

**---THIS IS A DRAFT ORDER---
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) Docket No. 16-06006
electric customers and for relief properly related thereto.)
_____)

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) Docket No. 16-06007
gas customers and for relief properly related thereto.)
_____)

Application of Sierra Pacific Power Company d/b/a NV)
Energy for approval of new and revised depreciation and) Docket No. 16-06008
amortization rates for its electric operations.)
_____)

Application of Sierra Pacific Power Company d/b/a NV)
Energy for approval of new and revised depreciation and) Docket No. 16-06009
amortization rates for its gas operations.)
_____)

At a general session of the Public Utilities
Commission of Nevada, held at its offices
on DECEMBER 22, 2016.

PRESENT: JOSEPH C. REYNOLDS, Chairman and Presiding Officer
PAUL A. THOMSEN, Commissioner
ANN C. PONGRACZ, Commissioner

TRISHA OSBORNE, Assistant Commission Secretary

(PROPOSED DRAFT)
ORDER GRANTING IN PART AND DENYING IN PART
GENERAL RATE APPLICATION BY SIERRA PACIFIC POWER

EXECUTIVE SUMMARY

Having thoroughly reviewed thousands of pages of documents and exhibits, considered conflicting expert testimony from well-educated and credible witnesses over seven (7) days of hearings, and applied the balance and reasonableness sought in Senate Bill 374 through Nevada's policy of supporting solar and renewable forms of energy, economic development, and new technologies, the PUCN hereby finds and concludes that re-opening on January 1, 2017, up to 6 megawatts (MW) of installed capacity of rooftop solar energy systems for existing and new customer-generators under the prior "Net Energy Metering" (NEM-1) terms and rates in the service territory for Sierra Pacific Power is just, reasonable, and consistent with the public interest.

An increased cap of 6 MW is approximately forty percent (40%) of the total NEM rooftop solar growth that Northern Nevada has experienced in the past twenty (20) years and will allow nearly double the growth of NEM participants that has occurred in Sierra Pacific Power's territory over the past three (3) years. Any cost shift borne by ratepayers for this NEM expansion is reasonable under the facts of this case. Indeed, through this Order the average residential customer in Northern Nevada may expect a *decrease* of approximately \$0.01 (one cent) per month on monthly utility bills and the average small commercial customer may expect a *decrease* of approximately \$0.43 (forty-three cents) per month on their average monthly utility bill. It is not much. But given that no "unreasonable" cost shift between customer classes is created by a 6-MW expansion of NEM-1, even accepting the evidence and methodology of Sierra Pacific Power as true and correct, the PUCN hereby finds and concludes that the proscriptions of NRS 704.7735(2)(e) are not triggered. NEM may grow, while average monthly bills should not.

Retaining separate rate classes makes sense and is consistent with the unique relationship between NEM customer-generators and a utility. The Stipulation entered into by the Parties in good-faith to resolve most of the issues in this case is hereby accepted. The PUCN finds that reaching the remaining issues raised by the Parties in this case regarding the valuation of NEM rooftop solar in Nevada is premature. Like gasoline or milk, the value of NEM rooftop solar energy in Nevada is not static—it is subject to change, like other commodities, and ebbs and flows with things like the economy and the weather. This decision is fact-specific and is not to serve as binding precedent upon future rate cases, including those in Southern Nevada. Any remaining issues will be in abeyance before the PUCN until the new cap is reached in Northern Nevada. Resolution of valuation of NEM issues in Nevada requires more study and collaboration. But the policy of the State of Nevada clearly supports the development and growth of diverse forms of solar and renewable energy as a priority, including NEM.

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DRAFT

INTRODUCTION

Before REYNOLDS, JOSEPH C., Chairman and Presiding Officer.

