

BOEHM, KURTZ & LOWRY
ATTORNEYS AT LAW
36 EAST SEVENTH STREET, SUITE 1510
CINCINNATI, OHIO 45202
TELEPHONE (513) 421-2255
TELECOPIER (513) 421-2764

Via Electronic Mail – PUC.FilingCenter@state.or.us

June 4, 2020

Public Utility Commission of Oregon
201 High Street SE, Suite 100
Salem, Oregon 97301-3398
Attn: Filing Center

Re: Case No. UE-374

Dear Sir or Madam:

Please find attached the OPENING TESTIMONY AND EXHIBITS OF JUSTIN BIEBER on behalf of FRED MEYER STORES, INC. A SUBSIDIARY OF THE KROGER CO. AND QUALITY FOOD CENTERS for filing in the above referenced matter.

Copies have been served on all parties of record. Please place this document of file.

Very truly yours,

Kurt J. Boehm
Kurt J. Boehm, Esq.
Jody Kyler Cohn, Esq.
BOEHM, KURTZ & LOWRY

KJBkew
Enclosure

BEFORE THE PUBLIC UTILITY COMMISSION OF OREGON

In the Matter of PacifiCorp's Request for a)
General Rate Revision)

Docket No. UE 374

OPENING TESTIMONY OF

JUSTIN BIEBER

ON BEHALF OF

FRED MEYER STORES

JUNE 4, 2020

1 **OPENING TESTIMONY OF JUSTIN BIEBER**

2

3 **Introduction**

4 **Q. Please state your name and business address.**

5 A. My name is Justin Bieber. My business address is 215 South State Street,
6 Suite 200, Salt Lake City, Utah, 84111.

7 **Q. By whom are you employed and in what capacity?**

8 A. I am a Senior Consultant for Energy Strategies, LLC. Energy Strategies is
9 a private consulting firm specializing in economic and policy analysis applicable to
10 energy production, transportation, and consumption.

11 **Q. On whose behalf are you testifying in this proceeding?**

12 A. My testimony is being sponsored by Fred Meyer Stores and Quality Food
13 Centers ("Fred Meyer"), divisions of The Kroger Co. Kroger receives most of its
14 service from PacifiCorp ("PacifiCorp" or "the Company") under rate Schedule 730.

15 **Q. Please describe your professional experience and qualifications.**

16 A. My academic background is in business and engineering. I earned a
17 Bachelor of Science in Mechanical Engineering from Duke University in 2006 and
18 a Master of Business Administration from the University of Southern California in
19 2012. In 2017, I completed Practical Regulatory Training for the Electric Industry
20 sponsored by the New Mexico State University Center for Public Utilities and the
21 National Association of Regulatory Utility Commissioners. I am also a registered
22 Professional Civil Engineer in the state of California.

1 I joined Energy Strategies in 2017, where I provide regulatory and technical
2 support on a variety of energy issues, including regulatory services, transmission
3 and renewable development, and financial and economic analyses. I have also filed
4 and supported the development of testimony before various different state utility
5 regulatory commissions.

6 Prior to joining Energy Strategies, I held positions at Pacific Gas and
7 Electric Company as Manager of Transmission Project Development, ISO
8 Relations and FERC Policy Principal, and Supervisor of Electric Generator
9 Interconnections. During my career at Pacific Gas and Electric Company, I
10 supported multiple facets of utility operations, and led efforts in policy, regulatory,
11 and strategic initiatives, including supporting the development of testimony before
12 and submittal of comments to the FERC, California ISO, and the California Public
13 Utility Commission. Prior to my work at Pacific Gas & Electric, I was a project
14 manager and engineer for heavy construction bridge and highway projects.

15 **Q. Have you testified previously before this Commission?**

16 **A.** Yes, I testified in Portland General Electric Company's 2018 request for a
17 general rate revision, Docket No. UE 335.

18 **Q. Have you filed testimony previously before any other state utility regulatory**
19 **commissions?**

20 **A.** Yes. I have testified before the Colorado Public Utilities Commission, the
21 Indiana Utility Regulatory Commission, the Kentucky Public Service Commission,
22 the Michigan Public Service Commission, the Montana Public Service
23 Commission, the North Carolina Utilities Commission, the Public Utilities

1 Commission of Ohio, the Utah Public Service Commission, and the Public Service
2 Commission of Wisconsin.

3

4 **Overview and Conclusions**

5 **Q. What is the purpose of your testimony in this proceeding?**

6 A. My testimony addresses the following topics:

- 7 • Rate design for Schedule 200 Base Supply Service applicable to
- 8 customers served under Schedule 30/730 secondary,
- 9 • The Company's proposed Rate Mitigation Adjustments ("RMA"), and
- 10 • The Company's proposed Schedule 29 non-residential time of use pilot.

11 **Q. Please summarize your recommendations to the Commission.**

12 I offer the following recommendations for the Commission:

- 13 • PacifiCorp's proposed rate design for Schedule 200 Base Supply
- 14 Service rates that are applicable to Schedule 30/730 secondary
- 15 customers significantly understate demand related charges while
- 16 overstating the energy charges relative to the cost of service. I
- 17 recommend revenue neutral modifications to the proposed rate design
- 18 that will improve the alignment between the rate components and the
- 19 underlying costs while employing the principle of gradualism and
- 20 mitigating intra-class rate impacts.
- 21 • The Company is proposing reductions to the current RMA credits that
- 22 would reduce the current interclass subsidies while also mitigating the
- 23 rate impacts for certain groups of customers. Specifically, the Company
- 24 is proposing a level of RMA credits that would cap the rate increase for

1 Schedule 41/741 at 10% and reduce the subsidies that are currently
2 being received by Schedule 47/747 and Schedule 48/748 by 50%.
3 Given the circumstances of this case, at the Company's proposed
4 revenue requirement, the proposed RMA represents a reasonable
5 balance between reducing subsidies and mitigating rate impacts.
6 However, to the extent that the Commission approves a rate increase
7 that is less than the Company's request, then I recommend that the
8 Commission take advantage of the opportunity to improve the
9 alignment between revenue responsibility and cost causation while still
10 reducing the requested rate increase for *all* rate classes.

- 11 • The Company's proposed Schedule 29 would be a specialty rate that is
12 really intended to lower costs for customers with low load factor
13 utilization rates. While the proposed Schedule 29 is only a pilot, low
14 load factor specialty rates can often have unintended consequences that
15 require subsidies and result in less efficient price signals for customers.
16 In the future, before the Company considers expanding the proposed
17 pilot program, it will be important to ensure that this proposed pilot rate
18 design can be aligned with the cost of service and actually deliver the
19 intended benefits to low load factor customers without requiring
20 subsidies from other customers.

1 **Schedule 200 Rate Design**

2 **Q. Please describe PacifiCorp's rate Schedule 30/730.**

3 A. PacifiCorp's Schedule 30/730 is generally available to large non-residential
4 customers with electric demands between 200 kW to 1,000 kW that are
5 interconnected at secondary and primary voltages. Full-service customers take
6 service under Schedule 30 while direct access customers take service under
7 Schedule 730. Both full-service and direct access customers on Schedule 30/730
8 are required to pay the applicable rates for Schedule 200 Base Supply Service.
9 However, Schedule 30 customers are required to pay Schedule 201 Net Power
10 Costs ("NPC"), whereas Schedule 730 customers do not.

11 **Q. Can you please describe PacifiCorp's Schedule 200?**

12 A. Schedule 200 is intended to recover generation-related costs except NPC
13 generation costs, which are recovered in Schedule 201. These non-NPC
14 generation costs include both demand-related and energy-related costs. While
15 Schedule 201 is updated annually in the Transition Adjustment Mechanism
16 ("TAM") proceedings, Schedule 200 does not change between general rate cases.

17 **Q. What are the components of Schedule 200?**

18 A. For energy-billed billed customers, Schedule 200 recovers both demand-
19 related and energy-related costs in energy charges. For demand-billed customers,
20 the Schedule 200 charges include both demand and energy charges.

21 **Q. Please explain how PacifiCorp has proposed to modify the Schedule 200 rates**
22 **that are applicable to Schedule 30/730 secondary customers.**

A. As it applies to Rate Schedule 30/730 secondary, the Schedule 200 demand charge is currently \$1.88 per kW. PacifiCorp is proposing to increase this charge to \$1.95 per kW.

The current energy rates have a declining energy block rate structure. However, in this case the Company is recommending to eliminate tiers for this rate schedule and charge customers a flat energy rate for Schedule 200.

According to PacifiCorp's rate design witness Robert Meredith, the declining tiered rates create additional complexity and send confusing price signals.¹

PacifiCorp's current energy charges are 2.860 cents per kWh for the first 20,000 kWh and 2.480 cents for each additional kWh. PacifiCorp's proposed flat energy charge in this case is 2.631 cents per kWh.

Table FM-1 below summarizes the Company's current and proposed Schedule 200 rates applicable to Schedule 30/730 secondary at the Company's proposed revenue requirement and revenue allocation.

**Table FM-1
PacifiCorp Present and Proposed Schedule 200 Rates
Applicable to Schedule 30/730 Secondary
at PacifiCorp's Proposed Revenue Requirement**

Schedule 200	Units	Present Rate	Proposed Rate
Demand Charge	\$/kW	1.88	1.95
1st 20,000 kWh	¢/kWh	2.860	2.631
All additional kWh	¢/kWh	2.480	2.631

Q. What is your assessment of PacifiCorp's proposed Schedule 200 rates applicable to Schedule 30/730 secondary?

¹ Direct Testimony of Robert M. Meredith, p. 48.

1 A. PacifiCorp's proposed demand charge would significantly under-recover
 2 the demand-related generation costs while the proposed energy charge would
 3 significantly over-recover the energy-related generation costs. This results in a
 4 significant misalignment between the rate design charges and the underlying cost
 5 causation. In fact, the proposed Schedule 200 energy rates would recover
 6 approximately 269% of the functionalized energy costs. At the same time, the
 7 proposed demand charge would only recover about 25% of the functionalized
 8 demand costs. Table FM-2 below compares the Company's proposed charges
 9 relative to cost.

10 **Table FM-2**
 11 **PacifiCorp Proposed Schedule 200 Charges Relative to Costs**
 12 **Applicable to Schedule 30/730 Secondary**
 13 **at PacifiCorp's Proposed Revenue Requirement**
 14

Schedule 200	Units	Cost-Based Rate	Proposed Rate	Charge/ Cost
Demand Charge	\$/kW	7.95	1.95	25%
1st 20,000 kWh	¢/kWh	0.976	2.631	269%
All additional kWh	¢/kWh	0.976	2.631	269%

15
 16 **Q. Can you please explain how you determined the functionalized demand and**
 17 **energy related costs for Schedule 200 applicable to Schedule 30/730 secondary**
 18 **customers?**

19 A. As described in Exhibit PAC/1408, the proposed marginal generation costs
 20 are based on the Company's most recent avoided cost calculations, which recognize
 21 that baseload generation provides both capacity and energy. The Company's
 22 marginal generation costs are based on the fixed and variable cost of a combined
 23 cycle combustion turbine ("CCCT") which the Company operates as a baseload

1 unit. The cost of the CCCT is split into capacity and energy components. The fixed
2 cost of a simple cycle combustion turbine ("SCCT") defines the fixed costs of the
3 CCCT that are assigned to capacity. The CCCT fixed costs in excess of the SCCT
4 fixed costs are assigned to energy.² These fixed generation costs are recovered
5 through Schedule 200 charges while the variable avoided energy costs are
6 recovered through Schedule 201.

