24-02026

Public Utilities Commission of Nevada
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FILED WITH THE PUBLIC UTILITIES COMMISSION OF NEVADA - 7/3/2024

BEFORE THE PUBLIC UTILITIES COMMISSION OF NEVADA

Application of Sierra Pacific Power Company d/b/a NV Energy for authority to adjust its annual revenue requirement for general rates charged to all classes of electric customers and for relief properly related thereto.	))))))	**Docket No. 24-02026**

Direct Testimony of

Emily Walsh

on behalf of

Nevadans for Clean Affordable Renewable Energy (NCARE)
obo Western Resource Advocates (WRA) and
Southwest Energy Efficiency Project (SWEEP)

July 3, 2024

Nevadans for Clean Affordable Reliable Energy (NCARE)
550 West Musser Street, Suite G, Carson City, NV 89703-4997 – 775-430-4633

Section 1

Introduction

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

A: My name is Emily Walsh. I am the Clean Energy Policy Analyst and Advisor for the State of Nevada with Western Resource Advocates. My business address is 550 West Muser Street, Suite G, Carson City, Nevada, 89703.

2. Q: Please describe your experience as an Energy Policy Analyst.

A: I earned a Bachelor of Arts from the University of Reno in 2018 with dual majors in Political Science and International Relations, and a minor in Mathematics. I continued my education at the University of Konstanz in Germany and the University of Gothenburg in Sweden, where I earned a Master of Arts in Politics and Public Administration with emphases in 'Comparative Politics and Policy Analysis' and 'Quantitative Methods', and a Master of Science in Political Science, respectively.

As the Clean Energy Policy Analyst, I am responsible for developing and advancing equitable legislative, regulatory and local policy solutions in coordination with other program staff that move the region toward a clean energy economy and address climate change in Nevada. I specifically advocate for WRA in regulatory, legislative, and other policy forums, including local governments, and prepare expert witness testimony, comments, and discovery in regulatory proceedings. One of my main responsibilities is to review and analyze the potential impact of proposed legislation, local ordinances, administrative or regulatory policies, and of utility investments, tariffs, and programs.

My resume is attached to my testimony as attachment EW-1.

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3. Q: On whose behalf are you testifying in this proceeding?

A: I am testifying on behalf of Nevadans for Clean Affordable Reliable Energy (NCARE).

4. Q: Please describe NCARE.

A: NCARE is an association of like-minded organizations that includes the American Institute of Architects Nevada (AIA-NV), Defend our Desert (DOD), Nevada Conservation League (NCL), Progressive Leadership Alliance of Nevada (PLAN), Sierra Club, Southwest Energy Efficiency Project (SWEEP), and Western Resource Advocates (WRA). In this docket, NCARE has intervened only on behalf of SWEEP and WRA.

5. Q: Please describe WRA.

A: WRA is a Colorado nonprofit corporation licensed to do business in Nevada. WRA works to advance the interests of itself and its members by moving the state beyond the use of fossil fuels and promoting the responsible use of natural resources. In Nevada, WRA, individually and as a member of NCARE, has participated actively in resource planning and rate case proceedings since 2006. WRA has worked to promote energy efficiency, increase the Company's renewable energy generation, and decrease our reliance on fossil fuel generation to improve the state's air quality, and to limit the emissions of greenhouse gases and other pollutants.[1]

6. Q: Please describe SWEEP.

A: SWEEP is a public interest nonprofit organization advancing energy efficiency, beneficial electrification, and clean transportation in Arizona, Colorado, Nevada, New Mexico, Utah, and Wyoming. In collaboration with utilities, state and local governments, environmental and community groups, businesses, national laboratories, federal agencies,

[1] See WRA's webpage, found at: https://westernresourceadvocates.org/.

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and other energy experts, SWEEP promotes programs, policies, and funding to help mitigate climate change and its impacts, lend support to underserved and disadvantaged communities, and save people money on energy bills and transportation costs.[2]

7. Q: Have you ever testified in front of the Public Utilities Commission of Nevada before?

A. Yes, I have testified in the following PUCN Dockets: (1) Nevada Power Company's General Rate Case, Docket No. 23-06007; and (2) NV Energy's Fifth Amendment to 2021 Integrated Resource Plan (IRP), Docket No. 23-08015.

8. Q: Has NCARE or any of its members testified before the Public Utilities Commission of Nevada in the past?

A. Yes, in numerous cases.

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

A: The purpose of my testimony is to provide the commission with policy recommendations and evidence related to rate design for residential customers. I specifically address the Company's proposal to significantly increase its residential basic service charge (BSC) and address its residential time of use (TOU) rate design. Both the level of the fixed BSC and TOU rate design impact the Company's ability to encourage energy efficiency and conservation, and shift load through influencing customer behavior. This testimony and the recommendations within are consistent with testimony that NCARE has previously filed in Nevada and NCARE's members have filed in other electric utility rate cases across the region. The testimony is divided into the following sections:

1. Introduction
2. Recommendations

[2] See SWEEP's webpage, found at: https://www.swenergy.org/.

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3. Basic Service Charges and Customer Control
4. Sierra Pacific Power Company's Proposed BSC Increase and Impacts
5. The Importance of Successful Residential Time-Of-Use Rates
6. Necessary Components of a Successful, Voluntary Time-Of-Use Rate
7. Recommendations to Improve Sierra Pacific Power Company's Current TOU Tariff for Residential Customers

10. Q: Are you introducing any other witnesses for NCARE?

A: Yes, the testimony of Ed Burgess, NCARE's other witness, in this proceeding will provide our specific rate design recommendations for the residential TOU rate we are proposing and the supporting analysis.

Section 2

Recommendations

11. Q: Please summarize your recommendations to the Commission in this case.

A: My recommendations are as follows:

1. The Commission should deny the request from Sierra Pacific Power Company ("SPPC" or "Company") to increase the BSC for both single- and multi-family domestic customers and all the associated optional tariffs offered to residential customers.
2. The Commission should order SPPC to reduce the length of the current residential TOU on-peak window to a period of three hours instead of six for customers taking service under the voluntary domestic TOU tariffs. The on-peak window should cover the hours between 6-9pm. Price signals will not produce the desired results if

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customers are unable to respond to them; most customers cannot shift daily behavior out of the current six-hour window, as it is too long.

12. Q: Generally, why are these your recommendations?

A: The sharp and unprecedented increase in the BSC should be rejected because: 1) it will significantly impair customer control over their power bills, 2) it is regressive and will disproportionally impact low-usage customers, and 3) it will send the wrong price signal and reduce the customer incentive to engage in energy efficiency and conservation. Relatedly, increasing the BSC, as a rate design policy, does not align with other state policies enacted to promote energy efficiency and conservation, and if approved, may diminish future opportunities to adopt smart rate design policies.

In attempting to 'stabilize' bills and prevent volatility[3], the Company's proposal will severely inhibit the ability of customers to lower their bills by using less energy. Highly volatile fluctuation of power bills are primarily driven by fuel costs, which are not addressed in this case. The long-term solutions to spiking fuel costs is for the Company to reduce its over-reliance on methane gas and the associated exposure to risk it places on Nevada families and businesses. Additionally, if customers do not see a volumetric price incentive to reduce their energy usage during peak hours, future system costs and bills will grow due to higher energy loads.

NCARE proposes to shorten the on-peak window of the voluntary TOU rate currently offered to customers taking domestic service with the intent of making it more attractive as an optional tariff. The current tariff offered by SPPC has maintained low enrollment figures, reflecting its lack of appeal to customers, which produces nominal benefits to

[3] 24-02026, General Rate Case Application, Janet Wells Prepared Direct Testimony; Q&A 20.

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ratepayers. A shorter on-peak window facilitates a more realistic potential of behavior modification and thus bill savings for residential customers, increasing the feasibility for customers to save if they take service under the tariff, thus making it more attractive to customers and ultimately increasing participation in the program. Further, NCARE's proposed on- and off-peak windows will match those offered by Nevada Power in the south and will act as an introductory rate for all Nevadans to become familiarized with TOUs and the benefits they offer. Aligning the summer schedules between NV Energy's two service territories will also provide for a more efficient and consistent customer education program across both companies' service territories and provides an opportunity for the Companies and all customers to see increased concentrated benefits from successfully shifting electricity demand away from the highest peak hours across the entire state.

This basic TOU rate structure can be added onto, changed, and adapted to resource changes on the Company's system and as customers become more sophisticated users of TOU rates and as overall enrollment figures increase. The optimal TOU rate for a fully electrified future may look very different from the default tariff that most Nevadans are currently on; as energy efficiency and electrification become more prevalent in NVE service territories, it is vital that all classes of customer, including residential, understand the benefits of limiting energy use during the highest cost and most emission-intensive times of the day. Our recommendations support a rate structure that incrementally moves SPPC's customers towards this understanding.

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Section 3

Basic Service Charges and Customer Control

13. Q: What objectives and principles should the Commission consider in evaluating a BSC increase proposal?

A: The Commission should consider the following when evaluating any rate design proposal: the importance of customer agency over their energy costs, legal directives regarding rate design, and the ability of the rate design to aid in the achievement of state policy goals.

Northern Nevadans have limited agency over their bills and energy service because they cannot choose to take service from an alternate provider. This leaves customers with very few options to exercise control over their energy cost, the most significant being shifting energy consumption behaviors and investing in energy efficiency. Increasing the BSC will subject captive customers to a larger unavoidable monthly cost and reduce the effectiveness of the primary and most fundamental cost control mechanism that individuals have over their bills.

Under Nevada law, the Commission may consider the need for the conservation of energy when setting rates.[4] Furthermore, the Nevada Administrative Code directs the

[4] **NRS 704.210 Powers of Commission: Adoption of regulations; supervision and regulation of public utilities; exceptions.**
1. Except as otherwise provided in subsection 2, the Commission may:
(a) Adopt necessary and reasonable regulations governing the procedure, administration and enforcement of the provisions of this chapter, subject to the provisions of NRS 416.060.
(b) Prescribe classifications of the service of all public utilities and, except as otherwise provided in NRS 704.075, fix and regulate the rates therefor.
(c) Fix just and reasonable charges for transportation of all intrastate freight and passengers and the rates and tolls for the use of telephone lines within the State.
(d) Adopt just and reasonable regulations for the apportionment of all joint rates and charges between public utilities.
(e) Consider the need for the conservation of energy when acting pursuant to the provisions of this subsection.
2. The provisions of subsection 1 do not apply to a competitive supplier.

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Commission to not design rates in a manner that would hinder energy conservation.[5] As discussed above, recovering a larger portion of the customer bill through volumetric charges promotes energy conservation and investment by individuals into energy efficiency. An increase to the BSC, and the accompanying decrease to the current Base Tariff General Rate (BTGR, the revenue recovery for prudently incurred expenses and return on equity for shareholders) would lower volumetric charges and disincentivize both energy efficiency and conservation for residential utility customers. This de-incentivization to energy efficiency and conservation could also have waterfall effects and entail unforeseen challenges along with additional costs in reaching Demand Side Management program goals.

In addition to the legal and regulatory directives the Commission should consider when evaluating an increase to the BSC as part of a proposed rate design, Nevada has state- and industry-wide goals enshrined in statute centered on climate and emissions reductions. As stated by NRS 445B.380, Nevada has current state- and economy-wide emissions reductions goals of:

- 28% reduction from 2005 levels in 2025
- 45% reduction from 2005 levels in 2030
- Zero or 'near zero' in 2050

If adopted, the rate design proposed by SPPC would incentivize high energy usage and inadvertently increase emissions stemming from the utility sector which are already

[5] **NAC 704.6677 Rates to be designed to conserve energy.** (NRS 703.025, 704.210) The Commission will not:
1. Allocate a utility's requirements to obtain revenue from each class of customers; or
2. Design rates, in a manner which will hinder the conservation or efficient use of energy, unless equity so requires.

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projected to miss the legislated goals. The Nevada Department of Environmental Protection (NDEP) published the 2023 report of *Nevada Statewide Greenhouse Gas Emissions Inventory and Projections, 1990-2043* and found that Nevada's will only reach 24.5% below 2005 levels in 2025 (3.5% below the NRS 445B.380 target of 28%) and 27.8% below 2005 levels in 2030 (17.2% below the NRS 445B.380 target of 45%).[6] As the second largest utility in the state, and a subsidiary of NV Energy, SPPC needs to be implementing rate designs that will assist in meeting those goals, not increasing the margin by which our state is projected to miss them as by incentivizing excessive energy use.

14. Q: What is Sierra Pacific Power Company's proposal in this rate case for the Basic Service charge levied on residential customers?

A: In their certification filing, SPPC proposes to significantly raise the Basic Service Charge for its residential tariffs. This unprecedented and single-family residential customers (D-1) on the default tariff and some of the associated optional tariffs offered to this class of customer from $16.50/month to $45.30/month. This is an increase of $28.80/month, or 2.75x the current basic service charge.[7] The optional tariffs that also are subjected to the proposed increase in the application are:

- OD-1 TOU, OD-1 CPP

Similarly, the Company is proposing to increase the Basic Service Charge for multi-family customers (DM-1) on the default tariff and some of the associated optional tariffs offered to this class of customer from $8.00/month to $18.80/month. This is an increase

[6] Nevada Department of Environmental Protection. (2023). *Nevada Statewide Greenhouse Gas Emissions Inventory and Projections, 1990-2043*. https://ndep.nv.gov/uploads/air-pollutants-docs/ghg_report_2023.pdf
[7] Here and throughout, "x" represents the multiple, as in "2.75 times the current basic service charge."

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of $10.80/month or 2.35x the current basic service charge. The optional tariffs that also are subjected to the proposed increase in the application are:

- ODM-1 TOU, ODM-1 CPP

The BSCs for the following optional residential tariffs are also proposed to be increased as detailed below:

- OD-1 DDP, OD-1 CPP DDP:
  - $9.50/month to $20.00, increase of $10.50/month, 2.11x increase
- ODM-1 DDP, OD-1 CPP DDP:
  - $6.25/month to $7.25/month, increase of $1.00, 1.16x increase

15. Q: How does increasing the Basic Service Charge reduce residential customers' ability to control their bills?

A: SPPC's rate design proposal to increase the fixed charge and lower the volumetric charge is a fundamental change in cost recovery for residential customers. Raising the BSC increases a customer's unavoidable costs and therefore reduces a customers' ability to lessen their bills through behavioral changes or usage decisions, such as energy conservation or energy efficiency measures, inhibiting their ability to control electric bills. Reducing the price signal in the volumetric rate also creates incentive for higher energy use, instigating a cycle of higher costs and higher bills in the future. The proposed change to how cost is recovered by the utility is antithetical to Nevada's policy priorities as well as equity considerations.

A higher BSC also undermines the benefits of load management when applied to TOU rates. For TOU rates to achieve their objectives, customers must be able to control their bills through changing their behavior in response to price signals. Increasing the BSC

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shifts a larger portion of a residential customer's bill to a fixed charge that they cannot influence and makes any price differential between on- and off-peak hours less effective.

16. Q: What costs have been traditionally recovered in the fixed charge portion of a residential rate?

A: The "customer charge" or "basic service charge," as referred to by SPPC is a flat fee on a customer's monthly bill that is typically designed to recover the portion of costs that do not vary with usage. This charge is primarily used to recover the cost of connecting a customer to the utility's system and to provide customer service. This includes the cost of a customer's service line and meter, and expenses associated with meter reading, billing, administrative costs, and service line maintenance. While this can be described as "fixed costs" that are collected with a "fixed charge," this does not mean that all capital costs are considered to be "fixed costs" that should be recovered through a fixed charge. A principal role of regulation is to impose on monopolies the pricing discipline that markets impose under competition. In competitive businesses, fixed charges are very rare. For example, supermarkets, hardware stores, and restaurants have fixed costs for their buildings, parking lots, and other investments, but they do not impose any fixed charge on customers; they welcome small users into their businesses

17. Q: What is the cost to the Company, on a monthly per residential customer basis, for costs related to "the customer's meter and providing customer accounting and customer services"?

A: In response to NCARE Data Request 1-07, the Company stated that monthly utility costs incurred related to the customer's meter and providing customer accounting and customer

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services total $6.34 for residential (D-1 and D-1 NEM) customers. This means that the current BSC already contains costs other than it should and is already too high.[8]

18. Q: Do you agree with the utility that distribution costs incurred by the utility should be recovered in the fixed charge?

A: No. Moving all these costs from the volumetric rate per kWh into the monthly fixed charge is a major departure from standard rate design practice. The utility's proposal to include 100% of distribution costs into the BSC because of their 'fixed' nature is a linguistic argument and not a technical one. The argument does not consider that distribution infrastructure is not used equally by all customers, and if approved, ultimately subsidizes higher-usage customers on the back of lower-usage customers.[9]

There are many types of utility capital costs that may appear to be 'fixed' costs, but which do correspond to customer energy usage and are traditionally not included in the customer charge. Beyond the transformer, the distribution system is sized to meet the combined maximum demand of hundreds or thousands of customers. Non-residential customer rates often feature a demand charge rather than a fixed charge to recover these costs in accordance to how much strain they put on the system in a given time range. However, residential demand-related costs are normally recovered through the energy charge, as opposed to a demand charge. The company serves a mix of customers, including customers in small tract homes in urban areas, and customers in very large

[8] We are not recommending the Commission lower the BSC at this time but would like to note that the utility is already recovering $10.16 of costs monthly more through the fixed charge than the fixed cost of service for each D-1 customer.

[9] This is not a new policy discussion for Nevada. In the 2016 SPPC GRC, the Company was proposing to include 100% of the Facilities costs (Rule 9 costs) and 25% of distribution costs into the BSC for residential customers. Commission Staff countered this argument (Docket 16-06006, Prepared Direct Testimony of Anita Castledine, Ph.D., Q&A 24, page 8.). The Commission agreed with Dr. Castledine and maintained the existing rate design for residential customers (Docket 16-06006, Final Order, pg. 7.).

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homes in exurban areas. Homes on larger lots require more distribution than those customers who live close together. The Company proposal would give the mansions the same distribution charge as customers in small homes on urban lots. Costs such as meter reading, billing, the cost of meters and service drops, are properly attributable to the marginal cost of serving a single customer. The cost of a minimum sized system is not. The volumetric recovery of distribution system costs more accurately apportions costs between small homes (which pay less) and large homes (which pay more). This is both efficient and equitable.

While energy usage (kWh) is not a perfect proxy for demand (kW), collecting capacity-related costs through the volumetric energy charge is more reasonable than collecting capacity-related costs through the fixed charge. A fixed charge on every customer bill has no rational relationship to how much energy each customer uses and at what time of day the use occurs, or how much capacity they require. In this way it is arbitrary, creates cross subsidies from low users to high users, and is not smart rate design. Research has demonstrated that there exists "a strong and significant correlation between monthly kWh consumption and monthly maximum kW demand." This indicates that "it is correct to collect most of the demand related capacity costs through the kWh energy charge."[10]

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[10] Synapse Energy Economics, Inc. (2016) *Caught in a Fix: The Problem with Fixed Charges for Electricity.* https://www.synapse-energy.com/sites/default/files/Caught-in-a-Fix.pdf
Synapse Energy Economics, Inc. (2016) *Fixed Charges and Utility Customers Factsheet.* https://www.synapse-energy.com/sites/default/files/Fixed_Charges_Factsheet.pdf

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19. Q: The utility argues that increasing the BSC will reduce intra-class subsidies. Do you agree with this statement?

A: No. Rates are designed for the average customer, thus within any given class there will be structural winners and losers as there is no customer who has the same timing and quantity of usage as the average customer across the rate class. If the Commission desires to reduce intra-class subsidies, then increasing the basic service charge is not an appropriate method to achieve this goal. As many distribution and transmission capacity costs are peak demand driven and not fixed, increasing the basic service charge to include and cover capacity related costs would mean that customers who conserve energy or have low usage levels would be paying more so that customers that consume more energy are able to pay less. Including capacity-related costs in the basic service charge shifts the costs incurred by the utility to meet high peak demand to customers with lower peak demand and creates or amplifies intra-class subsidies. In this way the proposed BSC is highly regressive in nature.

20. Q: Did the utility also argue the BSC should increase to address subsidies related to net-metered solar customers specifically?

A: Yes. Utility witnesses Wells argues that the BSC should increase because it shifts more of the solar net energy metering (NEM) revenue shortfall back to NEM customers, easing the burden on other customers.[11] However, because the proposed BSC increase would affect both NEM and non-NEM rates within customer classes, this inelegant solution directly increases the burden on non-NEM residential customers instead of specifically targeting the NEM customers. In the 2023 NPC General Rate Case Order, the

[11] 24-02026, General Rate Case Application, Janet Wells Prepared Direct Testimony; Q&A 18, 20.

