~~	~~$1/Lamp~~

Notes for Table 13a:

1. Incentives for measures listed in the table above are available at the point of purchase through approved distributors/retailers or via a post-purchase customer application process.
2. Incentives are capped at 70 percent of qualifying equipment costs. Qualifying equipment costs are subject to Company approval.
~~1.~~3. Qualified equipment lists referenced in the above table are posted on the Utah energy efficiency program section of the Company's website.

A = Arbitrary (standard lamp shape)
PAR = Parabolic Aluminized Reflector
BR = Bulged Reflector
HID = High Intensity Discharge (e.g. high pressure sodium, metal halide)
HO = High Output
MR = Mirrored Reflector
PLC = Pin Lamp Compact Fluorescent
PLL = Pin Lamp Long Compact Fluorescent
TLED = Tubular Light Emitting Diode
W = Watt

Table 13b – Mid-Market Incentives –HVAC

Measure	Category	Eligibility Requirements	Customer/Mid-Market Incentive "up to"
Unitary Commercial Air Conditioners	Air-Cooled – Packaged Systems Only	As defined in CEE Commercial Unitary Air-conditioning and Heat Pumps Specification	$100~~50~~/Ton

Notes for ~~mid-market~~Table 13b incentive tables:

~~1. Incentives are capped at 70 percent of qualifying equipment cost. Qualifying equipment costs are subject to Company approval.~~

1. Qualified equipment lists referenced in the above table are posted on the Utah energy efficiency program section of the Company's website.
2. Incentives included in the mid-market incentive tables are available through Company-approved retailers/distributors or a customer application process.

Table 14 – HVAC Check-up Incentives

Measure	Category	Eligibility Requirements	Incentive "up to"
Maintenance Agreement	3 year maintenance agreement	Maintenance agreements must include a minimum of two system checks per year (heating and cooling seasons), one condenser coil cleaning per year, and a thermostat reprogramming and calibration.	$75/ RTU
Thermostats	Programmable Thermostat	Replace existing non-programmable thermostat with programmable thermostat with a minimum of 7-day occupied/unoccupied settings.	$50/Thermostat

ELECTRIC SERVICE SCHEDULE NO. 140 – Continued

	Smart Thermostat	Replace non-programmable thermostat with programmable smart thermostat with a minimum of 7-day occupied/unoccupied settings. Smart thermostats must be Wi-Fi enabled, online dashboard and/or mobile device app, with occupancy sensor enabled.	
Economizer	Economizer Repair	--	$150/RTU
Refrigerant	Proper Refrigerant Charge	--	$35/Ton RTU Capacity

Notes for Table 14:

1. Incentives are capped at 70 percent of qualifying cost. Qualifying costs are subject to Company approval.

Exhibit B

NAVIGANT

Memorandum

To: Angela Long, PacifiCorp/Rocky Mountain Power

From: David Basak, Navigant

Date: December 8, 2017

Re: Cost Effectiveness for the Utah Wattsmart Business Program Midstream Delivery – Expected Participation

Navigant has developed this memo in response to PacifiCorp's proposed Wattsmart Business Program cost-effectiveness modeling needs for the Midstream delivery channel in the state of Utah. Each scenario is analyzed using modeled assumptions provided by PacifiCorp. These scenarios utilize the following assumptions:

- **Scenarios:** Ran cost-effectiveness for program years 2018 and 2019.
- ***Avoided Costs:*** Navigant performed a custom analysis of calculating avoided costs by using the *2017 D*ecrement and applied against Utah specific commercial end-use specific load shapes.
- ***Modeling Inputs:*** Measure category savings provided by PacifiCorp in the file *UT CE 2018-2019_111617 1.xlsx*.
- ***Energy Rates:*** Utilized the rates provided by PacifiCorp for PY2016 and applied an escalation of 2.22% to arrive at estimated energy rates PY2018 and PY2019.
- ***Line Loss Factors:*** Commercial line loss factor utilized throughout the analysis.

This memo will begin by addressing the inputs used in the analysis of the Utah Wattsmart Business Program. The cost-effectiveness inputs are as follows:

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Table 1 - Utility Inputs

Parameter	PY2018	PY2019
Discount Rate	6.57%	6.57%
Commercial Line Loss	8.71%	8.71%
Commercial Energy Rate ($/kWh)[1]	$0.0637	$0.0652
Inflation Rate	2.22%	2.22%

[1] Future rates determined using a 2.22% annual escalator.

Table 2 –Program Costs by Scenario and Program Year (Expected Participation)

Program Year	Internal Costs	Incentives	Total Utility Costs	Gross Customer Costs
2018	$56,048	$1,598,572	$1,654,620	$3,957,640
2019	$56,048	$2,079,400	$2,135,448	$5,149,000
2018-2019	**$112,096**	**$3,677,972**	**$3,790,068**	**$9,106,640**

Table 3 – Program Savings by Scenario and Program Year (Expected Participation)

Program Year	Gross kWh Savings	Realization Rate	Adjusted Gross kWh Savings	Net to Gross Ratio	Net kWh Savings	Measure Life
2018	15,250,000	99%	15,146,540	76%	11,511,370	13
2019	19,825,000	99%	19,690,250	76%	14,964,590	13
2018-2019	**35,075,000**	**99%**	**34,836,790**	**76%**	**26,475,960**	**13**

Table 4 - Benefit/Cost Ratios by Measure Category (Expected Participation)

Program Year	PTRC	TRC	UCT	RIM	PCT
2018	1.74	1.58	2.93	0.52	2.98
2019	1.88	1.71	3.18	0.55	3.04
2018-2019	**1.82**	**1.66**	**3.07**	**0.53**	**3.02**

The following tables provide cost-effectiveness results for both program year 2018 and 2019.

Table 5 – Midstream Delivery Channel Cost-Effectiveness Results - PY2018 and PY2019 (Expected Participation)

Cost-Effectiveness Test	Levelized $/kWh	Costs	Benefits	Net Benefits	Benefit/Cost Ratio
Total Resource Cost Test (PTRC) + Conservation Adder	$0.0269	$7,033,142	$12,816,039	$5,782,896	1.82
Total Resource Cost Test (TRC) No Adder	$0.0269	$7,033,142	$11,650,944	$4,617,802	1.66
Utility Cost Test (UCT)	$0.0145	$3,790,068	$11,650,944	$7,860,876	3.07
Rate Impact Test (RIM)		$21,869,571	$11,650,944	-$10,218,627	0.53
Participant Cost Test (PCT)		$9,106,640	$27,466,792	$18,360,152	3.02
Lifecycle Revenue Impacts ($/kWh)					$0.0000282020
Discounted Participant Payback (years)					3.26

Table 6 – Midstream Delivery Channel Cost-Effectiveness Results - PY2018 (Expected Participation)

Cost-Effectiveness Test	Levelized $/kWh	Costs	Benefits	Net Benefits	Benefit/Cost Ratio
Total Resource Cost Test (PTRC) + Conservation Adder	$0.0270	$3,063,854	$5,339,636	$2,275,782	1.74
Total Resource Cost Test (TRC) No Adder	$0.0270	$3,063,854	$4,854,215	$1,790,360	1.58
Utility Cost Test (UCT)	$0.0146	$1,654,620	$4,854,215	$3,199,594	2.93
Rate Impact Test (RIM)		$9,417,835	$4,854,215	-$4,563,620	0.52
Participant Cost Test (PCT)		$3,957,640	$11,813,328	$7,855,688	2.98
Lifecycle Revenue Impacts ($/kWh)					$0.0000062980
Discounted Participant Payback (years)					3.30

Table 7 – Midstream Delivery Channel Cost-Effectiveness Results - PY2019 (Expected Participation)

Cost-Effectiveness Test	Levelized $/kWh	Costs	Benefits	Net Benefits	Benefit/Cost Ratio
Total Resource Cost Test (PTRC) + Conservation Adder	$0.0269	$3,969,288	$7,476,403	$3,507,115	1.88
Total Resource Cost Test (TRC) No Adder	$0.0269	$3,969,288	$6,796,730	$2,827,442	1.71
Utility Cost Test (UCT)	$0.0145	$2,135,448	$6,796,730	$4,661,282	3.18
Rate Impact Test (RIM)		$12,451,736	$6,796,730	-$5,655,006	0.55
Participant Cost Test (PCT)		$5,149,000	$15,653,463	$10,504,463	3.04
Lifecycle Revenue Impacts ($/kWh)					$0.0000072969
Discounted Participant Payback (years)					3.23

Table 8 and 9 provide cost-effectiveness results for the measure categories in the Midstream delivery channel for each program year.

