Attachment B

EXPLANATION OF TYPICAL/PRESCRIPTIVE MEASURE CHANGES

Lighting Incentives

Table 1 highlights the proposed lighting measure changes, including modifications to align with changes in federal lighting standards.

Table 1
Retrofit Lighting Changes

Measure	Change	Reason for Change
Linear Fluorescent	As of the effective date of this filing, modify the baseline for fluorescent lighting to be 32W T8 lamps with electronic ballasts that are minimally compliant with federal efficacy standards.	More stringent federal efficacy standards for general service linear fluorescent lamps have been in effect for nearly 18 months, and market data indicates that T8 lamps now represent the vast majority of lamps sold. Shift the baseline to match the industry standard baseline.
Linear Fluorescent, CEE T8	Adjust measure category name to be "CEE T8"	With the removal of the Standard T8 incentive, CEE T8 high performance lamp becomes the base-level incentive offering for T8 fixtures To encourage installation of lower wattage CEE T8, a higher incentive will be offered for fixtures using CEE T8 Reduced Wattage lamps.
Linear Fluorescent, T8, Relamp	Increase the incentive to $1.00 per lamp.	The baseline shift for linear fluorescent has taken place in part to the prevalence of standard T8 lamps in the market. This prevalence is also a large opportunity for additional kWh savings by relamping to a lower wattage T8 Relamp incentive is targeting percentage of an elective lamp upgrade
Linear Fluorescent, T8, High Bay	Tier the high bay incentive based on lamp count per fixture.	Recent cost analysis shows that the cost per lamp for a high-bay fixture decreases as the lamp count increases. The tiered incentive offers the appropriate incentive based on incremental costs.
Compact Fluorescent Lamp	Remove measure from table.	Measure was sunset from the program effective January 1, 2014.
Linear Fluorescent, T5, Relamp	Increase the incentive to $1.00 per lamp.	This increase is for consistent relamp messaging regardless of T8 or T5.

Linear Fluorescent, T5, High Bay	Tier the high bay incentive based on lamp count per fixture.	Recent cost analysis shows that the cost per lamp for a high-bay fixture decreases as the lamp count increases. The tiered incentive offers the appropriate incentive based on incremental costs.
Induction Fixture	Reduce the incentive amount to $75/fixture.	The reduction in incentive in response to reduced market costs.
Other LED	Group all LED categories (except integral screw-in) into a single category and offer incentives at a rate of $0.15 per kWh saved.	The LED category is ever evolving. The technology is expanding in its uses and application. Removing defined categories and specific incentives per fixture enables the incentive to evolve with the technology and market and maintain a cost-effective result.
Custom	Increase incentive to $0.15/kWh	The incentive rate is aligned with the customer incentive rate of the wattsmart Business program.
Daylighting Control	Clarify eligibility requirements.	Adjust eligibility requirements to include interior fixtures with drivers (i.e. LEDs), and require at least 50% reduction in output of connected fixtures.
Occupancy Control	Define the incentive rate per watt controlled instead of per sensor	Incentives based on connected wattage encourages controlling more watts, rather than installing more sensors.
Daylighting Control	Base the incentive rate per connected watt instead of per sensor	
Advance Daylighting Control	Change the incentive to be based on connected watts	
Dimming Ballast	Remove the measure.	The dimming ballast is an inherent part of the daylighting control measure. The incentive for daylighting control was established with consideration of the additional costs for dimming ballasts.

Table 2 highlights the proposed changes to new construction and major renovation lighting measures.

Table 2
New Construction/Major Renovation Lighting

Measure	**Change**	**Reason for Change**
Interior Lighting	None	Utah adoption of IECC 2012 mandates lower LPD's for interior spaces. The minimum connected lighting power must be at least 10% lower than the interior lighting power

		allowances calculated under Section 405 for Major Renovation and Section 406 for New Construction projects.
Exterior Lighting, LED	Revise the exterior LED categories to include new types of fixture and defined wattage ranges.	The new categories are aligned with the qualified list updates, current market costs, and enable most exterior LED lighting applications to be eligible for incentives.
Exterior Lighting, Lighting Control	Change incentive to be based on per connected watt	Incentives based on connected wattage encourages controlling more watts, rather than installing more sensors.