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Commission directed NPC to propose in its next rate case solutions to the NEM GRC shortfalls. The Commission said, "there are other methodologies to limit the impact of NEM customers not paying the full cost of service."[12] While that directive is not controlling in SPPC's GRC here, it is highly instructive because the same issue exists within the present case. While there are likely "other methodologies" capable of addressing the NEM shortfall, I do not agree that imposing a higher subsidy on all non-NEM residential customers in exchange for marginally reducing the NEM revenue shortfall is the appropriate solution. SPPC's proposed solution is primarily aimed at reducing the utility's revenue loss rather than reducing the alleged NEM cross subsidy. It creates a new cross subsidy for the customers, while ensuring the utility avoids regulatory lag in cost recovery. I do not offer a specific solution to the NEM shortfall issue, but instead I recommend that the Commission create an investigative docket to explore more elegant solutions than the one proposed in this case. This is not an easy issue to address, but the Commission should not accept merely exchanging one subsidy for another for the sake of simplicity.

21. Q: How can a utility benefit from higher basic service charges?

A: It is advantageous for utilities to collect revenue through fixed charges because the fixed charge reduces the utility's risk that lower sales (from energy efficiency, distributed generation, weather, or economic downturns) will reduce their revenues. However, higher fixed charges are inequitable and inefficient. The Company's policy choice to propose including 100% of distribution costs for the residential classes in the Basic Service

[12] Docket 23-06007, Final Commission Order, page 109.

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Charge may serve the utility by mitigating revenue loss or delayed cost recovery risk but this mitigation comes at the costs of customer control.[13]

22. Q: Do you agree that increasing the BSC will pride an appropriate fixed cost price signal to customers?

A: No. SPPC witness Wells argues that increasing the BSC will produce price signals to customers regarding the cost of certain fixed charges.[14] The Commission should reject this argument. The BSC is not an effective or appropriate 'price signal' because regardless of any change in a customer's energy usage, the fixed charge remains the same and customers cannot change their behavior to affect it. As discussed above, the appropriate mechanism to provide price signals is in the volumetric portion of the rate. SPPC's proposal sends a counterproductive price signal, as it is a flat monthly rate. Even if a customer used more energy monthly under the proposal, they would receive no financial incentive or indicator to change behavior via a higher bill than if they had used less energy; they would be charged the same regardless of amount of use. In this way, it sends the wrong price signal and encourages energy waste.

23. Q: How do higher fixed charges and lower volumetric rates discourage energy conservation?

A: Generally speaking, customers invest in energy efficiency measures or modify their energy use behavior to conserve energy because it is the only way they can reduce their energy costs, other than switching to a different tariff, if possible. A higher volumetric

[13] The regulatory compact requires the Commission to balance utility and customer risks and interests. Allowing the utility to recovery more costs through fixed charges furthers the utility interest at the expense of what little control customers exercise in this dynamic, which risks upending this balance.
[14] 24-02026, General Rate Case Application, Janet Wells Prepared Direct Testimony; Q&A 20.

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rate provides customers with a higher monetary incentive to change their consumption habits, and a larger opportunity to benefit from energy efficiency and conservation. Residential customers taking service under a voluntary TOU have two ways to control their bill through changes in consumption: either reducing their total energy consumption in the same way flat rate customers can or shifting their usage from on-peak to off-peak hours. The price differential between on- and off-peak hours acts as a further monetary incentive beyond the volumetric charge that general residential customers have.

24. Q. How can rate design influence customers to invest (or not invest) in energy efficiency?

A: Rate design can have a significant effect on customer motivations to invest in energy efficiency. The primary reason customers engage in energy efficiency investments is to save money on electric bills, but energy efficiency is also one of the lowest cost options to reduce GHG emissions in the electric sector. Bill savings occur when customers make investments in energy efficient technologies or change behaviors to reduce consumption. Rate design significantly alters the payback periods for these investments. A 2017 study by the American Council for an Energy Efficient Economy included an analysis of the impact of twenty different rate design scenarios on the payback periods for investments in a variety of different energy efficiency technologies. Figure WALSH-1 shows the differing payback times according to rate type.

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FIGURE WALSH-1

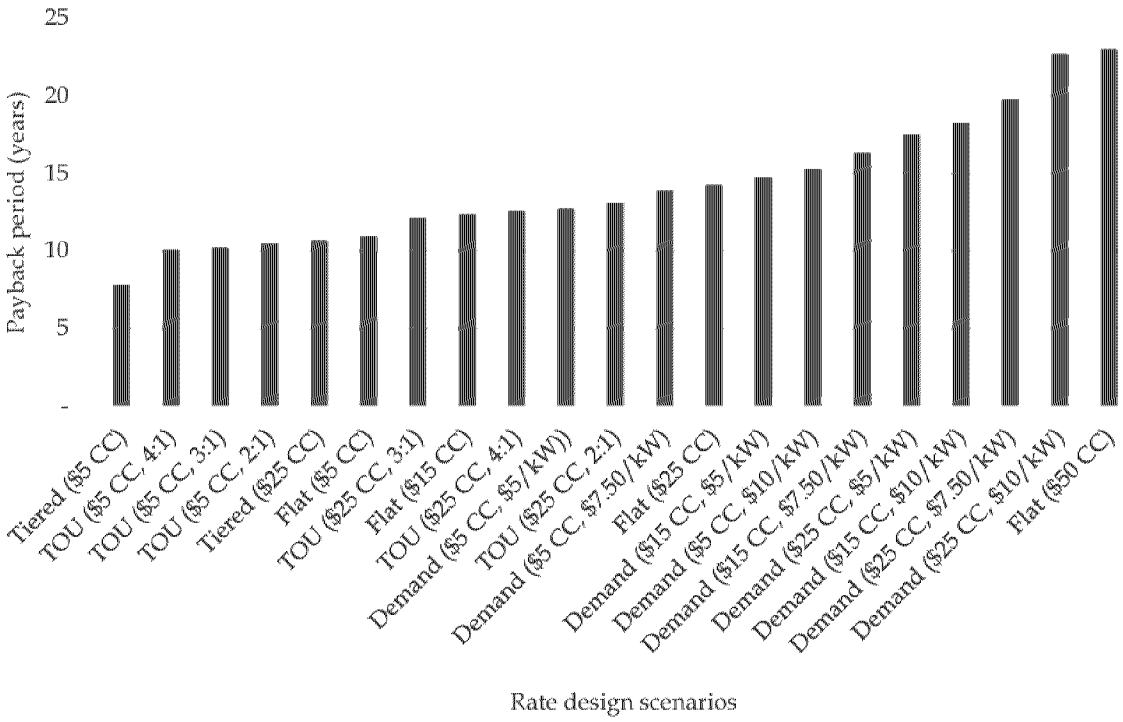

Figure ES1. Payback periods in years under 20 rate design scenarios. CC = Customer charge. TOU = Time-of-use rate. The ratios shown are the on- to off-peak ratios for time-of-use volumetric energy rates.

The rate design scenarios included changes in fixed charges, TOU rates, tiered rates, and demand charges.[15] While the analysis was conducted using rates and energy savings from Arizona Public Service, I would expect the general trends identified in the study to hold true for SPPC.[16]

The study found that the scenarios with the highest fixed charges had the longest payback periods for customer investments in energy efficiency measures. The results across all twenty measures evaluated showed congruent findings: higher fixed charges

[15] Baatz, B. 2017. Rate Design Matters: The Intersection of Residential Rate Design and Energy Efficiency. American Council for an Energy Efficient Economy. https://www.aceee.org/research-report/u1703

[16] The basis for this expectation comes from the similarities between APS and SPPC's peak seasons, investor-owned business model, and generation profiles, as well as the residential customer profiles and usage patterns the utilities serve.

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and rates with demand charges resulted in longer payback periods, while tiered rates and TOU rates resulted in shorter payback periods. A longer payback period is a disincentive for customers to invest in energy efficiency. Large, fixed charges, including demand and higher basic service charges, reduce the volumetric rate customers pay for each kilowatt hour ("kWh") of electricity they consume. Reducing the volumetric rate that a customer saves through investments in energy efficiency directly impacts the payback period and customer bill savings.

25. Q: What benefit does SPPC say customers will gain under the proposed rate structure?

A: Witness Janet Wells states that customers will experience less volatile bills. She specifically mentions, the range in D-1 bills will decrease from $59 to $41 over the course of the year.[17]

26. Q: Will the Company's proposal for a higher basic service charge remove volatility in bills?

A: No, significant opportunity for bill volatility will remain. Factors outside of the costs recovered in the volumetric BTGR are significant contributors to bill volatility. Specifically, fuel cost volatility is a key driver of high and volatile bills. For instance, during 2023, which the Company references as a time that it received complaints about volatile bills,[18] the BTER (Base Tariff Energy Rate) and DEAA (Deferred Energy Accounting Adjustment), the bill clauses that collect fuel costs, were at high values.

[17] 24-02026, General Rate Case Application, Janet Wells Prepared Direct Testimony; Q&A 21.
[18] Response to NCARE Data Request 6-08

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Methane gas prices rose following the outbreak of the war in Ukraine and Nevada customers are only starting to feel the return to 'normal' in the coming quarters.[19]

Instead of proposing to raise all domestic customer basic service charges, the Company would be advised to combat volatile customer bills by investing in generation technologies that have no fuel cost associated with them. Because the Company passes the fuel cost increases onto customers and does not share in the fuel cost risk, customers carry all the risk for fuel prices, even when the Company's projections are incorrect. Curbing SPPC's and NV Energy's overreliance on methane gas plants as a whole is a concrete and durable step in stabilizing bills for customers without sacrificing customer control.

27. Q: Does the utility provide a comparison on this rate design to others currently in effect?

A: Only in a limited and flawed capacity. Janet Wells provides a visual comparison of the proposed rate components including the fixed charge to those offered by other electric utilities in Nevada.[20] This is not a fair comparison though as these providers are not investor-owned utilities, they are instead municipal or cooperative utilities. Ms. Well's choice to limit her comparison to small service providers who do not share the same ownership structure obfuscates how extreme SPPC's proposal is, even in a national context.

Compared to other Investor-Owned Utilities across the country and the fixed charge components of their residential rates, the $45.30 proposed by SPPC is an extreme outlier.

[19] Federal Reserve Bank of St. Louis. (2023) *The Ukraine war's effects on US commodity prices.* https://fredblog.stlouisfed.org/2023/10/the-ukraine-wars-effects-on-us-commodity-prices/

[20] 24-02026, General Rate Case Application, Janet Wells Prepared Direct Testimony; Q&A 24, Wells-Direct-3.

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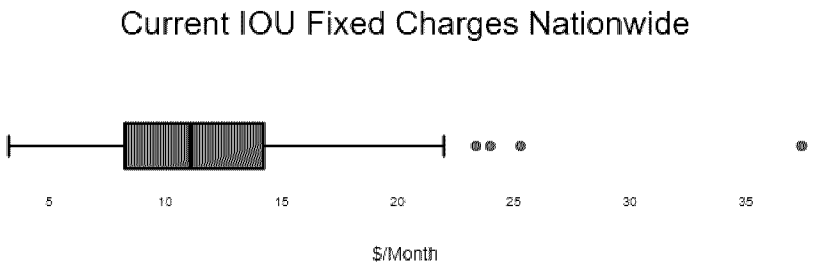
It is more than five standard deviations away from the mean. The boxplot below illustrates the current spread of fixed charges levied by IOUs across the nation.

FIGURE WALSH-2



Examining the default residential service rates of 160 IOUs, the current average basic service charge is $11.63, and the median is $11.10. There currently are four statistical outliers with the most extreme being Mississippi Power at $37.41/month. SPPC's proposal is $7.89 (21%) higher than the maximum fixed charge currently in effect nationwide among investor-owned utilities; it cannot be overstated how outlandish increasing the current BSC to this degree is.

28. Q. Does approval of the Company's proposed increase in the basic service charge diminish the Utility's ability to influence customer behavior through rates in the future?

A. Yes. An increase in the basic service charge increases the fixed charge portion of the bill and reduces the volumetric charge in proportion to the total bill. As the fixed portion of a bill is increased, the ability of the utility or Commission to influence customer behavior through smart rate design, such as TOU rates is diminished.

Figure Wells-Direct-3: *Nevada Residential Basic Service Charges* presents a visual that actually depicts the extent to which the approval of SPPC's proposal to increase the BSC

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will limit the Commission's ability to implement smart rate design in the future.[21] The variable base rate portion of a customer's bill will decrease from about half of a customer's bill to only a quarter. Therefor if the BSC increase is approved, any future efforts to implement smart rate design or rely on price signals will be half as effective.

29. Q: Please summarize your testimony regarding the components of a reasonable Basic Service Charge?

A: The BSC should include only costs that have historically been recovered to serve individual customers: the service line drops to the residence, the meter, billing and accounting services for that customer. Fixed costs associated with the distribution and transmission system[22], as well as Rule 9 Facilities costs, and uncollectible costs[23] are more appropriately recovered in the volumetric charge. This also ensures that the appropriate rate structures and customer control provisions are in place to afford customers the agency they need to respond to actual price signals and conserve energy, both of which support state regulatory mandates and goals and afford the Commission the greatest opportunity to implement future smart rate design policies. If SPPC's proposal moves forward, it will reduce customer agency, inhibit energy efficiency and conservation, increase subsidies for high-usage residential customers, and possibly have unintended consequences for the Company's DSM program.

[21] 24-02026, General Rate Case Application, Janet Wells Prepared Direct Testimony; Q&A 22.
[22] Primary distribution lines are shared facilities, serving multiple customers. The investment decision is based on either a judgment by the utility that there is enough business to justify the investment (a volumetric measurement) or based on a customer-by-customer line extension payment, in which case the customer has already paid the capital cost in advance through a Contribution in Aid of Construction fee (CIAC) or Customer Advance.
[23] Detailed in FERC Account 904 and proposed for partial inclusion into the customer charge by SPPC (Bohrman Direct – 2, pg. 20 of 38). The Hawaii Public Utilities Commission explicitly ruled that uncollectibles *do not* belong in the customer charge and that these are not customer-related for cost allocation purposes between classes.. (Hawaii PUC Order 38680, page 35)

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Section 4

Sierra Pacific Power Company's Proposed BSC Increase and Impacts

30. Q: Please briefly reiterate SPPC's proposal regarding residential BSC increases in this proceeding.

A: As listed in their certification filing, SPPC is proposing to increase the basic service charges for the following residential (domestic) tariffs as noted below.

- Single-family Residential:
  - D-1, OD-1 TOU, OD-1 CPP
    - $16.50/month to $45.30/month, increase of $28.80/month, 2.75x increase
  - OD-1 DDP, OD-1 CPP DDP:
    - $9.50/month to $20.00, increase of $10.50/month, 2.11x increase
- Multi-family Residential:
  - DM-1, ODM-1 TOU, ODM-1 CPP
    - $8.00/month to $18.80/month, increase of $10.80/month, 2.35x increase
  - ODM-1 DDP, OD-1 CPP DDP:
    - $6.25/month to $7.25/month, increase of $1.00, 1.16x increase

31. Q: Please reiterate your recommendations regarding the proposed BSC increases.

A: We recommend that the Commission should deny SPPC's request to increase the Basic Service Charge for all residential customers and the associated voluntary rates offered to this customer class. Aside from the adverse policy consequences associated with SPPC's proposal there will be substantial bill impacts for customers.

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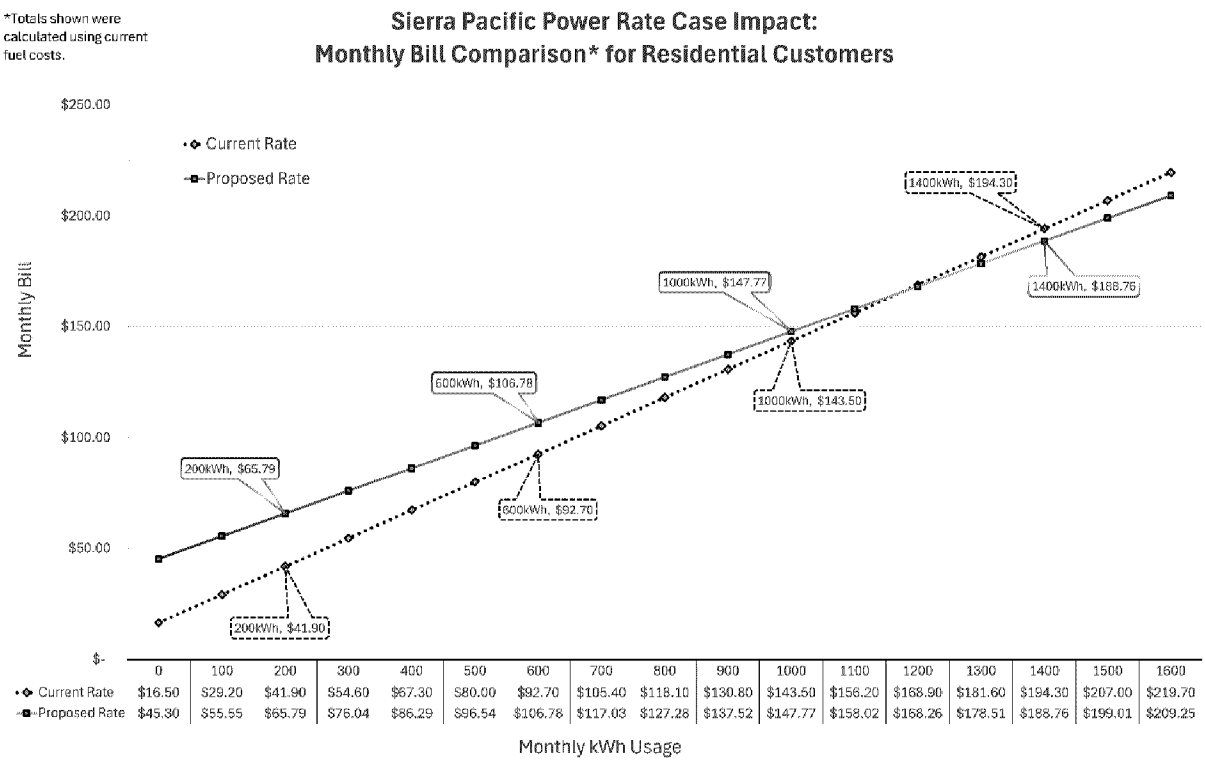
32. Q: What are the expected bill impacts for residential customers within SPPC's service territory if the proposed D-1 tariff sheets are approved in their current form?

A: Figure WALSH-3 below shows the current and potential monthly D-1 bill totals for different energy usage levels of SPPC. The intersection of bills under the rate structures occurs at 1,174 kWh and illustrates that any D-1 customer using less than that amount in a monthly billing cycle will be paying a higher power bill (holding fuel costs constant) than they do currently. Conversely, single-family customers who use 1,175 kWh or more each month will see monthly bill savings.

FIGURE WALSH-3



	0	100	200	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600
Current Rate	$16.50	$29.20	$41.90	$54.60	$67.30	$80.00	$92.70	$105.40	$118.10	$130.80	$143.50	$156.20	$168.90	$181.60	$194.30	$207.00	$219.70
Proposed Rate	$45.30	$55.55	$65.79	$76.04	$86.29	$96.54	$106.78	$117.03	$127.28	$137.52	$147.77	$158.02	$168.26	$178.51	$188.76	$199.01	$209.25

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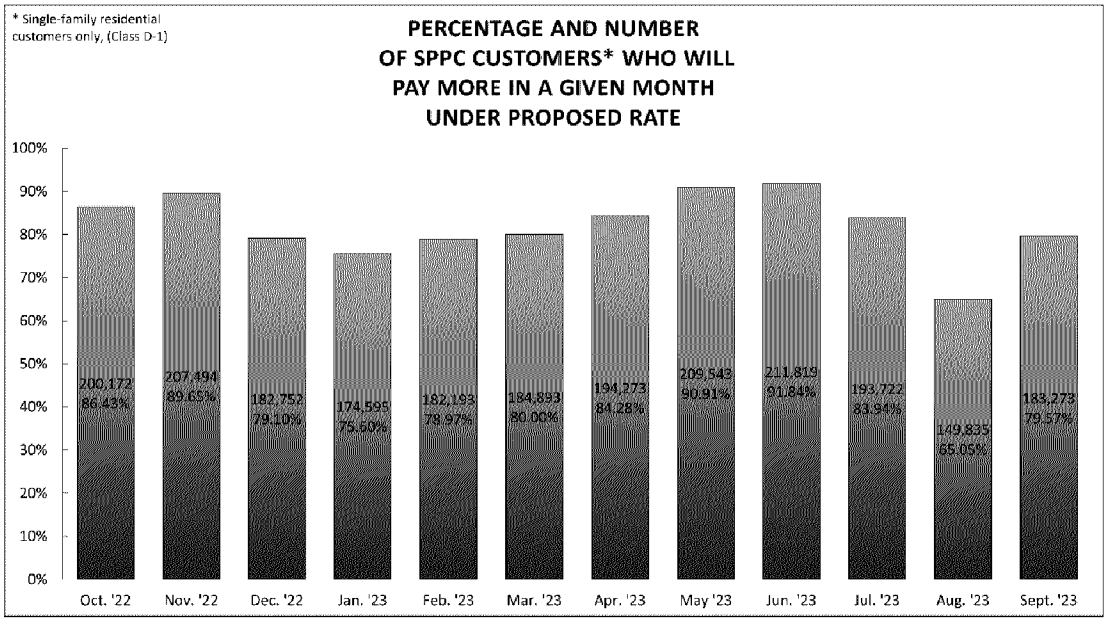
The inflection point of 1,174 kWh is far above the 765 kWh's the Company states the 'average' residential customer uses in a month[24]; it is 1.53x greater than the average residential customer's monthly usage. This is because the largest users derive so much benefit from the Company's proposal. If approved, customers billed for 765 kWh of usage will see a monthly bill increase of $10.03. During the test year, SPPC had an average of 189,547 customers using less than 1,174 kWh monthly (82.12% of customers would see bill increases) and 142,910 customers using less than 765 kWh (meaning 61.91% of customers would see monthly bill increases of $10 or more). Figure WALSH-4 shows the number of customers monthly will a billed usage of less than 1,174 kWh. The benefit of this rate design accrues to a small percentage of users – the very large residential consumers, who are overwhelmingly high-income consumers in large homes.