Table 8 – Midstream Delivery Channel Measure Category Level Cost-Effectiveness Results - PY2018

Channel	Measure	P-TRC Benefits ($)	P-TRC Costs ($)	PTRC Test	TRC Benefits ($)	TRC Costs ($)	TRC Test	Utility Benefits ($)	Utility Costs ($)	Utility Cost Test	Ratepayer Benefits ($)	Ratepayer Costs ($)	Ratepayer Impact Test	Participant Benefits ($)	Participant Costs ($)	Participant Test
Midstream	Lighting Measures	$4,723,606	$1,620,624	2.91	$4,294,188	$1,620,624	2.65	$4,294,188	$1,028,428	4.18	$4,294,188	$8,016,605	0.54	$10,172,781	$2,065,800	4.92
Midstream	HVAC Measures	$616,030	$1,443,230	0.43	$560,027	$1,443,230	0.39	$560,027	$626,192	0.89	$560,027	$1,401,230	0.40	$1,640,547	$1,891,840	0.87

Table 9 – Midstream Delivery Channel Measure Category Level Cost-Effectiveness Results - PY2019

Channel	Measure	P-TRC Benefits ($)	P-TRC Costs ($)	PTRC Test	TRC Benefits ($)	TRC Costs ($)	TRC Test	Utility Benefits ($)	Utility Costs ($)	Utility Cost Test	Ratepayer Benefits ($)	Ratepayer Costs ($)	Ratepayer Impact Test	Participant Benefits ($)	Participant Costs ($)	Participant Test
Midstream	Lighting Measures	$6,622,477	$2,091,206	3.17	$6,020,433	$2,091,206	2.88	$6,020,433	$1,321,506	4.56	$6,020,433	$10,605,947	0.57	$13,487,270	$2,685,000	5.02
Midstream	HVAC Measures	$853,926	$1,878,082	0.45	$776,296	$1,878,082	0.41	$776,296	$813,942	0.95	$776,296	$1,845,789	0.42	$2,166,193	$2,464,000	0.88

NAVIGANT

Memorandum

To: Angela Long, PacifiCorp/Rocky Mountain Power

From: David Basak, Navigant

Date: December 8, 2017

Re: Cost Effectiveness for the Utah Wattsmart Business Program Midstream Delivery – High (+10%)Participation

Navigant has developed this memo in response to PacifiCorp's proposed Wattsmart Business Program cost-effectiveness modeling needs for the Midstream delivery channel in the state of Utah. Each scenario is analyzed using modeled assumptions provided by PacifiCorp. These scenarios utilize the following assumptions:

- **Scenarios:** Ran cost-effectiveness for program years 2018 and 2019.
- ***Avoided Costs:*** Navigant performed a custom analysis of calculating avoided costs by using the *2017 D*ecrement and applied against Utah specific commercial end-use specific load shapes.
- ***Modeling Inputs:*** Measure category savings provided by PacifiCorp in the file *UT CE 2018-2019_111617 1.xlsx*.
- ***Energy Rates:*** Utilized the rates provided by PacifiCorp for PY2016 and applied an escalation of 2.22% to arrive at estimated energy rates PY2018 and PY2019.
- ***Line Loss Factors:*** Commercial line loss factor utilized throughout the analysis.

This memo will begin by addressing the inputs used in the analysis of the Utah Wattsmart Business Program. The cost-effectiveness inputs are as follows:

1375 Walnut Street
Suite 100 | Boulder, CO 80302
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navigant.com

Table 1 - Utility Inputs

Parameter	PY2018	PY2019
Discount Rate	6.57%	6.57%
Commercial Line Loss	8.71%	8.71%
Commercial Energy Rate ($/kWh)[1]	$0.0637	$0.0652
Inflation Rate	2.22%	2.22%

[1] Future rates determined using a 2.22% annual escalator.

Table 2 –Program Costs by Scenario and Program Year (High Participation)

Program Year	Internal Costs	Incentives	Total Utility Costs	Gross Customer Costs
2018	$56,048	$1,758,429	$1,814,477	$4,353,404
2019	$56,048	$2,287,340	$2,343,388	$5,663,900
2018-2019	**$112,096**	**$4,045,769**	**$4,157,865**	**$10,017,304**

Table 3 – Program Savings by Scenario and Program Year (High Participation)

Program Year	Gross kWh Savings	Realization Rate	Adjusted Gross kWh Savings	Net to Gross Ratio	Net kWh Savings	Measure Life
2018	16,775,000	99%	16,661,194	76%	12,662,507	13
2019	21,807,500	99%	21,659,275	76%	16,461,049	13
2018-2019	**38,582,500**	**99%**	**38,320,469**	**76%**	**29,123,556**	**13**

Table 4 - Benefit/Cost Ratios by Measure Category (High Participation)

Program Year	PTRC	TRC	UCT	RIM	PCT
2018	1.75	1.59	2.94	0.52	2.98
2019	1.89	1.71	3.19	0.55	3.04
2018-2019	**1.82**	**1.66**	**3.08**	**0.53**	**3.02**

The following tables provide cost-effectiveness results for both program year 2018 and 2019.

Table 5 – Midstream Delivery Channel Cost-Effectiveness Results - PY2018 and PY2019 (High Participation)

Cost-Effectiveness Test	Levelized $/kWh	Costs	Benefits	Net Benefits	Benefit/Cost Ratio
Total Resource Cost Test (PTRC) + Conservation Adder	$0.0269	$7,725,247	$14,097,642	$6,372,395	1.82
Total Resource Cost Test (TRC) No Adder	$0.0269	$7,725,247	$12,816,039	$5,090,791	1.66
Utility Cost Test (UCT)	$0.0145	$4,157,865	$12,816,039	$8,658,173	3.08
Rate Impact Test (RIM)		$24,045,318	$12,816,039	-$11,229,280	0.53
Participant Cost Test (PCT)		$10,017,304	$30,213,471	$20,196,167	3.02
Lifecycle Revenue Impacts ($/kWh)					$0.0000309912
Discounted Participant Payback (years)					3.26

Table 6 – Midstream Delivery Channel Cost-Effectiveness Results - PY2018 (High Participation)

Cost-Effectiveness Test	Levelized $/kWh	Costs	Benefits	Net Benefits	Benefit/Cost Ratio
Total Resource Cost Test (PTRC) + Conservation Adder	$0.0269	$3,364,635	$5,873,600	$2,508,964	1.75
Total Resource Cost Test (TRC) No Adder	$0.0269	$3,364,635	$5,339,636	$1,975,001	1.59
Utility Cost Test (UCT)	$0.0145	$1,814,477	$5,339,636	$3,525,159	2.94
Rate Impact Test (RIM)		$10,354,014	$5,339,636	-$5,014,378	0.52
Participant Cost Test (PCT)		$4,353,404	$12,994,661	$8,641,257	2.98
Lifecycle Revenue Impacts ($/kWh)					$0.0000069201
Discounted Participant Payback (years)					3.30