Table 3 summarizes modifications for existing HVAC, building envelope, food service, appliances and office energy efficiency measures included in the program.

Table 3
Summary of Proposed Changes to Existing HVAC, Building Envelope, Food Service, Appliances and Office Energy Efficiency Measures

Measure Category	**Measures**	
HVAC	Unitary commercial air conditioners and heat pumps	Update deemed costs to align with market data.
Other HVAC Equipment and Controls	PTAC/PTHP Occupancy Based Controller	Revise eligibility to include door-key occupancy sensors in addition to infrared/ultrasonic sensors.
	Portable Classroom HVAC Control	Revise eligibility to include occupancy based thermostat control in addition to 365/366 scheduling.
Food Service	Commercial Dishwasher	Update deemed savings/costs and incentive to align with ENERGY STAR specification update and current industry standard baseline. Remove eligibility requirement of electrically heated DHW, but require electric booster heater to increase program participation. Savings will vary based on DHW energy source.
	Refrigerator/Freezer	Discontinue offering incentives for solid door refrigerators/freezers. Very limited savings potential relative to industry standard baseline. Revise incentives for transparent door refrigerators/freezers based on updated cost data.
	Electric Insulated Holding Cabinet	Adjust incentives based on revised deemed costs/savings.
	Electric Combination Oven	Update deemed savings/costs and incentive

		to align with ENERGY STAR specification update (effective 1/1/2014). Add/define size category to account for large differences in incremental costs.
	Electric Convection Oven	Update deemed savings/costs and incentive to align with pending ENERGY STAR specification update (effective 1/1/2014).
	Electric Griddle	Discontinue offering incentives for ENERGY STAR Tier 1 electric griddles. Negligible incremental cost difference and small savings between standard and ENERGY STAR Tier 1 qualified products. Adjust eligibility requirements to ENERGY STAR Tier 2 qualified models only. Update deemed costs/savings.
	Electric Steam Cooker	Tier 1 – Update deemed costs/savings and incentive. Tier 2 - Adjust eligibility requirements and deemed savings/costs and incentive to align with revised RTF data.
	Electric Commercial Fryer	Tier 2 - Adjust eligibility requirements and deemed savings/costs and incentive to align with revised RTF data.
	Air-Cooled Ice Machines	Update deemed savings/costs and incentive to align with ENERGY STAR specification update.
	LED Case Lighting	Update deemed savings and costs to align with revised RTF data.
	Residential Refrigerator (used in a Business)	Update eligibility/incentives and reported costs/savings to align with the Home Energy Savings program.
	Residential Dishwasher (used in a Business)	
Appliances	Commercial Clothes Washer	Update incentives, deemed costs/savings to align with market data for ENERGY STAR qualified models. Remove incentives for CEE Tier 3 qualified models as CEE has suspended its commercial clothes washer specification.
	Residential Water Heater (Used in a Business)	Update eligibility/incentives and reported costs/savings to align with the Home Energy Savings program.
	Residential Clothes Washer (Used in a Business)	
Office	Network Power PC Management	Update deemed savings and costs to align with data from NWPCC 6th Plan RTF since RTF measure is now limited to K-12 schools. Reduce incentive to $5/pc. Update eligibility criteria to include only desktop computers for

		higher savings certainty.
	Smart Plug Strip	Update deemed savings and costs to align with revised data from RTF.

Table 4
Modifications for Irrigation Incentives for Wheel Line, Hand Line, or Other Portable Systems, and Pivot and Linear Systems.