FIGURE WALSH-4



[24] Docket 24-02026, Certification Filing Phase III (Rate Design), Wells_Workpaper_CertElectricSPPC2024GRC.

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A full table showing the bill impacts of SPPC's proposed rate design and tariff sheet is available as Attachment EW-2.

33. Q: Are fuel costs included in this analysis of bill impacts?

A: This is a base rate case and fuel related charges are not addressed or set under the purview of this docket. As such, I completed this analysis by holding the BTER and DEAA constant at $0.00/kWh to mathematically remove them, or at their present value when the certification for Phase III (Rate Design) of this GRC application was filed. Those values are $0.05730/kWh and $0.00689/kWh, respectively.

34. Q: Does the Company include fuel costs in its analysis of bill impacts?

A: Yes, but the Company's approach masks the true impact on bills from the rate increase proposed in this case. The Company has told the wider public and included within the application that 'average' customers should see a monthly bill savings of about $7 under the proposed rate structure, even if the Company is allowed to recover an additional $95 million from customers.[25] This claimed "decrease" in bills that witness Janet Wells projects is due to falling fuel prices which NV Energy has no control over; there is also no guarantee that gas prices will fall as forecast. As we saw with the war in Ukraine, unknown international crises can spike gas prices drastically with little warning. SPPC is not considering the risk of fuel price volatility at all in this case, which we know from the past few years is a significant risk that has exposed Nevada families and businesses to enormous bill increases. Holding fuel costs constant or removing them entirely (mathematically holding them constant at 0) shows the direct, unobscured impact of the Company's proposal on customers.

[25] 24-02026, General Rate Case Application, Janet Wells Prepared Direct Testimony; Q&A 12.

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In Q&A 12 of her testimony, Janet Wells says that the average monthly bill for a residential customer is projected to decrease from $118 in 2023 to $111 in 2024, "including the proposed GRC increase and forecasted BTER and DEAA rate decreases". This is a monthly decrease of $7. An analysis of bill impact stemming from just the BTGR and the BSC proposed in the certified application tariff sheets shows that the average residential customer using 765kWh monthly will have $10.03 recovered more from them monthly if the application is approved. If the application had not been filed, an average customer would see $17 in bill savings by the end of 2024 compared to the $7 that is projected including all the elements potentially changing in the coming months, both as a result of this docket and through factors outside of the utility's control.[26] If the Company had filed this rate case in 2025 on the traditional three-year schedule instead of a year and a half early, gas prices might have fallen as projected, and the full effect of the rate increase would be more apparent to customers in their monthly bills than if the application is approved now given the contradictory increases and decreases bills will potentially be subjected to. The falling fuel prices present a timing opportunity for the utility to claim they are decreasing bills, despite the requested rate base, profit, and BSC increases and use the opaque nature of tariffs, rates and bills to minimize public opposition.

35. Q: How would the approval of the rate base increase but denial of increasing the Basic Service Charge affect residential customers and their bills?

A: In addition to the rate base increase, Sierra Pacific Power is proposing within their application to change the rate design for the residential tariff by increasing the Basic Service Charges by up to 2.75x. Detailed in the certified Statement O, if the Company

[26] Fuel prices falling $17 but SPPC recovering $10 more monthly = $7 realized bill savings. (-7=-17+10)

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were not requesting this restructuring, the BTGR they would request as part of this application would be $0.07176/kWh. This is an increase of $0.01422 from the current BTGR of $0.05745.

If the company had proposed to increase the BTGR and keep the BSC the same, all customers would see bill increases due to the requested increase in base rate revenue, but the magnitude would be directly related to a customer's monthly billed usage.[27] A full table showing the bill impacts of SPPC's hypothetical BTGR increase proposal is available as Attachment EW-3.[28] High usage customers would see greater bill impacts, as they use more energy. Figure WALSH-5 shows the D-1 monthly bill impacts of both the approval and denial of the BSC increase, with the assumption that the rate base increase was approved in its entirety by the Commission. The downward sloping line shows that the lowest use customers would be hit with the largest bill increases if the Commission approves the Company's proposed BSC increase. In dramatic contrast, the upward sloping line shows that retaining the current BSC levels will preserve a price signal for higher energy users.

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[27] Customers who do not use any energy in a given month would not see any bill increase.
[28] A bill impact comparison for the hypothetical BTGR increase versus the proposed BSC increase is also available as Attachment EW-4.

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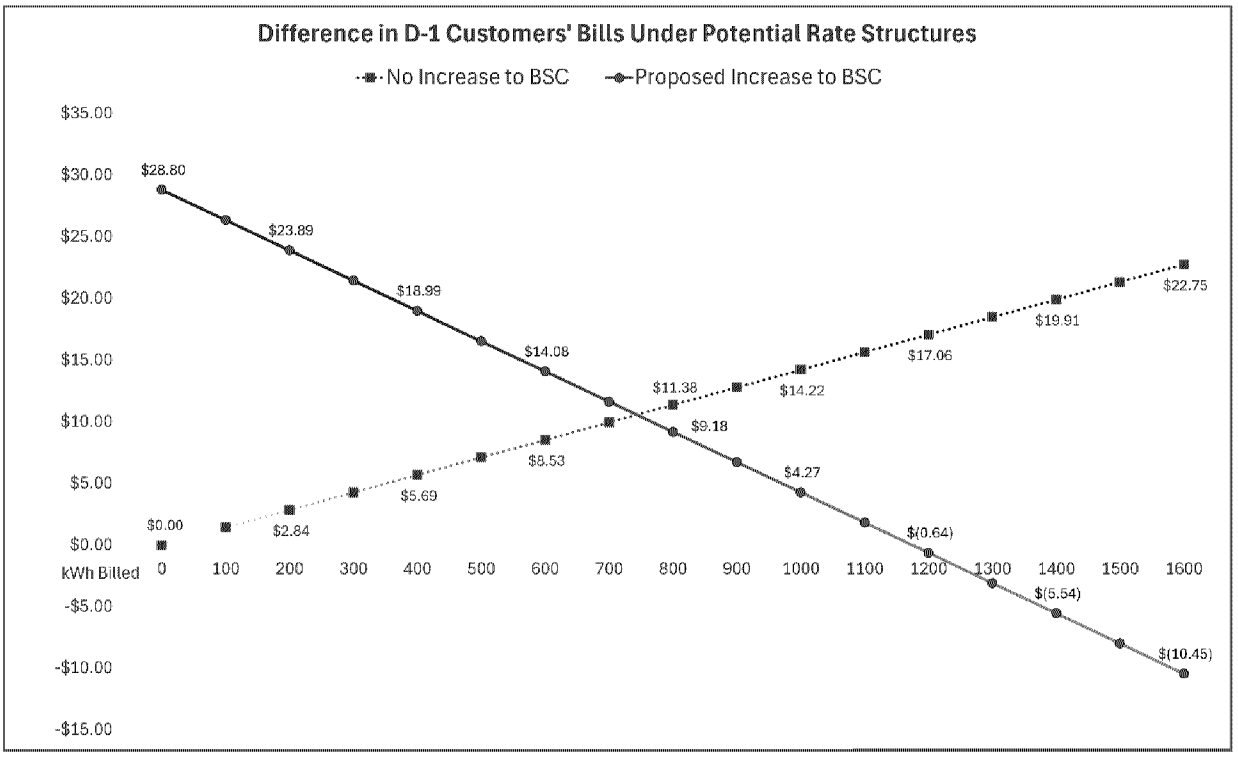
FIGURE WALSH-5



This graphic clearly shows that if the BSC increase is approved, customers who use less energy are going to see the largest bill impacts in terms of total dollars.

36. Q: How will this BSC increase affect low usage customers if approved?

A: If the BSC increase is approved, low-usage customers are going to see the greatest bill impacts. Figure WALSH-6 shows the percentage of change that a customer will experience based on their usage levels under the proposed BSC increase.

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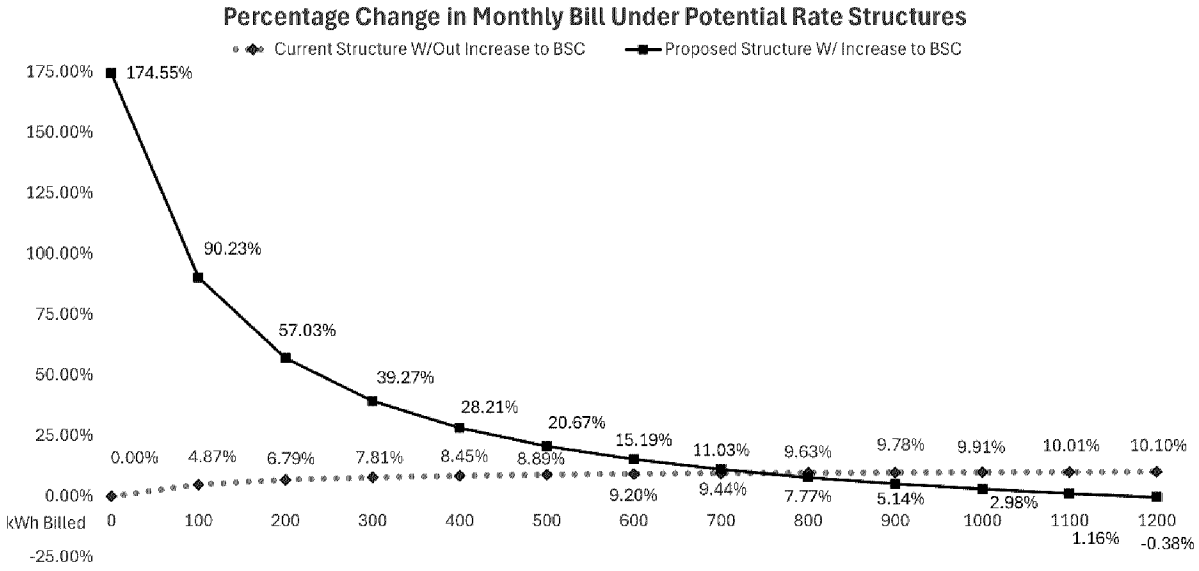
Figure WALSH-6



Below average use customers are going to bear the brunt of the rate base increase if the increase to the Basic Service Charge is concurrently approved. Low-usage customers could be paying anywhere from 20-90% more than they currently do with the effective Basic Service Charge.

In Q&A 16 and 17 of her Prepared Direct Testimony, Witness Wells discusses the class revenue cap mechanism that the Company is using and supporting to limit class revenue increases for the residential class to a total of 9.68%.[29] Figure WALSH-6 illustrates how retaining the current BSC would ensure that all customers see individual revenue percentage increases in a close range around that cap. Increasing the Basic Service Charge renders the cap and its intended effects to mitigate impacts for customers from the revenue increase useless. Raising the BSC as proposed by the Company is not

[29] Docket 24-02026; Sierra Pacific Power Company, General Rate Application, Volume 4, pg. 19.

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equitable or just as it disproportionately affects low-usage customers, both in total dollar amount and in bill percentage change.

To reiterate from above, SPPC had an average of 189,547 customers using less than 1,174 kWh monthly (82.12% of customers would see bill increases) and 142,910 customers using less than 765 kWh (meaning 61.91% of customers would see monthly bill increases of $10 or more). The less energy a customer uses, the more they are going to be punished under this rate structure if approved.[30]

37. Q: How will this BSC increase affect high usage customers if approved?

A: The most extreme high-usage residential customers would see enormous bill savings under this proposed rate structure and would in effect be receiving a subsidy for both their energy usage and demand placed on the system if the BSC increase is put into effect. As found in Master Data Request 103E[31], we can see that in October of 2022, the first month of the test year used in this docket, there were three D-1 customers who used more than 50,000 kWh of energy during the month.[32] The residential customer with the highest usage level in October '22 used over 58,000 kWh. Under the proposed rate structure, they would pay $1,395 less than what they would under the currently effective tariff, and $2,221 less than they would under a tariff where the BTGR was increased to $0.07167.

[30] A full table with customer bill counts broken down by usage is available as Attachment EW-5.
[31] Full file name: "MDR 103E Attachment_BILL FREQS FINAL ELECTRIC"
[32] It is concerning that customers with this amount of load are able to take domestic service and are charged the same for the 58,000kWh they use as a low-usage customer is for their 200kWh; PUCN staff have mentioned in testimony before that splitting the D-1 customer class into subclasses may better address this issue and reduce intra-class subsidies and allow the utility to more closely set cost-based rates, effectively recovering distribution costs from the customers that place the most demand on the system. (Docket 16-06006, Direct Prepared Testimony of Manuel Lopez, Q&A 14).

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The table below shows an expansion of this calculation for all three residential customers with billed usage over 50,000 kWh in October of 2022.[33]

FIGURE WALSH-7

kWh Billed	Effective Tariff	New Tariff W/Out BSC Increase	New Tariff W/ BSC Increase (Certification)	Difference, Current BSC	Difference, BSC Increase	Difference, Current BSC to Increased BSC
	$16.50+$0.12700*kWh	$16.50+$0.14122*kWh	$45.30+$0.10247*kWh			
51,840	$ 6,600.18	$ 7,337.34	$ 5,357.34	$ 737.16	$ (1,242.84)	$ (1,980.00)
54,960	$ 6,996.42	$ 7,777.95	$ 5,677.05	$ 781.53	$ (1,319.37)	$ (2,100.90)
58,080	$ 7,392.66	$ 8,218.56	$ 5,996.76	$ 825.90	$ (1,395.90)	$ (2,221.80)

While these may be extreme examples, there are exorbitantly high users in every month of the test year; October is not even the month with the highest usage occurrence. Changing the rate structure to include a substantially higher fixed customer charge and lowering the volumetric charge, would result in bill savings for high energy-use customers that will be made up and subsidized by other customers who more align with 'average' customer usage patterns.

38. Q: What supporting evidence does SPPC offer for their claim that low-income residential customers will not be largely affected by this rate design?

A: In Q&A 13, Janet Wells elaborates on the use of customers participating in ESAP (the Expanded Solar Access Program) to estimate the impact of the proposed rate design.[34] Ms. Wells and her team concluded that low-income customers use 705kWh monthly on average, which she notes is very similar to the average residential customer. I do not find

[33] The total kWh rate in this comparison was computed using the effective tariff sheet, proposed tariff sheet, and Statement O. The kWh rate includes the respective BTGRs and all public policy rates as well as the current DEAA and BTER at time of certification of the Rate Design application.
[34] 24-02026, General Rate Case Application, Janet Wells Prepared Direct Testimony; Q&A 13.

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this to be an adequate analysis or assessment of the proposed rate design's impact on low-income customers for multiple reasons.

First, as divulged by the company in response to NCARE 6-07, SPPC only had 695 low-income customers participating in the Expanded Solar Access Program. This is a self-selected group and constitutes a small sample size, both of which can influence the representativeness of the sample and call into question conclusions based upon it. ESAP customers are unlikely to be representative of the full population of low-income customers. As detailed by SPPC in response to NCARE 5-02, the Company is only aware of customers who apply for eligibility as a low-income participant in the expanded solar access program, and to participate customers must provide documentation to the Company to meet the eligibility requirements and subsequently regularly update that information for continued eligibility. Many low- or fixed- income customers face administrative or technological barriers to program engagement and participation; something that the Company's representatives have acknowledged publicly on recent Program Development Working Group calls. Therefore, the ESAP participants have signaled that their behavior is not indicative of the wider low-income customer population.

SPPC explained that "the Company does not track, nor does it have access to, the household income information for each of its D-1 customers," in response to NCARE 1-10. The Company elaborated in NCARE 5-02 that they, "[do] not keep customer income data and therefore [are] not aware of how many low-income customers are in the Company's service territory." I would argue that the Company does have the resources and data to at least get a better understanding of the number of low-income residential

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customers residing in their service territory. SB448 from the 2021 Nevada Legislative Session enacted multiple definitions that the Company and NV Energy as a whole could use to better understand the population they serve and their low-income customers.[35] Section 12 of the bill defines "historically underserved community" and directs the Company to invest in energy efficiency measures as well as transportation electrification for the benefit of these customers.[36] The Company has access to physical addresses and meter locations of their customers as well as their usage information. It may be possible to aggregate and extrapolate the average usage for customers within the geographic boundaries (census blocks) of communities described in SB448, especially given that the Company has had to provide support for proof of their investments into these areas before.

At a less burdensome level, SPPC could at least have reviewed publicly available poverty-level and income data. Public Law 112-141 (MAP-21), revises 49 U.S.C. § 5302 to include a definition of "low-income individual" to mean "an individual whose family income is at or below 150 percent of the poverty line".[37] The US Census Bureau has information available at the county level about the current poverty levels experienced as well as statistics regarding population makeup; they project that the total population of Washoe County was 498,022 in July of 2023, and that 10.3% of the population was in poverty.[38] That equates to 51,296 people. Furthermore, this is only the projected number of people living in poverty and does not include those living between the poverty line and

[35] Nevada Senate Bill 448 (2021 Session) https://www.leg.state.nv.us/App/NELIS/REL/81st2021/Bill/8201/Text#
[36] The law also defined 'low-income household' in NRS as "a household, which may include one or more persons, with a median household income of not more than 80 percent of the area median household income, based on the guidelines published by the United States Department of Housing and Urban Development".
[37] 112th Congress (2012). PUBLIC LAW 112–141. https://www.govinfo.gov/content/pkg/PLAW-112publ141/pdf/PLAW-112publ141.pdf
[38] https://www.census.gov/quickfacts/fact/table/washoecountynevada/BZA110221

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150% of the poverty line. The Company could also identify the number of northern Nevadans on Social Security, Medicaid, or Medicare to get information on how many of their customers may be on a fixed income.

There are also extant resources available that can provide insight into the energy burden and energy costs cross references with housing status and income information. The LEAD Tool (Low-income Energy Affordability Data Tool) is hosted by the Department of Energy's Office of State and Community Energy Programs.[39] According to the LEAD Tool, the bottom 30% of Nevada households by income have an energy burden of 14% and an average income of $10,575.

39. Q: Does SPPC offer any supporting evidence that low-income residential customers are also not low usage customers?

A: They do not beyond that the ESAP customer usage levels are 'close' to average residential customer usage levels.

40. Q: Do you have other concerns regarding how the average customer's usage (regardless of income status) was calculated?

A: Yes. In Response to NCARE DR 8-01 B, SPPC explained that "the specific method of calculating the average energy use per single-family customer was dividing the total full requirements D-1 sales by total D-1 customer bills over the twelve-month period." This means that for each month, extremely high usage customers were included in the calculation even though their usage levels in no way should be considered when thinking of the 'average' customer or finding them mathematically. Customers such as the three I highlighted above in Q&A 36, who all used over 50MWh in October 2022, skew the

[39] https://www.energy.gov/scep/slsc/lead-tool

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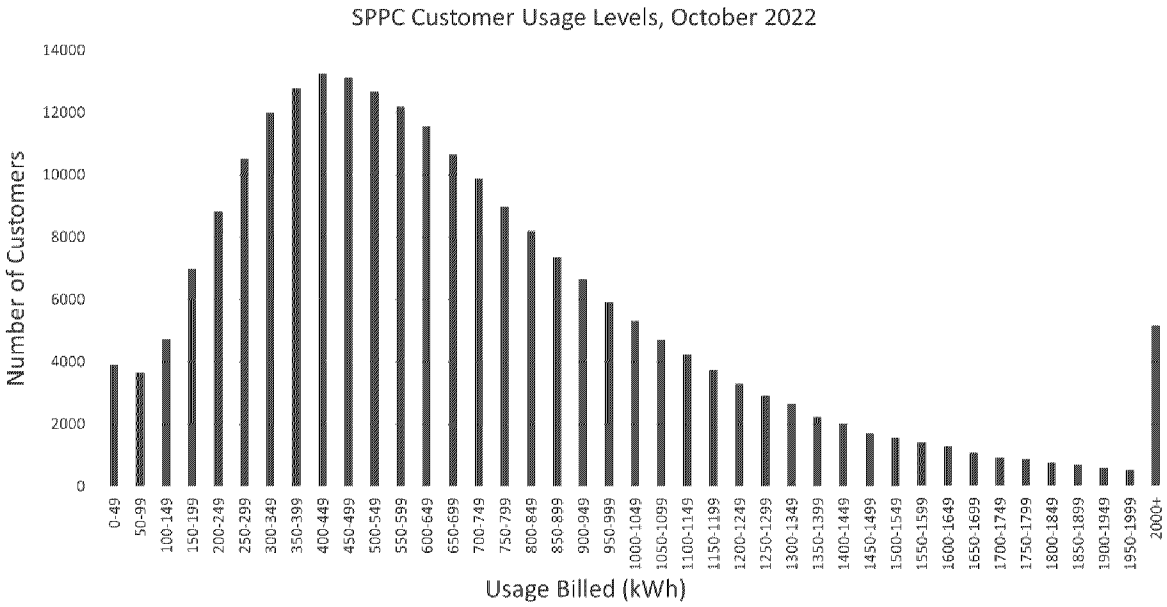
calculation. They cumulatively used 164,880kWh during the month – equivalent to the total usage of the lowest 5,267 customers by billed usage combined. Figure WALSH-8 shows the population spread of D-1 SPPC customers by usage level for October of 2022.[40]

FIGURE WALSH-8



I also created the boxplots in Figure WALSH-9 to illustrate usage outliers within the class. In the first plot, the box is almost invisible in its compression due to the scale needed to include the outliers. The second plot shows the spread of the billed usage when outliers are removed.

