

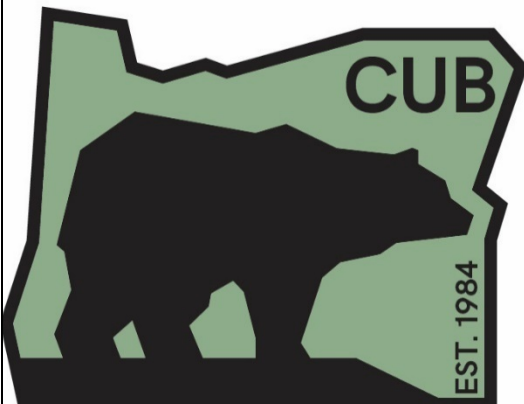
**BEFORE THE PUBLIC UTILITY COMMISSION
OF OREGON**

UE 335

In the Matter of)
)
PORTLAND GENERAL ELECTRIC)
COMPANY,)
)
Request for a General Rate Revision.)
)
_____)

**OPENING TESTIMONY
OF THE
OREGON CITIZENS' UTILITY BOARD**

June 6th, 2018



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1 **Q. Please state your name, occupation, and business address.**

2 **A.** My name is Bob Jenks. I am the Executive Director of the Oregon Citizens' Utility
3 Board (CUB). My name is William Gehrke. I am an Economist employed by
4 CUB. Our business address is 610 SW Broadway, Ste. 400 Portland, Oregon
5 97205.

6 **Q. Please describe your educational background and work experience.**

7 **A.** Mr. Jenks' witness qualification statement can be found in exhibit CUB/201, and
8 Mr. Gehrke's witness qualification statement can be found in exhibit CUB/101.

9 **Q. What is the purpose of your testimony?**

10 **A.** CUB testimony is organized in the following manner:

11 I. CET

12 II. The Renewable Resources Automatic Adjustment Clause and Energy Storage

13 III. Shifting the Risk of Weather Decoupling

14 IV. Storm Damage Expense

15 V. Storm Balancing Account

1 VI. Board of Director Stock Incentives

2 VII. Public Mass Transit Benefit

3 VIII. Long Term Disability

4 IX. Increased Basic Charge for Schedule 7

I. CET

5 **Q: What is your concern with the allocation of Customer Engagement**
6 **Transformation (CET) related costs?**

7 **A.** CET is a key piece of architecture for a number of utility programs. It includes
8 the customer information system (CIS) used for billing, and the meter data management
9 system (MDMS) program, which stores all the data from smart meters.¹ These are core
10 elements of smart grid applications, including demand response programs, behavioral
11 energy efficiency, and distributed generation, not to mention direct access programs for
12 large customers. CUB's concern about PGE's allocation of the cost of these investments,
13 as if they are simply billing systems, is due to the anticipation of a disproportionate cost
14 burden on residential customers. Because residential customers have the greatest number
15 of bills, PGE's proposal allocates most of these costs to residential customers. However,
16 because these investments are used for far more than just billing, it is unfair to charge
17 these programs primarily to residential customers as billing programs.

18 **Q. Please Explain.**

19 **A.** Assume PGE is projecting itself to be short of capacity to meet peak summer
20 load. It can address that issue by increasing capacity or by reducing peak load. A
21 capacity increase would include building a single cycle gas plant. Reducing peak load

¹ UE 335 – PGE/100/Pope-Lobdell/9.

1 could happen through a demand response program, such as Critical Peak Pricing (CPC:
 2 charging sharply higher prices during the highest load hours), Peak Time Rebates (PTR:
 3 offering rebates to customers who reduce load during those highest load hours), or a
 4 Time-of-Use rate (TOU: charging higher rates during the on-peak period of the day).
 5 The capital investment required for the load reduction programs are associated with CET
 6 (CIS and MDMS) investments, while the capacity increase would require a new supply-
 7 side resource. However, due to PGE’s proposed allocation of CET costs, these two
 8 options serve the same need but have radically different cost allocations.

9 CUB Exhibit 202 shows the cost allocation for different types of cost. Let’s
 10 compare the customers load to the allocation of capacity costs and the allocation of
 11 billing costs.

Rate Schedule	Total Percent of PGE’s Load	Percent of Marginal Capacity Costs	Percent of Billing Costs
7 – Residential	43.91%	53.57%	87.98%
32--Small Commercial	9.31%	8.68%	8.95%
83—Commercial	16.14%	14.64%	1.36%
85-Large Commercial	16.19%	13.27%	0.40%
89--Industrial	3.02%	1.99%	0.02%
Q90—Industrial	10.32%	6.77%	0.00%

12 This table shows residential customers make up 44% of PGE’s load, and would
 13 pay 54% of the cost of a single cycle gas peaker plant built to meet peak load. This
 14 represents residential customers’ contribution to capacity needs – essentially peak load.
 15 However, PGE’s proposal allocates billing costs on a dollars/customer basis, meaning the
 16 residential customer would pay 88% of the cost of demand response programs to reduce
 17 load. Industrial customers would pay 13% of the cost of a peaker, but are allocated only

² CUB Exhibit 202 (allocation spreadsheet).

1 2/100ths of 1% of the cost of billing costs. Regardless of what is least cost to the system,
2 residential customers should nearly always favor supply side options, and industrial
3 customer should nearly always favor demand response programs.

4 **Q. Does PGE intend to use the new CET investments to support demand**
5 **response?**

6 **A.** Yes. CET will enable and improve PGE's demand response offerings. CET will
7 allow customer-enabled third parties to more easily access customer interval meter data,
8 which will allow for demand response aggregation.³ The current MDMS cannot expand
9 sufficiently to allow DR pricing pilots to become full-scale programs.⁴ The new MDMS,
10 combined with the new CIS, provides significant DR benefits:

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³ UE 319/CUB Exhibit 208.

⁴ UE 319/CUB Exhibit 209.

1 The Customer Care & Billing Customer Information System (CIS) and the
2 MDM system will provide a more systematic approach to program
3 management for PGE's demand response (DR) programs, including:

- 4 • Improving insight into customer enrollment and un-enrollment in
5 DR programs and the timing associated with the enrollment
6 process;
- 7 • Improving clarity of the configuration of DR programs, such as
8 account, premise and meter set-up;
- 9 • Allowing for a more streamlined and timely process for developing
10 and setting-up new rate schedules;
- 11 • Allowing for transparency of data tracking between the CIS and
12 MDM systems for PGE employees;
- 13 • Capturing interval data for all customers in a single application
14 with more robust and automated validation processes; and
- 15 • Improving timing coordination with PGE's third-party vendors who assist
16 PGE with the execution of DR programs to determine the best load
17 shifting and load reduction strategies as well as everyday energy saving
18 opportunities for our customers.⁵

19 **Q. Do you have other concerns about the CET allocation?**

20 **A.** Yes. Most residential customers utilize a traditional service, which does not
21 require smart meters, an advanced MDMS program, or a sophisticated CIS program.
22 Much of the functionality being purchased for PGE's CET program is unnecessary to
23 meter and bill residential customers, but it is needed for other customers and other
24 programs. In addition, the CET, with its OPOWER program, is designed to support
25 behavioral energy efficiency, which should be properly allocated. Finally, direct access
26 has special needs for PGE's CIS, and those costs should also be properly allocated.