Table 7 – Midstream Delivery Channel Cost-Effectiveness Results - PY2019 (High Participation)

Cost-Effectiveness Test	Levelized $/kWh	Costs	Benefits	Net Benefits	Benefit/Cost Ratio
Total Resource Cost Test (PTRC) + Conservation Adder	$0.0268	$4,360,612	$8,224,043	$3,863,431	1.89
Total Resource Cost Test (TRC) No Adder	$0.0268	$4,360,612	$7,476,403	$3,115,791	1.71
Utility Cost Test (UCT)	$0.0144	$2,343,388	$7,476,403	$5,133,015	3.19
Rate Impact Test (RIM)		$13,691,305	$7,476,403	-$6,214,902	0.55
Participant Cost Test (PCT)		$5,663,900	$17,218,810	$11,554,910	3.04
Lifecycle Revenue Impacts ($/kWh)					$0.0000080194
Discounted Participant Payback (years)					3.23

Table 8 and 9 provide cost-effectiveness results for the measure categories in the Midstream delivery channel for each program year.

Table 8 – Midstream Delivery Channel Measure Category Level Cost-Effectiveness Results - PY2018

Channel	Measure	P-TRC Benefits ($)	P-TRC Costs ($)	PTRC Test	TRC Benefits ($)	TRC Costs ($)	TRC Test	Utility Benefits ($)	Utility Costs ($)	Utility Cost Test	Ratepayer Benefits ($)	Ratepayer Costs ($)	Ratepayer Impact Test	Participant Benefits ($)	Participant Costs ($)	Participant Test
Midstream	Lighting Measures	$5,195,967	$1,777,625	2.92	$4,723,606	$1,777,625	2.66	$4,723,606	$1,126,209	4.19	$4,723,606	$8,813,204	0.54	$11,190,059	$2,272,380	4.92
Midstream	HVAC Measures	$677,633	$1,587,010	0.43	$616,030	$1,587,010	0.39	$616,030	$688,268	0.90	$616,030	$1,540,810	0.40	$1,804,602	$2,081,024	0.87

Table 9 – Midstream Delivery Channel Measure Category Level Cost-Effectiveness Results - PY2019

Channel	Measure	P-TRC Benefits ($)	P-TRC Costs ($)	PTRC Test	TRC Benefits ($)	TRC Costs ($)	TRC Test	Utility Benefits ($)	Utility Costs ($)	Utility Cost Test	Ratepayer Benefits ($)	Ratepayer Costs ($)	Ratepayer Impact Test	Participant Benefits ($)	Participant Costs ($)	Participant Test
Midstream	Lighting Measures	$7,284,724	$2,295,266	3.17	$6,622,477	$2,295,266	2.89	$6,622,477	$1,448,596	4.57	$6,622,477	$11,661,481	0.57	$14,835,997	$2,953,500	5.02
Midstream	HVAC Measures	$939,319	$2,065,346	0.45	$853,926	$2,065,346	0.41	$853,926	$894,792	0.95	$853,926	$2,029,824	0.42	$2,382,813	$2,710,400	0.88

NAVIGANT

Memorandum

To: Angela Long, PacifiCorp/Rocky Mountain Power

From: David Basak, Navigant

Date: December 8, 2017

Re: Cost Effectiveness for the Utah Wattsmart Business Program Midstream Delivery – Low (-10%)Participation

Navigant has developed this memo in response to PacifiCorp's proposed Wattsmart Business Program cost-effectiveness modeling needs for the Midstream delivery channel in the state of Utah. Each scenario is analyzed using modeled assumptions provided by PacifiCorp. These scenarios utilize the following assumptions:

- **Scenarios:** Ran cost-effectiveness for program years 2018 and 2019.
- ***Avoided Costs:*** Navigant performed a custom analysis of calculating avoided costs by using the *2017 D*ecrement and applied against Utah specific commercial end-use specific load shapes.
- ***Modeling Inputs:*** Measure category savings provided by PacifiCorp in the file *UT CE 2018-2019_111617 1.xlsx*.
- ***Energy Rates:*** Utilized the rates provided by PacifiCorp for PY2016 and applied an escalation of 2.22% to arrive at estimated energy rates PY2018 and PY2019.
- ***Line Loss Factors:*** Commercial line loss factor utilized throughout the analysis.

This memo will begin by addressing the inputs used in the analysis of the Utah Wattsmart Business Program. The cost-effectiveness inputs are as follows:

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Table 1 - Utility Inputs

Parameter	PY2018	PY2019
Discount Rate	6.57%	6.57%
Commercial Line Loss	8.71%	8.71%
Commercial Energy Rate ($/kWh)[1]	$0.0637	$0.0652
Inflation Rate	2.22%	2.22%

[1] Future rates determined using a 2.22% annual escalator.

Table 2 –Program Costs by Scenario and Program Year (Low Participation)

Program Year	Internal Costs	Incentives	Total Utility Costs	Gross Customer Costs
2018	$56,048	$1,438,715	$1,494,763	$3,561,876
2019	$56,048	$1,871,460	$1,927,508	$4,634,100
2018-2019	**$112,096**	**$3,310,175**	**$3,422,271**	**$8,195,976**

Table 3 – Program Savings by Scenario and Program Year (Low Participation)

Program Year	Gross kWh Savings	Realization Rate	Adjusted Gross kWh Savings	Net to Gross Ratio	Net kWh Savings	Measure Life
2018	13,725,000	99%	13,631,886	76%	10,360,233	13
2019	17,842,500	99%	17,721,225	76%	13,468,131	13
2018-2019	**31,567,500**	**99%**	**31,353,111**	**76%**	**23,828,364**	**13**

Table 4 - Benefit/Cost Ratios by Measure Category (Low Participation)

Program Year	PTRC	TRC	UCT	RIM	PCT
2018	1.74	1.58	2.92	0.52	2.98
2019	1.88	1.71	3.17	0.55	3.04
2018-2019	**1.82**	**1.65**	**3.06**	**0.53**	**3.02**

The following tables provide cost-effectiveness results for both program year 2018 and 2019.

Table 5 – Midstream Delivery Channel Cost-Effectiveness Results - PY2018 and PY2019 (Low Participation)

Cost-Effectiveness Test	Levelized $/kWh	Costs	Benefits	Net Benefits	Benefit/Cost Ratio
Total Resource Cost Test (PTRC) + Conservation Adder	$0.0270	$6,341,038	$11,534,435	$5,193,397	1.82
Total Resource Cost Test (TRC) No Adder	$0.0270	$6,341,038	$10,485,850	$4,144,812	1.65
Utility Cost Test (UCT)	$0.0146	$3,422,271	$10,485,850	$7,063,579	3.06
Rate Impact Test (RIM)		$19,693,823	$10,485,850	-$9,207,974	0.53
Participant Cost Test (PCT)		$8,195,976	$24,720,112	$16,524,136	3.02
Lifecycle Revenue Impacts ($/kWh)					$0.0000254127
Discounted Participant Payback (years)					3.26

Table 6 – Midstream Delivery Channel Cost-Effectiveness Results - PY2018 (Low Participation)

Cost-Effectiveness Test	Levelized $/kWh	Costs	Benefits	Net Benefits	Benefit/Cost Ratio
Total Resource Cost Test (PTRC) + Conservation Adder	$0.0270	$2,763,074	$4,805,672	$2,042,599	1.74
Total Resource Cost Test (TRC) No Adder	$0.0270	$2,763,074	$4,368,793	$1,605,719	1.58
Utility Cost Test (UCT)	$0.0146	$1,494,763	$4,368,793	$2,874,030	2.92
Rate Impact Test (RIM)		$8,481,656	$4,368,793	-$4,112,863	0.52
Participant Cost Test (PCT)		$3,561,876	$10,631,996	$7,070,120	2.98
Lifecycle Revenue Impacts ($/kWh)					$0.0000056759
Discounted Participant Payback (years)					3.30