7 While I am not taking a position on the Company's marginal cost of service
8 study methods at this time, based on the Company's methodology, I determined
9 that 30.8% of the *fixed* generation marginal costs for Schedule 30/730 secondary
10 are energy related, while the remaining 69.2% are demand related. Therefore,
11 30.8% of the functionalized Schedule 200 costs allocated to Schedule 30/730, or
12 \$12.3 million, should be considered energy related, while the remaining 69.2%, or
13 \$27.7 million, should be considered demand related. For ease of comparison, I then
14 calculated cost-based demand and energy rates by dividing the energy and demand
15 related costs by the appropriate billing determinants for the class. The derivation
16 of these demand and energy costs is presented in Exhibit FM/102.

17 **Q. Does PacifiCorp's proposed rate design make reasonable movement towards**
18 **improving the alignment between the charges and the underlying costs?**

19 A. No, it does not. The proposed Schedule 200 rates applicable to Schedule
20 30/730 secondary would increase the recovery of revenues through demand-related
21 per kW charges by 3.9%, while the recovery of revenues through energy-related
22 per kWh charges would increase by 3.7%. Increasing the energy-related and

² Exhibit PAC/1408, pg. 1.

1 demand-related revenue recovery by approximately the same percentage would
2 effectively maintain the current rate structure and would not make reasonable
3 movement towards improving the alignment between the Schedule 200 rates and
4 the cost of service.

5 **Q. From a customer's perspective, why should it matter if PacifiCorp proposes a**
6 **demand charge that does not fully recover its demand-related costs?**

7 A. If a utility proposes a demand charge that is below the cost of demand, it is
8 going to seek to recover its revenue requirement by over-recovering its costs in
9 another area, most typically through levying an energy charge that is greater than
10 the underlying energy costs, which is the case with PacifiCorp's proposed rate
11 design. For a given rate schedule such as Schedule 30/730, when demand charges
12 are set below cost, and energy charges are set above cost, those customers with
13 relatively higher load factors are required to subsidize the lower load factor
14 customers within the class.

15 **Q. How do you define higher load factor customers?**

16 A. For purposes of this discussion, I use this term to refer to customers whose
17 load factors are greater than the average for the rate schedule.

18 **Q. Why is it important for rate design to be representative of underlying cost**
19 **causation?**

20 A. Aligning rate design with underlying cost causation improves efficiency
21 because it sends proper price signals. For example, setting a demand charge below
22 the cost of demand understates the economic cost of demand-related assets, which

1 in turn distorts consumption decisions, and calls forth a greater level of investment
2 in fixed assets than is economically desirable.

3 At the same time, aligning rate design with cost causation is important for
4 ensuring equity among customers, because properly aligning charges with costs
5 minimizes cross-subsidies among customers. As I stated above, if demand costs are
6 understated in utility rates, the costs are made up elsewhere — typically in energy
7 rates. When this happens, higher-load-factor customers (who use fixed assets
8 relatively efficiently through relatively constant energy usage) are forced to pay the
9 demand-related costs of lower-load-factor customers. This amounts to a cross-
10 subsidy that is fundamentally inequitable.

11 **Q. Does the Company recognize the importance of aligning rate design with the**
12 **underlying costs?**

13 A. Yes, it does. According to Mr. Meredith, well-designed prices should send
14 a clear price signal about the incremental cost of additional energy consumption
15 and thus promote energy efficiency. He also states that when a rate structure unduly
16 penalizes incremental energy usage above its additional costs, it can result in
17 unintended consequences.³

18 **Q. What is your recommendation with respect to Schedule 200 rate design**
19 **applicable to Schedule 30/730?**

20 A. I recommend moderate changes to the proposed Schedule 200 demand and
21 energy rates that will make some progress towards aligning the rate design with the
22 underlying costs while also mitigating the intra-class rate impacts that would result

³ Id, p. 26.

from a more significant movement towards cost-based rates at this time. Specifically, I recommend that the demand charge should be increased to \$3.75 per kW, which would recover approximately 47% of the demand-related costs. The energy charges should be adjusted downward by the amount necessary to recover the final approved revenue target. I am not recommending any changes to the other Schedule 30/730 rate elements proposed by the Company. The revenue verification for this rate design is presented in Exhibit FM/103. My proposed rates and resulting cost alignment are compared to PacifiCorp's proposed rates in Table FM-3 below.

Table FM-3
PacifiCorp and Fred Meyer Proposed Schedule 200 Charges Relative to Cost
Applicable to Schedule 30/730 Secondary
at PacifiCorp's Proposed Revenue Requirement

Schedule 200	Units	Cost-Based Rate	PacifiCorp Proposed Rate	Charge/ Cost	Fred Meyer Proposed Rate	Charge/ Cost
Demand Charge	\$/kW	7.95	1.95	25%	3.75	47%
1st 20,000 kWh	¢/kWh	0.976	2.631	269%	2.134	219%
All additional kWh	¢/kWh	0.976	2.631	269%	2.134	219%

Q. How does your recommended rate design improve the alignment between charges and the underlying cost components?

A. As I describe above, the Company's proposed rate design for the Schedule 200 demand and energy charges applicable to Schedule 30/730 secondary customers significantly under-recover the demand related costs while significantly over-recovering the energy related costs. My proposal to increase the Schedule 200 demand-related charge to recover a greater share of the demand-related costs makes *gradual* movement towards improving the alignment between the demand and energy revenues and costs.

1 **Q. Does your proposed rate design result in charges that are 100% aligned with**
2 **costs?**

3 A. No, it does not. As I explain above, I am proposing modest changes to the
4 Schedule 200 rate design that result in gradual movement towards aligning rates
5 with the cost of service in order to mitigate the intra-class rate impacts that could
6 result from a more significant movement towards cost at this time. In fact, under
7 my proposed rate design, the Schedule 200 energy charges applicable to Schedule
8 30/730 secondary rate would still be more than *double* the energy related costs.

9 **Q. Have you prepared a rate impact analysis of your recommended changes to**
10 **Schedule 200 rate design for Schedule 30?**

11 A. Yes. My rate impact analysis is presented in Exhibit FM/104 and illustrates
12 the total bill impacts to customers that would result from my recommended
13 improvements to the rate design at the Company's proposed revenue requirement.
14 For ease of comparison, I have utilized the same format and customer load profiles
15 for this analysis that the Company uses for this purpose in Exhibit PAC/1410.⁴
16 However, I have added one additional column to illustrate the load factor for each
17 customer load profile. I have also eliminated the load profiles for customers with
18 a load size of 100 kW, since Schedule 30/730 is only available to customers whose
19 loads have registered greater than 200 kW more than six times in the preceding 12-
20 month period.

⁴ Exhibit PAC/1410, pg. 13.

1 **Q. Your proposed rate design results in a smaller rate impact on higher-load-**
2 **factor customers than lower-load-factor customers. Is this a reasonable**
3 **result?**

4 A. Yes, it is a reasonable result. My proposed rate design reflects a cost-based
5 difference while providing gradual movement towards cost-based rates. The
6 proposed rate design for Schedule 200 applicable to Schedule 30/730 secondary
7 customers contains a significant misalignment between the charges and the cost of
8 service, which results in an intra-class subsidy from higher-load-factor customers
9 to lower-load-factor customers. As I state above, I am not proposing full movement
10 towards cost-based rates in this case. Instead, my proposed rate design makes
11 *gradual* movement towards aligning rates with cost causation and reduces, but does
12 not eliminate, the existing intra-class subsidy. By *gradually* reducing this intra-
13 class subsidy, lower-load-factor customers will experience greater rate increases
14 than higher-load-factor customers. This is a reasonable result because it strikes a
15 balance between two important rate-making principles – improving the alignment
16 between rates and the underlying cost components while employing gradualism.

17 **Q. Would your proposed rate design result in better revenue stability for the**
18 **Company?**

19 A. Yes, it would. In general, energy usage is more volatile than billing
20 demand. Therefore, increasing the proportion of revenues that are recovered
21 through demand charges would result in increased revenue stability for Schedule
22 30/730.

1 **Q. Your proposed Schedule 200 rate design was calculated using the Company's**
2 **proposed revenue requirement. How should your proposed rate design be**
3 **implemented if the Commission adopts a base rate revenue requirement that**
4 **is less than PacifiCorp's request?**

5 A. To the extent that the Commission approves a revenue target for Schedule
6 30/730 secondary that is less than that proposed by PacifiCorp, I recommend that
7 Schedule 200 energy charges that I have proposed be reduced by the necessary
8 amount in order to recover the target revenue requirement.
9

10 **Rate Mitigation Adjustment**

11 **Q. What is the RMA?**

12 A. As Mr. Meredith describes, the RMA, which is recovered through
13 Schedule 299, is designed to mitigate the impacts of changes to the functionalized
14 revenue requirement on net rates across rate schedules. Net rates include the
15 impacts of all tariff riders, including the RMA. Some rate schedules receive a
16 credit through the RMA that provides rate mitigation, while other rate schedules
17 receive offsetting charges.⁵

18 **Q. Is the RMA designed to be revenue neutral?**

19 A. Yes, it is. According to Mr. Meredith, the proposed RMA rates have been
20 designed to be revenue neutral for the 2021 test period.⁶

21 **Q. Please describe the Company's proposed RMA in this case.**

⁵ Id, p. 21.

⁶ Id.

1 A. Mr. Meredith explains that the Company's RMA objective is to minimize
2 rate schedule subsidization while at the same time minimizing impacts to its
3 customers. In this case, PacifiCorp is proposing a slight reduction to the RMA
4 credit for Schedule 41/741 Agricultural Pumping Service rate that would reduce the
5 annual RMA credits from \$1.3 million to \$1.2 million and result in a cap for the
6 Schedule 41/741 rate increase at 10%. PacifiCorp is also proposing a 50%
7 reduction to the present RMA credits for the Large General Service Schedules
8 47/747 and 48/748. Despite this reduction relative to the current RMA, this would
9 still result in substantial RMA credits for these rate schedules equal to \$5.4 million
10 on an annual basis. The Company proposes to fund these RMA credits for Schedule
11 41/741 and the Large General Service Schedules 47/747 and 48/748 with RMA
12 surcharges that would be allocated to General Service Schedules 28/728 and
13 30/730. These proposed RMA surcharges would total \$6.6 million and would be
14 allocated in a manner that produces a net increase for the General Service Schedules
15 that is slightly less than the overall average at about 4%. Finally, the Company
16 proposes bringing the RMA to zero for the Residential Schedule 4, General Service
17 Schedule 23/723, and Lighting Schedules 15, 51, 53 and 54.⁷ Table FM-4 below
18 summarizes the Company's proposed RMA credits and the resulting net increase
19 by rate schedule.

20 **Table FM-4**
21 **PacifiCorp Proposed RMA Credits and Net Increase by Rate Schedule**

⁷ Id, pp. 22-23.

Description	Proposed Schedule	Proposed RMA	PAC Proposed Increase ¹	
			(\$000)	%
Residential	4	\$0	\$27,663	4.3%
Gen. Svc. < 31 kW	23	\$0	\$6,845	5.2%
Gen. Svc. 31 - 200 kW	28	\$5,749	\$6,192	3.2%
Secondary		\$5,676	\$6,026	3.2%
Primary		\$73	\$166	7.1%
Gen. Svc. 201 - 999 kW	30	\$899	\$3,630	3.2%
Secondary		\$834	\$3,280	3.1%
Primary		\$65	\$350	4.3%
Large General Service >= 1,000 kW	48	(\$5,368)	\$15,641	7.6%
Secondary		(\$744)	\$5,026	11.7%
Primary		(\$2,593)	\$8,142	7.7%
Transmission		(\$2,031)	\$2,473	4.2%
Partial Req. Svc. >= 1,000 kW	47	(\$76)	\$370	7.2%
Dist. Only Lg Gen Svc >= 1,000 kW	848	\$0	(\$106)	-4.7%
Agricultural Pumping Service	41	(\$1,205)	\$2,310	9.2%
Total Public Street Lighting		\$0	(\$1,218)	-19.3%
Subtotal		(\$2)	\$61,327	4.6%

¹ Includes RAC and Adders. Adders Exclude effects of the Low Income Bill Payment Assistance Charge (Sch. 91), BPA Credit (Sch. 98), Public Purpose Charge (Sch. 290) and Energy Conservation Charge (Sch. 297).