27 **Q. Explain how residential customers do not need the functionality of the CET**
28 **program.**

⁵ UE 319/CUB Exhibit 209.

1 **A.** The vast majority of residential customers are on traditional service, in which
2 power is billed on a monthly basis, using an inverted rate structure (pay one rate for the
3 first 1000 kwh used in a month and a higher rate for usage above 1000 kwh). The only
4 information needed for this billing is monthly usage. Therefore, billing for this
5 traditional service only requires a single meter read each month. The MDMS is an
6 investment needed to manage the data brought in by smart meters, generally in 15-minute
7 meter reads. This means the MDMS program is sized to receive more than 35,000 meter
8 reads per year for each customer, while residential customers generally only require 12
9 meter reads per year. The MDMS may be a useful investment, but it makes no sense to
10 allocate most of its costs to residential billing, where it is not needed. Other customer
11 classes have needs for more sophisticated billing programs, while residential customers
12 do not. Most other customer classes pay demand charges, a charge based on their peak
13 usage, which requires measuring usage throughout the month in order to identify the peak
14 usage. Most non-residential rate schedules also are on TOU rates. The CIS and MDMS
15 are sophisticated billing and data management program, useful in billing non-residential
16 customers, but they are not needed for most residential customers. Yet when allocated to
17 billing, residential customers pay 88% of the associated costs. This is inequitable and
18 fails to align with general ratemaking principles of cost causation.

19 **Q. Please Explain Your Issue with OPOWER?**

20 **A.** PGE is proposing OPOWER replace its Energy Tracker Service as an energy
21 analysis program. OPOWER is included in the CET costs.⁶ OPOWER is a leading
22 provider of behavioral energy efficiency. Behavioral energy efficiency is designed to

⁶ CUB Exhibit 203.

1 help customers understand and learn how to reduce their energy usage. It is a form of
2 demand-side management. OPOWER describes its service in this manner:

3 Get more out of your DSM spend by targeting customers with behavioral
4 energy efficiency programs that drive energy savings and increase
5 customer satisfaction.⁷

6 CUB Exhibit 204 (OPOWER) shows the functions OPOWER delivers.⁸ The
7 primary purpose is maximizing energy efficiency. OPOWER claims it can deliver a 1.5-
8 2.5% increase in EE savings and up to a 60% increase in program participation. Because
9 these costs are primarily related to energy efficiency (and not capacity or another
10 function), OPOWER costs should be removed from CET and allocated to customers as
11 an energy charge – at least to customers below 1aMW. Customers with loads above
12 1aMW cannot be charged additional costs for energy efficiency.

13 **Q. Please explain your concern regarding direct access programs and CET**
14 **related costs.**

15 **A.** Compared to residential billing programs, direct access programs require more
16 than a simple billing system. Direct access requires PGE to interact with both the
17 customer and the customer's Energy Service Provider. PGE bills direct access customers
18 for distribution, transmission, and transition charges. PGE has multiple direct access
19 programs with different transition charges. Direct access has its own CIS system needs,
20 and PGE paid special attention to direct access when considering which CIS system to
21 purchase. Yet, if it is charged to customers as a billing program, direct access customers
22 will pay almost none of the costs.

⁷ <https://www.oracle.com/industries/utilities/products/opower-energy-efficiency-cloud-service/index.html>

⁸ CUB Exhibit 204 (OPOWER)

1 **Q. Is this issue limited to Oregon?**

2 **A.** No. Nationally, there is an awareness of utilities investing in smart grid
3 applications and distributed energy resources, warranting a need to reconsider how the
4 costs associated with these activities are allocated. Jim Lazar, Senior Advisor with the
5 Regulatory Assistance Project has examined these issues. He argues Smart Grid
6 investments bring benefits to the system, including lower O&M costs, reductions in peak
7 demand, and improvements in reliability and voltage control. He argues while
8 traditionally “metering, meter reading, and billing costs are treated as 100% customer-
9 related in cost of service studies,” that paradigm must change in order to recognize the
10 diverse benefits these investments bring to the system.⁹ He has identified the following
11 FERC accounts as the places where costs need to be reallocated:

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⁹ UE 319/ CUB/ Exhibit 107.

Smart Grid Element	Pre-Smart Grid Element	"Traditional" FERC Account	Traditional Classification	Smart Grid Classification
Smart Meters	Meters	370	Customer	Demand / Energy / Customer
Distribution Control Devices	Station Equipment	362	Demand	Demand / Energy
Data Collection System	Meter Readers	902	Customer	Demand / Energy / Customer
Meter Data Management System	General Plant	391 - 397	Subtotal PTDC	Demand / Energy / Customer
Smart Grid Managers	Customer Accounts Supervision	901	Customer	Demand / Energy
Energy Storage Devices (Batteries; Ice Bear)	Installations on Customer Premises	371	Customer	Demand / Energy

1 **Q. Was this an issue in PGE's last rate case?**

2 **A.** Yes. CUB raised this issue in the last case, before the CET investment came into
3 rates, so the issue was not as immediate. In the interest of having a fully settled rate case
4 as part of a package agreement, CUB agreed to the following condition:

5 The Stipulating Parties request that the Commission open an investigative
6 docket to address the appropriate functionalization and/or allocation of
7 PGE smart grid costs.¹⁰

8 While the Commission adopted the stipulation, the Commission never
9 opened the agreed upon investigation. Today, we are facing a decision regarding
10 the allocation of CET costs, without the results of an investigation.

11 **Q. What is CUB's recommendation on this issue?**

12 **A.** It is clear allocating CET as if it is just another billing system is not a fair and
13 reasonable outcome. It should not be 100% allocated on a per-customer basis. There is a
14 need to allocate some of the costs on the basis of the functionality and benefits CET

¹⁰ OPUC Order No. 17-511, Appendix A, page 10.

1 brings to the system. However, without the results of the investigation, there is limited
2 information available to guide a refunctionalization. Therefore, two steps are needed.
3 First, we need to deal with the immediate issue of allocating the CET in this proceeding.
4 Second, we need to find a way to gather the information necessary to allocate future
5 investments.