Table 7 – Midstream Delivery Channel Cost-Effectiveness Results - PY2019 (Low Participation)

Cost-Effectiveness Test	Levelized $/kWh	Costs	Benefits	Net Benefits	Benefit/Cost Ratio
Total Resource Cost Test (PTRC) + Conservation Adder	$0.0269	$3,577,964	$6,728,762	$3,150,798	1.88
Total Resource Cost Test (TRC) No Adder	$0.0269	$3,577,964	$6,117,057	$2,539,093	1.71
Utility Cost Test (UCT)	$0.0145	$1,927,508	$6,117,057	$4,189,549	3.17
Rate Impact Test (RIM)		$11,212,167	$6,117,057	-$5,095,111	0.55
Participant Cost Test (PCT)		$4,634,100	$14,088,117	$9,454,017	3.04
Lifecycle Revenue Impacts ($/kWh)					$0.0000065745
Discounted Participant Payback (years)					3.23

Table 8 and 9 provide cost-effectiveness results for the measure categories in the Midstream delivery channel for each program year.

Table 8 – Midstream Delivery Channel Measure Category Level Cost-Effectiveness Results - PY2018

Channel	Measure	P-TRC Benefits ($)	P-TRC Costs ($)	PTRC Test	TRC Benefits ($)	TRC Costs ($)	TRC Test	Utility Benefits ($)	Utility Costs ($)	Utility Cost Test	Ratepayer Benefits ($)	Ratepayer Costs ($)	Ratepayer Impact Test	Participant Benefits ($)	Participant Costs ($)	Participant Test
Midstream	Lighting Measures	$4,251,246	$1,463,623	2.90	$3,864,769	$1,463,623	2.64	$3,864,769	$930,647	4.15	$3,864,769	$7,220,006	0.54	$9,155,503	$1,859,220	4.92
Midstream	HVAC Measures	$554,427	$1,299,451	0.43	$504,024	$1,299,451	0.39	$504,024	$564,116	0.89	$504,024	$1,261,650	0.40	$1,476,492	$1,702,656	0.87

Table 9 – Midstream Delivery Channel Measure Category Level Cost-Effectiveness Results - PY2019

Channel	Measure	P-TRC Benefits ($)	P-TRC Costs ($)	PTRC Test	TRC Benefits ($)	TRC Costs ($)	TRC Test	Utility Benefits ($)	Utility Costs ($)	Utility Cost Test	Ratepayer Benefits ($)	Ratepayer Costs ($)	Ratepayer Impact Test	Participant Benefits ($)	Participant Costs ($)	Participant Test
Midstream	Lighting Measures	$5,960,229	$1,887,146	3.16	$5,418,390	$1,887,146	2.87	$5,418,390	$1,194,416	4.54	$5,418,390	$9,550,413	0.57	$12,138,543	$2,416,500	5.02
Midstream	HVAC Measures	$768,533	$1,690,818	0.45	$698,667	$1,690,818	0.41	$698,667	$733,092	0.95	$698,667	$1,661,754	0.42	$1,949,574	$2,217,600	0.88

Exhibit C

NAVIGANT

Memorandum

To: Angela Long, PacifiCorp/Rocky Mountain Power

From: David Basak, Navigant

Date: December 13, 2017

Re: Cost Effectiveness for the Utah Wattsmart Business Program – Expected Participation

Navigant has developed this memo in response to PacifiCorp's proposed Wattsmart Business Program cost-effectiveness modeling needs in the state of Utah. Each scenario is analyzed using modeled assumptions provided by PacifiCorp. These scenarios utilize the following assumptions:

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- ***Avoided Costs:*** Navigant performed a custom analysis of calculating avoided costs by using the *2017 D*ecrement and applied against Utah specific commercial, industrial, and irrigation end-use specific load shapes.
- ***Modeling Inputs:*** Measure category savings provided by PacifiCorp in the file *UT CE 2018-2019_111617 1.xlsx*.
- ***Energy Rates:*** Utilized the rates provided by PacifiCorp for PY2016 and applied an escalation of 2.22% to arrive at estimated energy rates PY2018 and PY2019.
- ***Line Loss Factors:*** Commercial, industrial and irrigation line loss factor utilized throughout the analysis.

This memo will begin by addressing the inputs used in the analysis of the Utah Wattsmart Business Program. The cost-effectiveness inputs are as follows:

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Suite 100 | Boulder, CO 80302
303.728.2500 main
navigant.com

Table 1 - Utility Inputs

Parameter	PY2018	PY2019
Discount Rate	6.57%	6.57%
Commercial Line Loss	8.71%	8.71%
Industrial Line Loss	5.85%	5.85%
Irrigation Line Loss	9.24%	9.24%
Commercial Energy Rate ($/kWh)[1]	$0.0637	$0.0652
Industrial Energy Rate ($/kWh)[1]	$0.0813	$0.0831
Irrigation Energy Rate ($/kWh)[1]	$0.0769	$0.0786
Inflation Rate	2.22%	2.22%

[1] Future rates determined using a 2.22% annual escalator.

Table 2 –Program Costs by Scenario and Program Year (Expected Participation)

Program Year	Internal Costs	Incentives	Total Utility Costs	Gross Customer Costs
2018	$338,803	$6,511,389	$6,850,191	$22,201,860
2019	$338,803	$7,311,977	$7,650,779	$24,073,044
2018-2019	**$677,606**	**$13,823,365**	**$14,500,971**	**$46,274,904**

Table 3 – Program Savings by Scenario and Program Year (Expected Participation)

Program Year	Gross kWh Savings	Realization Rate	Adjusted Gross kWh Savings	Net to Gross Ratio	Net kWh Savings	Measure Life
2018	70,144,500	99%	69,259,770	76%	52,637,425	13
2019	78,293,750	99%	77,327,013	76%	58,768,530	13
2018-2019	**148,438,250**	**99%**	**146,586,783**	**76%**	**111,405,955**	**13**

Table 4 - Benefit/Cost Ratios by Measure Category (Expected Participation)

Program Year	PTRC	TRC	UCT	RIM	PCT
2018	1.41	1.29	3.23	0.52	2.40
2019	1.57	1.43	3.48	0.55	2.53
2018-2019	**1.49**	**1.36**	**3.36**	**0.54**	**2.47**

Table 5 through Table 7 provide cost-effectiveness results for the combination of PY2018 and PY2019 followed by the individual program year results.