1

2 **Q. What is your assessment of the Company's proposed RMA in this case?**

3 A. In general, based on the circumstances of this case, the Company's proposed
4 RMA appears to be reasonable. The proposed RMA results in a small subsidy
5 reduction for Schedule 41/741 Agricultural Pumping Service that would cap the net
6 rate increase for the rate class at slightly less than twice the system average. At the
7 same time it results in a 50% reduction in subsidies for the Large General Service
8 Schedules 47/747 and 48/748.

1 However, while the proposed subsidies for the subsidy *receiving* classes
2 would be reduced, the General Service Schedules 28/728 and 30/730 would fund
3 the entire amount under the Company's proposal, while the remaining rate
4 schedules would not be allocated any RMA surcharges. This proposal would
5 actually cause the total amount of subsidies being funded by General Service
6 Schedules 28/728 and 30/730 to be more than double the present RMA amounts.

7 **Q. What do you recommend regarding the Company's proposed RMA?**

8 A. I am not recommending any changes to the Company's proposed RMA, at
9 the Company's proposed revenue requirement because it results in a substantial
10 reduction to the existing subsidies for the subsidy *receiving* classes. However, to
11 the extent that the Commission approves a rate increase that is less than that being
12 proposed by the Company, then I recommend that the Commission take advantage
13 of the opportunity to improve the alignment between revenue responsibility and
14 cost causation while still reducing the requested rate increase for *all* rate classes.

15 To accomplish this goal, I recommend that any reduction to PacifiCorp's
16 proposed rate increase should be allocated using a two-step process. In the first step,
17 the reduction to the proposed rate increase should be used to reduce the proposed
18 functionalized revenues for all rate schedules. This reduction should be allocated
19 consistent with the cost of service or on a pro rata basis based on the Company's
20 proposed net rates less the RMA credits and surcharges.

21 For the second step, I recommend that the total \$6.6 million in subsidies
22 that are proposed to be allocated through the RMA should be reduced by an amount
23 that is equal to 10% of the rate reduction relative to the Company's filed case. For

1 example, if the Commission approves a final rate increase that is \$10 million less
2 than the Company's request, then the subsidies to be allocated through the RMA
3 should be reduced by \$1 million.⁸ The subsidies should be reduced on a pro rata
4 basis in proportion to the amount of the subsidy each class is currently paying in its
5 present rates.

6 **Q. Can you provide an example that demonstrates how your recommendation**
7 **could be implemented if the Commission approves a rate increase that is less**
8 **than the Company's request?**

9 A. Yes, I have prepared an example to show how the proposed rate increase
10 and RMA could be reallocated if the Commission approves a rate increase that is
11 \$10 million less than PacifiCorp's request. To be clear, I am not recommending
12 that \$10 million is the appropriate adjustment to PacifiCorp's proposed revenue
13 requirement. However, this example is intended to demonstrate how my
14 recommendation can be applied for a rate increase that is less than PacifiCorp's
15 proposed increase in this case. Table FM-5 summarizes the results of my
16 recommended methodology for adjusting the rate increase and RMA between rate
17 classes at a revenue requirement that is \$10 million less than PacifiCorp's proposed
18 request. The derivation of the adjusted revenue allocation is provided in Exhibit
19 FM/105. As can be seen in this example, every rate class would receive a rate
20 increase that is less than PacifiCorp's proposed rate increase, even those rate classes
21 that are currently receiving large interclass subsidies.

⁸ \$10 million hypothetical revenue requirement reduction x 10% = \$1 million RMA subsidy reduction.

Table FM-5
Example Adjustment to the Functionalized Revenue and RMA
At A \$10 Million Rate Reduction Relative to PacifiCorp's Filed Case

Description	Proposed Schedule	Proposed RMA (\$000)	PAC Proposed Increase ¹		Rate Reduction Relative to Filed Case (\$000)	Increase at Reduced Revenue Requirement ¹	
			(\$000)	%		(\$000)	%
Residential	4	\$0	\$27,663	4.3%	(\$4,823)	\$22,839	3.6%
Gen. Svc. < 31 kW	23	\$0	\$6,845	5.2%	(\$1,006)	\$5,839	4.4%
Gen. Svc. 31 - 200 kW	28	\$5,749	\$6,192	3.2%	(\$2,254)	\$3,938	2.0%
Secondary		\$5,676	\$6,026	3.2%	(\$2,226)	\$3,800	2.0%
Primary		\$73	\$166	7.1%	(\$29)	\$138	5.9%
Gen. Svc. 201 - 999 kW	30	\$899	\$3,630	3.2%	(\$973)	\$2,658	2.3%
Secondary		\$834	\$3,280	3.1%	(\$902)	\$2,378	2.3%
Primary		\$65	\$350	4.3%	(\$70)	\$280	3.4%
Large General Service >= 1,000 kW	48	(\$5,368)	\$15,641	7.6%	(\$838)	\$14,803	7.1%
Secondary		(\$744)	\$5,026	11.7%	(\$238)	\$4,787	11.2%
Primary		(\$2,593)	\$8,142	7.7%	(\$450)	\$7,692	7.3%
Transmission		(\$2,031)	\$2,473	4.2%	(\$150)	\$2,323	4.0%
Partial Req. Svc. >= 1,000 kW	47	(\$76)	\$370	7.2%	(\$29)	\$341	6.6%
Dist. Only Lg Gen Svc >= 1,000 kW	848	\$0	(\$106)	-4.7%	(\$15)	(\$121)	-5.4%
Agricultural Pumping Service	41	(\$1,205)	\$2,310	9.2%	(\$24)	\$2,286	9.1%
Total Public Street Lighting		\$0	(\$1,218)	-19.3%	(\$37)	(\$1,255)	-19.8%
Subtotal		(\$2)	\$61,327	4.6%	(\$10,000)	\$51,327	3.9%

¹ Includes RAC and Adders. Adders Exclude effects of the Low Income Bill Payment Assistance Charge (Sch. 91), BPA Credit (Sch. 98), Public Purpose Charge (Sch. 290) and Energy Conservation Charge (Sch. 297).

Proposed Schedule 29 - Non-Residential Time of Use Pilot

Q. Please describe the Company's proposed Schedule 29 Time of Use Pilot.

A. Company witness Mr. Meredith explains that the Company is proposing a new optional time of use pilot program that would be available for non-residential customers who would otherwise qualify for Schedule 23, Schedule 28, or Schedule 30.⁹

Q. What are the alleged benefits of this type of rate structure?

⁹ Id, pp. 54-55.

1 A. Mr. Meredith claims that demand charges are an impediment to the buildout
2 of fast-charging transportation infrastructure. He explains that although the
3 existing Schedule 45 already provides a limited opportunity to shield publicly
4 available DC fast-charging stations from the rate impacts of a demand charge, that
5 the Company would like to explore a more broadly available time of use option that
6 also minimizes the adverse bill impacts for very low load factor customers. He also
7 asserts that other forms of transportation electrification or other customers with
8 very low load utilization could take advantage of the proposed Schedule 29.¹⁰

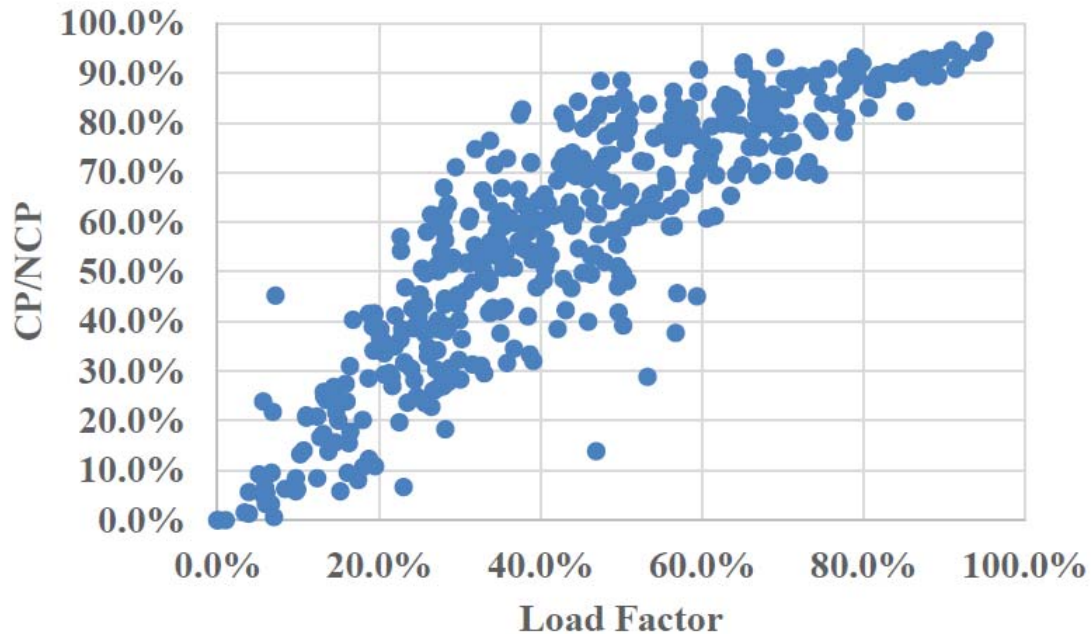
9 **Q. Why does the Company believe it is reasonable for very low load factor**
10 **customers to pay less on this optional rate schedule?**

11 A. Mr. Meredith claims that customers with very low load factors are less
12 likely to have peak demands that coincide with the Company's system peaks. To
13 support this claim, he provides research sample load data for customers on
14 Schedules 23, 28, and 30. Figure FM-1 below compares the load factor to the
15 coincidence with system peak of the various customer load profiles.

16 **Figure FM-1**
17 **Schedule 23, 28 and 30 Coincidence with Monthly System Peaks as**
18 **Compared to Individual Customer Load Factor¹¹**

¹⁰ Id, pp. 55-56.

¹¹ Reproduced from the Direct Testimony of Robert M. Meredith, p. 57, Figure 2.



Q. Do you agree that customers with low load factors on Schedules 23, 28, and 30 are less likely to have peak demands that coincide with the Company's system peaks.

A. While there is a positive correlation between the annual load factor and the average coincidence with system peak in the load research data provided by the Company, there is still quite a bit of variation and some customers with relatively low load factors do have high coincidence factors with the system peak. For example, the subset of customers with relatively low load factors between 20% and 25% have coincidence factors with system peak that range between 6.7% and 57%. In addition, the subset of customers with a coincidence factor between 40% and 50% have a wide range of load factors between 7.2% and 59.4%.¹²

¹² PAC Response to Kroger Data Request 2.3, reproduced in Exhibit FM/101.