6 PGE went through an extensive review of this project and considered other
7 alternatives. During this process, they evaluated the Oracle product against another
8 vendor. CUB Confidential Exhibit 205 shows [REDACTED]

9 [REDACTED]
10 [REDACTED]
11 [REDACTED]
12 [REDACTED]
13 [REDACTED]
14 [REDACTED]
15 [REDACTED]
16 [REDACTED]

17 [REDACTED]
18 For future rate cases, there is a need for better information to guide the allocation
19 of these investments and other smart grid investments utilities will continue to make.
20 CUB recognizes the Commission and stakeholders currently have many proceedings
21 going on, and asking the Commission to open the investigation requested in the last rate
22 case creates an additional burden. Instead, CUB recommends the Commission require

¹¹ CUB Exhibit 205, page 33.
¹² CUB Exhibit 206.

1 PGE to hire a third party consultant. A third party consultant would conduct a review of
2 current and future smart grid investments, functions, and benefits. The third party would
3 also identify possible cost allocation approaches, based on those uses and functions,
4 while following principles of cost causation by rate class.

5 **Q. What information did the Company provide regarding CET?**

6 **A.** As part of the discovery process, the Company provided hundreds of documents.

7 CUB would like to flag one of the invoices from the CET project.¹³ [REDACTED]

8 [REDACTED]

9 [REDACTED]

10 **Q. What is Black House Venture Inc.?**

11 **A.** The Corporate Division of the Oregon Secretary of State keeps records of all

12 businesses registered in Oregon. [REDACTED]

13 [REDACTED]

14 [REDACTED]

15 [REDACTED]

16 **II. THE RENEWABLE RESOURCES AUTOMATIC ADJUSTMENT CLAUSE
AND ENERGY STORAGE**

17 **Q.** What is the Renewable Resources Automatic Adjustment Clause (RRAAC)?

18 **A.** The Renewable Resources Automatic Adjustment Clause enables Utilities to

19 recover the cost of renewable energy resources used for RPS compliance. SB 838, the

20 Renewable Portfolio Standard Oregon Senate bill, established this adjustment clause.

¹³ CUB Exhibit 207.

¹⁴ <https://www.gametruckparty.com/portland>

¹⁵ CUB Exhibit 208.

1 Renewable resources were expected to be brought onto the system in smaller increments
2 than thermal generation resources. The RRAAC enables the utility to avoid regulatory
3 lag on renewable resources.

4 **Q. What is your concern with the Renewable Resources Automatic Adjustment**
5 **Clause (RRAAC) and Energy Storage?**

6 **A.** PGE is proposing to change Schedule 122, the Company’s Renewable Resources
7 Automatic Adjustment Clause, to include energy storage.¹⁶ PGE made a similar proposal
8 in UM 1856, which was opposed by CUB and other parties. CUB takes issue with PGE’s
9 proposed change in this docket.

10 Schedule 122 is a recovery mechanism associated with the Oregon’s Renewable
11 Portfolio Standard (RPS). While the RPS recognized utilities might build renewable
12 projects combined with storage, and it allows for “associated storage” to be included in
13 the RRAAC, PGE is claiming “any energy storage” controlled by PGE will be used to
14 integrate renewables as a “primary” benefit.¹⁷

15 The purpose of the RRAAC was *not* to recover the cost of integrating renewables.
16 Port Westward 2 was developed for the purpose of integrating renewables.¹⁸
17 Participation in the Energy Imbalance Market contributes to integrating renewables. In
18 the future, smart charging of EVs will likely contribute to integrating renewables. The
19 RRAAC should not be expanded to include any of these items.

20 The reason the RPS included the phrase “associated storage” was due to the
21 expectation renewables would be combined with on-site storage, to add value to a

¹⁶ UE 335/PGE/1300/Macfarlane – Goodspeed/1.

¹⁷ UE 335/PGE/1300/Macfarlane – Goodspeed/33.

¹⁸ <https://www.portlandgeneral.com/our-company/news-room/news-releases/2015/01-02-2015-new-pge-plant-will-help-balance-renewables-and-meet-peak-demand>

1 renewable investment. For example, California's Duck Curve problem could be
2 addressed by combining storage with solar. Rather than seeing solar production drop just
3 as families return home from work and turn on air conditioning and other appliances,
4 storage could allow the solar to continue to serve load through the evening peak. Florida
5 Power and Light recently announced a solar-plus-storage project to allow the production
6 of a 74.5 MW PV plant to be dispatchable.¹⁹

7 Solar-plus-storage is very different from integrating renewables. The first
8 changes the nature of a specific renewable facility by making it dispatchable. It involves
9 a specific renewable project, and its associated storage changes the nature of the solar
10 project from producing intermittent energy to dispatchable energy. The second,
11 integrating renewables, is what is needed when renewables do not have storage and are
12 not dispatchable. PGE's proposal to expand the RRAAC to include all energy storage
13 investments does not align with the rationale for adopting the mechanism in the first
14 place.

15 **Q. Do you have other concerns with PGE's proposal?**

16 **A.** Yes. The RPS has a specific cost cap. Including storage in the RRAAC, and
17 claiming this is authorized by the RPS, could lead to storage projects having to fit with
18 renewables under that cost cap. This increases the likelihood the cost cap will be hit and
19 the RPS requirements will be suspended. The impetus for the RRAAC was clearly not to
20 hit the cost cap and suspend further investment in renewables.

21 **Q. Is PGE's proposed change needed?**

¹⁹ www.energy-storage.news/news/usas-largest-florida-power-light-announces-40mwh-solar-plus-storage-project

1 **A.** No. CUB and other parties reached a stipulation concerning PGE's storage
2 proposals under HB 2193 (docket UM 1856). While that stipulation did not address
3 ratemaking, it is contemplated when PGE brings these investments forward for
4 ratemaking. If the investments are prudent, they will be allowed into rates, pursuant to
5 the language in HB 2193.

6 There will be a need to consider storage projects beyond those contemplated in
7 HB 2193 in the future. However, there is ample time to consider these future projects
8 and their subsequent rate recovery. Currently, the Commission has the SB 978 public
9 process. That process is specifically designed to examine how emerging technology,
10 such as storage, impacts Commission regulation. The process also focuses on whether
11 regulatory mechanisms and incentives should change due to these technologies. Rather
12 than jump ahead and answer that question with regards to storage in this proceeding,
13 CUB recommends allowing the SB 978 proceeding to move forward, during which
14 energy storage impacts will undoubtedly be considered. There is nothing immediate
15 requiring this question to be removed from the SB 978 proceeding and answered today.
16 PGE's request is premature, unwarranted, and may result in perverse policy implications,
17 which may detract from meeting RPS goals.