Table 5 – Wattsmart Business Program Level Cost-Effectiveness Results - PY2018 and PY2019 (Expected Participation)

Cost-Effectiveness Test	Levelized $/kWh	Costs	Benefits	Net Benefits	Benefit/Cost Ratio
Total Resource Cost Test (PTRC) + Conservation Adder	$0.0325	$35,846,533	$53,578,917	$17,732,384	1.49
Total Resource Cost Test (TRC) No Adder	$0.0325	$35,846,533	$48,708,106	$12,861,574	1.36
Utility Cost Test (UCT)	$0.0131	$14,500,971	$48,708,106	$34,207,136	3.36
Rate Impact Test (RIM)		$90,777,547	$48,708,106	-$42,069,441	0.54
Participant Cost Test (PCT)		$46,274,904	$114,187,282	$67,912,378	2.47
Lifecycle Revenue Impacts ($/kWh)					$0.0000060245
Discounted Participant Payback (years)					4.78

Table 6 – Wattsmart Business Program Level Cost-Effectiveness Results - PY2018 (Expected Participation)

Cost-Effectiveness Test	Levelized $/kWh	Costs	Benefits	Net Benefits	Benefit/Cost Ratio
Total Resource Cost Test (PTRC) + Conservation Adder	$0.0330	$17,212,216	$24,331,372	$7,119,156	1.41
Total Resource Cost Test (TRC) No Adder	$0.0330	$17,212,216	$22,119,429	$4,907,213	1.29
Utility Cost Test (UCT)	$0.0131	$6,850,191	$22,119,429	$15,269,238	3.23
Rate Impact Test (RIM)		$42,475,482	$22,119,429	-$20,356,052	0.52
Participant Cost Test (PCT)		$22,201,860	$53,386,770	$31,184,910	2.40
Lifecycle Revenue Impacts ($/kWh)					$0.0000060494
Discounted Participant Payback (years)					4.97

Table 7 – Wattsmart Business Program Level Cost-Effectiveness Results - PY2019 (Expected Participation)

Cost-Effectiveness Test	Levelized $/kWh	Costs	Benefits	Net Benefits	Benefit/Cost Ratio
Total Resource Cost Test (PTRC) + Conservation Adder	$0.0320	$18,634,316	$29,247,545	$10,613,229	1.57
Total Resource Cost Test (TRC) No Adder	$0.0320	$18,634,316	$26,588,677	$7,954,361	1.43
Utility Cost Test (UCT)	$0.0131	$7,650,779	$26,588,677	$18,937,898	3.48
Rate Impact Test (RIM)		$48,302,066	$26,588,677	-$21,713,388	0.55
Participant Cost Test (PCT)		$24,073,044	$60,800,511	$36,727,467	2.53
Lifecycle Revenue Impacts ($/kWh)					$0.0000060013
Discounted Participant Payback (years)					4.62

Table 8 and 9 provide cost-effectiveness results for the measure categories by delivery channel for each program year.

Table 8 – Wattsmart Business Measure Category Level Cost-Effectiveness Results - PY2018

Channel	Measure	P-TRC Benefits ($)	P-TRC Costs ($)	PTRC Test	TRC Benefits ($)	TRC Costs ($)	TRC Test	Utility Benefits ($)	Utility Costs ($)	Utility Cost Test	Ratepayer Benefits ($)	Ratepayer Costs ($)	Ratepayer Impact Test	Participant Benefits ($)	Participant Costs ($)	Participant Test
Trade Ally	Appliances	$11,484	$30,278	0.38	$10,440	$30,278	0.34	$10,440	$16,758	0.62	$10,440	$34,421	0.30	$39,741	$39,500	1.01
Trade Ally	Building Shell	$383,506	$215,335	1.78	$348,642	$215,335	1.62	$348,642	$252,089	1.38	$348,642	$720,119	0.48	$862,829	$276,640	3.12
Trade Ally	Electronics	$4,546	$15,649	0.29	$4,133	$15,649	0.26	$4,133	$8,785	0.47	$4,133	$17,744	0.23	$20,239	$20,150	1.00
Trade Ally	Food Service Equipment	$58,207	$71,153	0.82	$52,915	$71,153	0.74	$52,915	$30,412	1.74	$52,915	$124,986	0.42	$153,375	$91,680	1.67
Trade Ally	HVAC	$1,039,808	$613,915	1.69	$945,280	$613,915	1.54	$945,280	$293,635	3.22	$945,280	$1,630,812	0.58	$2,039,943	$790,500	2.58
Trade Ally	Lighting	$15,806,859	$12,322,321	1.28	$14,369,872	$12,322,321	1.17	$14,369,872	$4,261,759	3.37	$14,369,872	$27,986,142	0.51	$35,237,223	$15,896,700	2.22
Trade Ally	Motors	$280,527	$77,963	3.60	$255,025	$77,963	3.27	$255,025	$38,363	6.65	$255,025	$440,531	0.58	$563,668	$97,500	5.78
Trade Ally	HVAC Check-up	$1,406,799	$801,749	1.75	$1,278,908	$801,749	1.60	$1,278,908	$293,771	4.35	$1,278,908	$2,102,892	0.61	$2,656,423	$1,031,550	2.58
Midstream	Lighting Measures	$4,723,606	$1,620,624	2.91	$4,294,188	$1,620,624	2.65	$4,294,188	$1,028,428	4.18	$4,294,188	$8,016,605	0.54	$10,172,781	$2,065,800	4.92
Midstream	HVAC Measures	$616,030	$1,443,230	0.43	$560,027	$1,443,230	0.39	$560,027	$626,192	0.89	$560,027	$1,401,230	0.40	$1,640,547	$1,891,840	0.87

Table 9 – Wattsmart Business Measure Category Level Cost-Effectiveness Results - PY2019

Channel	Measure	P-TRC Benefits ($)	P-TRC Costs ($)	PTRC Test	TRC Benefits ($)	TRC Costs ($)	TRC Test	Utility Benefits ($)	Utility Costs ($)	Utility Cost Test	Ratepayer Benefits ($)	Ratepayer Costs ($)	Ratepayer Impact Test	Participant Benefits ($)	Participant Costs ($)	Participant Test
Trade Ally	Appliances	$13,342	$32,078	0.42	$12,129	$32,078	0.38	$12,129	$17,746	0.68	$12,129	$36,885	0.33	$42,673	$41,870	1.02
Trade Ally	Building Shell	$432,918	$228,953	1.89	$393,562	$228,953	1.72	$393,562	$268,087	1.47	$393,562	$777,499	0.51	$933,278	$294,560	3.17
Trade Ally	Electronics	$5,107	$16,710	0.31	$4,643	$16,710	0.28	$4,643	$9,371	0.50	$4,643	$19,163	0.24	$21,920	$21,545	1.02
Trade Ally	Food Service Equipment	$68,888	$75,651	0.91	$62,625	$75,651	0.83	$62,625	$32,280	1.94	$62,625	$135,195	0.46	$166,220	$97,600	1.70
Trade Ally	HVAC	$1,183,069	$652,964	1.81	$1,075,517	$652,964	1.65	$1,075,517	$311,866	3.45	$1,075,517	$1,767,574	0.61	$2,214,138	$841,883	2.63
Trade Ally	Lighting	$18,144,439	$12,723,103	1.43	$16,494,945	$12,723,103	1.30	$16,494,945	$4,523,633	3.65	$16,494,945	$30,354,089	0.54	$38,270,243	$16,424,040	2.33
Trade Ally	Motors	$322,648	$82,805	3.90	$293,317	$82,805	3.54	$293,317	$40,618	7.22	$293,317	$478,572	0.61	$613,010	$103,870	5.90
Trade Ally	HVAC Check-up	$1,600,731	$852,764	1.88	$1,455,210	$852,764	1.71	$1,455,210	$311,730	4.67	$1,455,210	$2,281,351	0.64	$2,885,567	$1,098,676	2.63
Midstream	Lighting Measures	$6,622,477	$2,091,206	3.17	$6,020,433	$2,091,206	2.88	$6,020,433	$1,321,506	4.56	$6,020,433	$10,605,947	0.57	$13,487,270	$2,685,000	5.02
Midstream	HVAC Measures	$853,926	$1,878,082	0.45	$776,296	$1,878,082	0.41	$776,296	$813,942	0.95	$776,296	$1,845,789	0.42	$2,166,193	$2,464,000	0.88

NAVIGANT

Memorandum

To: Angela Long, PacifiCorp/Rocky Mountain Power

From: David Basak, Navigant

Date: December 13, 2017

Re: Cost Effectiveness for the Utah Wattsmart Business Program – High (+10%) Participation

Navigant has developed this memo in response to PacifiCorp's proposed Wattsmart Business Program cost-effectiveness modeling needs in the state of Utah. Each scenario is analyzed using modeled assumptions provided by PacifiCorp. These scenarios utilize the following assumptions:

- **Scenarios:** Ran cost-effectiveness for program years 2018 and 2019.
- ***Avoided Costs:*** Navigant performed a custom analysis of calculating avoided costs by using the *2017 D*ecrement and applied against Utah specific commercial, industrial, and irrigation end-use specific load shapes.
- ***Modeling Inputs:*** Measure category savings provided by PacifiCorp in the file *UT CE 2018-2019_111617 1.xlsx*.
- ***Energy Rates:*** Utilized the rates provided by PacifiCorp for PY2016 and applied an escalation of 2.22% to arrive at estimated energy rates PY2018 and PY2019.
- ***Line Loss Factors:*** Commercial, industrial and irrigation line loss factor utilized throughout the analysis.