Further, the research sample load factor and coincidence factor data are based on the *aggregate* 12 monthly billing demands and coincident peak loads for the sample customers. Utilizing the aggregate yearly data to compute the load factor to coincidence factor ratio effectively compares the average annual load factor to the average coincidence with the system peak load. This method would provide a reasonable assessment of a customer's coincidence with system peak relative to load factor if the ratios of that customer's monthly billing demands and coincidence with system peaks are relatively constant throughout the year. However, it would not reasonably reflect the cost contribution of a low load factor customer that has a very high coincidence with the system peak in one or two months, but low coincidence with system peaks during the rest of the year.

Q. Please describe the Company's proposed rate design for the Schedule 29 time of use pilot rate.

A. Mr. Meredith explains that the proposed pilot program would utilize declining kWh-per-kW energy charges. The first 50 kWh for each kW of demand would be charged at a higher rate and all additional kWh-per-kW would be charged at a lower rate. According to Mr. Meredith, this rate structure results in a declining average energy price that declines as load factor increases, which has a similar impact to a demand charge, but it puts a cap on how high the average cost can be for low load factor customers. Mr. Meredith also explains that the proposed Schedule 29 rate would apply a sur-credit to off-peak energy so that the energy prices would be time differentiated.¹³

¹³ Id, p. 55.

1 **Q. The Company is proposing a rate structure that would utilize declining kWh-**
2 **per-kW energy charges. Can you please elaborate regarding the general**
3 **purpose of this form of rate design?**

4 A. The rate structure that PacifiCorp is proposing for Schedule 29 that would
5 utilize declining kWh-per-kW energy charges is also known as an “hours-use” rate
6 design, or a Wright rate design, after its originator. An hours-use charge is a
7 somewhat complex rate design element that is not used by all utilities.

8 An hours-use charge is a type of energy charge that recovers both demand-
9 related and energy-related costs in the same charge. This is accomplished by setting
10 the hours-use energy charge at a level greater than the base energy charge. The
11 portion of the hours-use charge in excess of the base energy charge performs a role
12 similar to that of a demand charge and can be construed to be recovering demand-
13 related costs. If properly designed, the remainder of the charge, equivalent to the
14 base energy charge, should recover only energy-related costs.

15 The hours-use rate design can be illustrated by examining the Company’s
16 proposed rate design for Schedule 29. The proposed rates would utilize a charge
17 of 20.614 cents for the for the first 50 kWh-per-kW and 7.274 cents for all
18 additional kWh. Thus the 7.274 cent rate for all additional kWh utilizes a basic
19 per-kWh rate design and ideally should represent the purely energy-related
20 component of the rate. The hours-use charge is the 20.614 cents that applies to the
21 first 50 kWh-per-kW. This means that the charge is not a function of energy usage
22 only, but rather a function of energy usage in relation to the customer’s billing
23 demand, and therefore a means to recover demand-related costs. To describe it

1 another way, it is a premium rate that is applied to the energy usage associated with
2 low-load-factor consumption. In the case of the proposed Schedule 29 rates, this
3 hours-use rate applies to energy usage below a load factor of 6.8% (50 hours/730
4 hours per month).

5 **Q. What is your assessment of the Company's proposed Schedule 29 Non-**
6 **Residential Time of Use Pilot?**

7 A. Although the Company is proposing to call its proposed Schedule 29 a time
8 of use pilot, it is clear that this pilot it is really intended to be a specialty low load
9 factor rate that would shield low load factor customers from the impacts of demand
10 charges. Mr. Meredith confirms this intent when he describes the alleged benefits
11 of the proposed pilot. Specifically, he asserts that the Company would like to
12 explore a more broadly available time of use option that also minimizes the adverse
13 bill impacts for *very low load factor* customers and that other customers with very
14 low load utilization could take advantage for the proposed Schedule 29.¹⁴

15 **Q. Do you have any concerns with this proposed rate?**

16 A. Yes, I do. The proposed rate design has the potential to subsidize low load
17 factor customers which could result in adverse impacts to other customers who
18 could end up funding the subsidy. Despite the Company's assertion that very low
19 load factor customers generally have a lower coincidence with system peak, some
20 low load factor customers could have high coincidence with the system peak.

¹⁴ Id, pp. 55-56.

1 Further, the proposed rate design would incorporate a relatively complex
2 hours-use charge, which would run counter to the Company's stated goals to reduce
3 complexity and avoid confusing price signals.¹⁵

4 **Q. What do you recommend regarding the proposed Schedule 29 Non-Residential**
5 **Time of Use Pilot?**

6 A. While the proposed Schedule 29 is only a pilot program, low load factor
7 specialty rates can often have unintended consequences that require subsidies and
8 result in less efficient price signals for customers. In the future, before the Company
9 considers expanding the proposed pilot program, it will be important to ensure that this
10 proposed pilot rate design can be aligned with the cost to serve and actually deliver
11 the intended benefits to low load factor customers without requiring subsidies from
12 its other customers.

13 **Q. Does this conclude your direct testimony?**

14 A. Yes, it does.

¹⁵ Id, p. 48.

BEFORE THE PUBLIC UTILITY COMMISSION OF THE STATE OF OREGON

In the Matter of PacifiCorp's Request for a
General Rate Revision

)
)
)
)
)
)
DOCKET NO. UE 374

AFFIDAVIT OF JUSTIN BIEBER

STATE OF UTAH)
COUNTY OF SALT LAKE)

Justin Bieber, being first duly sworn, deposes and states that:

1. He is a Senior Consultant with Energy Strategies. L.L.C., in Salt Lake City, Utah;
2. He is the witness who sponsors the accompanying testimony entitled "Opening Testimony of Justin Bieber;"
3. Said testimony was prepared by him and under his direction and supervision;
4. If inquiries were made as to the facts and schedules in said testimony he would respond as therein set forth; and
5. The aforesaid testimony and schedules are true and correct to the best of his knowledge, information and belief.


Justin Bieber

Subscribed and sworn to or affirmed before me this 4th day of June, 2020, by Justin Bieber.


Notary Public



NOTARY PUBLIC
ALISON MORTAROTTI
COMM. # 705836
COMMISSION EXPIRES
APRIL 17, 2023
STATE OF UTAH

Docket No. UE-374

Fred Meyer

Exhibit FM/101

**PacifiCorp Responses to
Data Requests Referenced in Testimony**

Kroger Data Request 2.3

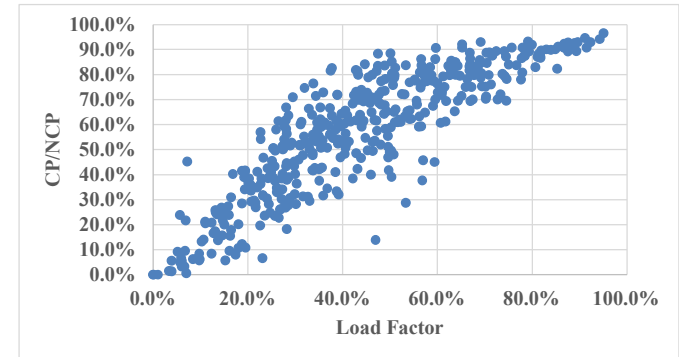
**Refer to the Direct Testimony of Robert M. Meredith page 57, Figure 2.
Schedule 23, 28 and 30 Coincidence with Monthly System Peaks as
Compared to Individual Customer Load Factor.**

- a. Please provide the source data and workpapers supporting Figure 2. Please provide the data in excel format, with working formula.

Response to Kroger Data Request 2.3

- a. Please see Attachment Kroger 2.3.

	Energy (kWh)	12 Max Load (kW)	12 CP (kW)	Load Factor	CP/NCP	Schedule
Cust 1	62	8.278	0	1.0%	0.0%	23
Cust 2	70	2.45	0.138	3.9%	5.6%	23
Cust 3	4,575	160.05	2.082	3.9%	1.3%	23
Cust 4	63	1.516	0.362	5.7%	23.9%	23
Cust 5	2,056	47.538	3.112	5.9%	6.5%	23
Cust 6	847	19.252	0.62	6.0%	3.2%	23
Cust 7	360	8.11	0.444	6.1%	5.5%	23
Cust 8	435	8.99	0.294	6.6%	3.3%	23
Cust 9	522	8.528	0.534	8.4%	6.3%	23
Cust 10	2,685	39.23	2.576	9.4%	6.6%	23
Cust 11	2,230	31.386	1.812	9.7%	5.8%	23
Cust 12	360	5.056	0.428	9.8%	8.5%	23
Cust 13	2,810	38.994	2.42	9.9%	6.2%	23
Cust 14	2,139	27.454	3.858	10.7%	14.1%	23
Cust 15	3,980	44.15	3.738	12.3%	8.5%	23
Cust 16	3,936	42.234	7.032	12.8%	16.7%	23
Cust 17	8,020	83.684	14.528	13.1%	17.4%	23
Cust 18	4,045	42.068	10.87	13.2%	25.8%	23
Cust 19	8,942	92.674	23.078	13.2%	24.9%	23
Cust 20	9,174	93.042	22.509	13.5%	24.2%	23
Cust 21	812	7.558	1.64	14.7%	21.7%	23
Cust 22	3,967	35.662	2.06	15.2%	5.8%	23
Cust 23	878	7.566	2.074	15.9%	27.4%	23
Cust 24	20,956	179.502	42.82	16.0%	23.9%	23
Cust 25	3,152	26.744	2.55	16.1%	9.5%	23
Cust 26	4,384	36.916	5.73	16.3%	15.5%	23
Cust 27	2,937	24.49	7.596	16.4%	31.0%	23
Cust 28	4,744	39.432	7.034	16.5%	17.8%	23
Cust 29	24,245	197.332	79.62	16.8%	40.3%	23
Cust 30	5,230	41.078	3.318	17.4%	8.1%	23
Cust 31	5,720	43.496	8.77	18.0%	20.2%	23
Cust 32	20,015	146.106	18.02	18.8%	12.3%	23
Cust 33	14,467	102.446	34.92	19.3%	34.1%	23
Cust 34	11,473	80.824	33.66	19.4%	41.6%	23
Cust 35	2,869	18.986	5.56	20.7%	29.3%	23
Cust 36	10,143	65.2	19.334	21.3%	29.7%	23
Cust 37	5,896	36.72	12.828	22.0%	34.9%	23
Cust 38	830	5.038	0.99	22.6%	19.7%	23
Cust 39	48,685	293.472	159.074	22.7%	54.2%	23
Cust 40	3,664	21.586	10.104	23.2%	46.8%	23
Cust 41	6,058	34.554	10.524	24.0%	30.5%	23
Cust 42	17,993	100.866	28.416	24.4%	28.2%	23
Cust 43	3,044	16.908	6.652	24.7%	39.3%	23
Cust 44	6,926	38.414	9.548	24.7%	24.9%	23
Cust 45	8,713	47.548	21.614	25.1%	45.5%	23
Cust 46	36,734	198.336	100.496	25.4%	50.7%	23
Cust 47	6,734	36.316	14.052	25.4%	38.7%	23
Cust 48	45,477	243.056	105.312	25.6%	43.3%	23
Cust 49	5,021	26.74	6.296	25.7%	23.5%	23
Cust 50	6,655	34.928	11.526	26.1%	33.0%	23
Cust 51	29,817	154.26	94.836	26.5%	61.5%	23
Cust 52	20,519	105.932	24.144	26.5%	22.8%	23
Cust 53	1,030	5.272	1.374	26.8%	26.1%	23