III. SHIFTING THE RISK OF WEATHER VARIATION – DECOUPLING

18 **Q. Please summarize your concerns with PGE's proposal to include weather**
19 **in its decoupling mechanism.**

20 **A.** CUB strongly opposes PGE's proposal, because it:

- 1 1. Represents a significant shift of risk from shareholders to customers;
- 2 2. Will lead to additional volatility in customer bills;
- 3 3. Is a significant change in Commission policy;
- 4 4. Represents inappropriate (and maybe illegal) retroactive ratemaking, and
- 5 5. Is unnecessary.

6 **Q. Why is PGE proposing to eliminate weather normalization from decoupling?**

7 **A.** PGE makes the claim weather normalization within decoupling “burdens
8 customers” with increased weather risk, because sometimes weather conditions can lead
9 to over-recovery of costs, and sometimes it can lead to under-recovery of costs. It argues
10 using decoupling to shift the risk of weather from the company to its customers “provides
11 a reduction in weather risk.”²⁰

12 **Q. Do you agree with this claim?**

13 **A.** Absolutely not. Weather risk is not a “burden” to customers, because weather
14 risk does not reside with customers – shareholders bear the risk of weather variation.
15 Weather varies, and rates are established based on a test year forecast of assuming normal
16 weather. It is important to recognize PGE’s load forecast is based on trended weather, so
17 the effect climate change is having on weather is captured by the definition of normal
18 weather. That is, recent trends in weather fluctuations due to climate change are captured
19 within the trend forecast of normal weather. However, in reality, weather is rarely
20 perfectly normal. Cold winters and hot summers can lead to increased usage and
21 demand, while warm winters and cool summers can lead to reduced demand. These

²⁰ UE 335 - PGE/1300/Macfarlane – Goodspeed/31.

1 fluctuations naturally occur and generally balance out. Meanwhile, customers' rates are
2 based on normal weather.

3 Because customer rates reflect normal weather, the risk of weather variation is
4 retained by the utility. In years where weather creates loads greater than expected, the
5 company has additional earnings. Conversely, in years where weather creates loads
6 lower than expected, the company has lower earnings. Changes in weather have no effect
7 on rates but affect utility earnings. Therefore, it is the shareholders, not the customers,
8 who bear the weather risk. PGE unjustifiably seeks to change this traditional ratemaking
9 dynamic.

10 This weather risk goes both directions. Over time, the under-earning and over-
11 earning are expected to balance out. PGE offers no evidence to suggest the periodic
12 under and over-earning do not balance. Managing risks such as this is one of the reasons
13 utilities use equity financing. Debt is significantly cheaper than equity, but debt to a
14 lender must always be paid. A utility cannot reduce its interest on its debt, when earnings
15 are low. Equity costs significantly more, but shareholders recognize dividends will vary.
16 This is part of the inherent risk of buying stock and becoming a shareholder in a
17 company. Equity acts as a shock absorber, allowing the utility to meet its obligations
18 even though its earnings vary. PGE's shareholders understand sales and earnings vary
19 with weather, and PGE reports these effects in its Annual Report. Here is one example:

1 Deliveries to commercial customers decreased 0.7% in 2016 compared
2 with 2015, which was primarily due to unfavorable weather conditions
3 and slightly lower demand from a few groups, including food stores,
4 which were impacted by a series of mergers and bankruptcies, government
5 and education, and irrigation and pumping load in 2016 due to the
6 extremely dry conditions that existed in 2015. On a weather-adjusted
7 basis, commercial deliveries for 2016 were comparable to 2015, while a
8 0.9% increase in the average number of commercial customers occurred.²¹

9 In its Annual Report, PGE lists its Risk Factors: “[T]he effects of weather on
10 electricity usage can adversely affect results of operations.”²² CUB agrees with PGE’s
11 Annual Report. Weather is a risk affecting its results of operation, and, therefore, its
12 earnings. Shareholders have purchased PGE’s stock knowing weather variation affects
13 earnings.

14 **Q. What about PGE’s claim weather can result in “over-recovery” of fixed
15 costs? Isn’t this a burden on customers?**

16 **A.** First, CUB disagrees with this characterization. Second, PGE’s proposal has no
17 effect on this over- or under-recovery of fixed costs, beyond adding a retroactive
18 ratemaking adjustment, which could make matters worse.

19 The primary purpose of economic regulation is not “cost recovery,” but rather
20 setting prices. PGE mischaracterizes the primary purpose of economic regulation.
21 Projected company costs and loads are forecasted in a test year and used to establish
22 rates. Once rates are established, they remain in place until they are inadequate—due to
23 utility-incurred costs including capital investments—and the utility asks for a new rate
24 case. There is not an expectation the total rates charged to customers over a year will
25 provide perfect “cost recovery” for the utility. The fairness question for customers is

²¹ PGE 2017 Annual Report, page 12.

²² PGE 2017 Annual Report, page 24.

1 whether the rates charged are “fair, just and reasonable,” not whether the rates accurately
2 provide cost recovery. Fair, just and reasonable rates, based on a forecasted test year
3 using normal weather, are a regulatory goal. CUB does not believe it represents a burden
4 on customers.

5 Second, while PGE claims weather leads to over or under-recovery of fixed costs,
6 its proposal does nothing to change this. Under PGE’s proposal, rates will still be based
7 on normalized weather, and it will still result in the over or under-recovery of costs from
8 year to year. PGE’s proposal does not change this at all. Instead, PGE adds an element
9 of retroactive ratemaking. In addition to paying rates reflecting over or under-recovery of
10 fixed costs, customers will receive a surcharge or surcredit, as an adjustment for last
11 year’s over or under-recovery.

12 **Q. Please explain how this creates additional volatility in bills for customers?**

13 **A.** Shifting the weather risk through decoupling does not change a customer’s
14 current rates, but adds a surcharge or surcredit reflecting last year’s weather. For an
15 illustrative example, consider a customer with electric heat whose highest bill is in
16 January. Cold weather would increase this customer’s January bill. However, under
17 PGE’s proposal, this cold January bill could have a decoupling surcharge, causing it to be
18 even higher, if weather was mild the year before. At the same time, months with low
19 bills could be driven even lower, due to a surcredit from harsh weather the previous year.
20 Therefore, while customers still face the volatility in bills caused by changes in weather,
21 this volatility is increased, because of the retroactive charge or credit. In effect, by
22 shifting weather risk from shareholders to customers, PGE is reducing earnings volatility
23 but increasing the volatility in customer bills.

1 **Q. Please explain how this is a significant change in policy?**

2 **A.** Decoupling has been used as a regulatory tool to ensure utilities did not have a
3 disincentive for energy efficiency investments for a decade. In Oregon, electric utility
4 decoupling has always been weather normalized. Let's consider some of this history.