Measure Category	Description of Change	Reason for Change
Irrigation	Revise Unit Energy Savings (UES) for each measure based on April 2013 RTF values for leakage or avoided excess irrigation together with average values for pumping lift, discharge pressure, and annual runtime specific to areas served by Rocky Mountain Power in Utah.	The Regional Technical Forum (RTF) updated its estimates of flow reduction for each irrigation measure in April 2013, utilizing the results of a study by Dr. Howard Neibling of the University of Idaho (Evaluation of Sprinkler Irrigation System Components in Southern Idaho, March 5, 2013). These flow reduction values provide the basis for updated Unit Energy Savings. Average values for pumping lift, pump discharge pressure, and annual runtime for Utah are applied to the flow reduction values to derive energy savings.
	Revise savings for nozzle measure from 46.0 kWh per nozzle to 24.8 kWh per nozzle. Revise incentive from $0.25 to $0.50 per nozzle.	Leakage identified in Neibling study was slightly less than previously adopted PacifiCorp value. Adjust incentive to cover higher percentage of estimated current customer costs to increase participation. All nozzles on wheel line or hand line must be replaced to help maintain system application uniformity and to facilitate program quality assurance activities.
	Revise savings for flow control nozzle measure from 46.0 kWh per nozzle to 24.8 kWh per nozzle. Revise incentive from $1.50 to $2.75 per nozzle.	Leakage identified in Neibling study was slightly less than previously adopted PacifiCorp value. Adjust incentive to cover higher percentage of estimated current customer costs to increase participation. All nozzles on wheel line or hand line must be replaced to help maintain system application uniformity and to facilitate program quality assurance activities.
	Revise savings for impact sprinkler measure from 48.0 kWh per sprinkler to 32.0 kWh per sprinkler. Revise incentive from $3.00 to $2.25 per sprinkler.	Over irrigation due to lack of uniformity identified by the Neibling study was slightly less than previously adopted PacifiCorp value. Adjust available incentive for best alignment with current estimate of customer costs and available savings.

Measure Category	Description of Change	Reason for Change
	Redefine the measure addressing rotating, spray-type, or low pressure sprinklers. For wheel lines or hand lines, define a rotating sprinkler measure using the same UES and incentive as the impact sprinkler measure. For pivot and linear applications, revise the low pressure sprinkler savings from 42.0 kWh to 53.7 kWh. Retain the $3.00 incentive amount. In addition, define a variant on the low pressure sprinkler measure for instances when the new sprinkler is not a conversion from impact sprinkler, but a replacement of worn low pressure sprinklers. Savings for this measure is 20.2 kWh. Incentive is $1.50.	For wheel line and hand line applications, replacing impact sprinklers with rotators delivers energy savings and better application uniformity and is comparable to replacing worn impact sprinklers. Savings and costs are similar, and rotators have a slight uniformity advantage. This particular measure is not defined in the RTF 2013 workbooks likely due to low adoption to-date in the Northwest. For pivots and linears, new low pressure sprinklers may be either a conversion from impact sprinklers or replacement of existing, worn low pressure sprinklers and/or regulators. A separate savings and incentive applies in the latter case because replacement of existing low pressure equipment saves less energy than conversion from an impact system.
	Revise savings for gasket measure from 48.0 kWh per gasket to 143.4 kWh per gasket. Revise incentive from $1.00 to $2.00 per gasket.	Neibling study showed significantly higher average flow per leaking gasket than previously assumed. To maximize energy savings, only leaking gaskets would be incented. However this requirement would be administratively challenging. As a result, the UES for this measure has been de-rated by 25%, assuming that 25% of gasket replacements are pre-emptive rather than replacement of active leakers. Incentive adjusted upward to reflect greater available savings and is designed to be approximately half of the estimated average material cost.
	Revise savings for drain measure from 48.0 kWh per drain to 148.7 kWh per drain. Revise incentive from	Same rationale as for gaskets above.