Cust 54	4,158	21.134	5.544	27.0%	26.2%	23
Cust 55	32,430	163.928	49.688	27.1%	30.3%	23
Cust 56	5,317	26.804	10.312	27.2%	38.5%	23
Cust 57	26,012	130.778	44.704	27.2%	34.2%	23
Cust 58	10,995	55.26	28.348	27.3%	51.3%	23
Cust 59	40,174	198.824	103.72	27.7%	52.2%	23
Cust 60	15,401	76.202	45.268	27.7%	59.4%	23
Cust 61	8,448	41.57	11.566	27.8%	27.8%	23
Cust 62	4,602	22.446	9.738	28.1%	43.4%	23
Cust 63	34,511	167.472	94.388	28.2%	56.4%	23
Cust 64	983	4.77	0.874	28.2%	18.3%	23
Cust 65	30,600	148.362	56.306	28.3%	38.0%	23
Cust 66	1,093	5.24	1.456	28.6%	27.8%	23
Cust 67	19,786	94.768	60.312	28.6%	63.6%	23
Cust 68	5,451	26.092	7.576	28.6%	29.0%	23
Cust 69	15,612	73.204	38.652	29.2%	52.8%	23
Cust 70	38,419	171.15	78.852	30.8%	46.1%	23
Cust 71	12,394	53.246	29.452	31.9%	55.3%	23
Cust 72	12,543	53.776	40.162	32.0%	74.7%	23
Cust 73	45,083	188.974	58.796	32.7%	31.1%	23
Cust 74	2,358	9.606	4.023	33.6%	41.9%	23
Cust 75	25,869	104.976	43.68	33.8%	41.6%	23
Cust 76	33,970	137.73	77.142	33.8%	56.0%	23
Cust 77	22,396	88.266	48.618	34.8%	55.1%	23
Cust 78	9,969	38.338	16.438	35.6%	42.9%	23
Cust 79	42,869	163.6	119.222	35.9%	72.9%	23
Cust 80	53,159	201.326	122.582	36.2%	60.9%	23
Cust 81	39,773	148.168	51.074	36.8%	34.5%	23
Cust 82	34,865	128.022	85.245	37.3%	66.6%	23
Cust 83	57,092	206.216	112.816	37.9%	54.7%	23
Cust 84	37,222	133.08	72.368	38.3%	54.4%	23
Cust 85	5,997	21.264	13.118	38.6%	61.7%	23
Cust 86	31,512	111.063	79.86	38.9%	71.9%	23
Cust 87	14,170	49.656	26.85	39.1%	54.1%	23
Cust 88	8,695	30.42	9.752	39.2%	32.1%	23
Cust 89	45,740	151.662	80.832	41.3%	53.3%	23
Cust 90	17,955	58.354	22.424	42.1%	38.4%	23
Cust 91	81,397	258.704	180.976	43.1%	70.0%	23
Cust 92	11,392	35.488	26.266	44.0%	74.0%	23
Cust 93	11,076	34.474	20.432	44.0%	59.3%	23
Cust 94	33,116	101.324	55.428	44.8%	54.7%	23
Cust 95	60,958	183.062	129.494	45.6%	70.7%	23
Cust 96	31,046	92.234	59.912	46.1%	65.0%	23
Cust 97	50,881	150.744	120.52	46.2%	80.0%	23
Cust 98	38,619	114.246	60.61	46.3%	53.1%	23
Cust 99	41,756	122.29	65.562	46.8%	53.6%	23
Cust 100	3,751	10.944	1.518	47.0%	13.9%	23
Cust 101	53,272	154.882	95.422	47.1%	61.6%	23
Cust 102	60,681	175.204	146.422	47.4%	83.6%	23
Cust 103	90,709	260.56	187.544	47.7%	72.0%	23
Cust 104	62,981	179.274	121.872	48.1%	68.0%	23
Cust 105	49,117	139.738	102.506	48.1%	73.4%	23
Cust 106	84,552	237.52	152.818	48.8%	64.3%	23
Cust 107	48,578	136.156	100.098	48.9%	73.5%	23

Cust 108	54,307	152.184	103.28	48.9%	67.9%	23
Cust 109	59,003	164.944	96.2	49.0%	58.3%	23
Cust 110	42,462	117.424	65.088	49.5%	55.4%	23
Cust 111	78,736	216.902	90.708	49.7%	41.8%	23
Cust 112	17,478	47.666	23.666	50.2%	49.6%	23
Cust 113	473	1.288	0.504	50.3%	39.1%	23
Cust 114	77,021	206.292	136.376	51.1%	66.1%	23
Cust 115	50,364	133.668	81.54	51.6%	61.0%	23
Cust 116	56,280	147.516	90.204	52.3%	61.1%	23
Cust 117	56,937	148.62	107.4	52.5%	72.3%	23
Cust 118	22,108	57.078	41.16	53.1%	72.1%	23
Cust 119	20,348	52.28	15.062	53.3%	28.8%	23
Cust 120	52,383	132.544	82.56	54.1%	62.3%	23
Cust 121	99,214	244.55	170.05	55.6%	69.5%	23
Cust 122	6,175	14.89	5.616	56.8%	37.7%	23
Cust 123	7,855	18.882	8.63	57.0%	45.7%	23
Cust 124	101,167	241.413	190.905	57.4%	79.1%	23
Cust 125	49,588	117.624	90.972	57.8%	77.3%	23
Cust 126	6,524	15.044	6.784	59.4%	45.1%	23
Cust 127	80,352	164.44	114.22	66.9%	69.5%	23
Cust 128	99,087	193.504	145.568	70.1%	75.2%	23
Cust 129	210,286	410.306	288.884	70.2%	70.4%	23
Cust 130	82,644	151.918	105.69	74.5%	69.6%	23
Cust 131	106,390	185.914	163.452	78.4%	87.9%	23
Cust 132	39,140	68.21	61.798	78.6%	90.6%	23
Cust 133	24,820	41.616	36.398	81.7%	87.5%	23
Cust 134	40,928	64.688	58.742	86.7%	90.8%	23
Cust 135	71,224	111.458	99.444	87.5%	89.2%	23
Cust 136	1,322	2.068	1.92	87.6%	92.8%	23
Cust 137	5,421	8.316	7.436	89.3%	89.4%	23
Cust 138	-	0	0	0.0%	0.0%	28
Cust 139	0	0.008	0	0.1%	0.0%	28
Cust 140	37,619	1517.904	22.848	3.4%	1.5%	28
Cust 141	11,926	285.036	14.16	5.7%	5.0%	28
Cust 142	7,314	138.928	62.864	7.2%	45.2%	28
Cust 143	31,989	397.816	83.992	11.0%	21.1%	28
Cust 144	51,294	567.568	118.144	12.4%	20.8%	28
Cust 145	17,819	177.72	24.544	13.7%	13.8%	28
Cust 146	61,615	584.104	156.616	14.5%	26.8%	28
Cust 147	3,385	31.764	4.966	14.6%	15.6%	28
Cust 148	106,275	806.568	86.168	18.0%	10.7%	28
Cust 149	35,107	256.192	106.4	18.8%	41.5%	28
Cust 150	60,674	431.904	168.232	19.2%	39.0%	28
Cust 151	74,763	509.336	187.56	20.1%	36.8%	28
Cust 152	189,196	1264.208	429.248	20.5%	34.0%	28
Cust 153	22,063	146.024	49.08	20.7%	33.6%	28
Cust 154	82,323	522.192	150.352	21.6%	28.8%	28
Cust 155	59,568	376.184	101.512	21.7%	27.0%	28
Cust 156	223,591	1350.528	770.048	22.7%	57.0%	28
Cust 157	133,505	804.944	292.464	22.7%	36.3%	28
Cust 158	101,296	606.112	232.8	22.9%	38.4%	28
Cust 159	31,518	186.339	59.253	23.2%	31.8%	28
Cust 160	212,060	1253.64	396.24	23.2%	31.6%	28
Cust 161	9,372	54.52	12.872	23.5%	23.6%	28

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Page 5 of 11

Cust 162	254,754	1443.744	614.752	24.2%	42.6%	28
Cust 163	148,686	839.12	323.792	24.3%	38.6%	28
Cust 164	338,765	1879.5	737.1	24.7%	39.2%	28
Cust 165	107,385	590.216	241.736	24.9%	41.0%	28
Cust 166	50,447	272.488	137.464	25.4%	50.4%	28
Cust 167	42,671	227.448	85.288	25.7%	37.5%	28
Cust 168	30,344	161.184	79.978	25.8%	49.6%	28
Cust 169	172,950	907.68	315.6	26.1%	34.8%	28
Cust 170	57,181	286.696	115.392	27.3%	40.2%	28
Cust 171	90,829	449.544	243.336	27.7%	54.1%	28
Cust 172	175,866	858.72	574.928	28.1%	67.0%	28
Cust 173	318,693	1525.352	594.712	28.6%	39.0%	28
Cust 174	147,684	700.576	214.576	28.9%	30.6%	28
Cust 175	276,169	1307.88	675.06	28.9%	51.6%	28
Cust 176	39,954	183.726	79.821	29.8%	43.4%	28
Cust 177	151,494	694.16	223.744	29.9%	32.2%	28
Cust 178	164,206	750.504	301.848	30.0%	40.2%	28
Cust 179	72,980	323.604	167.992	30.9%	51.9%	28
Cust 180	126,881	558.04	335.8	31.1%	60.2%	28
Cust 181	295,702	1280.08	612.368	31.6%	47.8%	28
Cust 182	349,206	1426.32	761.936	33.5%	53.4%	28
Cust 183	55,518	226.616	145.077	33.6%	64.0%	28
Cust 184	84,074	341.847	163.227	33.7%	47.7%	28
Cust 185	80,408	325.872	249.008	33.8%	76.4%	28
Cust 186	297,358	1178.184	626.448	34.6%	53.2%	28
Cust 187	140,364	548.96	231.232	35.0%	42.1%	28
Cust 188	341,626	1326.848	825.536	35.3%	62.2%	28
Cust 189	243,968	947.312	633.744	35.3%	66.9%	28
Cust 190	155,946	602.904	305.64	35.4%	50.7%	28
Cust 191	103,060	398	235.096	35.5%	59.1%	28
Cust 192	334,297	1280.976	689.568	35.7%	53.8%	28
Cust 193	7,538	28.784	9.104	35.9%	31.6%	28
Cust 194	156,061	581.928	295.608	36.7%	50.8%	28
Cust 195	490,033	1799.648	1009.536	37.3%	56.1%	28
Cust 196	168,244	615.528	345.136	37.4%	56.1%	28
Cust 197	507,965	1842.6	1523.52	37.8%	82.7%	28
Cust 198	264,431	935.248	312.096	38.7%	33.4%	28
Cust 199	534,274	1882.8	1356.3	38.9%	72.0%	28
Cust 200	91,647	322.08	196.496	39.0%	61.0%	28
Cust 201	89,102	312.76	163.92	39.0%	52.4%	28
Cust 202	108,228	378.616	227.304	39.2%	60.0%	28
Cust 203	20,254	70.192	32.9	39.5%	46.9%	28
Cust 204	50,243	170.64	103.017	40.3%	60.4%	28
Cust 205	220,186	743.632	398.4	40.6%	53.6%	28
Cust 206	51,192	172.768	87.52	40.6%	50.7%	28
Cust 207	65,624	220.998	114.093	40.7%	51.6%	28
Cust 208	92,544	309.328	197.024	41.0%	63.7%	28
Cust 209	239,295	786.816	482.224	41.7%	61.3%	28
Cust 210	422,366	1363.904	979.104	42.4%	71.8%	28
Cust 211	201,696	645.612	528.492	42.8%	81.9%	28
Cust 212	249,336	796.928	387.152	42.9%	48.6%	28
Cust 213	437,660	1397.54	1022.74	42.9%	73.2%	28
Cust 214	99,691	316.984	258.08	43.1%	81.4%	28
Cust 215	241,951	767.872	324.704	43.2%	42.3%	28