5 Decoupling grew out of an informal investigation the Commission began in 1989.
6 The investigation examined incentives for electric utilities acquiring demand-side
7 resource (energy efficiency or "EE").²³ Following a Commission Staff report entitled
8 "Investigation into Electric Utility Incentives for Acquisition of Conservation
9 Resources," the Commission opened a docket to develop "a set of policies that will
10 encourage utilities to acquire all cost-effective demand-side resources."²⁴ That new
11 docket looked at both developing incentives for utilities to acquire energy efficiency and
12 reducing disincentives, to dissuade utilities from acquiring EE. The primary disincentive
13 discussed was the reduction of net revenues caused by conservation and energy efficiency
14 programs:

15 Moreover, the implementation of conservation may reduce sales of energy
16 and thus reduce company revenues. [...]By lost revenue we refer to lost
17 *net* revenues: the difference between the revenues the utility would have
18 collected and the short-term avoided cost, accounting for resales, the
19 utility would have incurred if energy had been sold instead of conserved.²⁵

20 The solution identified by the balance of participants to the proceeding was "some
21 method of permitting the utility to recover revenues lost through implementation of
22 conservation."²⁶ Decoupling was identified as a means to allow the utility to recover its
23 lost revenues, by defining a "target for revenues and placing over-and under-collection

²³ See *in re the Investigation into Electric Utility Incentives for Acquisition of Conservation Resources*,
OPUC Docket No. UM 409, Order No. 92-1673 (Nov. 23, 1992).

²⁴ OPUC Order No. 92-1673 at 1.

²⁵ OPUC Order No 92-1673 at 4 (emphasis in original).

²⁶ OPUC Order No 92-1673 at 4.

1 relative to that target in a deferred account for recovery in a subsequent period.”²⁷ The
2 Commission ordered PGE and PacifiCorp to undertake collaborative processes to develop
3 decoupling proposals.²⁸

4 The PGE collaborative was successful and PGE developed a decoupling
5 mechanism in its next rate case, UE 88. Because the concern providing the impetus for
6 decoupling was the disincentive to invest in energy efficiency, the agreed to decoupling
7 mechanism was weather normalized, meaning the mechanism did not adjust for
8 variations in revenue caused by weather. The Commission later approved a weather
9 normalized²⁹ decoupling mechanism for PacifiCorp. At its inception, the Commission
10 intended the decoupling mechanism in Oregon to be weather normalized.

11 More recently, decoupling has applied to gas utilities. In UG 143, NW Natural
12 (NWN) asked for a non-weather normalized decoupling mechanism, but the adopted
13 stipulation did not include a weather adjustment. While the Commission did not rule on a
14 weather adjustment, it noted NWN’s original proposal in that docket was “unlike prior
15 decoupling mechanisms.” NWN’s proposal would allow the Company to recover
16 revenue losses related to variations in weather and it was “unclear” whether the
17 Commission would have approved such a mechanism.³⁰

18 Weather-normalization was an important issue in these proceedings. Decoupling
19 is designed to break the link between utility profits and retail sales volume. The goal is to
20 put the utility in a position where it is less likely to oppose energy efficiency efforts that
21 reduce sales volume and to promote activities designed to increased usage. Decoupling is

²⁷ OPUC Order No. 92-1673 at 11.

²⁸ OPUC Order No. 92-1673 at 3.

²⁹ OPUC Order No. 92-1673 at 8.

³⁰ OPUC Order No 02-634 at 8.

1 designed to change incentives/disincentives and, therefore, change the behavior of the
2 utility. Weather variation happens independently of the utilities' actions. A utility
3 cannot take actions to make the winter colder in order to drive additional sales and
4 profits. Providing the utility a weather adjustment simply shifts the risk of weather-
5 related sales variations from shareholders to customers, it does not change behavior.

6 Later, NWN proposed a weather adjustment called WARM, which adjusts bills in
7 real time and does not require retroactive ratemaking adjustments or increase the
8 volatility of customer bills – in fact, it reduced the volatility of bills. Cascade and Avista
9 also asked for decoupling. Both include weather, but the stipulated agreements allowing
10 for weather to be included also require the utilities to work towards a WARM-like real-
11 time mechanism. The weather risk of a gas utility is much greater than an electric utility
12 because heating homes is the primary residential use of gas.

13 Weather decoupling has never been allowed by an electric utility in Oregon, and
14 PGE's proposal would be a significant and improper change in policy. While Avista and
15 Cascade were allowed weather decoupling, it was done with the expectation of being
16 temporary.

17 **Q. Explain the issue concerning retroactive ratemaking?**

18 **A.** There is a general prohibition on retroactive ratemaking, which can loosely be
19 defined as charging ratepayers today for costs incurred in the past and are unrelated to
20 current service.³¹ In the case of weather, there is little doubt a warm winter will reduce
21 electric sales revenues and reduce Company earnings. However, taking those lost
22 earnings and applying them to the following year's bills constitutes inappropriate

³¹ Or. Op. Atty. Gen. OP-6076 (Or.A.G.), 1987 WL 278316. *See* UG344/CUB Exhibit 120.

1 retroactive ratemaking. Essentially, it is allowing the utility to over-recover its profits in
2 one year explicitly to make up for under-recovery in a prior year.

3 In 1986, the Attorney General issued an opinion stating retroactive ratemaking
4 was generally prohibited, and said opinion led to a new statute (the ORS 757.259 deferral
5 statute), allowing for retroactive ratemaking in limited circumstances. The Attorney
6 General was especially critical of lost revenue mechanisms and revenue adjustment
7 clauses (*i.e.*, decoupling), going so far as to call them “evil”:

8 [A] ‘revenue adjustment clause’ would violate the rule against retroactive
9 ratemaking. Revenue adjustments are the precise evil against which the
10 rule against retroactive ratemaking protects. Under that rule, if actual
11 revenues fall short of predictions, the utility must bear that loss. If actual
12 revenues exceed predictions, the utility is permitted to retain that excess
13 profit. Thus, the utility is encouraged to operate efficiently.³²

14 This led to legislation to allow for deferred accounting, which defined a limited set of
15 circumstances in which a utility is allowed to make retroactive rate adjustments. That
16 statute clearly allows for retroactive ratemaking when decoupling lost revenues related to
17 *energy conservation* programs.³³ But the statute does not authorize decoupling
18 associated with weather variation. CUB believes expanding decoupling to incorporate
19 fluctuations in weather variation is improper retroactive ratemaking. CUB will address
20 the legality of it later in briefing.

21 **Q. Explain why it is not necessary?**

22 A. Weather normalized decoupling has been an option for Oregon electric utilities
23 since the early 1990’s. It has successfully eliminated the disincentive for energy

³² Or. Op. Atty. Gen. OP-6076 (Or.A.G.), 1987 WL 278316.

³³ ORS 757.259(2)(d).

1 efficiency programs. It is working as intended. There is not a problem to be fixed.
2 PGE's claim of a burden on customers is misplaced.