Measure Category	Description of Change	Reason for Change
	$1.00 to $3.00 per drain. Measure applies for drains on pivots and linears as well as wheel lines and hand lines.	
	Revise savings for pipe repair measure from 95.0 kWh per leak repaired to 95.2 kWh per leak repaired. Revise incentive from $8.00 to $10.00 per leak repaired. Change wording from $ per joint to $ per leak repaired.	Neibling study indicates higher average leakage per pipe leak than prior assumptions. Incentive adjusted upward to better reflect current market costs and encourage participation. Language change from “pipe” to “leak” since more than one leak in a pipe section may be repaired.
	Revise savings for Thunderbird wheel line hub measure from 95.0 kWh to 82.3 kWh per hub. Revise incentive from $12.00 to $10.00 per hub.	Incentive adjusted to better align with available savings and estimated customer costs.
	Revise savings for leveler measure from 24.0 kWh to 47.4 kWh per leveler. Revise incentive from $0.75 to $3.00 per leveler.	Neibling study indicates higher average flow per leaking leveler than previously assumed. Increase incentive amount align with available savings and encourage participation.
	Revise savings for wheel line feed hose measure from 239.0 kWh to 192.4 kWh per hose. Revise incentive from $15.00 to $12.00 per hose.	This measure not addressed in Neibling study or contained in RTF workbooks. Previous leakage value has been retained. Savings adjusted based on territory specific information on pumping lift and annual runtime. Incentive adjusted to better align with available savings and estimated customer costs.
	Revise gooseneck and drop tube measure to separate the two into a gooseneck measure and a drop tube measure. Define savings as 8.1 kWh/yr from gooseneck and 8.1 kWh/yr from drop tube. Revise incentive from $1.00 each for the	Combined measure had been designed to address conversion of pivots from impact sprinklers on top to low pressure sprinklers on drop tubes. To better align with operational field practices, this measure has been separated to allow replacement of old drop tubes on existing pivots without replacing goosenecks.

Measure Category	Description of Change	Reason for Change
	combination to $0.50 for the gooseneck and $2.00 for the drop tube.	
	Revise savings for center pivot base boot basket from 1,003.0 kWh to 1,539.2 kWh. Revise incentive from $80.00 to $125.00 each.	Leakage unchanged from previous version, but average runtime is increased from the previous value. This is an RTF measure.
	Add new tower gasket measure with UES of 38.5 kWh/yr and incentive of $4.00 per gasket.	RTF added measure as part of 2013 update but it is not in the current PacifiCorp program. Added measure for completeness and consistency using RTF UES. Incentive set based on available savings.
	Expand eligibility for the pump VFD measure to include new construction projects. Clarify that efficient pumping plant equipment serving fixed in place systems are eligible (unlike flow reduction measures on the irrigation distribution equipment),	Tying pump VFD eligibility solely to retrofit installations precluded new construction pumping installations from being eligible. Fixed in place systems may have diverse pumping profiles which provide the opportunity for energy savings.
	Apply project level caps (percent of project costs and one-year payback) to all irrigation measures.	Customer costs for irrigation measures vary widely and per unit savings are comparatively small. While incentives are set to be a portion of, but not exceed, the measure costs, having caps project cost and simple payback caps consistent with the custom project offer in the program aligns program delivery with design intent and simplifies marketing to customers and trade allies.

Table 5
Farm and Dairy

Measure Category	Description of Change	Reason for Change
Farm and Dairy	Revise the basis for determining incentives for the heat recovery measure.	The previous incentive for heat reclaim – using heat rejected from the milk refrigeration system to offset electric water heating – was calculated as $220 per condenser kW. The revised

		approach uses a calculator to directly calculate energy savings from lbs milk/day, temperature differences, and information about the refrigeration system. Incentive rate is aligned with the custom project rate, $0.15/kWh annual savings up to 70% of measure cost or one-year payback. This is a measure in the existing program and currently utilizes site specific calculations.
	Revise incentive rate for milk pre-cooler measure from the previous $0.12/kWh plus $50/kW to the new custom rate of $0.15/kWh.	This revision brings the incentive rate for milk pre-coolers into alignment with the standard custom rate. This is a measure in the existing program and currently utilizes site specific calculations.
	Apply project level caps (percent of project costs and one-year payback) to all Farm and Dairy measures.	Customer costs for Farm and Dairy measures vary. While incentives are set to be a portion of (but not exceed) the measure costs, having project cost and simple payback caps consistent with the custom project offer in the program aligns program delivery with design intent and simplifies marketing to customers and trade allies.