Cust 216	139,013	440.128	351.824	43.3%	79.9%	28
Cust 217	81,092	254.504	162.88	43.6%	64.0%	28
Cust 218	130,648	409.872	286.784	43.7%	70.0%	28
Cust 219	68,531	213.912	99.842	43.9%	46.7%	28
Cust 220	121,625	378.696	228.216	44.0%	60.3%	28
Cust 221	106,761	330.336	233.824	44.3%	70.8%	28
Cust 222	205,327	633.392	438.912	44.4%	69.3%	28
Cust 223	628,575	1882.272	1291.744	45.7%	68.6%	28
Cust 224	318,071	949.968	658.32	45.9%	69.3%	28
Cust 225	13,149	39.2	15.664	45.9%	40.0%	28
Cust 226	117,482	344.584	213.168	46.7%	61.9%	28
Cust 227	736,382	2124.512	1878.624	47.5%	88.4%	28
Cust 228	149,194	425.664	221.304	48.0%	52.0%	28
Cust 229	495,591	1410.4	1090.768	48.1%	77.3%	28
Cust 230	135,668	377.146	246.208	49.3%	65.3%	28
Cust 231	127,123	351.12	179.568	49.6%	51.1%	28
Cust 232	244,914	668.368	393.776	50.2%	58.9%	28
Cust 233	147,483	400.672	322.392	50.4%	80.5%	28
Cust 234	587,360	1593.168	1280.208	50.5%	80.4%	28
Cust 235	289,955	784.976	615.896	50.6%	78.5%	28
Cust 236	713,491	1931.12	1465.664	50.6%	75.9%	28
Cust 237	505,171	1363.088	655.664	50.8%	48.1%	28
Cust 238	603,317	1623.28	1279.16	50.9%	78.8%	28
Cust 239	184,824	496.64	396.232	51.0%	79.8%	28
Cust 240	594,214	1595.056	973.712	51.0%	61.0%	28
Cust 241	152,641	402.728	249.744	51.9%	62.0%	28
Cust 242	86,249	222.36	140.6	53.1%	63.2%	28
Cust 243	475,727	1202.896	791.424	54.2%	65.8%	28
Cust 244	230,429	579.688	361.64	54.5%	62.4%	28
Cust 245	622,637	1544.192	1206.192	55.2%	78.1%	28
Cust 246	142,517	353.08	273.8	55.3%	77.5%	28
Cust 247	430,312	1048.744	664.232	56.2%	63.3%	28
Cust 248	332,134	805.968	603.132	56.5%	74.8%	28
Cust 249	549,741	1332.304	1149.664	56.5%	86.3%	28
Cust 250	95,537	231.48	137.256	56.5%	59.3%	28
Cust 251	276,340	668.624	509.488	56.6%	76.2%	28
Cust 252	194,446	468.776	383.072	56.8%	81.7%	28
Cust 253	491,474	1182.84	963.78	56.9%	81.5%	28
Cust 254	370,379	884.584	573.224	57.4%	64.8%	28
Cust 255	80,592	188.139	150.327	58.7%	79.9%	28
Cust 256	126,001	292.167	197.277	59.1%	67.5%	28
Cust 257	408,662	944.4	732.208	59.3%	77.5%	28
Cust 258	297,312	683.856	590.176	59.6%	86.3%	28
Cust 259	97,749	224.76	157.512	59.6%	70.1%	28
Cust 260	505,035	1140.144	692.064	60.7%	60.7%	28
Cust 261	745,448	1678.336	1205.696	60.8%	71.8%	28
Cust 262	174,164	388.26	291.66	61.4%	75.1%	28
Cust 263	245,667	544.336	377.728	61.8%	69.4%	28
Cust 264	632,027	1378.08	1132.86	62.8%	82.2%	28
Cust 265	770,473	1668.864	1356.48	63.2%	81.3%	28
Cust 266	355,060	762.736	647.712	63.8%	84.9%	28
Cust 267	115,595	248.236	198.238	63.8%	79.9%	28
Cust 268	825,018	1771.232	1504.272	63.8%	84.9%	28
Cust 269	581,919	1240.232	1035.072	64.3%	83.5%	28

Cust 270	719,889	1533.264	1066.858667	64.3%	69.6%	28
Cust 271	915,968	1923.24	1745.16	65.2%	90.7%	28
Cust 272	251,926	523.216	392.928	66.0%	75.1%	28
Cust 273	233,171	481.808	377.528	66.3%	78.4%	28
Cust 274	471,832	967.04	858.72	66.8%	88.8%	28
Cust 275	442,183	899.392	740.296	67.3%	82.3%	28
Cust 276	155,367	314.416	250.92	67.7%	79.8%	28
Cust 277	571,650	1138.544	962.64	68.8%	84.6%	28
Cust 278	357,541	710.904	609.544	68.9%	85.7%	28
Cust 279	207,265	409.68	329.824	69.3%	80.5%	28
Cust 280	1,001,736	1948.8	1650.72	70.4%	84.7%	28
Cust 281	195,398	377.888	301.92	70.8%	79.9%	28
Cust 282	458,008	884.128	785.808	71.0%	88.9%	28
Cust 283	482,054	923.208	809.896	71.5%	87.7%	28
Cust 284	871,877	1642.688	1151.552	72.7%	70.1%	28
Cust 285	255,710	474.976	381.176	73.7%	80.3%	28
Cust 286	269,705	495.264	387.968	74.6%	78.3%	28
Cust 287	52,526	95.904	80.576	75.0%	84.0%	28
Cust 288	61,358	108.256	84.544	77.6%	78.1%	28
Cust 289	158,331	278.888	241.448	77.8%	86.6%	28
Cust 290	877,282	1541.408	1398.656	78.0%	90.7%	28
Cust 291	628,837	1037.824	935.584	83.0%	90.1%	28
Cust 292	191,909	307.584	280.328	85.5%	91.1%	28
Cust 293	138,416	3678.048	338.208	5.2%	9.2%	30
Cust 294	245,569	4987.296	473.536	6.7%	9.5%	30
Cust 295	117,477	2336.94	508.68	6.9%	21.8%	30
Cust 296	76,090	1484.76	9.12	7.0%	0.6%	30
Cust 297	122,993	1641.552	217.824	10.3%	13.3%	30
Cust 298	146,924	1823.984	375.776	11.0%	20.6%	30
Cust 299	868,430	8057.64	1991.96	14.8%	24.7%	30
Cust 300	424,335	3873.52	774.448	15.0%	20.0%	30
Cust 301	603,401	4411.936	1257.152	18.7%	28.5%	30
Cust 302	173,252	1223.584	502.144	19.4%	41.0%	30
Cust 303	229,138	1608.112	174.416	19.5%	10.8%	30
Cust 304	629,374	4261.664	1639.552	20.2%	38.5%	30
Cust 305	1,399,768	9306.54	3341.1	20.6%	35.9%	30
Cust 306	1,072,023	6671.46	2748.96	22.0%	41.2%	30
Cust 307	421,901	2502.176	166.872	23.1%	6.7%	30
Cust 308	580,419	3066.28	1779.28	25.9%	58.0%	30
Cust 309	1,696,793	8490.48	4253.82	27.4%	50.1%	30
Cust 310	342,702	1709.552	863.792	27.5%	50.5%	30
Cust 311	712,507	3489.18	938.46	28.0%	26.9%	30
Cust 312	498,393	2434.608	1503.936	28.0%	61.8%	30
Cust 313	949,265	4631.808	2700.864	28.1%	58.3%	30
Cust 314	310,810	1510.384	673.92	28.2%	44.6%	30
Cust 315	594,502	2759.52	1960.92	29.5%	71.1%	30
Cust 316	1,623,204	7465.52	3380.8	29.8%	45.3%	30
Cust 317	4,217	19.176	5.424	30.1%	28.3%	30
Cust 318	898,185	4060.816	1478.912	30.3%	36.4%	30
Cust 319	750,518	3311.34	1708.02	31.0%	51.6%	30
Cust 320	1,312,676	5745.408	3511.2	31.3%	61.1%	30
Cust 321	1,080,799	4676.048	1464.528	31.7%	31.3%	30
Cust 322	1,110,777	4748.88	2497.872	32.0%	52.6%	30
Cust 323	1,168,637	4872	3236.7	32.9%	66.4%	30

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Cust 324	1,169,376	4854.9	2446.56	33.0%	50.4%	30
Cust 325	1,339,302	5550.64	1639.2	33.1%	29.5%	30
Cust 326	1,935,397	7867.488	3827.28	33.7%	48.6%	30
Cust 327	1,062,591	4265.952	1822.848	34.1%	42.7%	30
Cust 328	594,290	2370.6	1695.6	34.3%	71.5%	30
Cust 329	1,400,800	5542.68	3373.8	34.6%	60.9%	30
Cust 330	1,065,696	4214.672	2443.472	34.6%	58.0%	30
Cust 331	766,665	3003.9	1669.68	35.0%	55.6%	30
Cust 332	1,244,517	4861.14	1827.84	35.1%	37.6%	30
Cust 333	464,373	1804.784	765.8	35.2%	42.4%	30
Cust 334	1,679,891	6416.82	3887.16	35.9%	60.6%	30
Cust 335	729,907	2777.2	1661.56	36.0%	59.8%	30
Cust 336	549,731	2033.112	1214.088	37.0%	59.7%	30
Cust 337	786,287	2874.528	2345.216	37.5%	81.6%	30
Cust 338	1,076,657	3907.944	2484.072	37.7%	63.6%	30
Cust 339	115,057	409.744	168.112	38.5%	41.0%	30
Cust 340	497,096	1766.808	1024.416	38.5%	58.0%	30
Cust 341	802,783	2773.824	1646.112	39.6%	59.3%	30
Cust 342	511,290	1763.056	1134.384	39.7%	64.3%	30
Cust 343	1,261,132	4271.44	2060.98	40.4%	48.3%	30
Cust 344	1,639,897	5540.784	3635.344	40.5%	65.6%	30
Cust 345	1,221,995	4120.256	2327.488	40.6%	56.5%	30
Cust 346	475,978	1547.872	1058.288	42.1%	68.4%	30
Cust 347	462,204	1476.064	911.872	42.9%	61.8%	30
Cust 348	662,017	2039.94	1255.38	44.5%	61.5%	30
Cust 349	323,316	991.2	834.84	44.7%	84.2%	30
Cust 350	569,752	1726.944	1256.016	45.2%	72.7%	30
Cust 351	1,032,620	3124.288	1554.608	45.3%	49.8%	30
Cust 352	1,667,370	5030.4	3969	45.4%	78.9%	30
Cust 353	466,558	1386.72	983.424	46.1%	70.9%	30
Cust 354	34,526	102.08	50.544	46.3%	49.5%	30
Cust 355	2,246,552	6527.856	5321.984	47.1%	81.5%	30
Cust 356	811,602	2356.576	1666.96	47.2%	70.7%	30
Cust 357	541,254	1569.68	903.6	47.2%	57.6%	30
Cust 358	895,812	2570.768	1765.712	47.7%	68.7%	30
Cust 359	1,404,088	3938.28	3295.44	48.8%	83.7%	30
Cust 360	1,049,236	2931.36	2294.688	49.0%	78.3%	30
Cust 361	207,089	571.52	268.56	49.6%	47.0%	30
Cust 362	245,537	673.6	330.16	49.9%	49.0%	30
Cust 363	2,138,554	5848.8	5178.84	50.1%	88.5%	30
Cust 364	2,652,032	7216.38	6145.74	50.3%	85.2%	30
Cust 365	2,967,822	7997.56	5207.8	50.8%	65.1%	30
Cust 366	2,924,335	7840.48	6486	51.1%	82.7%	30
Cust 367	837,051	2149.808	1800.688	53.3%	83.8%	30
Cust 368	1,908,333	4868.64	3177.76	53.7%	65.3%	30
Cust 369	3,704,273	9376.2	7216.44	54.1%	77.0%	30
Cust 370	361,802	890.24	606.304	55.7%	68.1%	30
Cust 371	956,939	2337.48	1382.28	56.1%	59.1%	30
Cust 372	2,538,257	6175.32	4997.4	56.3%	80.9%	30
Cust 373	1,369,055	3313.08	2773.74	56.6%	83.7%	30
Cust 374	3,178,942	7593.66	6045.66	57.3%	79.6%	30
Cust 375	3,361,492	7928.64	6532.44	58.1%	82.4%	30
Cust 376	1,037,192	2430.72	2016.24	58.5%	82.9%	30
Cust 377	960,122	2236.128	1734.528	58.8%	77.6%	30