IV. STORM DAMAGE EXPENSE

3 **Q. Please summarize this proposed adjustment.**

4 **A.** In this proceeding, PGE is proposing to increase the storm accrual rate to
5 \$3,814,969 annually.³⁴ This accrual rate is based on the ten year rolling average for
6 Level III storm costs. In order for a storm to be considered Level III, one of the
7 following criteria must be met:

- 8 1. Impacts at least 50,000 customers; or
- 9 2. Qualifies for Institute of Electrical and Electronics Engineers (IEEE) Major
10 Event Day exclusion; or
- 11 3. Several substations and feeders are out of service.³⁵

12 CUB opposes the inclusion of actual 2017 expense because it was an unusual year
13 for storms, and this outlier year should be excluded from the rolling average. CUB
14 proposes a different ten-year rolling average for Level III storm costs by replacing actual
15 2017 storm costs with the average of years with Level III storm damage losses. This
16 adjustment results in a \$556,165 reduction in storm damage expense annually.

17 **Q. How did you calculate the storm accrual rate for this rate case?**

18 **A.** To arrive at CUB's storm accrual rate, CUB calculated the average Level III
19 storm damage losses for each event. Average Level III storm damage loss is the average
20 of Level III Storm damage losses in years when PGE's system experienced a Level III

³⁴ UE 335 – PGE/800/Nicholson-Bekkedahl/18.

³⁵ UE 335 – PGE/800/Nicholson-Bekkedahl/13, citing OPUC Order No. 10-478.

1 storm. CUB then calculated the ten year rolling average, replacing the Level III Storm
2 damage loss amount in 2017 with the average Level III Storm damage loss.

3 **Q. Why was 2017 excluded from your calculation?**

4 **A.** 2017 was a 1 in 18 year for Level III Storm costs. In the past eighteen years,
5 PGE has experienced Level III storm costs 50% of the time. There were four Level III
6 Storms in 2017. Two of the fours storms had a storm damage expense greater than the
7 ten year rolling average of storm damage expense.³⁶ The snowstorm in January 2017
8 was characterized by the National Weather Service as 1 in 25 year storm.³⁷ The April
9 2017 wind storm was also an usual occurrence. Stan Sittser, a PGE spokesman,
10 commented to the media about the April 2017 wind storm, which led to the highest
11 outage numbers the Company has experienced in twelve years.³⁸ 2017 was not a normal
12 year for storms in Oregon. The ten rolling average is meant to normalize average storm
13 costs. As such, the 2017 storm year should be excluded from the rolling average
14 calculation to ensure its accuracy.

15 **Q. Does CUB have an adjustment to PGE's proposed ten year rolling average
16 of storm costs?**

17 **A.** Notwithstanding CUB's objection to the Company including actual 2017 expense
18 in the ten year rolling average of storm costs, CUB has a correction to PGE's proposal.
19 While the Company used CPI-U to inflate storm cost into 2019 dollars, the actual growth

³⁶ The Ten Year Rolling Average of Storm Losses is \$3,814,696.

³⁷ http://www.oregonlive.com/weather/index.ssf/2017/01/january_snowfall_record-settin.html

³⁸ http://www.oregonlive.com/portland/index.ssf/2017/04/windstorm_is_damaging_but_not.html.

1 rate for CPI-U 2017 is 2.14.³⁹ Using this accurate CPI-U growth rate results in a \$10,260
2 downward dollar adjustment to PGE's proposed Level III storm costs.

V. MAJOR STORM BALANCING ACCOUNT

3 **Q. Please summarize this issue.**

4 **A.** Historically, PGE has collected an annual accrual based on a rolling ten-year
5 average of Level III storm costs, adjusted to present value costs. PGE's proposal would
6 allow the balance of the accrued funds to become negative, if storm cost exceeds the
7 annual accrual collected from customers.⁴⁰ CUB opposes PGE's proposal to enable the
8 balancing account to become negative.

9 **Q. Why did the Company propose the creation of a storm balancing account?**

10 **A.** Before 2010, the Company purchased storm insurance coverage for major storm
11 damage. In UE 215, PGE's rate case that year, the Company found the annual insurance
12 premiums for major storm damage to be an unreasonable cost. The Company proposed
13 the currently employed storm balancing account as a form of self-insurance. Self-
14 insurance is when a company sets asides a pool of money over time to resolve an
15 unexpected cost.

16 **Q. Why does CUB oppose this change?**

17 **A.** Before UE 215, the Company purchased insurance for its major storm expense,
18 which transfers the risk to a third party—the insurance company. In UE 215, the
19 Company shifted the risk of storm damages from an insurance company to the
20 Company's shareholders. If actual storm expenses exceeded the amount accrued in the
21 balancing account, the Company bore the risk associated with recovering the cost of the

³⁹ CUB Exhibit 209.

⁴⁰ UE 335 – PGE/800/Nicholson-Bekkedahl/14-15.

1 balancing account. Given that a Company can file for a deferral in high cost storm years,
2 as it has in the past, it is not necessary for the Company to be able to hold a negative
3 balance in storm expenses. Additionally, in high cost years, the Company is able to file
4 for a deferral on not covered by the current major storm accrual mechanisms. For the
5 2017 storms, the Company filed for a deferral on January 11th for the January 7th and
6 January 10th storms. CUB believes the Company's proposal is unreasonable, because it
7 already has mechanisms to reduce its risk in high cost storm years.

8 **VI. BOARD OF DIRECTOR STOCK INCENTIVES**

9 **Q. Please summarize this proposed adjustment.**

10 **A.** PGE is seeking to recover 50% of board of director stock compensation costs.
11 CUB recommends a 100% disallowance of board of director stock compensation,
12 because compensation designs align a Board of Directors' interests with shareholders'
13 interests. There is no tangible link to any concrete ratepayer benefit. The removal of
14 board of director stock compensation results in a \$468,000 reduction in expense.

15 **Q. What has the Commission's practice with incentive compensation**
16 **historically been?**

17 **A.** Historically, 100 percent of executive incentive compensation has been
18 disallowed from rates.

19 **Q. Does PGE require its Board of Directors to own PGE Stock as a condition**
20 **of employment?**

21 **A.** Within five years of being elected as a board of director, those individuals are
22 required to own five times the cash portion the annual retainer fee provided to each board
23 of director.

1 **Q. Are PGE executives required to own PGE stock as a condition of**
2 **employment?**

3 **A.** Yes.

4 **Q. Who elects the board of directors?**

5 **A.** PGE's board of directors are elected by the Company's shareholders.

6 **Q. What is the effect of board of director's stock compensation on Director**
7 **Behavior?**

8 **A.** Stock compensation aligns PGE's board of directors with the performance of the
9 Company's financial metrics by creating a fiduciary interest in the financial wellbeing of
10 the Company. These stock incentives align board of directors with shareholders. When
11 the value of PGE's stock increases in value, both shareholders and board of directors
12 benefit financially.