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[40] This boxplot was created using MDR 103E provided with information for the original test year of October '22-Spetember '23. This was also the data source for the following calculation referenced in this section.

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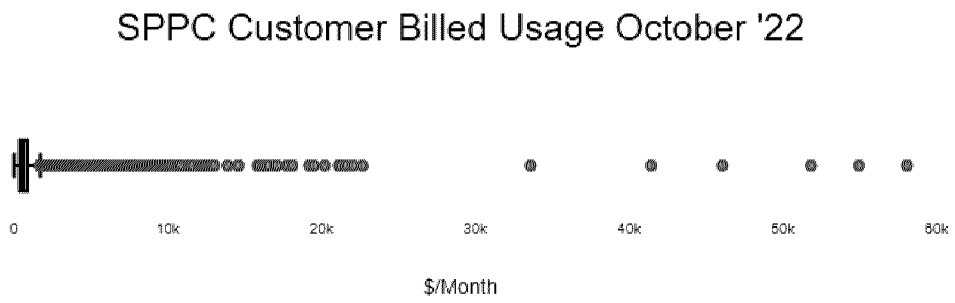
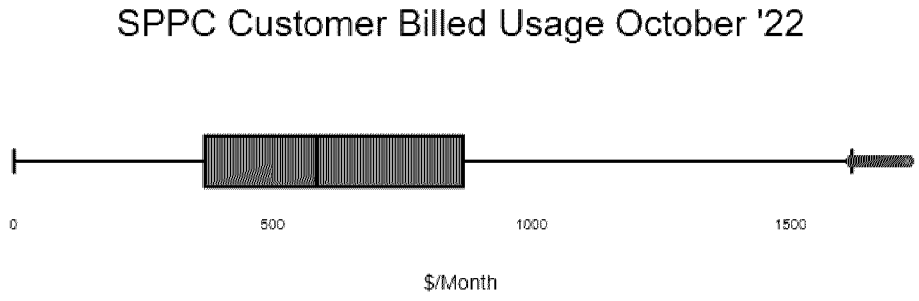
FIGURE WALSH-9





Using the "1.5xIQR" method we can see that 1,725.5kWH is the upper bound for usage values to not be considered outliers for October 2022.[41] 9,021 residential customers fall outside that range (3.98% of D-1 customers) and accounted for 21,958,135kWh of usage cumulatively (13.26%). Statistical outliers should have been removed from the population on a monthly basis before taking the mean from the total kWh sales and bills charged. In my opinion this would reveal a better approximation of the 'average' user while still accounting for weather or other factors that drive usage trends over the course of the year.[42]

[41] Using an alternative method, the "68–95–99.7" rule (also referred to as the 3σ rule) I found the upper bound to be 2,526kWh and excluded 2,090 (0.90%) customers as outliers. These customers accounted for 8,031,822kWh of usage (4.85%).
[42] I completed an evaluation of the 'average' customer usage excluding extreme outliers and found that value to be 687.32kWh monthly. This result more matches the bill frequency distribution and highlights that the 'average' northern Nevadan uses less energy and will see higher bill impacts than stated by the company in their application.

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Section 5

The Importance of Successful Residential Time-Of-Use Rates

41. Q: What is the purpose of Time-of-Use rates?

A: Time-of-Use Rates are the simplest and most common form of Time-Varying-Rates for residential customers. TOU rates are a powerful mechanism that can be used to influence customer demand and shape their load and will be increasingly more important during the clean energy transition. Traditionally, the general purpose of TOU rates is to reduce demand during peak periods, encourage consumption in off-peak periods, and ensure that all customers pay the relevant costs for the power they use at different time periods. This objective is accomplished by providing a price signal directly to customers that discourages consumption during specified hours via a higher volumetric price.

Empirical data consistently shows that residential customers are responsive to changes in energy rates.[43] At their core, properly designed electric tariffs alleviate strain on the grid through encouraging electricity use during times of day when power is cheaper, and demand is lower. This leads to the reduction of long-term costs for all customers and helps with the integration of renewable energy and new electrification loads, especially of transportation. This is in part why many utilities across the country are adopting TOU tariffs as their default rates or designing voluntary rates that are effective in enticing residential customers to participate; in 2019, over 330 utilities offered some form of TOUs and had over six million residential customers enrolled.[44]

42. Q: How many customers of SPPC are currently enrolled in their primary TOU rate?

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[43] Baatz, B. 2017. Rate Design Matters: The Intersection of Residential Rate Design and Energy Efficiency. American Council for an Energy Efficient Economy. https://www.aceee.org/research-report/u1703

[44] EIA. 2020. "Annual Electric Power Industry Report, Form EIA-861 Detailed Data Files." U.S. Energy Information Administration. https://www.eia.gov/electricity/data/eia861/.

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A: As of December 2023, only 749 residential customers were participating in SPPC's single-family residential TOU rate (OD-1).[45] This amounted to 0.33 percent of SPPC's single family residential customers at that time.

43. Q: Does SPPC offer a singular TOU rate or additional options for residential customers?

A: SPPC currently offers an optional TOU to both single- and multi-family residential customers, as well as Critical Peak Pricing (CPP) and Daily Demand Pricing (DDP). These optional rates can all be stacked and further combined with net-metering (NEM) and the Residential Electric Vehicle Recharge Rider (EVRR).

44. Q: How many customers are enrolled in those rates?

A: Very few**.** All of the above offers give customers many options to try to find the best rate for their situation, but also create a complex set of tariffs that many people cannot understand. This may be a barrier to enrollment as evidenced by the low enrollment numbers shown below in Figure WALSH-10.[46]

FIGURE WALSH-10

Sierra Pacific Power Company - Electric Average Billed Customers			
	2023	Q1 2024	Difference
OD-1 TOU	772	772	0
OD-1 TOU NEM	228	252	24
OD-1 TOU EVRR	941	1086	145
OD-1 TOU EVRR NEM	243	329	86
OD-1 TOU CPP	1	1	0
OD-1 TOU CPP DDP	3	3	0
ODM-1 TOU	38	38	0
ODM-1 TOU EVRR	41	52	11
Grand Total	2,267	2,533	266

[45] Response to NCARE Data Request 3-05, Attachment 1 of 2.
[46] Created using data from Response to NCARE 3-04, Attachment 1.

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Since the implementation of the 3-9pm peak period in SPPC's service territory last year, there have been no new enrollments to the basic TOU offering for the D-1 and DM-1 customer populations. The only enrollments are to the NEM or EVRR rates, indicating that the current design of the TOU offering is not enticing to customers and without customers investing into solar systems or electric vehicles of their own accord, there may have been no enrollment since the new peak period went into effect.

Historically, the optional TOU offered by SPPC has also not had high enrollment, or even crossed one half percent of all D-1 customers. Participation peaked in mid-2015 with 0.43% of D-1 customers participating under a TOU definition. Since then, participation has dropped back to 0.032%, under one-third of a percent.[47]

45. Q: Please identify the benefits of expanding the number of customers on TOU rates in Nevada.

A: There are many benefits to implementing and expanding utilization of TOU rates. The potential benefits from load shifting and conservation in response to TOU include lower customer bills, reduced wholesale market prices, avoided or deferred capacity investments in generation, transmission, and distribution, better integration of variable renewable energy resources, improved system reliability for all consumers, increased likelihood of meeting climate goals, and reduced pollution. TOU rates may also provide incentive for investment in clean energy resources such as solar energy and energy storage, including distributed storage, and energy efficient appliances.

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[47] Response to NCARE Data Request 3-05, Attachment 1 of 2.

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46. Q: Please expand upon how TOU rates provide customers with the ability to manage their bills, and potentially provide the benefit of lower customer bills.

A: Under flat pricing, customers pay the same price for electricity during all hours of the day. Consequently, customers have no knowledge of actual costs across the hours of the day and, therefore, use electricity without considering the economics of the product that they are purchasing. TOU rates provide customers with appropriate price signals to allow them to modify their electricity usage patterns to use electricity more efficiently. As such, TOU rates allow customers to reduce their utility bills by shifting usage to the less costly periods through heightened price sensitivity. A recent evaluation of Maryland Utilities' pilot TOU found that on average, all customers on the TOU rates (including LMI customers) enjoyed bill savings of 5% to 10%.[48]

47. Q: How can TOU rates impact wholesale prices?

A: In regard to wholesale prices, the benefits of TOU rates reach all market participants, by creating a more efficient and less costly system. Reduced peak demand and lower levels of congestion can help avoid calling on more expensive power generation, such as peaker plants, allowing wholesale markets to clear at lower prices.[49] Avoiding the dispatch of higher priced generation results in a lower average cost of producing electricity and thus a lower price for those who choose to remain on flat pricing.[50]

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[48] Sergici, S. and A. Faruqui, A. 2020. "PC44 Time of Use Pilots: Year One Evaluation". The Brattle Group. https://www.brattle.com/wp-content/uploads/2021/05/19973_pc44_time_of_use_pilots_-_year_one_evaluation.pdf

[49] The Brattle Group. 2007. "Quantifying Demand Response Benefits in PJM." The Brattle Group. http://www.ces-us.com/download/Reports_and_Publications/Quantifying_Demand_Response_Benefits_in_PJM_Jan_29_2007.pdf

[50] Peaker plants may be used as little as 100 hours per year but can comprise up to 10-20% of annual electricity costs in the US. - Energy Research Council. 2013. *Best Practices: Demand Response.*

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48. Q: How do TOU rates help defer or avoid capacity investments in generation, transmission, and distribution?

A: To the extent that TOU rates are able to mitigate system wide peak demand by shifting energy consumption to off-peak times, the need for additional power plants and transmission and distribution infrastructure can be deferred or avoided.[51] One example of this can be found in Oklahoma Gas & Electric's pricing pilot from 2011; the company reported that if 20% of their residential customers participated in a TOU structure, the utility would be able to avoid a 210MW peaker plant investment by reducing the need to supply electricity during critical demand times.[52]

49. Q: How can TOU rates help improve utilization and integration of renewable resources?

A: Peak demand typically occurs in the late afternoon and early evening as solar generation ramps down, so that demand usually requires the dispatch of thermal generating resources. By shifting moveable demand to earlier hours in the day when solar is still available, that demand is able to be met with renewable generation and reduces emissions that would otherwise occur if demand was not shifted. Shifting incremental load to hours of the day when excess renewable energy is available on the system reduces curtailment of renewable energy, leading to more efficient management of the electric system and increased utilization of renewable resources.[53] This change in energy load patterns further

[51] Faruqui, A., R. Hledik, S. Newell, and J. Pfeifenberger. 2007. "The Power of Five Percent: How Dynamic Pricing Can Save $35 Billion in Electricity Costs." The Electricity Journal 20.8 (2007): 6877. https://www.greenbiz.com/sites/default/files/document/CustomO16C45F82073.pdf

[52] Williamson, C. 2012. "OG&E Smart Study Together Impact Results: Final Report – Summer 2011." Global Energy Partners. https://www.smartgrid.gov/files/documents/attachments/Chapter_3_Load_Impact_Results_2010.pdf

[53] Faruqui, A., R. Hledik, and J. Palmer. 2012. "Time-Varying and Dynamic Rate Design." Regulatory Assistance Project. https://www.raponline.org/wp-content/uploads/2016/05/rap-faruquihledikpalmer-timevaryingdynamicratedesign-2012-jul-23.pdf

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creates incentive for the utility to invest in renewable energy generation. Customers with distributed solar systems can also invest in storage to retain solar production to use during higher-priced hours in the evening if incentivized to do so, or as part of a utility DER program.

50. Q: How can TOU rates improve environmental outcomes?

A: TOU rates can provide environmental benefits in many ways. Load shifting from on-peak to off-peak periods and reduced overall load from conservation can result in a decrease of polluting emissions from the power sector. There are two different kinds of shifts. First, shifting usage into daytime hours allows those needs to be served directly with solar production, avoiding the use of fossil generation. Second, shifting usage from higher-load hours to lower-load hours outside the daytime often allows loads to be served with combined-cycle generators, avoiding the use of less-efficient peaking units with higher fuel costs and relatively poor utilization of capital investment.

As displayed in the graph below[54], including the 3-6pm hours in the TOU Summer-ON period would shift usage away from hours when there is still plenty of renewable energy still on the system and emissions from generation are comparatively low, even during the hottest week of the year. The utility should be pursuing rate designs that encourage energy use during low emission hours instead of de-incentivizing it.

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[54] This graph was made using data from the EIA for the week of July 15-22, 2023 which was the hottest week experienced in northern Nevada included in the test year. The EIA complies this data by balancing authority; this graphic accordingly depicts the hourly CO2 emissions for the entire NV Energy system, including both SPPC and NPC.

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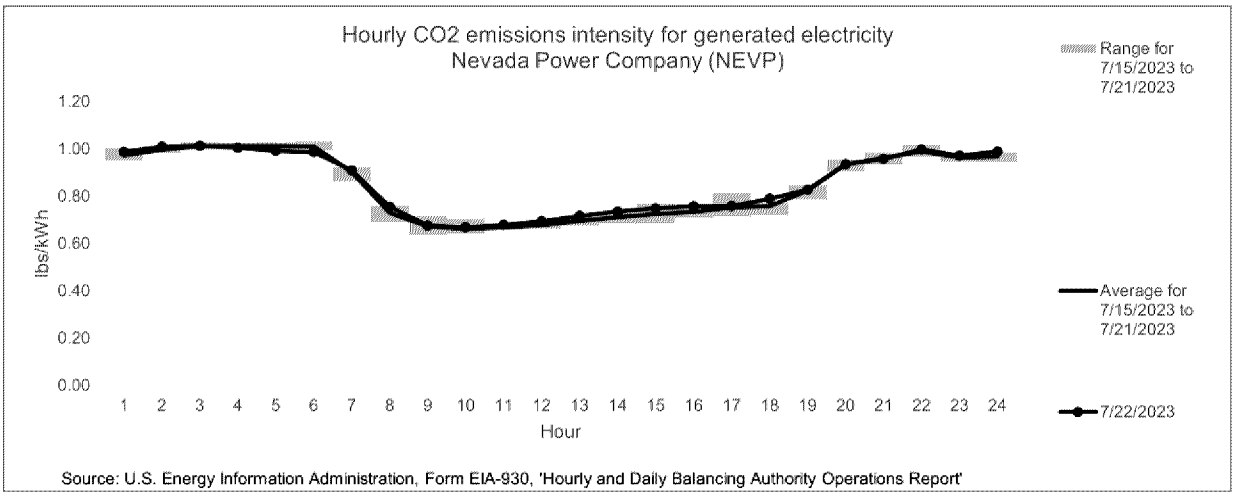
FIGURE WALSH-11



The higher on-peak price encourages conservation behavior and customer investment in energy efficiency measures. TOU rates also encourage customers to shift their energy use from peak hours when incremental load is likely to be served by dispatch of fossil-fueled generation.

51. Q: Please describe the potential peak demand reductions TOU rates may provide.

A: TOU rates can substantially reduce peak demands. A report by the Rocky Mountain Institute noted that well-designed time-based rates (including TOU, critical peak pricing, or peak time rebates), "are effective at achieving their objective of providing a price signal to customers about when to use energy."[55] This same report noted that several regions are transitioning to default TOU rates because of this effectiveness.

According to a 2013 article by Dr. Ahmad Faruqui, "TOU pricing yields significant load reductions."[56] In the study, Dr. Faruqui reviewed 34 pricing studies, under which

[55] Rocky Mountain Institute. 2016. "A Review of Alternative Rate Designs: Industry Experience with Time-Based and Demand Charge Rates for Mass-Market Customers." https://rmi.org/wp-content/uploads/2017/04/A-Review-of-Alternative-Rate-Designs-2016.pdf

[56] Faruqui, A. and S. Sergici. 2013. "Arcturus: International Evidence on Dynamic Pricing." The Electricity Journal. Volume 26, Issue 7, August/September. https://www.sciencedirect.com/science/article/pii/S1040619013001656

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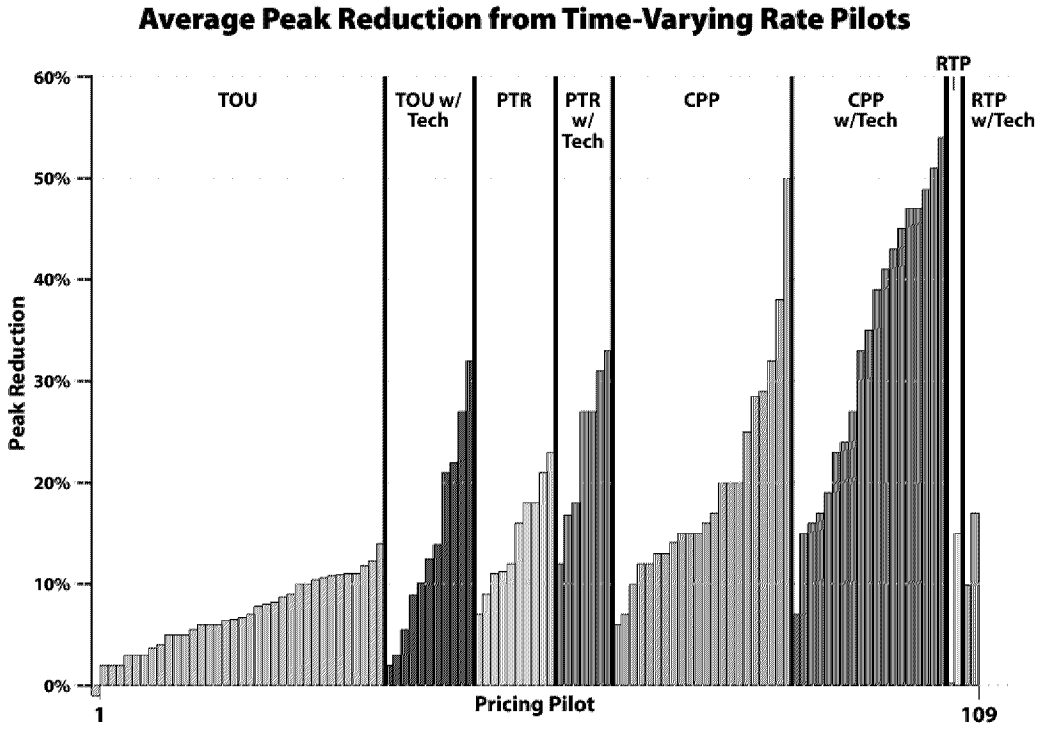
163 experimental treatments were conducted. The pricing pilots evaluated customer response to several forms of dynamic pricing including TOU, peak time rebates, variable peak pricing, and critical peak pricing. Some of the pricing experiences also included a technological intervention, like an in-home energy usage display or home energy monitor that provides feedback on energy consumption. Figure WALSH-12 below depicts the percentage of peak demand reduction achieved for all 163 pricing pilots sorted by rate option. As the figure shows, TOU pricing produced substantial peak demand reductions - with many TOU tariffs producing peak reductions in the 10%-40% range.[57]

FIGURE WALSH-12



[57] Faruqui, A. and S. Sergici. 2013. "Arcturus: International Evidence on Dynamic Pricing." The Electricity Journal. Volume 26, Issue 7, August/September. https://www.sciencedirect.com/science/article/pii/S1040619013001656

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52. Q: Could Nevada's customers and SPPC expect to see the benefits you have described above with broader utilization of Residential TOU rates?

A: Yes, with the appropriate TOU rate design.

SECTION 6

Necessary Components of a Successful, Voluntary Time-Of-Use Rate

53. Q: What are the two most important characteristics that make a successful voluntary residential TOU rate?

A: To be successful, a TOU rate should be designed to provide customers with the ability to shift their movable load out of the on-peak hours and the confidence that they will be able to save money on their electric bill by participating in the TOU. This can be paired down to the simple concepts of 'cost and control'. Simple actions, like delaying electric clothes drying until 9 PM, can provide large savings.