This memo will begin by addressing the inputs used in the analysis of the Utah Wattsmart Business Program. The cost-effectiveness inputs are as follows:

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Table 1 - Utility Inputs

Parameter	PY2018	PY2019
Discount Rate	6.57%	6.57%
Commercial Line Loss	8.71%	8.71%
Industrial Line Loss	5.85%	5.85%
Irrigation Line Loss	9.24%	9.24%
Commercial Energy Rate ($/kWh)[1]	$0.0637	$0.0652
Industrial Energy Rate ($/kWh)[1]	$0.0813	$0.0831
Irrigation Energy Rate ($/kWh)[1]	$0.0769	$0.0786
Inflation Rate	2.22%	2.22%

[1] Future rates determined using a 2.22% annual escalator.

Table 2 –Program Costs by Scenario and Program Year (High Participation)

Program Year	Internal Costs	Incentives	Total Utility Costs	Gross Customer Costs
2018	$338,803	$7,162,527	$7,501,330	$24,422,046
2019	$338,803	$8,043,174	$8,381,977	$26,480,348
2018-2019	**$677,606**	**$15,205,702**	**$15,883,307**	**$50,902,394**

Table 3 – Program Savings by Scenario and Program Year (High Participation)

Program Year	Gross kWh Savings	Realization Rate	Adjusted Gross kWh Savings	Net to Gross Ratio	Net kWh Savings	Measure Life
2018	77,158,950	99%	76,185,747	76%	57,901,168	13
2019	86,123,125	99%	85,059,714	76%	64,645,382	13
2018-2019	**163,282,075**	**99%**	**161,245,461**	**76%**	**122,546,550**	**13**

Table 4 - Benefit/Cost Ratios by Measure Category (High Participation)

Program Year	PTRC	TRC	UCT	RIM	PCT
2018	1.42	1.29	3.24	0.52	2.40
2019	1.57	1.43	3.49	0.55	2.53
2018-2019	**1.50**	**1.36**	**3.37**	**0.54**	**2.47**

Table 5 through Table 7 provide cost-effectiveness results for the combination of PY2018 and PY2019 followed by the individual program year results.

Table 5 – Wattsmart Business Program Level Cost-Effectiveness Results - PY2018 and PY2019 (High Participation)

Cost-Effectiveness Test	Levelized $/kWh	Costs	Benefits	Net Benefits	Benefit/Cost Ratio
Total Resource Cost Test (PTRC) + Conservation Adder	$0.0324	$39,363,425	$58,936,809	$19,573,383	1.50
Total Resource Cost Test (TRC) No Adder	$0.0324	$39,363,425	$53,578,917	$14,215,492	1.36
Utility Cost Test (UCT)	$0.0131	$15,883,307	$53,578,917	$37,695,610	3.37
Rate Impact Test (RIM)		$99,787,542	$53,578,917	-$46,208,624	0.54
Participant Cost Test (PCT)		$50,902,394	$125,606,010	$74,703,615	2.47
Lifecycle Revenue Impacts ($/kWh)					$0.0000066172
Discounted Participant Payback (years)					4.78

Table 6 – Wattsmart Business Program Level Cost-Effectiveness Results - PY2018 (High Participation)

Cost-Effectiveness Test	Levelized $/kWh	Costs	Benefits	Net Benefits	Benefit/Cost Ratio
Total Resource Cost Test (PTRC) + Conservation Adder	$0.0330	$18,899,558	$26,764,509	$7,864,952	1.42
Total Resource Cost Test (TRC) No Adder	$0.0330	$18,899,558	$24,331,372	$5,431,814	1.29
Utility Cost Test (UCT)	$0.0131	$7,501,330	$24,331,372	$16,830,042	3.24
Rate Impact Test (RIM)		$46,689,150	$24,331,372	-$22,357,777	0.52
Participant Cost Test (PCT)		$24,422,046	$58,725,448	$34,303,402	2.40
Lifecycle Revenue Impacts ($/kWh)					$0.0000066443
Discounted Participant Payback (years)					4.97

Table 7 – Wattsmart Business Program Level Cost-Effectiveness Results - PY2019 (High Participation)

Cost-Effectiveness Test	Levelized $/kWh	Costs	Benefits	Net Benefits	Benefit/Cost Ratio
Total Resource Cost Test (PTRC) + Conservation Adder	$0.0320	$20,463,868	$32,172,300	$11,708,432	1.57
Total Resource Cost Test (TRC) No Adder	$0.0320	$20,463,868	$29,247,545	$8,783,677	1.43
Utility Cost Test (UCT)	$0.0131	$8,381,977	$29,247,545	$20,865,568	3.49
Rate Impact Test (RIM)		$53,098,392	$29,247,545	-$23,850,847	0.55
Participant Cost Test (PCT)		$26,480,348	$66,880,562	$40,400,214	2.53
Lifecycle Revenue Impacts ($/kWh)					$0.0000065920
Discounted Participant Payback (years)					4.62

Table 8 and 9 provide cost-effectiveness results for the measure categories by delivery channel for each program year.

Table 8 – Wattsmart Business Measure Category Level Cost-Effectiveness Results - PY2018

Channel	Measure	P-TRC Benefits ($)	P-TRC Costs ($)	PTRC Test	TRC Benefits ($)	TRC Costs ($)	TRC Test	Utility Benefits ($)	Utility Costs ($)	Utility Cost Test	Ratepayer Benefits ($)	Ratepayer Costs ($)	Ratepayer Impact Test	Participant Benefits ($)	Participant Costs ($)	Participant Test
Trade Ally	Appliances	$12,632	$33,280	0.38	$11,484	$33,280	0.35	$11,484	$18,408	0.62	$11,484	$37,837	0.30	$43,715	$43,450	1.01
Trade Ally	Building Shell	$421,857	$236,360	1.78	$383,506	$236,360	1.62	$383,506	$276,789	1.39	$383,506	$791,622	0.48	$949,112	$304,304	3.12
Trade Ally	Electronics	$5,001	$17,180	0.29	$4,546	$17,180	0.26	$4,546	$9,630	0.47	$4,546	$19,485	0.23	$22,263	$22,165	1.00
Trade Ally	Food Service Equipment	$64,028	$78,120	0.82	$58,207	$78,120	0.75	$58,207	$33,306	1.75	$58,207	$137,337	0.42	$168,713	$100,848	1.67
Trade Ally	HVAC	$1,143,789	$673,993	1.70	$1,039,808	$673,993	1.54	$1,039,808	$321,685	3.23	$1,039,808	$1,792,579	0.58	$2,243,937	$869,550	2.58
Trade Ally	Lighting	$17,387,545	$13,530,470	1.29	$15,806,859	$13,530,470	1.17	$15,806,859	$4,663,852	3.39	$15,806,859	$30,760,673	0.51	$38,760,945	$17,486,370	2.22
Trade Ally	Motors	$308,580	$85,373	3.61	$280,527	$85,373	3.29	$280,527	$41,813	6.71	$280,527	$484,198	0.58	$620,035	$107,250	5.78
Trade Ally	HVAC Check-up	$1,547,479	$880,146	1.76	$1,406,799	$880,146	1.60	$1,406,799	$321,371	4.38	$1,406,799	$2,311,404	0.61	$2,922,065	$1,134,705	2.58
Midstream	Lighting Measures	$5,195,967	$1,777,625	2.92	$4,723,606	$1,777,625	2.66	$4,723,606	$1,126,209	4.19	$4,723,606	$8,813,204	0.54	$11,190,059	$2,272,380	4.92
Midstream	HVAC Measures	$677,633	$1,587,010	0.43	$616,030	$1,587,010	0.39	$616,030	$688,268	0.90	$616,030	$1,540,810	0.40	$1,804,602	$2,081,024	0.87