Cust 378	3,158,232	7253.46	6580.74	59.6%	90.7%	30
Cust 379	783,928	1791.42	1369.86	59.9%	76.5%	30
Cust 380	1,061,945	2423.568	1766.496	60.0%	72.9%	30
Cust 381	2,001,463	4567.02	3493.5	60.0%	76.5%	30
Cust 382	1,424,840	3199.5	2336.22	61.0%	73.0%	30
Cust 383	3,673,269	8219.52	6518.58	61.2%	79.3%	30
Cust 384	6,707	14.896	9.112	61.7%	61.2%	30
Cust 385	1,489,135	3272.64	2733.36	62.3%	83.5%	30
Cust 386	1,654,866	3622.86	2892.18	62.6%	79.8%	30
Cust 387	1,805,142	3928.44	3364.68	62.9%	85.6%	30
Cust 388	2,463,379	5301.84	3461.4	63.6%	65.3%	30
Cust 389	1,051,139	2223.144	1768.184	64.8%	79.5%	30
Cust 390	1,686,588	3549.392	2534.992	65.1%	71.4%	30
Cust 391	1,703,854	3580.32	3299.64	65.2%	92.2%	30
Cust 392	1,094,918	2246.24	1835.2	66.8%	81.7%	30
Cust 393	1,596,577	3274.032	2728.016	66.8%	83.3%	30
Cust 394	1,101,760	2255.296	1898.464	66.9%	84.2%	30
Cust 395	1,352,558	2768.608	2392.448	66.9%	86.4%	30
Cust 396	2,102,421	4288.8	3218.4	67.2%	75.0%	30
Cust 397	1,668,891	3389.744	2375.328	67.4%	70.1%	30
Cust 398	983,494	1987.36	1628.8	67.8%	82.0%	30
Cust 399	1,806,654	3650.1	3028.86	67.8%	83.0%	30
Cust 400	1,356,141	2732.448	2188.896	68.0%	80.1%	30
Cust 401	1,557,586	3111.84	2577.24	68.6%	82.8%	30
Cust 402	1,757,486	3484.048	3242.72	69.1%	93.1%	30
Cust 403	2,564,446	5079.44	4002.4	69.2%	78.8%	30
Cust 404	1,170,570	2311.62	1961.58	69.4%	84.9%	30
Cust 405	2,272,073	4482.72	3380.128	69.4%	75.4%	30
Cust 406	2,564,470	4999.728	3563.744	70.3%	71.3%	30
Cust 407	1,386,565	2700.352	2396.544	70.3%	88.7%	30
Cust 408	2,847,510	5468.28	4163.16	71.3%	76.1%	30
Cust 409	2,982,058	5726.016	5049.216	71.3%	88.2%	30
Cust 410	1,918,423	3672.66	3214.86	71.6%	87.5%	30
Cust 411	369,424	698.88	625.08	72.4%	89.4%	30
Cust 412	2,665,535	4982.4	3591.12	73.3%	72.1%	30
Cust 413	1,717,015	3174.54	2839.44	74.1%	89.4%	30
Cust 414	3,007,761	5552.04	4405.32	74.2%	79.3%	30
Cust 415	2,433,525	4477.6	3908	74.5%	87.3%	30
Cust 416	1,742,894	3154.32	2866.68	75.7%	90.9%	30
Cust 417	1,095,432	1957.344	1639.04	76.7%	83.7%	30
Cust 418	3,178,484	5586.42	4518.09	77.9%	80.9%	30
Cust 419	2,158,809	3768.84	3297.54	78.5%	87.5%	30
Cust 420	1,508,962	2613.504	2437.92	79.1%	93.3%	30
Cust 421	3,159,267	5464.32	5034.78	79.2%	92.1%	30
Cust 422	1,480,566	2557.088	2282.736	79.3%	89.3%	30
Cust 423	3,443,099	5944.56	5425.98	79.3%	91.3%	30
Cust 424	4,309,150	7386.96	6796.2	79.9%	92.0%	30
Cust 425	1,414,901	2401.44	1993.248	80.7%	83.0%	30
Cust 426	2,790,219	4710.576	4101.216	81.1%	87.1%	30
Cust 427	2,505,158	4223.58	3721.86	81.3%	88.1%	30
Cust 428	1,017,025	1704.424	1478.4	81.7%	86.7%	30
Cust 429	4,258,788	7124.16	6384.08	81.9%	89.6%	30
Cust 430	4,750,280	7752.42	6967.14	83.9%	89.9%	30
Cust 431	2,568,188	4144.48	3734.128	84.9%	90.1%	30

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Cust 432	21,988	35.328	29.088	85.3%	82.3%	30
Cust 433	2,532,603	4000.544	3692.016	86.7%	92.3%	30
Cust 434	2,080,797	3219.06	2964.24	88.5%	92.1%	30
Cust 435	1,944,990	2996.624	2776.544	88.9%	92.7%	30
Cust 436	2,119,592	3240.78	3013.86	89.6%	93.0%	30
Cust 437	3,906,377	5874.624	5559.216	91.1%	94.6%	30
Cust 438	2,137,352	3202.08	2909.7	91.4%	90.9%	30
Cust 439	4,918,151	7300.38	6788.04	92.3%	93.0%	30
Cust 440	4,990,685	7255.38	6834.72	94.2%	94.2%	30
Cust 441	5,522,205	7959	7686	95.0%	96.6%	30

Marginal Generation Energy Costs **Derivation of Fixed and Variable Energy Costs**

Calendar Year (12 Mo Ended Dec)	Capitalized Energy Cost 70.5% CF (\$/MWh)	Variable Avoided Energy Cost (\$/MWh)	Cost of RPS Compliance (\$/MWh)	Total Avoided Energy Cost (\$/MWh)	Present Value Factors @ 7.68%	Present Value of Energy (Mills/kWh)	Present Value of Fixed Energy Costs (Mills/kWh)	Present Value of Variable Energy Costs (Mills/kWh)
2021	7.48	13.24	0.00	20.72	1.0000	20.72	7.48	13.24
2022	7.67	16.77	0.00	24.44	0.9287	22.70	7.12	15.58
2023	7.86	20.64	0.00	28.50	0.8625	24.58	6.78	17.80
2024	8.04	24.44	0.00	32.49	0.8010	26.02	6.44	19.58
2025	8.23	26.96	0.00	35.18	0.7439	26.17	6.12	20.05
2026	8.41	28.45	0.00	36.86	0.6909	25.47	5.81	19.66
2027	8.60	28.18	0.00	36.78	0.6416	23.60	5.52	18.08
2028	8.78	27.77	0.00	36.55	0.5959	21.78	5.23	16.55
2029	8.98	30.08	0.00	39.06	0.5534	21.61	4.97	16.65
2030	9.17	33.95	0.00	43.12	0.5139	22.16	4.71	17.45
2031	9.36	36.12	0.00	45.48	0.4773	21.71	4.47	17.24
2032	9.56	38.30	0.00	47.85	0.4433	21.21	4.24	16.98
2033	9.75	40.47	0.00	50.22	0.4117	20.68	4.02	16.66
2034	9.96	42.57	0.00	52.53	0.3823	20.08	3.81	16.28
2035	10.16	40.33	0.00	50.50	0.3550	17.93	3.61	14.32
2036	10.37	40.67	0.00	51.04	0.3297	16.83	3.42	13.41
2037	10.58	43.05	0.00	53.62	0.3062	16.42	3.24	13.18
2038	10.79	46.44	0.00	57.23	0.2844	16.28	3.07	13.21
2039	11.00	49.70	0.00	60.70	0.2641	16.03	2.91	13.13
2040	11.22	51.26	0.00	62.48	0.2453	15.33	2.75	12.58

Data Source: Exhibit PAC/1408, Page 26, Column:

(F)	(J)	(M)	(N)	(O)	(P)
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2021 - 2040 (20 Year, Long Run)

	Total Energy Costs (Mills/kWh)	Fixed Energy Costs (Mills/kWh)	Variable Energy Costs (Mills/kWh)
Sum of PV Costs @ 7.68%	417.30	95.70	321.60
Annual Cost of Energy @ 7.86%	32.80	7.52	25.28

Proportion of Marginal Energy Cost	100.0%	22.9%	77.1%
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**Functionalized Generation Demand and Energy Costs
For Schedule 200 Base Supply Service
Applicable to Schedule 30/730 Secondary Customers**

1	Marginal Demand Cost (\$000)	\$23,482	Exhibit PAC 1408, pg. 17, line 32
2	Marginal Energy Cost (\$000)	\$45,596	Exhibit PAC 1408, pg. 17, line 40
3	Proportion of Marginal Energy Fixed Cost	22.9%	Exhibit FM/101, pg. 1
4	Proportion of Marginal Energy Variable Cost	77.1%	Exhibit FM/101, pg. 1
5	Marginal Energy Fixed Cost (\$000)	\$10,454	Line 2 x Line 3
6	Marginal Energy Variable Cost (NPC) (\$000)	\$35,142	Line 2 x Line 4
7	Total Marginal Generation Cost (\$000)	\$69,078	Line 1 + Line 2
8	Marginal Generation Variable Cost (NPC) (\$000)	\$35,142	Line 6
9	Marginal Generation Fixed Cost (non-NPC) (\$000)	\$33,935	Line 1 + Line 5
10	Proportion of Marginal Generation Energy Fixed Cos	30.80%	Line 5 / Line 9
11	Proportion of Marginal Generation Demand Fixed Cos	69.20%	Line 1 / Line 9
12	Functionalized Generation Revenue Requirement (\$000)	\$67,038	Exhibit PAC 1407, pg. 1, column F, line 29
13	Generation Energy - Net Power Costs (Sch 201) (\$000)	\$26,984	Exhibit PAC 1408, pg. 1, column 4
14	Generation Energy - Other (non-NPC) (Sch 200) (\$000)	\$40,053	Exhibit PAC 1408, pg. 1, column 6
15	Sch 200 Energy Related Cost (\$000)	\$12,338	Line 10 x Line 14
16	Sche 200 Energy Billing Determinants (MWh)	1,263,680	Exhibit PAC 1409, pg. 6, Forecast 1/21 - 12/21 Units
17	Sch 200 Cost-Based Energy Rate (¢/kWh)	0.976 ¢	Line 13 / Line 14 * 100
18	Sch 200 Demand Related Cost (\$000)	\$27,715	Line 11 x Line 14
19	Sch 200 Demand Billing Determinants (MW)	3,485	Exhibit PAC 1409, pg. 6, Forecast 1/21 - 12/21 Units
20	Sch 200 Cost-Based Demand Rate (\$/kW)	\$7.95	Line 18 / Line 19