54. Q: What is the optimal length of time for an on-peak window for residential TOUs?

A: Multiple studies have shown that the shorter the window for on-peak hours, the more effective enrolled customers are in shifting their demand out of it. Customer surveys indicate preference for a peak period not exceeding 4-5 hours, even if that means that peak prices will increase.[58] Some utilities also include shoulder hour prices as part of their rate designs as a trade-off with reducing the length of the peak period. We are not recommending shoulder hours at this time as our proposed rate is intended to be simple for customer understanding; shoulder hours could be a viable option for NPC to include in future rate designs once customers are more familiar with an introductory TOU rate.

[58] Potter, J., S. George, and L. Jimenez, "SmartPricing Options Final Evaluation," Sacramento Municipal Utility District, Sacramento, CA, Sep. 2014. https://www.smud.org/-/media/Documents/Corporate/About-Us/Energy-Research-and-Development/research-SmartPricing-options-final-evaluation.ashx

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55. Q: What motivates customers to join a voluntary TOU program?

A: The largest driver of voluntary TOU participation by residential customers is typically the customer's expectation that they will be able to save money on their electric bill through their participation without severe impact on their quality of life.[59]

56. Q: What are some characteristics of residential TOUs that, when present, deter customers from joining voluntary programs?

A: Peak windows that are too long are detrimental to customer enrollment in voluntary residential TOU tariffs simply because it is harder to reduce energy use for an extended period longer than a few hours. Customers not only have to understand what behavioral changes will reduce electric bills, but also weigh those potential cost savings against the difficulty of shifting their behavior enough to incur those cost savings. Ultimately, the apparent incentives to join a TOU must be great enough to surpass the effort of overcoming the administrative and 'default' burden that rests on customers to enroll in a voluntary residential TOU.[60]

57. Q: What are some effective enrollment strategies for voluntary residential TOU rate programs?

A: Even after a good TOU rate is designed, there is still the challenge of getting utility customers to voluntarily choose that rate. The most comprehensive research that I am aware of on this topic is a survey of utilities with varying levels of enrollments and TOU structures, including those for electric vehicles, commissioned by the Smart Electric

[59] Cappers, P., & R. Scheer. 2016. *American recovery and reinvestment act of 2009: Final report on customer acceptance, retention, and response to time-based rates from consumer behavior studies* (No. LBNL-1007279). Lawrence Berkeley National Lab (LBNL). Berkeley, CA (United States). https://emp.lbl.gov/publications/american-recovery-and-reinvestment-1

[60] Cappers, P., & R. Scheer. 2016. *American recovery and reinvestment act of 2009: Final report on customer acceptance, retention, and response to time-based rates from consumer behavior studies* (No. LBNL-1007279). Lawrence Berkeley National Lab (LBNL). Berkeley, CA (United States). https://emp.lbl.gov/publications/american-recovery-and-reinvestment-1

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Power Alliance. The researchers found five main characteristics with the strongest relationship to high enrollment levels.[61] In order of most-to-least influential, they are as follows:

1. Rates with an available marketing budget have enrollment 3x greater than those without (22% vs. 7%).
2. Rates driven by a utility initiative had significantly higher average enrollment than those offered to satisfy legislative or regulatory requirements or customer demands. Utility-driven initiatives had enrollment of over 30% compared to less than 15% for others.
3. Rates providing bill savings (in the absence of adjustments to charging behavior) have enrollment levels 2x higher than those with an expected bill increase.
4. Rates with free enrollment and no additional metering cost have enrollment 1.7x higher than rates with an additional cost to enroll; and
5. Rates that were promoted using four or more marketing channels have enrollment 1.4x those using three or fewer marketing channels.

These results point to the importance of utility marketing, education, and communication to improve customer awareness and understanding of the TOU rate.

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[61] SEPA. 2019. "Residential Electric Vehicle Rates That Work: Attributes That Increase Enrollment". Smart Electric Power Alliance. https://sepapower.org/resource/residential-electric-vehicle-time-varying-rates-that-work-attributes-that-increase-enrollment/

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58. Q: Can you please provide an example of a utility that has had success enrolling customers into a voluntary residential TOU rate?

A: In 2021, Arizona Public Service reported they had over 726,000 customers enrolled in a TOU rate, this amounts to about 56 percent of their 1.3 million residential customers.[62] Iterations of some kind of TOU have been offered by APS since the 1980s, and while APS's 'Fixed Energy Charge Plan' (flat rate) is still their default rate plan for new customers, APS can analyze a customer's bill and tell them if switching to a TOU rate will save them money based on their energy use, and additionally how much of their energy load they would have to shift to off-peak times to save if they chose to switch. APS' strategy of highlighting cost and control benefits for customers is reflected in their enrollment figures, but Leland Snook, past director of Rates and Rate Strategy for APS has also stated that, "the Arizona summer air-conditioning load shape proved to be well suited for TOU price signals."[63] Given the similarities between SPPC's service territory and APS', it is not difficult to gather that southern Nevada customers and their summer load shape would also be well suited for TOU price signals. Pragmatically, in Northern Nevada, consumers can pre-cool their homes during the low-cost afternoon solar production hours if the higher TOU rate starts at 6 PM, and reduce their cooling needs during the 6-9 PM peak period. But they cannot do so if a 3-9 PM peak period is in place.

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[62] EIA. 2021. "Annual Electric Power Industry Report, Form EIA-861 Detailed Data Files." U.S. Energy Information Administration. https://www.eia.gov/electricity/data/eia861/.

[63] Trabish, H. 2018. "As California leads way with TOU rates, some call for simpler solutions: The state continues its nearly 20-year effort to get to residential time varying rates, but hurdles remain." Utility Dive. https://www.utilitydive.com/news/as-california-leads-way-with-tou-rates-some-call-for-simpler-solutions/532436/

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59. Q: Can you give an example of a utility that has found success in expanding their residential TOU offering(s)?

A: While many utilities are in the process of adopting TOUs after successful pilot programs which have consistently resulted in load and peak reduction as well as lower customer bills, Southern California Edison is an example of successful, complete TOU rate development and deployment.[64]

The Peak Load Management Alliance recently highlighted and awarded Southern California Edison for their work with GridX and Oracle as thought Leaders on "The TOU Transition".[65] After the development of a TOU pilot that 99% of customers chose to remain on, SCE recently began transitioning their extant residential customers to a default TOU in October 2020. SCE offers two different on-peak window length options to customers in order to best fit their lives and offers multiple online tools and services meant to aid customers in understanding their energy usage and bill control. The report mentioned above catalogued their efforts regarding informational and marketing campaigns during the transition as well as their results: 'SCE experienced an average of more than 9MW of daily load reduction in the middle of its peak period during August and September 2022. It also experienced 14MW of load reduction in early September between 5PM and 7PM, which were critical peak hours when temperatures topped 110°F in some parts of SCE's service territory.[66] One of the biggest hurdles for the utility was

[64] Further reading and examples can be found in the Brattle Group evaluations of TOU pilots in Maryland Study by Brattle Economists Evaluates Time-of-Use (TOU) Pilots for Maryland Utilities - Brattle and Hawaii Advanced Rate Designs (hawaiianelectric.com), the Brattle Group or Strategen presentations on current TOU offerings, and the report from the statewide TOU pilots in California. A Survey of Residential Time-Of-Use (TOU) Rates (brattle.com)

[65] PLMA. 2023. "20th PLMA Award Winner - Thought Leader: Southern California Edison with GridX and Oracle." Peak Load Management Alliance. https://plma.memberclicks.net/2023-award-winners---thought---sce

[66] PLMA. 2023. "20th PLMA Award Winner - Thought Leader: Southern California Edison with GridX and Oracle." Peak Load Management Alliance. https://plma.memberclicks.net/2023-award-winners---thought---sce

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customer awareness, but through their efforts, awareness of TOU rates by existing residential customers eligible for the TOU transition jumped from 46% in the spring of 2020 to 77% in the fall of 2022, exceeding the performance target of 70%.

Customers cannot opt into what they don't know about, therefor in order to most effectively utilize the TOU rates offered and increase enrollment, SPPC could consider strategies such as marketing or informational campaigns similar to those that SCE utilized.

Section 7

Recommendations to Improve Sierra Pacific Power Company's Current TOU Tariff for Residential Customers

60. Q: Please describe the current peak period schedule in effect for SPPC residential customers who participate in the voluntary TOU.

A: SPPC currently offers residential customers the option to take service under a voluntary TOU with a summer peak period occurring from 3-9PM daily, between June 1st- September 30th.

61. Q: Please summarize your recommendations regarding the proposed SPPC residential TOU Rates.

A: Upon reviewing the current residential TOU rate structure offered by SPPC and the updated tariff sheets detailing the volumetric and fixed charges within the rate as included in this filing, I observed that SPPC's current residential offering contradicts many standard TOU best practices, and ultimately the current structure may not be effective in meeting policy goals, nor in increasing voluntary enrollment by customers. Our recommendations to the proposed TOU rate design are:

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1. The commission should order SPPC to reduce the length of the proposed on-peak window to a period of three hours, down from the current proposed window length of six hours. The on peak window should fall from 6-9PM daily, between June 1st-September 30th.
2. The Commission should deny the proposed increase to the basic service charge for any residential customer participating in a voluntary TOU rate; a fixed charge that customers cannot response to is antithetical to how price signals work and are effective in influencing customer usage behavior.

62. Q: Do you support the current residential on-peak period as offered by SPPC?

A: No. As stated above, the purpose of TOU rates is to encourage customers to shift their usage from high load hours to lower load hours via price signals, but price signals will not produce the desired results if customers are unable to respond to them. The current weak participation levels speak for themselves. Most customers cannot or will not fully shift their daily energy use behavior out of the proposed 6-hour window as it is too long. As a voluntary tariff, customers are unlikely to subscribe to a tariff that offers little flexibility to modify behavior and reduce energy use from 3-9 pm daily, when a hypothetical residential customer may cook dinner, wash clothes, and run their AC after they come home from work. Additionally, an on-peak window with high prices during summer daylight hours in the afternoon can conflict with hours when additional solar energy resources are available.

In addition to not serving policy goals, our proposed peak is a better statistical fit than that currently in effect. As elaborated on further by our witness Mr. Burgess, our peak

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window more accurately captures the highest marginal cost hours on the system as compared to the current six-hour window.

63. Q: Would you characterize SPPC's current TOU rates as successful or achieving the policy objectives of a TOU?

A: No, I would not. In response to NCARE Data Request 3-01, SPPC says their TOU offering is a success because it includes 'system peak demand hours along with peak cost hours'. There is no reference to enrollment on the part of the utility as being part of the 'successful' evaluation. While the current peak period may contain the hours that the Company wants it to, it cannot be considered a success because it is not used widely or participated in, and therefor does not realize the benefits it is designed to produce in any meaningful way.

64. Q: Is SPPC proposing to make changes to the residential TOU schedule in this application?

A: No. However, it is timely for SPPC to alter their residential TOU schedule in this proceeding for several reasons.

The Commission recently approved the same adjustments NCARE recommends here to the NPC TOU schedule for residential customers in docket 23-07026. Adopting NCARE's recommendation in this rate case would align the two service territories' residential TOU offerings. Since SPPC and NPC operate jointly dispatched systems, having synchronized TOU schedules would allow for effects of residential load shifting to occur across the whole state and be displaced system-wide from the highest cost hours. Aligning the schedules will also immediately eliminate confusion for customers and some administrative burden the company faces in having offerings differ by location across NV Energy's territory.

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In response to NCARE 3-02, the Company shared that NV Energy (NVE) plans to do a full TOU rollout starting in August 2024. They will target certain populations of residential customers based on possible bill savings. This rollout will be much simpler for both customers and the utility if there is a singular TOU schedule across the entire NVE service territory. Introducing a new rate comparison tool is a key part of this rollout.[67] Having a singular rate schedule to compare minimizes user error of customers and may decrease costs of the utility in hosting such a tool. Furthermore, the rollout could potentially be much more successful (in terms of the customers enrolled on the TOU schedule offered) in SPPC's service territory in the northern half of the state if the peak window was shorter and more attractive to customers.

There are minimal drawbacks to changing the current TOU schedule in effect SPPC's service territory at this point, because so few customers are enrolled. The company can update its customers as they have in the past and any new material or communications going forward have more utility as it can be geared toward all NVE customers, not only those in a specific service territory. Additionally, there has been no marketing budget for residential TOU schedules.[68] Since there was no budget or enrollment effort like the one to come later this year, there has not necessarily been customer dollars that will have been wasted since the final order in the '22 rate case spent on expanding the TOU offering in SPPC to more customers.[69]

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[67] Response to NCARE DR 3-02; Response to PUCN Staff DR 312.
[68] Response to NCARE DR 3-09.
[69] This is reinforced by the participation data in Response to NCARE DR 3-04.

Nevadans for Clean Affordable Reliable Energy (NCARE)
550 West Musser Street, Suite G, Carson City, NV 89703-4997 – 775-430-4633

65. Q: Is WRA only providing recommendations on SPPC's TOU rate design proposals for residential customers?

A: Yes, our recommendations pertain only to the optional services offered to residential (D-1 and DM-1) customers.

66. Q: Please describe the basis for your recommendation for a shorter on-peak window.

A: As discussed above, a shorter on-peak window is preferable from a customer perspective.[70] In addition, as discussed in the testimony of Mr. Burgess, our proposed rate design reflects the three costliest summer hours and better balances the Company's stated goals of cost reflectivity and being attractive to customers.

67. Q: What policy recommendations do you envision being relevant to future iterations of SPPC's residential TOU rate offerings

A: Our current recommendations to modify Sierra Pacific Power Company's TOU rate design proposal amount to a simple, base TOU rate that SPPC customers will be able to easily understand, and which makes it possible for customers to adhere to price signals, meeting the core objectives of TOUs by incentivizing the shifting of demand and thereby flattening load. This rate will serve as a foundational rate that can be made more complex as customers gain familiarity and understanding. Although we are not recommending the following at this time, certain further design changes such as creating a year-round price signal (on-peak windows during winter), creating shoulder hours around peak times, super-off-peak prices during hours when renewable energy is abundant, and shoulder seasons should be considered and evaluated as load shape continues to evolve.

[70] Potter, J., S. George, and L. Jimenez, "SmartPricing Options Final Evaluation," Sacramento Municipal Utility District, Sacramento, CA, Sep. 2014. https://www.smud.org/-/media/Documents/Corporate/About-Us/Energy-Research-and-Development/research-SmartPricing-options-final-evaluation.ashx

Nevadans for Clean Affordable Reliable Energy (NCARE)
550 West Musser Street, Suite G, Carson City, NV 89703-4997 – 775-430-4633

68. Q: Are there metrics other than those used historically by SPPC or currently by NCARE that can serve as a basis for creating a TOU rate?

A: Yes, while SPPC used different cost and foundational energy metrics in docket 22-06014 as the basis for the creation of their current TOU, additional metrics can also be taken into account. In the future, if the Commission wanted to build upon the emissions reductions benefits of the introductory TOU structure we are proposing, additional metrics related to the net load of renewables, emissions by hour, and curtailments by hour could be used in identifying and creating the opportune on-peak window to improve system and customer cost savings and emission reduction potential stemming from the TOU structure.

69. Q: Do you think future rate cases are the best venue for the creation or adaptation of TOU rates?

A: Not necessarily. While NCARE is recommending the Commission adopt our TOU proposal in this rate case, we believe that general rate case applications do not afford the proper time, care, or consideration that should be devoted to the identification of TOU peak-periods and construction of a successful rate.

For example, the Hawaii PUC convened an informal working group for more than a year before giving clear policy guidance on the form of TOU rate that was most beneficial. That docket, 2019-0323, started in 2019, and the rates went into effect in July of 2023, some four years later. While we don't think changes should move that slowly, it allowed thoughtful consideration that is not possible in a time-constrained contested case revenue-requirement proceeding.

Nevadans for Clean Affordable Reliable Energy (NCARE)
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While the final rates and tariffs must be implemented in future GRCs, a separate investigatory docket centered on TOU rates and the development of future TOU offerings by the utility could benefit both the Company and customers by ensuring robust analysis and assessment occurs before any future proposal is officially presented.

70. Q: Does this conclude your testimony?

A: Yes, it does.

AFFIRMATION

Pursuant to the requirements of NRS 53.045 and NAC 703.710, Emily Walsh states that she is the person identified in the foregoing prepared testimony and/or exhibits; that such testimony and/or exhibits were prepared by or under the direction of said person; that the answers and/or information appearing therein are true to the best of her knowledge and belief; and that if asked the questions appearing therein, her answers thereto would, under oath, be the same.

I declare under penalty of perjury that the foregoing is true and correct.

Date: July 3, 2024

Witness Signature

ATTACHMENT “1”

Relevant Employment Experience

Nevada Clean Energy Policy Analyst/Advisor, Western Resource Advocates ***Carson City, Nevada***
March 2023- Present

WRA is a regional nonprofit advocacy organization fighting climate change and its impacts to sustain the environment, economy, and people of the West. WRA's on-the-ground work advances clean energy, protects air, land, water, and wildlife. As a Clean Energy Policy Analyst, I am involved in developing and advancing equitable legislative, administrative, and local policy solutions that move the region toward a clean energy economy and address climate change specifically in Nevada.

- Preparing expert witness testimony, comments, and discovery in regulatory proceedings, including integrated resource planning, rate cases, and other formal or informal processes.
    - Assist in negotiating and drafting complex settlement agreements and developing WRA positions for those agreements.
- Assisting in developing and advocating for equitable policies, mechanisms, and organizational positions that reduce the environmental impact of electricity and natural gas use, spur a rapid transition to a clean energy economy, and address climate change in the Interior West.
    - Advocating for WRA positions in regulatory, legislative, and other policy forums, including local governments.
- Monitoring and analyzing relevant local, state, and federal policy developments.
    - Along with WRA's other state staff, work with the region's electric and natural gas utilities, the business community, consumer advocates, the environmental community, and other stakeholders to advance clean energy and climate solutions.

Prior Testimony Before Nevada Public Utilities Commissions; PUCN Docket Nos.: 23-06007 and 23-08015.

Policy Associate, Pinyon Public Affairs ***Reno, Nevada***
February 2021- August 2022

Pinyon Public Affairs is a boutique government affairs firm specializing in the natural resource and transportation policy areas. The clients I worked with ranged from large scale solar developers and electric vehicle manufacturers, to both local and national nongovernmental organizations which had an interest in securing large investments from the state in the energy, sustainability, and transmission sectors.

- Acting as the primary informational resource for each of the three partners and their respective clients.
    - Serving as the in-house policy expert on public policies such as the transportation and energy investment sections of the American Rescue Plan and Infrastructure Act and the Infrastructure Investment and Jobs Act, Alternative Fuels Corridors, and Electric Vehicle Tax Incentives.
- Researching, analyzing, and tracking policy, regulations, and issues related to Pinyon's clients' projects, interests, and overall missions. Providing thorough, comprehensive analysis and evaluation of research conducted; creating products for clients and giving recommendations as to future actions and direction.
    - Developing and distributing legislative or regulatory briefings, public comments, fact sheets, and support letters to clients, policymakers, or the wider public.
- Participating in bill presentations and speaking as an expert witness before Legislative Committees.