13 **Q. Does CUB oppose PGE providing offering stock to its board of directors?**

14 **A.** No. There is nothing inherently wrong with PGE's board of directors being
15 offered Company stock. However, CUB opposes customers paying for board of director
16 stock incentives. These incentives align the Company's directors solely with shareholder
17 value, and create a fiduciary interest in the Company's wellbeing. The board of director
18 stock incentives aligns the Company's directors with shareholders. Since there is no
19 tangible benefit to customers, CUB recommends disallowance of these costs in a manner
20 aligning with Commission precedent.

VII. PUBLIC MASS TRANSIT BENEFIT

21 **Q. Please summarize this proposed adjustment.**

1 **A.** PGE’s Public Mass Transit Benefit provides free public transportation to the
2 Company’s employees. CUB does not believe this program is required to attract and
3 retain employees at PGE. Therefore, CUB proposes Customers and the Company share
4 in the expense of this program. This adjustment results in a \$300,000 reduction.

5 **Q. Why does PGE provide some miscellaneous employee benefits?**

6 **A.** The Company provides these benefits to attract and retain well-qualified
7 employees.⁴¹ For example, the Company provides tuition reimbursement to its
8 employees, as well as service awards. CUB does not object to these benefits, because
9 they provide a value to customers. CUB assumes the Company is seeking to attract a
10 younger workforce, in response to generational workforce changes.⁴² Tuition
11 reimbursement decreases the cost of the education for PGE Employees. Additionally,
12 tuition reimbursement provides a benefit to customers by increasing the human capital of
13 its employees. Educated employees are in theory more productive employees. PGE also
14 provides service awards, which serve as a retention tool.

15 **Q. What benefit does the mass transit program provide to customers?**

16 **A.** Unlike tuition reimbursement and service awards, CUB fails to see how the
17 Public Mass Transit program provides a benefit to PGE’s customers.

18 **Q. What are the barriers to public transportation in Portland?**

19 **A.** The principal barrier to public transportation is access. Many areas of the
20 Portland metropolitan area do not have easy transportation access to downtown. For
21 example, an employee commuting by public transportation from Wilsonville, Oregon to
22 PGE’s downtown headquarters has a daily commute of two hours and thirty minutes and

⁴¹ UE 335 - PGE/400/ Mersereau – Neizke/37/ Lines 9-10.

⁴² UE 335 - PGE/500/Lobdell – Batzler/8/ Lines 11-12.

1 requires two bus transfers. If that same employee drove, the average daily commute
2 would be one hour. By driving, the employee is able to avoid bus transfers and save time
3 on his or her commute. CUB does not believe the cost of public transit is a principal
4 barrier to the usage of public transportation. Instead, it is access to efficient public
5 transportation. Therefore, a PGE subsidy of employee public transportation is not in and
6 of itself a guarantee a given employee will use public transit.

7 **Q. How much does the average American household spend on transportation**
8 **per year?**

9 **A.** According to the Consumer Expenditure Survey, the average American household
10 in 2016 spent \$9,049 per year on Transportation.⁴³

11 **Q. Is it reasonable for PGE to have its employees purchase fares for public**
12 **transportation?**

13 **A.** Yes. In 2018, the cost of an annual Tri-Met pass is \$1,100.⁴⁴ That cost is well
14 within the average annual expenditure for transportation for an American household.

15 **Q. What had been the general trend on Tri-Met ridership?**

16 **A.** Since 2011, total ridership on Tri-Met has decreased. The trend holds true, even
17 while Tri-Met has expanded its service. For example, in 2015 Tri-Met began operating
18 the Orange Line, expanding service from downtown Portland into Milwaukee, Oregon.
19 Since 2011 in the Portland Metropolitan area, the population has increased, while public
20 transit ridership has decreased.

21 **Q. Why does CUB propose a 50 percent split of the cost of the public mass**
22 **transport program?**

⁴³ <https://beta.bls.gov/dataViewer/view/timeseries/CXUTRANSLB0101M>

⁴⁴ <https://trimet.org/fares/1yearpass.htm>

1 **A.** CUB characterizes this program as a fringe benefit. Unlike retirement plans and
2 medical programs, CUB cannot envision this benefit being significant enough to attract
3 or retain PGE employees. Additionally, price is not a major barrier to transportation
4 accessibility. However, the public mass transport program provides some benefit to PGE
5 employees. CUB believes a 50 percent split represents a reasonable compromise to
6 resolve cost recovery of this issue.

7 **VIII. LONG TERM DISABILITY**
8

9 **Q. Please summarize this proposed adjustment.**

10 **A.** PGE projects long term disability costs to be \$2,276,361 in 2019.⁴⁵ This
11 projection is a 90% increase in long term disability costs from 2017 to 2019.⁴⁶ CUB
12 projects long term disability costs to be \$2,056,676 in 2019. This results in a \$219,685
13 downward adjustment to long term disability benefit cost.

14 **Q. What is long term disability insurance?**

15 **A.** Long term disability is insurance for workers in the case of a disability. In the
16 event an employee is unable to work, long term disability insures workers against a
17 medical disability prohibiting a worker from being able to work. When a worker is
18 unable to work, long term disability insurance provides a supplement to the worker's
19 insurance. The Company offers this program as a benefit to employees. This is a
20 common employee benefit in the labor force.

21 **Q. What was the Company's long term disability cost in 2017?**

⁴⁵ See CUB Exhibit 209.

⁴⁶ Actual 2017 Long Term Disability Expense was 1,196,337. The Company's projected 2019 Long Term Disability Expense is 2,276,361.

1 A. The cost of operating the Company's long term disability program in 2017 was
2 \$1,196,337.

3 **Q. What does the Company project for long term disability cost in 2019?**

4 A. The Company projects long term disability cost will be \$2,276,361 in 2019.
5 Therefore, the Company projects disability cost will increase by 90% from 2017 to 2019.

6 **Q. What does CUB project for long term disability cost in 2019?**

7 A. The Company has stated 2017 was a low year for disability insurance expense.

8 The Company has provided two reasons. [REDACTED]
9 [REDACTED]
10 [REDACTED] To account for the onetime credit, CUB
11 added [REDACTED] in cost to 2017 actuals. CUB grew this number by the annual growth
12 rate of [REDACTED] to arrive at an estimate of \$2,056,676. In 2016, the Company hired Willis
13 Towers Watson, a global advisory company, to project 2017-2019 long term disability
14 costs. The projected annual growth rate of long term disability insurance expense from
15 2016 to 2019 was [REDACTED] CUB believes this number is conservative, [REDACTED]
16 [REDACTED] Additionally, CUB added
17 [REDACTED] to its estimate to account for the credit PGE received for LTD expense in 2017.