Table 6
Compressed Air

Measure Category	Description of Change	Reason for Change
Compressed Air	Revise savings for zero loss condensate drain from 0.14590 kWh per hour of operation per year to 786.37 kWh/yr. Revise incentive from $90 each to $100 each.	Using average annual system runtime to determine Unit Energy Savings is a simpler approach for this small system measure than collecting runtime for each system to calculate system-specific savings. Experience over time with the program has led to an annual average runtime close to the DOE estimated average. This runtime has been used to simplify the UES value. Measure cost has increased slightly, and available savings support a slight increase in incentive to help further increase participation.
	Revise savings for cycling refrigerated dryer from 0.00242 kWh per scfm per hour of operation per year to 12.73 kWh/scfm per	Same note as above regarding runtime. Incentive slightly increased to encourage participation. Cycling dryers installed with a compressor may take advantage of the fact that the load profile for the specific installation has already been estimated. The NW Regional

	year. Revise incentive from $1.50/scfm to $2.00/scfm. For projects where a new dryer is installed along with a new air compressor, use the Northwest Regional Compressed Air Tool to calculate dryer savings and pay the incentive at the custom incentive rate rather than using the Unit Energy Savings kWh and incentive value.	Compressed Air calculator can calculate actual dryer savings using the compressor load profile and can package the presentation of compressor and dryer economics into the same single sheet presentation for the decision maker. Hence the use of the custom approach for the dryer when purchased in conjunction with a compressor.
	Revise savings for receiver capacity addition measure from 0.00249 kWh per gallon per hour of operation per year to 13.10 kWh per gallon per year. Revise incentive from $1.50 per gallon to $3.00 per gallon of receiver capacity above the first 2 gallons/scfm of trim compressor capacity.	Same note as above regarding runtime. Incentive has been increased to encourage participation.
	Revise savings for low pressure drop filter measure from 0.00129 kWh per scfm per hour of operation per year to 6.79 kWh per scfm per year. Revise incentive from $0.80 per scfm to $2.00 per scfm.	Same note as above regarding runtime. Incentive has been increased to encourage participation.
	Revise savings for outside air intake measure from 0.00931 kWh per hp per hour of operation per year to 48.97 kWh per hp per year. Incentive remains unchanged.	Same note as above regarding runtime.
	Remove the constraint	Clarifies program design intent to focus on

	on the VFD compressor measure that the system be comprised of only a single operating compressor (not counting backup capacity). Allow VFD compressors to be treated as listed measures as long as the compressor receiving the incentive is installed in a system with total capacity of 75 hp or less, not counting backup compressor(s) that do not normally run.	smaller systems with identifiable key variables that affect energy consumption and savings. Second machines may be in place for back-up purposes and may not materially affect available energy savings. Eliminates confusion when a customer wishes to install VFD compressor in a system with a second fixed speed compressor that operates at times to keep up plant pressure and the total system is less than 75 hp in total capacity. Systems with multiple compressors can be handled through a combination of calculators and program staff engineering calculations outside of the calculator.
	For the VFD compressor measure, remove the constraint that "compressor must not use inlet modulation when demand is below the minimum speed threshold of the VFD compressor."	Aligns program eligibility with best available market information on how various manufacturers control a compressor when demand for compressed air in less than that delivered by the machine once the VFD has slowed to its minimum allowable speed. Some of these methods are more efficient than others, yet the net effect on savings is minimal given the amount of time system typically is in this operating mode. Removing the language broadens the equipment options for customers.
	Add compressed air end use reduction as a listed measure. Use the NW Regional Compressed Air Tool to estimate savings and pay at the custom rate.	Inefficient uses of compressed air are very common in industry. Where functionally equivalent alternatives are available, savings can be had by undertaking small projects to make a change in the system. Examples include replacing simple blowing applications with engineered nozzles, using electric pumps in place of air operated pumps, and adding isolation valves to close off a portion of a distribution system when not operating (saving on leak load). Compressed air savings in cfm may be estimated by program staff, and the NW Regional Compressed Air tool may then be used to estimate savings and incentives. This approach makes such small projects feasible to administer.
	Apply project level	Customer costs for Compressed Air measures