Formal and Continuing Education

New Mexico State University ***Albuquerque, New Mexico***
May 2023, Center for Public Utilities
"The Basics" Practical Regulatory Training for the Electric Industry

University of Konstanz ***Konstanz, Germany***
University of Gothenburg ***Gothenburg, Sweden***
October 2018- April 2021, Dual Degree Program
Master of Arts; Politics and Public Administration, University of Konstanz
Specialization in 'Comparative Politics and Policy Analysis' & 'Quantitative Methods'
Master of Science; Political Science, University of Gothenburg
Courses of Note: *"Statistical Modeling and Inference in Quantitative Research", "Comparative Politics and Policy Analysis", "Public Management and Administration", "Data Analysis with R", "American Public Policy", "Python Data Scraping"*

University of Nevada, Reno ***Reno, Nevada***
August 2014- May 2018
Bachelor of Arts; Majors in Political Science and International Affairs, Minor in Mathematics

ATTACHMENT “2”

Single Family Residential Rate Comparison

(D-1 Tariff) BTER+DEAA Held Constant at Values at Time of Certification

Billed Monthly Usage (kWh)	Bill Under Current Rate	Bill Under Proposed Certified Rate	Difference in Monthly Bill (Certified Filing)	Bill Percentage Change	Difference in Yearly Bill (Certified Filing)	kWh Bill Range	Average Number of D-1 Bills in Range
0	$ 16.50	$ 45.30	$ 28.80	174.55%	$ 345.60	0-49 kWh	2,931
50	$ 22.85	$ 50.42	$ 27.57	120.67%	$ 330.88	50-99 kWh	3,018
100	$ 29.20	$ 55.55	$ 26.35	90.23%	$ 316.16	100-149 kWh	4,006
150	$ 35.55	$ 60.67	$ 25.12	70.66%	$ 301.45	150-199 kWh	5,670
200	$ 41.90	$ 65.79	$ 23.89	57.03%	$ 286.73	200-249 kWh	7,880
250	$ 48.25	$ 70.92	$ 22.67	46.98%	$ 272.01	250-299 kWh	10,148
300	$ 54.60	$ 76.04	$ 21.44	39.27%	$ 257.29	300-349 kWh	12,070
350	$ 60.95	$ 81.16	$ 20.21	33.17%	$ 242.57	350-399 kWh	13,149
400	$ 67.30	$ 86.29	$ 18.99	28.21%	$ 227.86	400-449 kWh	13,592
450	$ 73.65	$ 91.41	$ 17.76	24.12%	$ 213.14	450-499 kWh	13,310
500	$ 80.00	$ 96.54	$ 16.54	20.67%	$ 198.42	500-549 kWh	12,664
550	$ 86.35	$ 101.66	$ 15.31	17.73%	$ 183.70	550-599 kWh	11,872
600	$ 92.70	$ 106.78	$ 14.08	15.19%	$ 168.98	600-649 kWh	10,895
650	$ 99.05	$ 111.91	$ 12.86	12.98%	$ 154.27	650-699 kWh	10,006
700	$ 105.40	$ 117.03	$ 11.63	11.03%	$ 139.55	700-749 kWh	9,011
750	$ 111.75	$ 122.15	$ 10.40	9.31%	$ 124.83	750-799 kWh	8,165
765	$ 113.66	$ 123.69	$ 10.03	8.83%	$ 120.41		
800	$ 118.10	$ 127.28	$ 9.18	7.77%	$ 110.11	800-849 kWh	7,402
850	$ 124.45	$ 132.40	$ 7.95	6.39%	$ 95.39	850-899 kWh	6,718
900	$ 130.80	$ 137.52	$ 6.72	5.14%	$ 80.68	900-949 kWh	6,099
950	$ 137.15	$ 142.65	$ 5.50	4.01%	$ 65.96	950-999 kWh	5,511
1000	$ 143.50	$ 147.77	$ 4.27	2.98%	$ 51.24	1000-1049 kWh	4,966
1050	$ 149.85	$ 152.89	$ 3.04	2.03%	$ 36.52	1050-1099 kWh	4,479
1100	$ 156.20	$ 158.02	$ 1.82	1.16%	$ 21.80	1100-1149 kWh	4,073
1150	$ 162.55	$ 163.14	$ 0.59	0.36%	$ 7.09	1150-1199 kWh	3,705
1174	$ 165.60	$ 165.60	$ 0.00	0.00%	$ 0.02		
1200	$ 168.90	$ 168.26	$ (0.64)	-0.38%	$ (7.63)	1200-1249 kWh	3,369
1250	$ 175.25	$ 173.39	$ (1.86)	-1.06%	$ (22.35)	1250-1299 kWh	3,028
1300	$ 181.60	$ 178.51	$ (3.09)	-1.70%	$ (37.07)	1300-1349 kWh	2,731
1350	$ 187.95	$ 183.63	$ (4.32)	-2.30%	$ (51.79)	1350-1399 kWh	2,463
1400	$ 194.30	$ 188.76	$ (5.54)	-2.85%	$ (66.50)	1400-1449 kWh	2,270
1450	$ 200.65	$ 193.88	$ (6.77)	-3.37%	$ (81.22)	1450-1499 kWh	2,049
1500	$ 207.00	$ 199.01	$ (7.99)	-3.86%	$ (95.94)	1500-1549 kWh	1,862
1550	$ 213.35	$ 204.13	$ (9.22)	-4.32%	$ (110.66)	1550-1599 kWh	1,705
1600	$ 219.70	$ 209.25	$ (10.45)	-4.76%	$ (125.38)	1600-1649 kWh	1,561
1650	$ 226.05	$ 214.38	$ (11.67)	-5.16%	$ (140.09)	1650-1699 kWh	1,397
1700	$ 232.40	$ 219.50	$ (12.90)	-5.55%	$ (154.81)	1700-1749 kWh	1,282
1750	$ 238.75	$ 224.62	$ (14.13)	-5.92%	$ (169.53)	1750-1799 kWh	1,155
1800	$ 245.10	$ 229.75	$ (15.35)	-6.26%	$ (184.25)	1800-1849 kWh	1,051
1850	$ 251.45	$ 234.87	$ (16.58)	-6.59%	$ (198.97)	1850-1899 kWh	974
1900	$ 257.80	$ 239.99	$ (17.81)	-6.91%	$ (213.68)	1900-1949 kWh	899
1950	$ 264.15	$ 245.12	$ (19.03)	-7.21%	$ (228.40)	1950-1999 kWh	820
2000	$ 270.50	$ 250.24	$ (20.26)	-7.49%	$ (243.12)	2000 kWh+	10,875

* This table shows customer bills when holding the BTER and DEAA constant, but implements the changes to the BSC and BTGR s requested by SPPC.

*Average number of bills per month in usage range for test year.

ATTACHMENT “3”

Single Family Residential Rate Comparison

(D-1 Tariff) BTER+DEAA Held Constant at Values at Time of Certification

Billed Monthly Usage (kWh)	Bill Under Current Rate	Bill W/Out BSC Increase	Differnce In Monthly Bill (W/Out BSC Increase)	Bill Percentage Change (W/Out BSC Increase)	Difference in Yearly Bill (W/Out BSC Increase)	kWh Bill Range	Average Number of D-1 Bills in Range
0	$ 16.50	$ 16.50	$ 0.00	0.00%	$ 0.00	0-49 kWh	2,931
50	$ 22.85	$ 23.56	$ 0.71	3.11%	$ 8.53	50-99 kWh	3,018
100	$ 29.20	$ 30.62	$ 1.42	4.87%	$ 17.06	100-149 kWh	4,006
150	$ 35.55	$ 37.68	$ 2.13	6.00%	$ 25.60	150-199 kWh	5,670
200	$ 41.90	$ 44.74	$ 2.84	6.79%	$ 34.13	200-249 kWh	7,880
250	$ 48.25	$ 51.81	$ 3.56	7.37%	$ 42.66	250-299 kWh	10,148
300	$ 54.60	$ 58.87	$ 4.27	7.81%	$ 51.19	300-349 kWh	12,070
350	$ 60.95	$ 65.93	$ 4.98	8.17%	$ 59.73	350-399 kWh	13,149
400	$ 67.30	$ 72.99	$ 5.69	8.45%	$ 68.26	400-449 kWh	13,592
450	$ 73.65	$ 80.05	$ 6.40	8.69%	$ 76.79	450-499 kWh	13,310
500	$ 80.00	$ 87.11	$ 7.11	8.89%	$ 85.32	500-549 kWh	12,664
550	$ 86.35	$ 94.17	$ 7.82	9.06%	$ 93.86	550-599 kWh	11,872
600	$ 92.70	$ 101.23	$ 8.53	9.20%	$ 102.39	600-649 kWh	10,895
650	$ 99.05	$ 108.29	$ 9.24	9.33%	$ 110.92	650-699 kWh	10,006
700	$ 105.40	$ 115.35	$ 9.95	9.44%	$ 119.45	700-749 kWh	9,011
750	$ 111.75	$ 122.42	$ 10.67	9.54%	$ 127.98	750-799 kWh	8,165
765	$ 113.66	$ 124.53	$ 10.88	9.57%	$ 130.54		
800	$ 118.10	$ 129.48	$ 11.38	9.63%	$ 136.52	800-849 kWh	7,402
850	$ 124.45	$ 136.54	$ 12.09	9.71%	$ 145.05	850-899 kWh	6,718
900	$ 130.80	$ 143.60	$ 12.80	9.78%	$ 153.58	900-949 kWh	6,099
950	$ 137.15	$ 150.66	$ 13.51	9.85%	$ 162.11	950-999 kWh	5,511
1000	$ 143.50	$ 157.72	$ 14.22	9.91%	$ 170.65	1000-1049 kWh	4,966
1050	$ 149.85	$ 164.78	$ 14.93	9.96%	$ 179.18	1050-1099 kWh	4,479
1100	$ 156.20	$ 171.84	$ 15.64	10.01%	$ 187.71	1100-1149 kWh	4,073
1150	$ 162.55	$ 178.90	$ 16.35	10.06%	$ 196.24	1150-1199 kWh	3,705
1174	$ 165.60	$ 182.29	$ 16.69	10.08%	$ 200.34		
1200	$ 168.90	$ 185.96	$ 17.06	10.10%	$ 204.77	1200-1249 kWh	3,369
1250	$ 175.25	$ 193.03	$ 17.78	10.14%	$ 213.31	1250-1299 kWh	3,028
1300	$ 181.60	$ 200.09	$ 18.49	10.18%	$ 221.84	1300-1349 kWh	2,731
1350	$ 187.95	$ 207.15	$ 19.20	10.21%	$ 230.37	1350-1399 kWh	2,463
1400	$ 194.30	$ 214.21	$ 19.91	10.25%	$ 238.90	1400-1449 kWh	2,270
1450	$ 200.65	$ 221.27	$ 20.62	10.28%	$ 247.44	1450-1499 kWh	2,049
1500	$ 207.00	$ 228.33	$ 21.33	10.30%	$ 255.97	1500-1549 kWh	1,862
1550	$ 213.35	$ 235.39	$ 22.04	10.33%	$ 264.50	1550-1599 kWh	1,705
1600	$ 219.70	$ 242.45	$ 22.75	10.36%	$ 273.03	1600-1649 kWh	1,561
1650	$ 226.05	$ 249.51	$ 23.46	10.38%	$ 281.57	1650-1699 kWh	1,397
1700	$ 232.40	$ 256.57	$ 24.17	10.40%	$ 290.10	1700-1749 kWh	1,282
1750	$ 238.75	$ 263.64	$ 24.89	10.42%	$ 298.63	1750-1799 kWh	1,155
1800	$ 245.10	$ 270.70	$ 25.60	10.44%	$ 307.16	1800-1849 kWh	1,051
1850	$ 251.45	$ 277.76	$ 26.31	10.46%	$ 315.69	1850-1899 kWh	974
1900	$ 257.80	$ 284.82	$ 27.02	10.48%	$ 324.23	1900-1949 kWh	899
1950	$ 264.15	$ 291.88	$ 27.73	10.50%	$ 332.76	1950-1999 kWh	820
2000	$ 270.50	$ 298.94	$ 28.44	10.51%	$ 341.29	2000 kWh+	10,875

* This table shows customer bills when holding the BTER and DEAA constant, but implementing a BTGR of $0.07167 as detailed in the Certified Statement O.

*Average number of bills per month in usage range for test year.

ATTACHMENT “4”

Single Family Residential Rate Comparison

(D-1 Tariff) BTGR+BSC Only

Billed Monthly Usage (kWh)	Amount Recovered Under Current Rate	Amount Recovered W/out BSC Increase	Amount Recovered Under Proposed Certified Rate	Monthly Difference If BSC Increase Is Approved	% Difference	kWh Bill Range	Average Number of D-1 Bills in Range
0	$ 16.50	$ 16.50	$ 45.30	$ 28.80	174.55%	0-49 kWh	2,931
50	$ 19.37	$ 20.08	$ 46.95	$ 26.86	133.75%	50-99 kWh	3,018
100	$ 22.25	$ 23.67	$ 48.59	$ 24.92	105.31%	100-149 kWh	4,006
150	$ 25.12	$ 27.25	$ 50.24	$ 22.99	84.36%	150-199 kWh	5,670
200	$ 27.99	$ 30.83	$ 51.88	$ 21.05	68.27%	200-249 kWh	7,880
250	$ 30.86	$ 34.42	$ 53.53	$ 19.11	55.53%	250-299 kWh	10,148
300	$ 33.74	$ 38.00	$ 55.18	$ 17.17	45.20%	300-349 kWh	12,070
350	$ 36.61	$ 41.58	$ 56.82	$ 15.24	36.64%	350-399 kWh	13,149
400	$ 39.48	$ 45.17	$ 58.47	$ 13.30	29.45%	400-449 kWh	13,592
450	$ 42.35	$ 48.75	$ 60.11	$ 11.36	23.31%	450-499 kWh	13,310
500	$ 45.23	$ 52.34	$ 61.76	$ 9.42	18.01%	500-549 kWh	12,664
550	$ 48.10	$ 55.92	$ 63.41	$ 7.49	13.39%	550-599 kWh	11,872
600	$ 50.97	$ 59.50	$ 65.05	$ 5.55	9.33%	600-649 kWh	10,895
650	$ 53.84	$ 63.09	$ 66.70	$ 3.61	5.73%	650-699 kWh	10,006
700	$ 56.72	$ 66.67	$ 68.34	$ 1.67	2.51%	700-749 kWh	9,011
750	$ 59.59	$ 70.25	$ 69.99	$ (0.26)	-0.37%	750-799 kWh	8,165
765	$ 60.45	$ 71.33	$ 70.48	$ (0.84)	-1.18%		
800	$ 62.46	$ 73.84	$ 71.64	$ (2.20)	-2.98%	800-849 kWh	7,402
850	$ 65.33	$ 77.42	$ 73.28	$ (4.14)	-5.34%	850-899 kWh	6,718
900	$ 68.21	$ 81.00	$ 74.93	$ (6.08)	-7.50%	900-949 kWh	6,099
950	$ 71.08	$ 84.59	$ 76.57	$ (8.01)	-9.47%	950-999 kWh	5,511
1000	$ 73.95	$ 88.17	$ 78.22	$ (9.95)	-11.29%	1000-1049 kWh	4,966
1050	$ 76.82	$ 91.75	$ 79.87	$ (11.89)	-12.96%	1050-1099 kWh	4,479
1100	$ 79.70	$ 95.34	$ 81.51	$ (13.83)	-14.50%	1100-1149 kWh	4,073
1150	$ 82.57	$ 98.92	$ 83.16	$ (15.76)	-15.93%	1150-1199 kWh	3,705
1174	$ 83.95	$ 100.64	$ 83.95	$ (16.69)	-16.59%		
1200	$ 85.44	$ 102.50	$ 84.80	$ (17.70)	-17.27%	1200-1249 kWh	3,369
1250	$ 88.31	$ 106.09	$ 86.45	$ (19.64)	-18.51%	1250-1299 kWh	3,028
1300	$ 91.19	$ 109.67	$ 88.10	$ (21.58)	-19.67%	1300-1349 kWh	2,731
1350	$ 94.06	$ 113.26	$ 89.74	$ (23.51)	-20.76%	1350-1399 kWh	2,463
1400	$ 96.93	$ 116.84	$ 91.39	$ (25.45)	-21.78%	1400-1449 kWh	2,270
1450	$ 99.80	$ 120.42	$ 93.03	$ (27.39)	-22.74%	1450-1499 kWh	2,049
1500	$ 102.68	$ 124.01	$ 94.68	$ (29.33)	-23.65%	1500-1549 kWh	1,862
1550	$ 105.55	$ 127.59	$ 96.33	$ (31.26)	-24.50%	1550-1599 kWh	1,705
1600	$ 108.42	$ 131.17	$ 97.97	$ (33.20)	-25.31%	1600-1649 kWh	1,561
1650	$ 111.29	$ 134.76	$ 99.62	$ (35.14)	-26.08%	1650-1699 kWh	1,397
1700	$ 114.17	$ 138.34	$ 101.26	$ (37.08)	-26.80%	1700-1749 kWh	1,282
1750	$ 117.04	$ 141.92	$ 102.91	$ (39.01)	-27.49%	1750-1799 kWh	1,155
1800	$ 119.91	$ 145.51	$ 104.56	$ (40.95)	-28.14%	1800-1849 kWh	1,051
1850	$ 122.78	$ 149.09	$ 106.20	$ (42.89)	-28.77%	1850-1899 kWh	974
1900	$ 125.66	$ 152.67	$ 107.85	$ (44.83)	-29.36%	1900-1949 kWh	899
1950	$ 128.53	$ 156.26	$ 109.49	$ (46.76)	-29.93%	1950-1999 kWh	820
2000	$ 131.40	$ 159.84	$ 111.14	$ (48.70)	-30.47%	2000 kWh+	10,875

* This table shows partial customer bills related only to the BTGR and BSC under the current rate, the hypothetical BTGR of $0.07167 that SPPC would be asking for if the BSC is not increased, and the proposed BSC and BTGR as requested by SPPC in the application.
All values used in computation come from the Certified Statement O.

*Average number of bills per month in usage range for test year.

ATTACHMENT “5”

kWh billed	Oct. '22	Nov. '22	Dec. '22	Jan. '23	Feb. '23	Mar. '23	Apr. '23	May '23	Jun. '23	Jul. '23	Aug. '23	Sept. '23
0-99	7,582	6,967	4,693	4,214	4,343	4,705	5,448	7,190	7,859	6,697	5,482	6,215
100-199	11,723	11,959	7,063	6,181	7,149	7,630	9,400	13,641	14,721	10,909	6,646	9,086
200-299	19,354	23,317	14,123	11,755	15,087	16,048	20,793	27,769	26,440	18,269	9,156	14,223
300-399	24,786	31,527	23,044	19,899	25,160	26,279	30,560	34,783	32,625	23,244	12,025	18,699
400-499	26,380	31,851	27,111	24,340	28,294	29,156	31,168	32,981	31,174	24,940	14,157	21,272
500-599	24,855	27,100	25,988	24,455	25,922	26,007	26,085	26,530	26,828	23,583	15,673	21,409
600-699	22,209	22,262	21,939	21,751	21,181	20,936	20,184	20,357	21,644	21,305	16,051	20,990
700-799	18,875	17,019	17,677	18,263	16,641	16,411	15,765	15,395	16,586	18,361	16,065	19,055
800-899	15,548	13,264	14,288	14,940	13,116	12,904	12,199	11,504	12,958	15,738	15,870	17,100
900-999	12,571	10,100	11,550	12,295	11,021	10,599	9,789	8,831	9,632	13,068	15,002	14,858
1000-1099	10,029	7,600	9,341	10,034	8,707	8,683	7,995	6,654	7,227	10,898	13,970	12,198
1100-1199	8,001	5,878	7,688	8,457	7,305	7,236	6,332	5,053	5,350	8,688	12,769	10,581
1200-1299	6,217	4,471	6,408	7,166	6,258	6,025	5,288	4,050	4,025	6,921	11,391	8,539
1300-1399	4,879	3,536	5,425	6,000	5,130	4,934	4,208	3,033	2,965	5,553	9,814	6,850
1400-1499	3,724	2,730	4,521	5,153	4,398	4,179	3,579	2,419	2,264	4,494	8,694	5,674
1500-1599	2,984	2,115	3,799	4,412	3,761	3,640	3,056	1,815	1,636	3,496	7,585	4,502
1600-1699	2,365	1,683	3,310	3,782	3,167	3,060	2,535	1,553	1,332	2,794	6,362	3,547
1700-1799	1,791	1,400	2,740	3,158	2,817	2,677	2,152	1,147	967	2,191	5,349	2,858
1800-1899	1,459	1,048	2,404	2,742	2,354	2,232	1,757	967	760	1,718	4,520	2,332
1900-1999	1,105	874	2,007	2,497	2,107	2,030	1,591	779	553	1,360	3,835	1,898
2000-2099	906	746	1,841	2,157	1,934	1,723	1,370	646	484	1,103	3,145	1,492
2100-2199	730	561	1,599	1,843	1,666	1,544	1,150	504	379	841	2,775	1,140
2200-2299	555	477	1,404	1,605	1,397	1,353	996	363	288	699	2,197	911
2300-2399	450	422	1,161	1,382	1,207	1,218	800	339	269	579	1,832	794
2400-2499	345	330	1,061	1,335	1,101	1,108	752	274	234	476	1,544	639
2500-2599	290	283	979	1,102	949	957	662	245	195	426	1,271	491
2600-2699	249	225	835	1,031	917	897	599	194	146	338	1,040	378
2700-2799	221	197	749	945	789	725	513	178	129	283	876	340
2800-2899	163	168	658	826	669	616	426	163	109	208	774	281
2900-2999	135	160	578	803	668	596	349	132	80	188	599	227
3000-3099	133	117	565	616	576	528	326	95	71	163	515	210
3100-3199	110	103	454	583	489	423	254	85	68	131	430	179
3200-3299	78	88	395	485	472	400	257	71	61	124	338	155
3300-3399	87	85	331	433	390	366	211	76	55	91	300	124
3400-3499	59	78	324	412	358	300	190	78	44	87	241	111
3500+	660	714	2,975	3,894	3,207	2,983	1,765	604	481	830	2,058	959
Total	**231,608**	**231,455**	**231,028**	**230,946**	**230,707**	**231,108**	**230,504**	**230,498**	**230,639**	**230,794**	**230,351**	**230,317**

ATTACHMENT “6”