Table 9 – Wattsmart Business Measure Category Level Cost-Effectiveness Results - PY2019

Channel	Measure	P-TRC Benefits ($)	P-TRC Costs ($)	PTRC Test	TRC Benefits ($)	TRC Costs ($)	TRC Test	Utility Benefits ($)	Utility Costs ($)	Utility Cost Test	Ratepayer Benefits ($)	Ratepayer Costs ($)	Ratepayer Impact Test	Participant Benefits ($)	Participant Costs ($)	Participant Test
Trade Ally	Appliances	$14,676	$35,260	0.42	$13,342	$35,260	0.38	$13,342	$19,495	0.68	$13,342	$40,548	0.33	$46,940	$46,057	1.02
Trade Ally	Building Shell	$476,210	$251,340	1.89	$432,918	$251,340	1.72	$432,918	$294,387	1.47	$432,918	$854,740	0.51	$1,026,606	$324,016	3.17
Trade Ally	Electronics	$5,618	$18,348	0.31	$5,107	$18,348	0.28	$5,107	$10,275	0.50	$5,107	$21,046	0.24	$24,112	$23,700	1.02
Trade Ally	Food Service Equipment	$75,776	$83,069	0.91	$68,888	$83,069	0.83	$68,888	$35,360	1.95	$68,888	$148,567	0.46	$182,842	$107,360	1.70
Trade Ally	HVAC	$1,301,375	$716,948	1.82	$1,183,069	$716,948	1.65	$1,183,069	$341,739	3.46	$1,183,069	$1,943,018	0.61	$2,435,552	$926,071	2.63
Trade Ally	Lighting	$19,958,883	$13,971,330	1.43	$18,144,439	$13,971,330	1.30	$18,144,439	$4,951,913	3.66	$18,144,439	$33,365,415	0.54	$42,097,267	$18,066,444	2.33
Trade Ally	Motors	$354,913	$90,699	3.91	$322,648	$90,699	3.56	$322,648	$44,293	7.28	$322,648	$526,043	0.61	$674,311	$114,257	5.90
Trade Ally	HVAC Check-up	$1,760,804	$936,263	1.88	$1,600,731	$936,263	1.71	$1,600,731	$341,126	4.69	$1,600,731	$2,507,710	0.64	$3,174,124	$1,208,544	2.63
Midstream	Lighting Measures	$7,284,724	$2,295,266	3.17	$6,622,477	$2,295,266	2.89	$6,622,477	$1,448,596	4.57	$6,622,477	$11,661,481	0.57	$14,835,997	$2,953,500	5.02
Midstream	HVAC Measures	$939,319	$2,065,346	0.45	$853,926	$2,065,346	0.41	$853,926	$894,792	0.95	$853,926	$2,029,824	0.42	$2,382,813	$2,710,400	0.88

NAVIGANT

Memorandum

To: Angela Long, PacifiCorp/Rocky Mountain Power

From: David Basak, Navigant

Date: December 13, 2017

Re: Cost Effectiveness for the Utah Wattsmart Business Program – Low (-10%) Participation

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- ***Modeling Inputs:*** Measure category savings provided by PacifiCorp in the file *UT CE 2018-2019_111617 1.xlsx*.
- ***Energy Rates:*** Utilized the rates provided by PacifiCorp for PY2016 and applied an escalation of 2.22% to arrive at estimated energy rates PY2018 and PY2019.
- ***Line Loss Factors:*** Commercial, industrial and irrigation line loss factor utilized throughout the analysis.

This memo will begin by addressing the inputs used in the analysis of the Utah Wattsmart Business Program. The cost-effectiveness inputs are as follows:

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Table 1 - Utility Inputs

Parameter	PY2018	PY2019
Discount Rate	6.57%	6.57%
Commercial Line Loss	8.71%	8.71%
Industrial Line Loss	5.85%	5.85%
Irrigation Line Loss	9.24%	9.24%
Commercial Energy Rate ($/kWh)[1]	$0.0637	$0.0652
Industrial Energy Rate ($/kWh)[1]	$0.0813	$0.0831
Irrigation Energy Rate ($/kWh)[1]	$0.0769	$0.0786
Inflation Rate	2.22%	2.22%

[1] Future rates determined using a 2.22% annual escalator.

Table 2 –Program Costs by Scenario and Program Year (Low Participation)

Program Year	Internal Costs	Incentives	Total Utility Costs	Gross Customer Costs
2018	$338,803	$5,860,250	$6,199,053	$19,981,674
2019	$338,803	$6,580,779	$6,919,582	$21,665,740
2018-2019	**$677,606**	**$12,441,029**	**$13,118,634**	**$41,647,414**

Table 3 – Program Savings by Scenario and Program Year (Low Participation)

Program Year	Gross kWh Savings	Realization Rate	Adjusted Gross kWh Savings	Net to Gross Ratio	Net kWh Savings	Measure Life
2018	63,130,050	99%	62,333,793	76%	47,373,683	13
2019	70,464,375	99%	69,594,311	76%	52,891,677	13
2018-2019	**133,594,425**	**99%**	**131,928,104**	**76%**	**100,265,359**	**13**

Table 4 - Benefit/Cost Ratios by Measure Category (Low Participation)

Program Year	PTRC	TRC	UCT	RIM	PCT
2018	1.41	1.28	3.21	0.52	2.40
2019	1.57	1.42	3.46	0.55	2.53
2018-2019	**1.49**	**1.36**	**3.34**	**0.54**	**2.47**

Table 5 through Table 7 provide cost-effectiveness results for the combination of PY2018 and PY2019 followed by the individual program year results.