**Fred Meyer Proposed Schedule 200 Rate Design
Applicable to Schedule 30/730 Secondary
At PacifiCorp Proposed Revenue Requirement**

**Schedule No. 30/730 - Composite
Large General Service - (Secondary)**

	Forecast 1/21 - 12/21 Units	Present		PacifiCorp Proposed		Fred Meyer Proposed	
		Price	Dollars	Price	Dollars	Price	Dollars
<u>Transmission & Ancillary Services Charge</u>							
per kW	3,485,385 kW	\$1.71	\$5,960,008	\$2.52	\$8,783,170	\$2.52	\$8,783,170
<u>System Usage Charge</u>							
Sch 200 related, per kWh	1,263,679,782 kWh	0.067 ¢	\$846,665	0.082 ¢	\$1,036,217	0.082 ¢	\$1,036,217
T&A and Sch 201 related, per kWh	1,263,679,782 kWh	0.070 ¢	\$884,576	0.074 ¢	\$935,123	0.074 ¢	\$935,123
<u>Distribution Charge</u>							
Basic Charge							
Load Size ≤ 200 kW, per month	131 bill	\$468.00	\$61,308	\$541.00	\$70,871	\$541.00	\$70,871
Load Size 201-300 kW, per month	2,777 bill	\$138.00	\$383,226	\$161.00	\$447,097	\$161.00	\$447,097
Load Size > 300 kW, per month	6,980 bill	\$363.00	\$2,533,740	\$423.00	\$2,952,540	\$423.00	\$2,952,540
Load Size Charge							
≤ 200 Kw, per kW		No Charge		No Charge		No Charge	
201-300 kW, per kW	708,467 kW	\$1.65	\$1,168,971	\$1.90	\$1,346,087	\$1.90	\$1,346,087
>300 kW, per kW	3,406,483 kW	\$0.80	\$2,725,186	\$0.95	\$3,236,159	\$0.95	\$3,236,159
Demand Charge, per kW	3,485,385 kW	\$3.98	\$13,871,832	\$4.64	\$16,172,186	\$4.64	\$16,172,186
Reactive Power Charge, per kvar	258,668 kvar	65.00 ¢	\$168,134	65.00 ¢	\$168,134	65.00 ¢	\$168,134
<u>Energy Charge - Schedule 200</u>							
Demand Charge, per kW	3,485,385 kW	\$1.88	\$6,542,068	\$1.95	\$6,796,501	\$3.75	\$13,070,194
1st 20,000 kWh, per kWh	186,649,079 kWh	2.86 ¢	\$5,338,164	2.631 ¢	\$4,910,737	2.134 ¢	\$3,983,091
All additional kWh, per kWh	1,077,030,703 kWh	2.48 ¢	\$26,710,361	2.631 ¢	\$28,336,678	2.134 ¢	\$22,983,835
Subtotal	1,263,679,782 kWh		\$67,194,240		\$75,191,501		\$75,184,705
Renewable Adjustment Clause (202), per kWh	1,263,679,782 kWh	0.149 ¢	\$1,882,883	0.000 ¢	\$0	0.000 ¢	\$0
Adj to Remove Deer Creek (196), per kWh	1,263,679,782 kWh	-0.021 ¢	-\$265,373	0.000 ¢	\$0	0.000 ¢	\$0
Schedule 80 Adjustment, per kWh	1,263,679,782 kWh	0.055 ¢	\$695,024	0.000 ¢	\$0	0.000 ¢	\$0
, per kW	3,485,385 kW	\$0.40	\$1,394,154	\$0.00	\$0	\$0.00	\$0
TAM Adj for Other Revs (205)							
1st 20,000 kWh, per kWh	186,649,079 kWh	0.023 ¢	\$42,929	0.000 ¢	\$0	0.000 ¢	\$0
All additional kWh, per kWh	1,077,030,703 kWh	0.020 ¢	\$215,406	0.000 ¢	\$0	0.000 ¢	\$0
Subtotal			\$71,159,263		\$75,191,501		\$75,184,705
Schedule 201							
1st 20,000 kWh, per kWh	186,649,079 kWh	2.831 ¢	\$5,284,035	2.831 ¢	\$5,284,035	2.831 ¢	\$5,284,035
All additional kWh, per kWh	1,077,030,703 kWh	2.454 ¢	\$26,430,333	2.454 ¢	\$26,430,333	2.454 ¢	\$26,430,333
Total	1,263,679,782 kWh		\$102,873,632		\$106,905,870		\$106,899,074

**Rate Schedule 30 Monthly Bill Comparison
at Fred Meyer Proposed Rates
at PacifiCorp Proposed Revenue Requirement**

kW Load Size	kWh	Load Factor	Monthly Billing*		Percent Difference
			Present Price	Proposed Price	
200	40,000	27.4%	\$4,631	\$5,022	8.43%
	60,000	41.1%	\$5,802	\$6,085	4.88%
	100,000	68.5%	\$8,145	\$8,213	0.84%
300	60,000	27.4%	\$6,797	\$7,410	9.02%
	90,000	41.1%	\$8,554	\$9,006	5.29%
	150,000	68.5%	\$12,067	\$12,197	1.08%
400	80,000	27.4%	\$8,844	\$9,677	9.42%
	120,000	41.1%	\$11,186	\$11,804	5.53%
	200,000	68.5%	\$15,870	\$16,059	1.19%
500	100,000	27.4%	\$10,922	\$11,967	9.57%
	150,000	41.1%	\$13,849	\$14,626	5.61%
	250,000	68.5%	\$19,705	\$19,945	1.22%
600	120,000	27.4%	\$12,999	\$14,257	9.68%
	180,000	41.1%	\$16,513	\$17,448	5.67%
	300,000	68.5%	\$23,539	\$23,831	1.24%
800	160,000	27.4%	\$17,155	\$18,838	9.81%
	240,000	41.1%	\$21,839	\$23,093	5.74%
	400,000	68.5%	\$31,208	\$31,603	1.27%
1000	200,000	27.4%	\$21,310	\$23,419	9.89%
	300,000	41.1%	\$27,166	\$28,737	5.78%
	500,000	68.5%	\$38,876	\$39,374	1.28%

* Net rate including Schedules 91, 290 and 297.

**Example Adjustment to the Functionalized Revenue and Rate Mitigation Adjustment
At A \$10 Million Rate Reduction Relative to PacifiCorp's Filed Case**

Description	Proposed Schedule	MWh	Present RMA (\$000)	Proposed RMA (\$000)	Present Net Rates ¹ (\$000)	PAC Proposed Net Rates ¹ (\$000)	PAC Proposed Net Increase ¹ (\$000) %	Step 1 Rate Reduction for All Schedules (\$000)	Step 2 Reduction to Proposed Subsidies (\$000)	Rate Reduction Relative to Filed Case (\$000)	Increase at Reduced Revenue Requirement ¹ (\$000) %
Residential	4	5,521,127	\$3,202	\$0	\$641,058	\$668,720	\$27,663 4.3%	(\$4,823)	\$0	(\$4,823)	\$22,839 3.6%
Gen. Svc. < 31 kW	23	1,130,147	\$4,701	\$0	\$132,631	\$139,476	\$6,845 5.2%	(\$1,006)	\$0	(\$1,006)	\$5,839 4.4%
Gen. Svc. 31 - 200 kW	28	2,038,726	\$2,304	\$5,749	\$192,212	\$198,404	\$6,192 3.2%	(\$1,390)	(\$865)	(\$2,254)	\$3,938 2.0%
Secondary		2,012,760	\$2,274	\$5,676	\$189,880	\$195,906	\$6,026 3.2%	(\$1,372)	(\$854)	(\$2,226)	\$3,800 2.0%
Primary		25,965	\$29	\$73	\$2,331	\$2,498	\$166 7.1%	(\$17)	(\$11)	(\$29)	\$138 5.9%
Gen. Svc. 201 - 999 kW	30	1,361,426	\$531	\$899	\$113,368	\$116,998	\$3,630 3.2%	(\$837)	(\$135)	(\$973)	\$2,658 2.3%
Secondary		1,263,680	\$493	\$834	\$105,246	\$108,526	\$3,280 3.1%	(\$777)	(\$125)	(\$902)	\$2,378 2.3%
Primary		97,746	\$38	\$65	\$8,122	\$8,472	\$350 4.3%	(\$61)	(\$10)	(\$70)	\$280 3.4%
Large General Service >= 1,000 kW	48	3,079,837	(\$10,690)	(\$5,368)	\$207,155	\$222,795	\$15,641 7.6%	(\$1,646)	\$807	(\$838)	\$14,803 7.1%
Secondary		555,158	(\$1,482)	(\$744)	\$42,774	\$47,800	\$5,026 w1	(\$350)	\$112	(\$238)	\$4,787 11.2%
Primary		1,543,656	(\$5,156)	(\$2,593)	\$105,688	\$113,829	\$8,142 7.7%	(\$840)	\$390	(\$450)	\$7,692 7.3%
Transmission		981,023	(\$4,052)	(\$2,031)	\$58,693	\$61,166	\$2,473 4.2%	(\$456)	\$305	(\$150)	\$2,323 4.0%
Partial Req. Svc. >= 1,000 kW	47	41,898	(\$152)	(\$76)	\$5,161	\$5,530	\$370 7.2%	(\$40)	\$11	(\$29)	\$341 6.6%
Dist. Only Lg Gen Svc >= 1,000 kW	848	0	\$0	\$0	\$2,234	\$2,128	(\$106) -4.7%	(\$15)	\$0	(\$15)	(\$121) -5.4%
Agricultural Pumping Service	41	221,554	(\$1,318)	(\$1,205)	\$24,992	\$27,302	\$2,310 9.2%	(\$206)	\$181	(\$24)	\$2,286 9.1%
Total Public Street Lighting		42,434	\$1,016	\$0	\$6,325	\$5,106	(\$1,218) -19.3%	(\$37)	\$0	(\$37)	(\$1,255) -19.8%
Subtotal		13,437,150	(\$405)	(\$2)	\$1,325,134	\$1,386,461	\$61,327 4.6%	(\$10,000)	\$0	(\$10,000)	\$51,327 3.9%

Data Source: Exhibit PAC/1410 and PAC/1409

¹ Includes RAC and Adders. Adders Exclude effects of the Low Income Bill Payment Assistance Charge (Sch. 91), BPA Credit (Sch. 98), Public Purpose Charge (Sch. 290) and Energy Conservation Charge (Sch. 297).

Total Proposed Subsidies	\$6,648
Hypothetical Rate Reduction	(\$10,000)
% Subsidy Reduction	10.00%
Subsidy Reduction	(\$1,000)
Total Subsidies After Rate Reduction	\$5,648

CERTIFICATE OF SERVICE

I hereby certify that true copy of the foregoing was served via electronic mail, unless otherwise noted, this 4th day of June, 2020.

Kurt J. Boehm,

Kurt J. Boehm, Esq.

Jody Kyler Cohn, Esq.

dockets@oregoncub.org

oregondockets@pacificorp.com

james@utilityadvocates.org

blc@dvclaw.com

marianne.gardner@state.or.us

mike@oregoncub.org

diane@utilityadvocates.org

bob@oregoncub.org

etta.lockey@pacificorp.com

matthew.mcvee@pacificorp.com

sommer.moser@doj.state.or.us

brmullins@mwanalytics.com

tcp@dvclaw.com

wa.steele@hotmail.com

elizabeth.b.uzelac@state.or.us

jbieber@energystrat.com

ana.boyd@sierraclub.org

gloria.smith@sierraclub.org