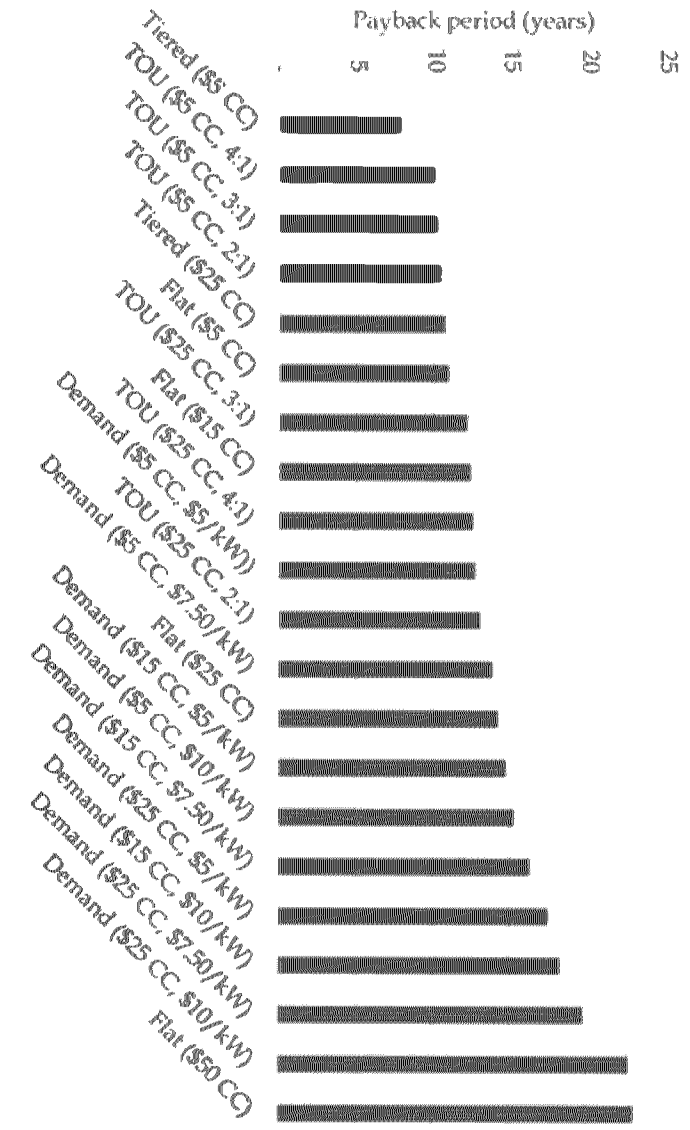
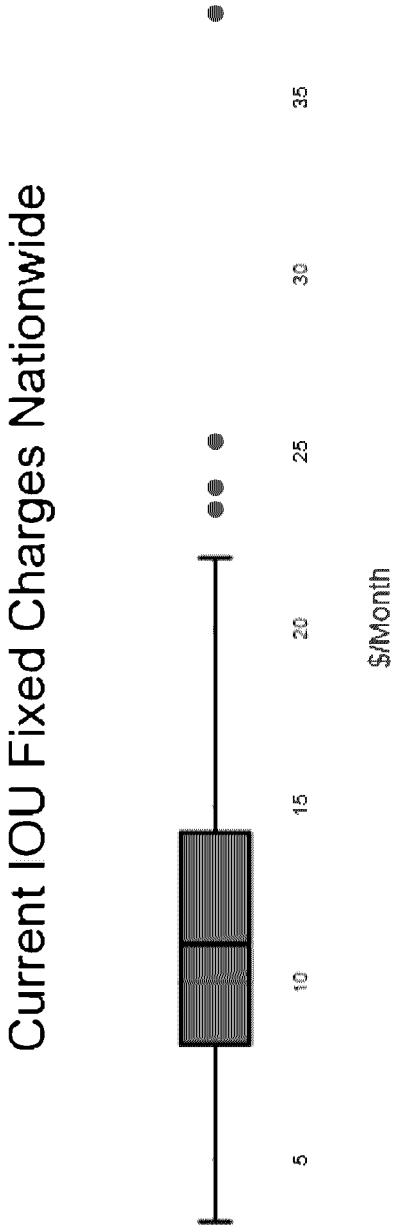
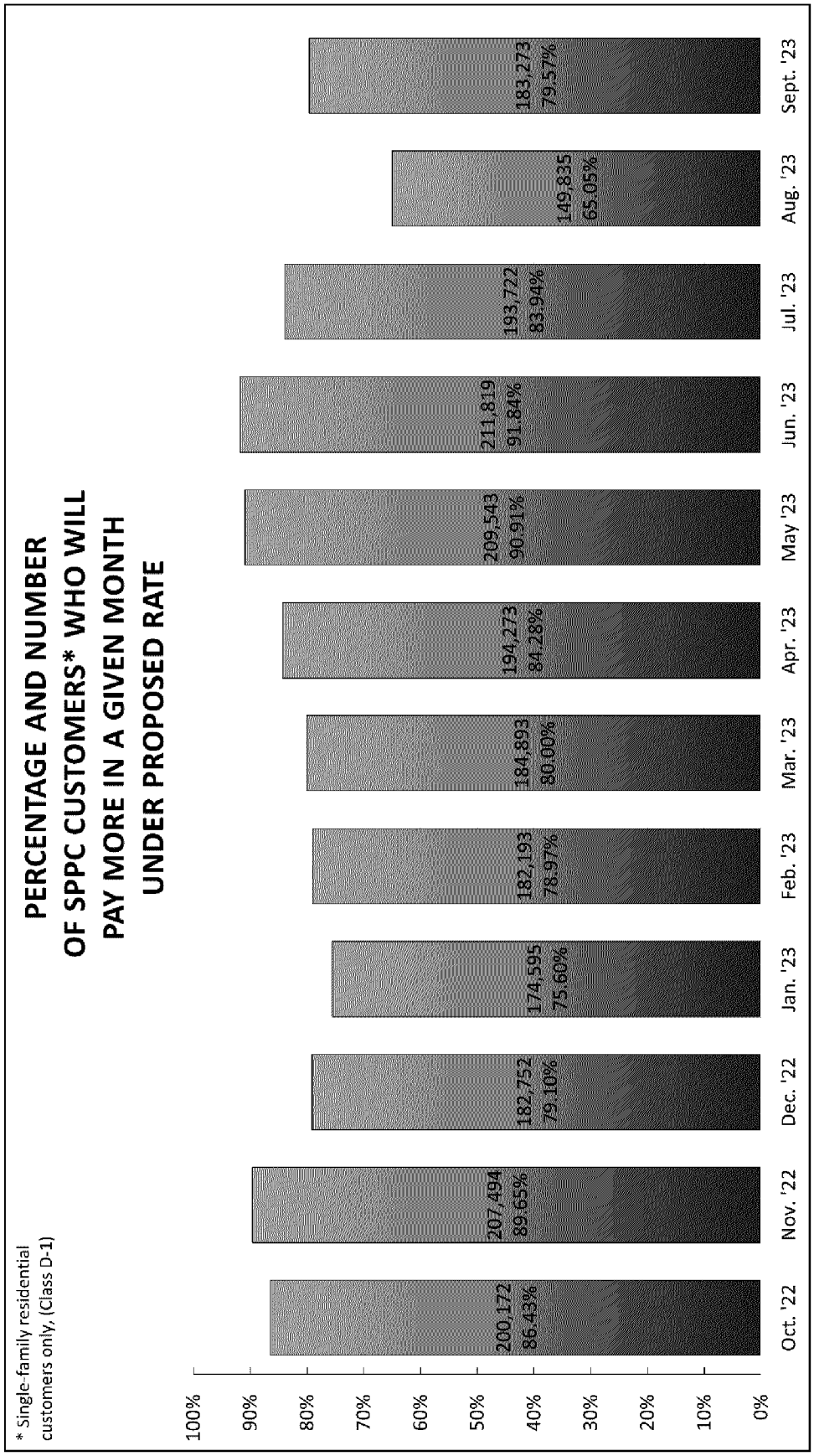


Figure ES 1. Payback periods in years under 20 rate design scenarios. CC = Customer charge. TOU = Time-of-use rate. The ratios shown are the on- to off-peak ratios for time-of-use volumetric energy rates.

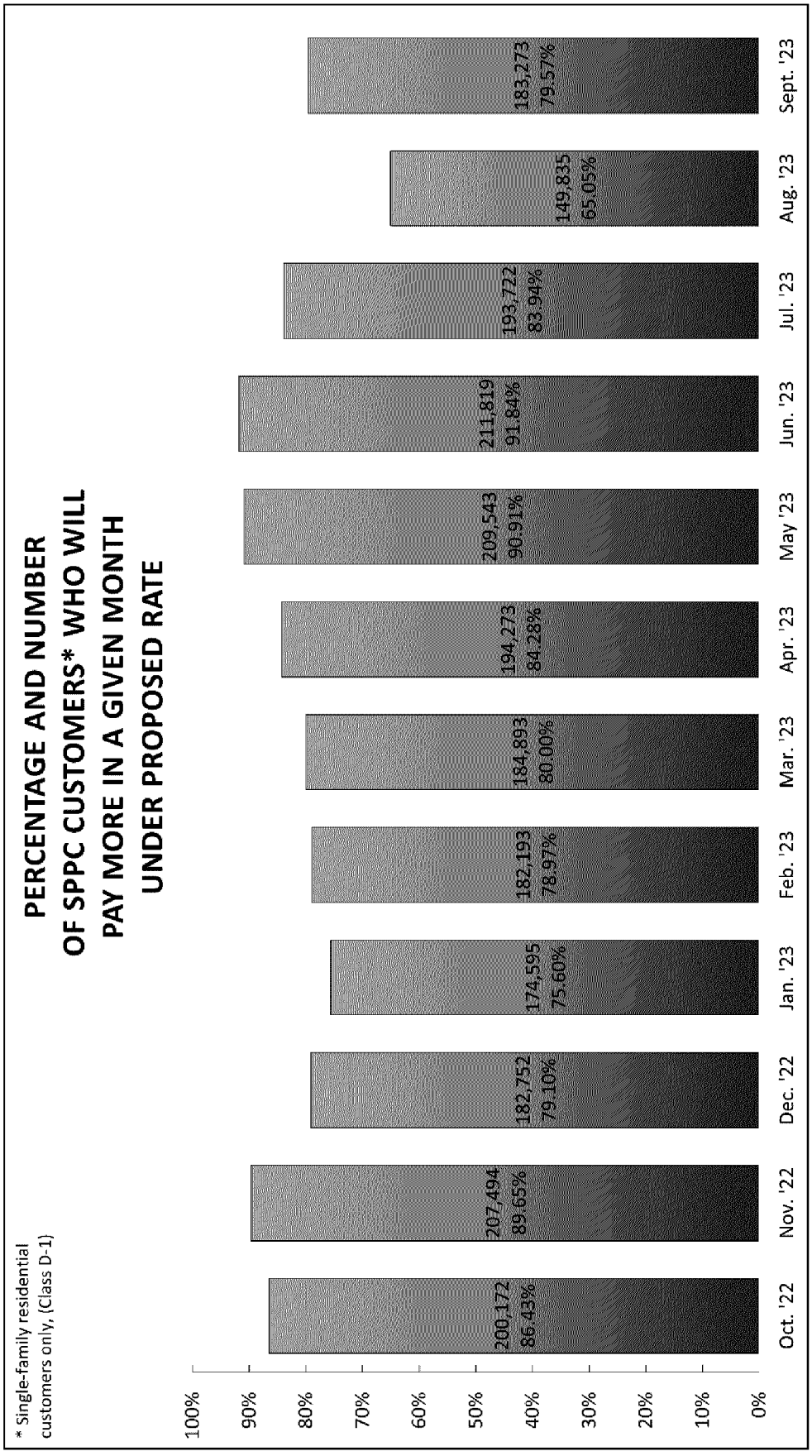
ATTACHMENT “7”


Current IOU Fixed Charges Nationwide
5
10
15
20
25
30
35
$/Month

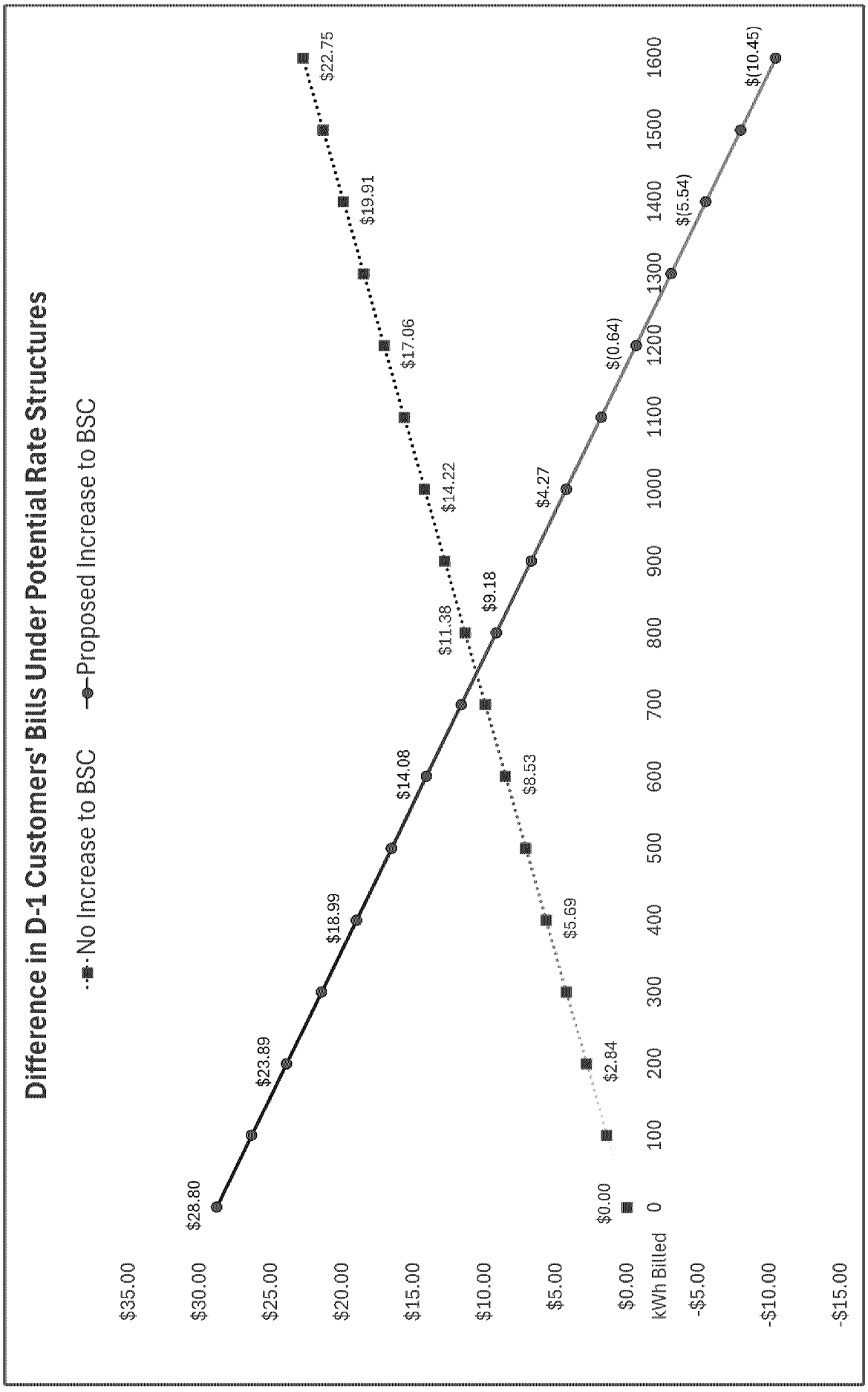
ATTACHMENT “8”


PERCENTAGE AND NUMBER
OF SPPC CUSTOMERS* WHO WILL
PAY MORE IN A GIVEN MONTH
UNDER PROPOSED RATE
* Single-family residential
customers only, (Class D-1)
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
200,172
86.43%
207,494
89.65%
182,752
79.10%
174,595
75.60%
182,193
78.97%
184,893
80.00%
194,273
84.28%
209,543
90.91%
211,819
91.84%
193,722
83.94%
149,835
65.05%
183,273
79.57%
Oct. '22
Nov. '22
Dec. '22
Jan. '23
Feb. '23
Mar. '23
Apr. '23
May '23
Jun. '23
Jul. '23
Aug. '23
Sept. '23

ATTACHMENT “9”


PERCENTAGE AND NUMBER
OF SPPC CUSTOMERS* WHO WILL
PAY MORE IN A GIVEN MONTH
UNDER PROPOSED RATE
* Single-family residential customers only, (Class D-1)
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
200,172
86.43%
207,494
89.65%
182,752
79.10%
174,595
75.60%
182,193
78.97%
184,893
80.00%
194,273
84.28%
209,543
90.91%
211,819
91.84%
193,722
83.94%
149,835
65.05%
183,273
79.57%
Oct. '22
Nov. '22
Dec. '22
Jan. '23
Feb. '23
Mar. '23
Apr. '23
May '23
Jun. '23
Jul. '23
Aug. '23
Sept. '23

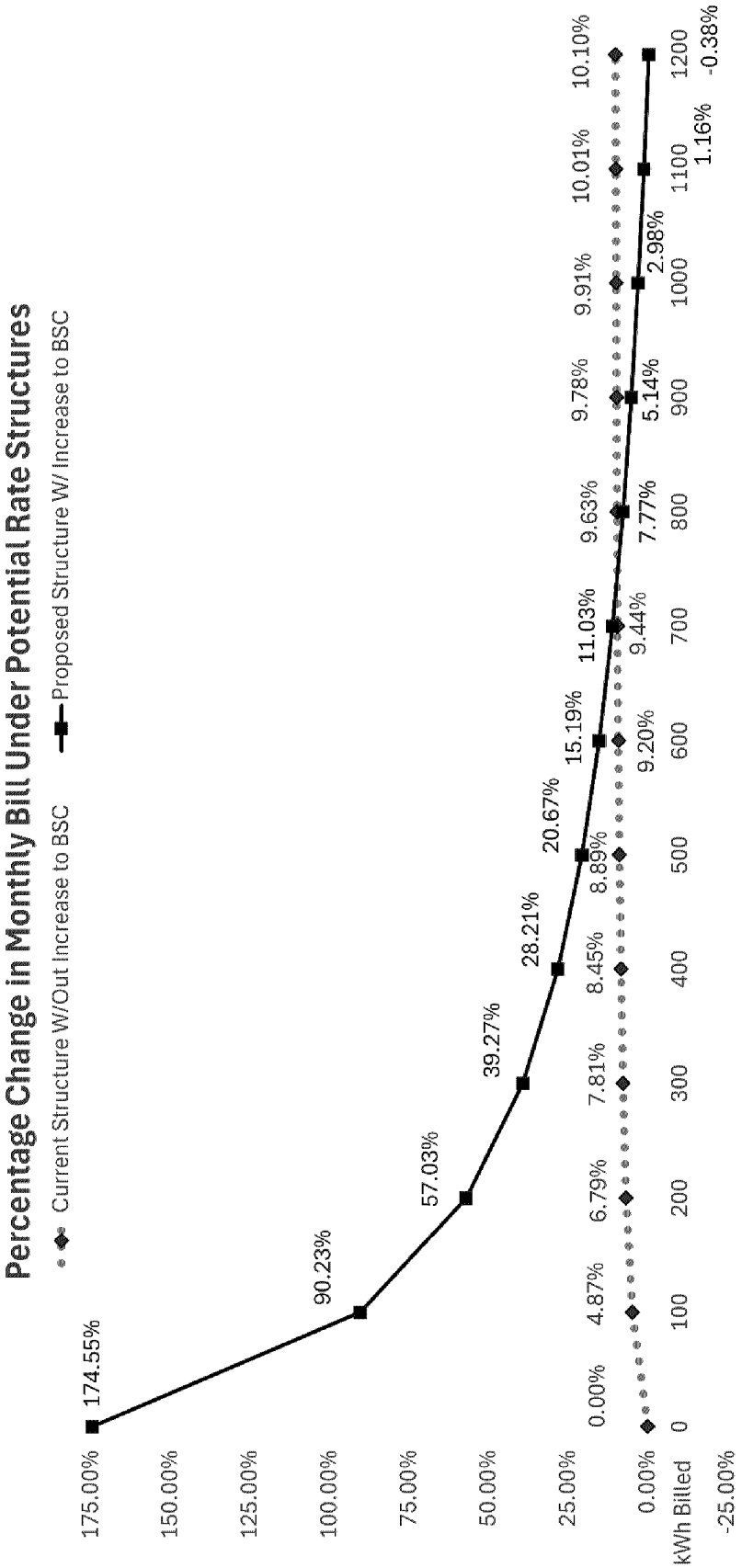
ATTACHMENT “10”


Difference in D-1 Customers' Bills Under Potential Rate Structures
No Increase to BSC
Proposed Increase to BSC
$35.00
$30.00
$25.00
$20.00
$15.00
$10.00
$5.00
$0.00
-$5.00
-$10.00
-$15.00
kWh Billed
0
100
200
300
400
500
600
700
800
900
1000
1100
1200
1300
1400
1500
1600
$28.80
$23.89
$18.99
$14.08
$9.18
$4.27
$(0.64)
$(5.54)
$(10.45)
$22.75
$19.91
$17.06
$14.22
$11.38
$8.53
$5.69
$2.84
$0.00