IX. INCREASED BASIC CHARGE FOR SCHEDULE 7

18 **Q. Please summarize this issue.**

19 A. PGE has proposed increasing the fixed customer charge from \$11 to \$13. PGE
20 cites its marginal cost study to support this increase. CUB opposes this increase in the
21 fixed customer charge.

⁴⁷ CUB Exhibit 210.

⁴⁸ CUB Exhibit 211.

1 **Q. What does CUB oppose this charge?**

2 **A.** The marginal monthly customer and meter cost for a schedule 7 customer is
3 \$6.90.⁴⁹ Shared customers cost should not be included in the basic charge. Fixed cost
4 recovery should only be limited to the costs associated with a particular customer. CUB
5 believes increasing the basic rate charge provides a disincentive for conservation.

6 **Q. What effect does this increase in the customer charge have on low usage**
7 **customers?**

8 **A.** By increasing the basic charge for schedule 7 customers, low usage customers
9 receive a larger increase in the monthly bill.⁵⁰ For example, a household using 200 kWh
10 of electricity is set to increase by 9.8%, while a household using 1,600 kWh of electricity
11 is set to increase by 4.4%. An increase in the customer charge has a regressive effect on
12 residential customers' monthly bills.

13 **Q. What does CUB recommend regarding the basic charge?**

14 **A.** CUB recommends the Commission reject PGE's proposal to increase the
15 customer charge.

16 **Q. Does this conclude your testimony?**

17 **A.** Yes.

⁴⁹ UE 335/ PGE/1201/ Macfarlane – Goodspeed/ Page 3.

⁵⁰ UE 335/ PGE/1302/ Macfarlane – Goodspeed/ Page 2.

WITNESS QUALIFICATION STATEMENT

NAME: Bob Jenks

EMPLOYER: Oregon Citizens' Utility Board

TITLE: Executive Director

ADDRESS: 610 SW Broadway, Suite 400
Portland, OR 97205

EDUCATION: Bachelor of Science, Economics
Willamette University, Salem, OR

EXPERIENCE: Provided testimony or comments in a variety of OPUC dockets, including UE 88, UE 92, UM 903, UM 918, UE 102, UP 168, UT 125, UT 141, UE 115, UE 116, UE 137, UE 139, UE 161, UE 165, UE 167, UE 170, UE 172, UE 173, UE 207, UE 208, UE 210, UE 233, UE 246, UE 283, UG 152, UM 995, UM 1050, UM 1071, UM 1147, UM 1121, UM 1206, UM 1209, UM 1355, UM 1635, UM 1633, and UM 1654. Participated in the development of a variety of Least Cost Plans and PUC Settlement Conferences. Provided testimony to Oregon Legislative Committees on consumer issues relating to energy and telecommunications. Lobbied the Oregon Congressional delegation on behalf of CUB and the National Association of State Utility Consumer Advocates.

Between 1982 and 1991, worked for the Oregon State Public Interest Research Group, the Massachusetts Public Interest Research Group, and the Fund for Public Interest Research on a variety of public policy issues.

MEMBERSHIP: National Association of State Utility Consumer Advocates
Board of Directors, OSPIRG Citizen Lobby
Telecommunications Policy Committee, Consumer Federation of America
Electricity Policy Committee, Consumer Federation of America
Board of Directors (Public Interest Representative), NEEA

Rate Schedule	Energy usage	Generation capacity Allocation	Marginal capacity allocation	Capacity and energy allocation	Transmission allocation	Ancillary Service Allocation	Franchise Fee allocation	Meters Allocation	Transformer and Customer Service	Facilities	Distribution Demand	Metering	Billing	Customer
7	43.91%	53.47%	53.57%	47.60%	50.19%	47.60%	52.84%	70.50%	66.37%	58.09%	48.95%	66.35%	87.98%	66.26%
32	9.31%	8.68%	8.68%	9.09%	8.83%	9.09%	10.22%	17.17%	17.52%	11.53%	7.67%	17.71%	8.95%	15.46%
83	16.14%	14.64%	14.64%	15.69%	15.68%	15.69%	13.84%	6.60%	11.62%	8.01%	14.17%	7.99%	1.36%	8.23%
85	16.19%	13.27%	13.27%	15.12%	14.61%	15.12%	12.85%	3.07%	3.48%	10.97%	16.40%	5.43%	0.40%	7.14%
89	3.02%	1.99%	1.99%	2.60%	2.27%	2.60%	2.85%	0.78%	0.01%	1.46%	5.19%	0.01%	0.02%	1.13%
90	10.32%	6.77%	6.77%	8.82%	7.51%	8.82%	5.62%	0.03%	0.00%	0.82%	5.65%	0.00%	0.00%	0.47%
Sources:														
Column C,D,E, and F: PGE/1304/3														
Column G: PGE/1304/4														
Column H: PGE 1304/5														
Column I: PGE/1304/5														
Columns J,K,L, and M: PGE/1304/11-15														
Column N: PGE/1304/16														
Column O: PGE/1304/17														
Column P: PGE/1304/18														
								TOTALS						
								Metering	\$	10,827				
								Billing	\$	70,919				
								Customer	\$	64,760				

CUB Exhibits 203-208 are confidential and will be provided to parties who have signed Protective Order 18-047 in UE 335.

FRED Graph Observations
Federal Reserve Economic Data
Link: <https://fred.stlouisfed.org>
Help: <https://fred.stlouisfed.org/help-faq>
Economic Research Division
Federal Reserve Bank of St. Louis

CPIAUCSL_PCH CPI-U: All Items, Percent Change, Annual, Seasonally Adjusted

Frequency: Annual

observation_date	CPIAUCSL_PCH	CPI used by PGE	
2001-01-01	2.82	2.81	
2002-01-01	1.60	1.59	
2003-01-01	2.30	2.29	
2004-01-01	2.67	2.66	
2005-01-01	3.37	3.36	
2006-01-01	3.22	3.22	
2007-01-01	2.87	2.87	
2008-01-01	3.81	3.81	
2009-01-01	(0.32)	(0.32)	
2010-01-01	1.64	1.64	
2011-01-01	3.14	3.14	
2012-01-01	2.07	2.08	
2013-01-01	1.47	1.47	
2014-01-01	1.61	1.61	
2015-01-01	0.12	0.12	
2016-01-01	1.27	1.28	
2017-01-01	2.14	2.58	

CUB Exhibits 210 -211 are confidential and will be provided to parties who have signed Protective Order 18-047 in UE 335.

UE 335 – CERTIFICATE OF SERVICE

I hereby certify that, on this 6th day of June, 2018, I served the foregoing **CUB Confidential Opening Testimony & Exhibits** in docket UE 335 upon the Commission and each party designated to receive confidential information pursuant to Order 18-047 by U.S. mail, postage prepaid.

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