Table 5 – Wattsmart Business Program Level Cost-Effectiveness Results - PY2018 and PY2019 (Low Participation)

Cost-Effectiveness Test	Levelized $/kWh	Costs	Benefits	Net Benefits	Benefit/Cost Ratio
Total Resource Cost Test (PTRC) + Conservation Adder	$0.0326	$32,329,640	$48,221,025	$15,891,385	1.49
Total Resource Cost Test (TRC) No Adder	$0.0326	$32,329,640	$43,837,296	$11,507,656	1.36
Utility Cost Test (UCT)	$0.0132	$13,118,634	$43,837,296	$30,718,662	3.34
Rate Impact Test (RIM)		$81,767,553	$43,837,296	-$37,930,257	0.54
Participant Cost Test (PCT)		$41,647,414	$102,768,553	$61,121,140	2.47
Lifecycle Revenue Impacts ($/kWh)					$0.0000054317
Discounted Participant Payback (years)					4.78

Table 6 – Wattsmart Business Program Level Cost-Effectiveness Results - PY2018 (Low Participation)

Cost-Effectiveness Test	Levelized $/kWh	Costs	Benefits	Net Benefits	Benefit/Cost Ratio
Total Resource Cost Test (PTRC) + Conservation Adder	$0.0331	$15,524,875	$21,898,235	$6,373,360	1.41
Total Resource Cost Test (TRC) No Adder	$0.0331	$15,524,875	$19,907,486	$4,382,611	1.28
Utility Cost Test (UCT)	$0.0132	$6,199,053	$19,907,486	$13,708,434	3.21
Rate Impact Test (RIM)		$38,261,814	$19,907,486	-$18,354,327	0.52
Participant Cost Test (PCT)		$19,981,674	$48,048,093	$28,066,419	2.40
Lifecycle Revenue Impacts ($/kWh)					$0.0000054545
Discounted Participant Payback (years)					4.97

Table 7 – Wattsmart Business Program Level Cost-Effectiveness Results - PY2019 (Low Participation)

Cost-Effectiveness Test	Levelized $/kWh	Costs	Benefits	Net Benefits	Benefit/Cost Ratio
Total Resource Cost Test (PTRC) + Conservation Adder	$0.0321	$16,804,765	$26,322,791	$9,518,026	1.57
Total Resource Cost Test (TRC) No Adder	$0.0321	$16,804,765	$23,929,810	$7,125,045	1.42
Utility Cost Test (UCT)	$0.0132	$6,919,582	$23,929,810	$17,010,228	3.46
Rate Impact Test (RIM)		$43,505,739	$23,929,810	-$19,575,930	0.55
Participant Cost Test (PCT)		$21,665,740	$54,720,460	$33,054,720	2.53
Lifecycle Revenue Impacts ($/kWh)					$0.0000054105
Discounted Participant Payback (years)					4.62

Table 8 and 9 provide cost-effectiveness results for the measure categories by delivery channel for each program year.

Table 8 – Wattsmart Business Measure Category Level Cost-Effectiveness Results - PY2018

Channel	Measure	P-TRC Benefits ($)	P-TRC Costs ($)	PTRC Test	TRC Benefits ($)	TRC Costs ($)	TRC Test	Utility Benefits ($)	Utility Costs ($)	Utility Cost Test	Ratepayer Benefits ($)	Ratepayer Costs ($)	Ratepayer Impact Test	Participant Benefits ($)	Participant Costs ($)	Participant Test
Trade Ally	Appliances	$10,336	$27,276	0.38	$9,396	$27,276	0.34	$9,396	$15,108	0.62	$9,396	$31,005	0.30	$35,767	$35,550	1.01
Trade Ally	Building Shell	$345,155	$194,311	1.78	$313,778	$194,311	1.61	$313,778	$227,389	1.38	$313,778	$648,616	0.48	$776,546	$248,976	3.12
Trade Ally	Electronics	$4,092	$14,117	0.29	$3,720	$14,117	0.26	$3,720	$7,940	0.47	$3,720	$16,003	0.23	$18,215	$18,135	1.00
Trade Ally	Food Service Equipment	$52,386	$64,185	0.82	$47,624	$64,185	0.74	$47,624	$27,519	1.73	$47,624	$112,635	0.42	$138,038	$82,512	1.67
Trade Ally	HVAC	$935,827	$553,837	1.69	$850,752	$553,837	1.54	$850,752	$265,585	3.20	$850,752	$1,469,044	0.58	$1,835,949	$711,450	2.58
Trade Ally	Lighting	$14,226,173	$11,114,172	1.28	$12,932,884	$11,114,172	1.16	$12,932,884	$3,859,666	3.35	$12,932,884	$25,211,611	0.51	$31,713,501	$14,307,030	2.22
Trade Ally	Motors	$252,474	$70,553	3.58	$229,522	$70,553	3.25	$229,522	$34,913	6.57	$229,522	$396,864	0.58	$507,301	$87,750	5.78
Trade Ally	HVAC Check-up	$1,266,119	$723,351	1.75	$1,151,017	$723,351	1.59	$1,151,017	$266,171	4.32	$1,151,017	$1,894,380	0.61	$2,390,781	$928,395	2.58
Midstream	Lighting Measures	$4,251,246	$1,463,623	2.90	$3,864,769	$1,463,623	2.64	$3,864,769	$930,647	4.15	$3,864,769	$7,220,006	0.54	$9,155,503	$1,859,220	4.92
Midstream	HVAC Measures	$554,427	$1,299,451	0.43	$504,024	$1,299,451	0.39	$504,024	$564,116	0.89	$504,024	$1,261,650	0.40	$1,476,492	$1,702,656	0.87

Table 9 – Wattsmart Business Measure Category Level Cost-Effectiveness Results - PY2019

Channel	Measure	P-TRC Benefits ($)	P-TRC Costs ($)	PTRC Test	TRC Benefits ($)	TRC Costs ($)	TRC Test	Utility Benefits ($)	Utility Costs ($)	Utility Cost Test	Ratepayer Benefits ($)	Ratepayer Costs ($)	Ratepayer Impact Test	Participant Benefits ($)	Participant Costs ($)	Participant Test
Trade Ally	Appliances	$12,008	$28,895	0.42	$10,916	$28,895	0.38	$10,916	$15,997	0.68	$10,916	$33,222	0.33	$38,405	$37,683	1.02
Trade Ally	Building Shell	$389,626	$206,567	1.89	$354,206	$206,567	1.71	$354,206	$241,787	1.46	$354,206	$700,258	0.51	$839,950	$265,104	3.17
Trade Ally	Electronics	$4,596	$15,073	0.30	$4,179	$15,073	0.28	$4,179	$8,468	0.49	$4,179	$17,281	0.24	$19,728	$19,391	1.02
Trade Ally	Food Service Equipment	$61,999	$68,233	0.91	$56,363	$68,233	0.83	$56,363	$29,199	1.93	$56,363	$121,823	0.46	$149,598	$87,840	1.70
Trade Ally	HVAC	$1,064,762	$588,981	1.81	$967,965	$588,981	1.64	$967,965	$281,993	3.43	$967,965	$1,592,130	0.61	$1,992,724	$757,695	2.63
Trade Ally	Lighting	$16,329,995	$11,474,876	1.42	$14,845,450	$11,474,876	1.29	$14,845,450	$4,095,353	3.62	$14,845,450	$27,342,764	0.54	$34,443,218	$14,781,636	2.33
Trade Ally	Motors	$290,384	$74,911	3.88	$263,985	$74,911	3.52	$263,985	$36,943	7.15	$263,985	$431,101	0.61	$551,709	$93,483	5.90
Trade Ally	HVAC Check-up	$1,440,658	$769,264	1.87	$1,309,689	$769,264	1.70	$1,309,689	$282,334	4.64	$1,309,689	$2,054,993	0.64	$2,597,011	$988,808	2.63
Midstream	Lighting Measures	$5,960,229	$1,887,146	3.16	$5,418,390	$1,887,146	2.87	$5,418,390	$1,194,416	4.54	$5,418,390	$9,550,413	0.57	$12,138,543	$2,416,500	5.02
Midstream	HVAC Measures	$768,533	$1,690,818	0.45	$698,667	$1,690,818	0.41	$698,667	$733,092	0.95	$698,667	$1,661,754	0.42	$1,949,574	$2,217,600	0.88

CERTIFICATE OF SERVICE

Docket No. 17-035-T16
Advice 17-17

I hereby certify that on December 22, 2017, a true and correct copy of the foregoing was served by electronic mail to the following:

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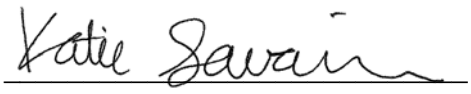

Katie Savarin
Coordinator, Regulatory Operations