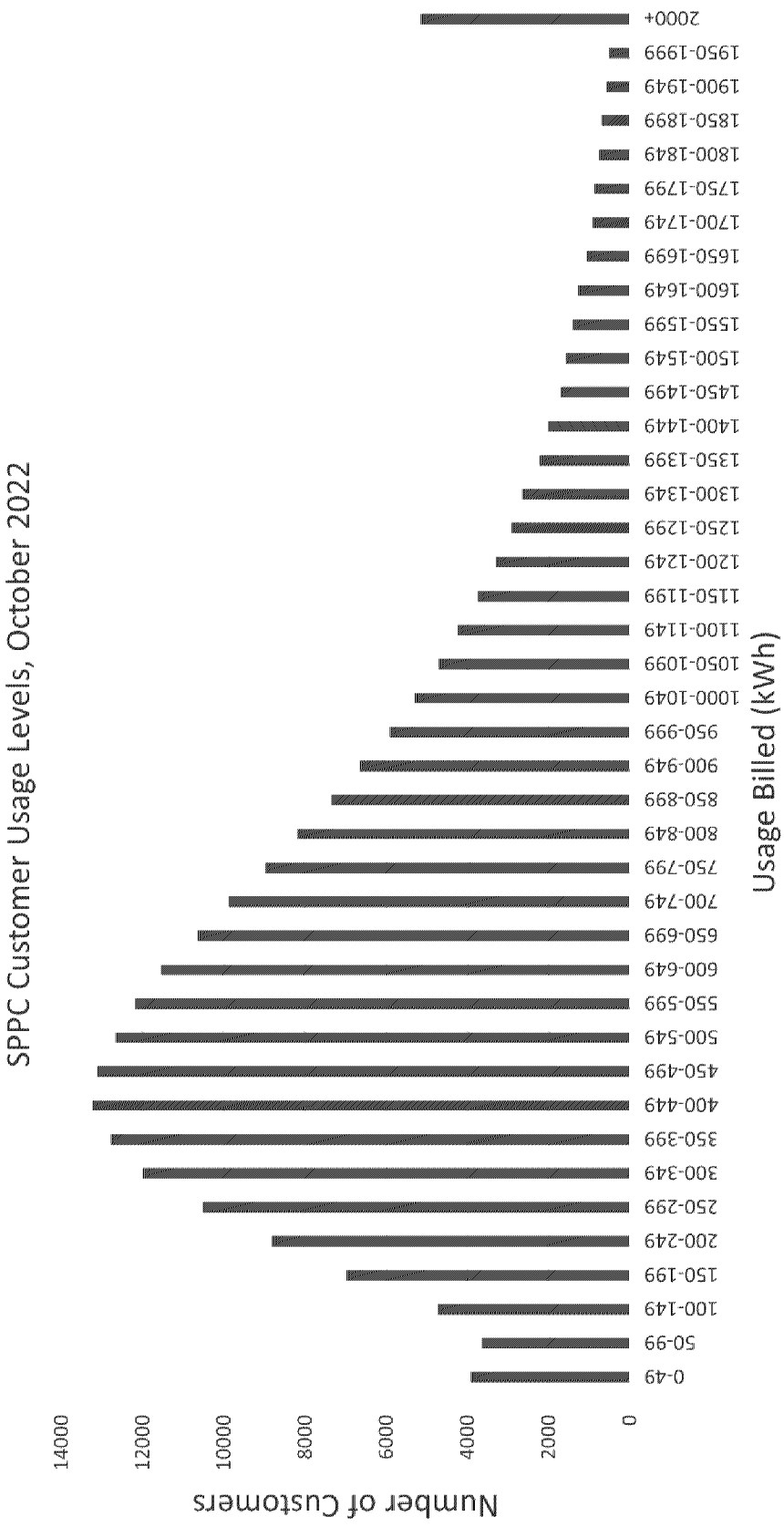
ATTACHMENT “11”

kWh Billed	Effective Tariff	New Tariff W/Out BSC Increase	New Tariff W/ BSC Increase (Certification)	Difference, Current BSC	Difference, BSC Increase	Difference, Current BSC to Increased BSC
	$16.50+$0.12700*kWh	$16.50+$0.14122*kWh	$45.30+$0.10247*kWh			
51,840	$ 6,600.18	$ 7,337.34	$ 5,357.34	$ 737.16	$ (1,242.84)	$ (1,980.00)
54,960	$ 6,996.42	$ 7,777.95	$ 5,677.05	$ 781.53	$ (1,319.37)	$ (2,100.90)
58,080	$ 7,392.66	$ 8,218.56	$ 5,996.76	$ 825.90	$ (1,395.90)	$ (2,221.80)

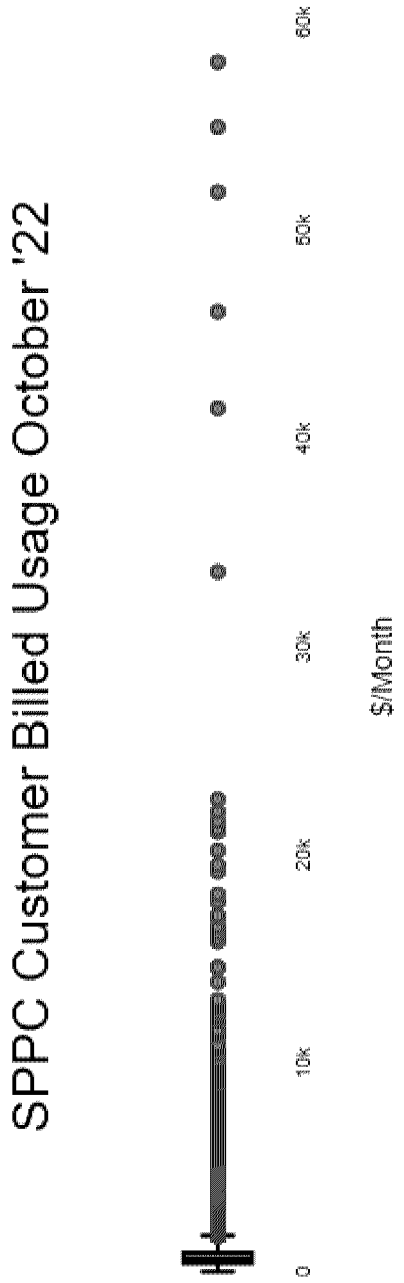
ATTACHMENT “12”


Percentage Change in Monthly Bill Under Potential Rate Structures
Current Structure W/Out Increase to BSC
Proposed Structure W/ Increase to BSC
175.00%
150.00%
125.00%
100.00%
75.00%
50.00%
25.00%
0.00%
-25.00%
kWh Billed
0
100
200
300
400
500
600
700
800
900
1000
1100
1200
174.55%
90.23%
57.03%
39.27%
28.21%
20.67%
15.19%
11.03%
9.63%
9.78%
9.91%
10.01%
10.10%
0.00%
4.87%
6.79%
7.81%
8.45%
8.89%
9.20%
9.44%
7.77%
5.14%
2.98%
1.16%
-0.38%

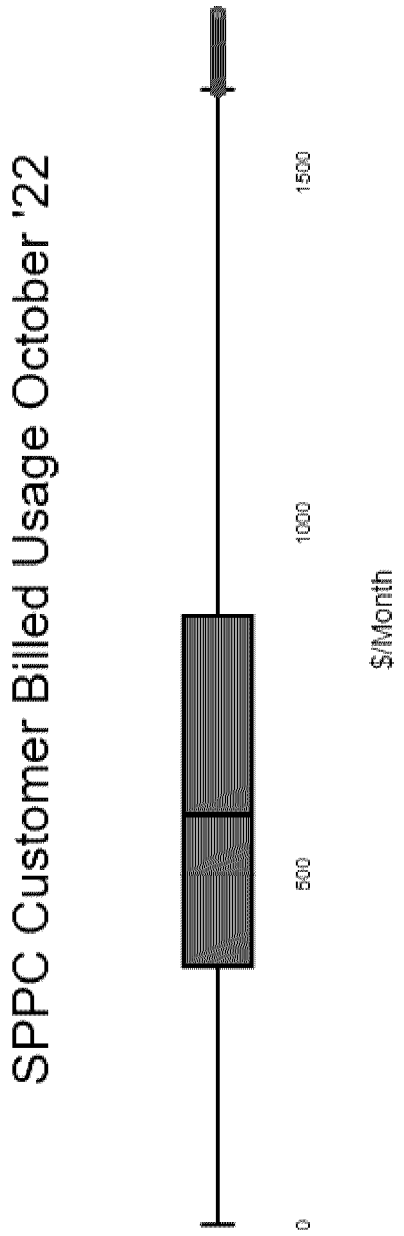
ATTACHMENT “13”


SPPC Customer Usage Levels, October 2022
Usage Billed (kWh)
Number of Customers
0
2000
4000
6000
8000
10000
12000
14000
0-49
50-99
100-149
150-199
200-249
250-299
300-349
350-399
400-449
450-499
500-549
550-599
600-649
650-699
700-749
750-799
800-849
850-899
900-949
950-999
1000-1049
1050-1099
1100-1149
1150-1199
1200-1249
1250-1299
1300-1349
1350-1399
1400-1449
1450-1499
1500-1549
1550-1599
1600-1649
1650-1699
1700-1749
1750-1799
1800-1849
1850-1899
1900-1949
1950-1999
2000+

ATTACHMENT “14”


SPPC Customer Billed Usage October '22
0
10k
20k
30k
40k
50k
60k
$/Month

ATTACHMENT “15”

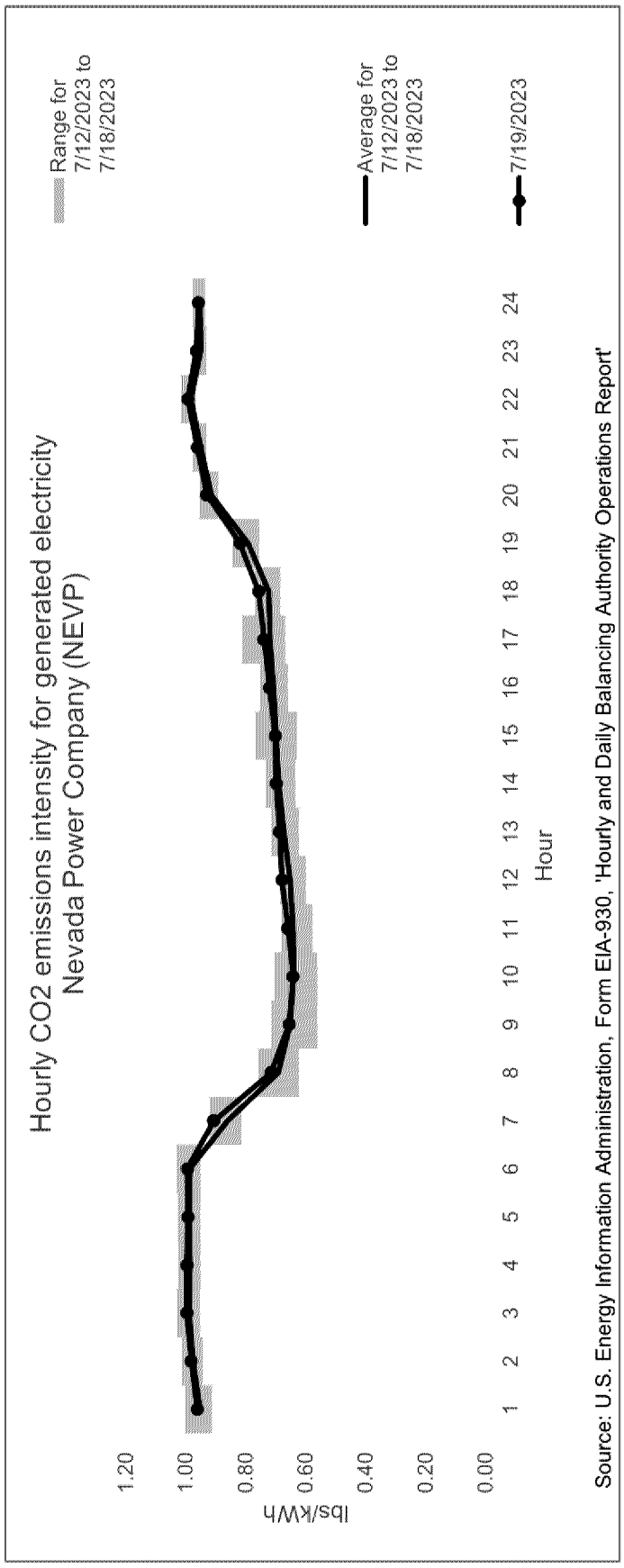

SPPC Customer Billed Usage October '22
0
500
1000
1500
$/Month

ATTACHMENT “16”

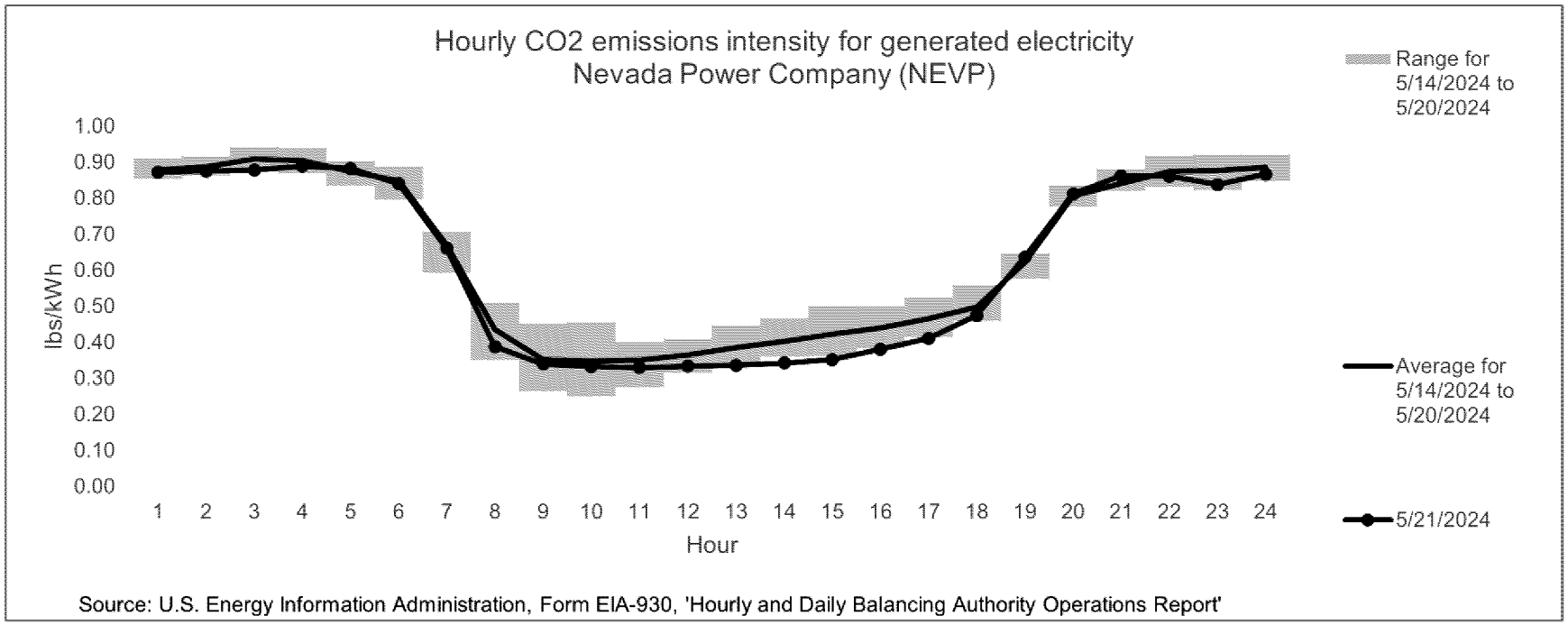
Sierra Pacific Power Company - Electric
Average Billed Customers

	2023	Q1 2024	Difference
OD-1 TOU	772	772	0
OD-1 TOU NEM	228	252	24
OD-1 TOU EVRR	941	1086	145
OD-1 TOU EVRR NEM	243	329	86
OD-1 TOU CPP	1	1	0
OD-1 TOU CPP DDP	3	3	0
ODM-1 TOU	38	38	0
ODM-1 TOU EVRR	41	52	11
Grand Total	2,267	2,533	266

ATTACHMENT “17”

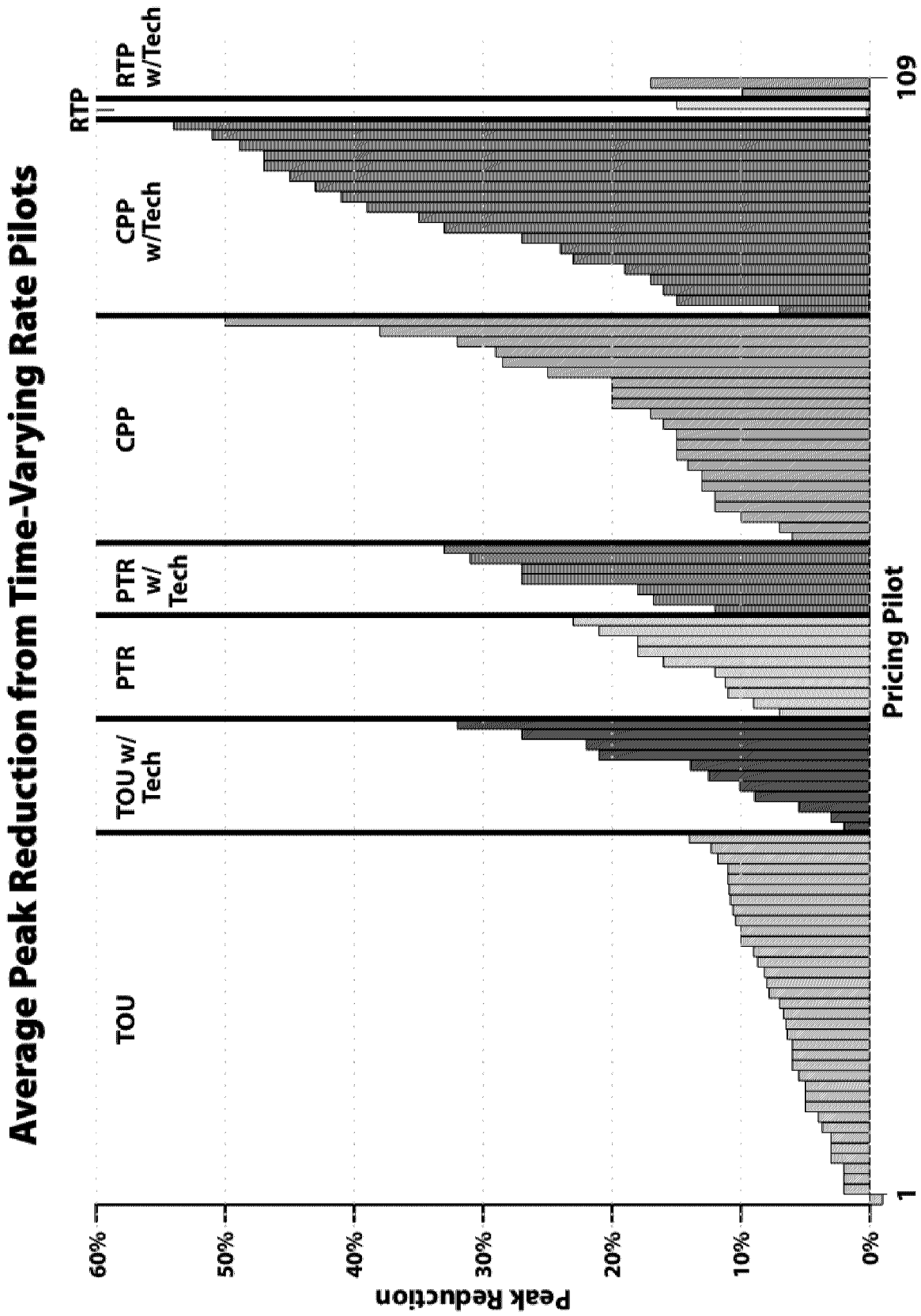

Hourly CO2 emissions intensity for generated electricity
Nevada Power Company (NEVP)
Range for 7/12/2023 to 7/18/2023
Average for 7/12/2023 to 7/18/2023
7/19/2023
lbs/kWh
1.20
1.00
0.80
0.60
0.40
0.20
0.00
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
Hour
Source: U.S. Energy Information Administration, Form EIA-930, 'Hourly and Daily Balancing Authority Operations Report'

ATTACHMENT “18”



Source: U.S. Energy Information Administration, Form EIA-930, 'Hourly and Daily Balancing Authority Operations Report'

ATTACHMENT “19”


Average Peak Reduction from Time-Varying Rate Pilots
TOU
TOU w/ Tech
PTR
PTR w/ Tech
CPP
CPP w/Tech
RTP
RTP w/Tech
60%
50%
40%
30%
20%
10%
0%
Peak Reduction
1
109
Pricing Pilot

Nevadans for Clean Affordable Reliable Energy (NCARE)
550 West Musser Street, Suite G, Carson City, NV 89703-4997 – 775-841-2400

CERTIFICATE OF MAILING

Docket No. 24-02026

I hereby certify that I have on this date served the foregoing document upon all parties of record in this proceeding by electronic mail to the recipient's current electronic mail address:

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Wil Gehl wgehl@seia.org

DATED July 3 , 2024.

Completed By:

Regina M. Nichols

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