	caps (percent of project costs and one-year payback) to all Compressed Air projects.	vary. While incentives are set to be a portion of (but not exceed) the measure costs, having project cost and simple payback caps consistent with the custom project offer in the program aligns program delivery with design intent and simplifies marketing to customers and trade allies.

To further increase participation and the comprehensiveness of the program and streamline program administration, the Company is requesting approval to add new measures to existing measure categories, as detailed below in Table 7.

Table 7
New Measures

Measure Category	**Measure**	**Description**
HVAC	Variable Refrigerant Flow (VRF) Heat Pump/AC	Offer a prescriptive incentive for VRF systems, which are an increasingly requested HVAC option in small/medium commercial buildings. Align eligibility requirements with CEE high-efficiency HVAC specification and calculate savings based on building type, climate and size of system.
	Evaporative Pre-Cooling	Offer a prescriptive incentive (based on air conditioning equipment size) for equipment that pre-cools air before it reaches the air conditioner condenser coil.
Food Service	Anti-Sweat Heater Controls (Retrofit-Only)	Offer prescriptive incentives (per linear foot of refrigerated case) for anti-sweat heater controls installed in retrofit applications. Align deemed savings/costs with recently approved RTF UES data.
	Demand-Controlled Kitchen Ventilation (Retrofit-Only)	A simplified calculator tool should be utilized to estimate savings based on kitchen operating hours, climate, and HVAC system efficiency. Incentives offered on a $/kWh saved basis.
	Residential Refrigerator/ Freezer Recycling	Allow non-residential customers to participate in the residential refrigerator and freezer recycling program for qualifying residential refrigerators and freezers used in a business.
Other – Refrigeration, Oil and Gas, Wastewater	Add adaptive refrigeration control measure. Use calculator to estimate savings and pay at the custom rate of $0.15/per kWh with project	Adaptive refrigeration controllers replace conventional thermostat, defrost time clock and defrost termination controls in refrigerated spaces cooled by unitary systems. Projects are typically small, with savings ranging from

	level caps (percent of project costs and one-year payback).	2,000 to 20,000 kWh per controller, depending on system size. Savings is readily determined using nameplate information and operating schedules. These opportunities are efficiently administered as a calculator-based listed measure.
	Add fast acting door measure. Use calculator to estimate savings and pay at the custom rate of $0.15/per kWh with project level caps (percent of project costs and one-year payback).	Fast acting doors replace manually operated doors, automatic doors with long cycle times, strip curtains, or entryways with no door at all in refrigerated or conditioned space. Savings is highly situation specific. A calculator-based listed measure takes into account the details of each situation, while affording an efficient administrative approach.
	Add pump off controller measure with UES of 9,707 kWh and prescriptive incentive of $1,500 per controller, subject to 70% project cost cap and one-year payback cap.	Pump off controllers have been eligible for custom incentives in the current program, with hundreds of units participating to date. Making the measure a listed measure facilitates further market penetration by providing trade allies with a simple, predictable offering with rapid turnaround.
	Add low power mixer measure. Use calculator to estimate savings and pay at the custom rate of $0.15/per kWh with project level caps (percent of project costs and one-year payback).	Low power mixers, also called extended range circulators, take the place of high powered mixers or the practice of using aeration for mixing in wastewater treatment ponds. A calculator-based approach is an effective method of generating leads and administering project using the custom incentive rate and cap.