Nevada law provides that every three (3) years a public utility shall file with the Public Utilities Commission of Nevada (PUCN) a General Rate Application¹ regarding any proposed future changes to the costs and rates to its customers. *See* NRS 704.110(1). Once filed, the PUCN has a statutorily-imposed deadline of 210 days by which to either approve or disapprove, in whole or part, the proposed changes. NRS 704.110(2). Here, Sierra Pacific Power Company d/b/a NV Energy (Sierra Pacific Power) filed with the PUCN a general rate application on June 6, 2016, regarding the electric and gas utility costs and rates of services it provides to its customers throughout Northern Nevada. (Exhibit Nos. 1 and 159).

Numerous parties thereafter intervened in the proceedings: SolarCity; Vote Solar; Northern Nevada Industrial Electric Users (NNIEU);² Nevadans for Clean Affordable Reliable Energy (NCARE); Newmont USA, Limited, d/b/a Newmont Mining Corporation (Newmont); the Coalition;³ Northern Nevada Utility Customers (NNUC);⁴ the Office of the Nevada Attorney General, Bureau of Consumer Protection (Attorney General);⁵ and the Regulatory Operations Staff of the PUCN.⁶

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¹ The phrase “General Rate Application” refers collectively to the applications filed in Docket Nos. 16-06006, 16-06007, 16-06008, and 16-06009, which were consolidated by the PUCN pursuant to NAC 703.740 to promote efficiency. *See PUCN Procedural Order No. 1* at 4 (August 12, 2016).

² NNIEU consists of the following: EP Minerals, LLC; Heavenly Valley, Limited Partnership; Sheltie Opco, LLC d/b/a Nugget Casino Resort; Nevada Cement Company; Premier Magnesia, LLC; Prime Healthcare Services; The Ridge Tahoe Property Owners’ Association; Saint Mary’s Regional Medical Center, Inc.; and Renown Health.

³The Coalition consists of the following: City of Reno; City of Sparks; Carson City; Carson City School District; Washoe County School District; and the Reno-Tahoe Airport Authority.

⁴NNUC consists of the following: Eldorado Resorts, LLC; Circus and Eldorado Joint Venture, LLC d/b/a the Silver Legacy Resort Casino Reno; CC-Reno, LLC; Golden Road Motor Inn, Inc. d/b/a Atlantis Casino Resort Spa; Truckee Meadows Water Authority; and Caesars Enterprise Services, LLC as manager on behalf of Harveys Lake Tahoe Management Company d/b/a Harrah’s Lake Tahoe and Harveys Resort & Casino and Caesars Entertainment Operating Company d/b/a Harrah’s Reno.

⁵The Attorney General intervened pursuant to NRS 228.360.

⁶Staff of the PUCN is automatically party pursuant to NRS 703.301(1). It is noteworthy Staff of the PUCN acts independently of the Presiding Officer. *See* NRS 703.301(2).

Based upon an extensive and thorough review of oral and written witness testimony and evidentiary exhibits admitted during seven (7) days of administrative hearings, as well as a Stipulation signed by all the parties, and in accordance with Nevada statutory and regulatory law, the PUCN hereby orders the General Rate Application filed by Sierra Pacific Power GRANTED IN PART AND DENIED IN PART.

LEGAL STANDARDS OF REVIEW

The touchstone analysis in any General Rate Application pending before the PUCN is to ensure that any charges imposed on Nevada utility customers are “just and reasonable,” *see* NRS 704.001(4); NRS 704.120(1), which is a statutorily-imposed standard consistent with the PUCN’s responsibility to “[p]rotect, further and serve the public interest.” *See* NRS 703.151(1).

An order by the PUCN will be upheld by a higher court on judicial review when it is “within the legal framework of the law, and based on substantial evidence in the record.” *Nevada Power Co. v. Public Utilities Commission of Nevada (PUCN), et al.*, 122 Nev. 821, 834, 138 P.3d 486, 494 (2006) (other internal citations and quotations omitted). Substantial evidence is that which “a reasonable mind might accept as adequate to support a conclusion.” *Id.* (quoting *State, Emp. Security v. Hilton Hotels*, 102, 606, 608, 729 P.2d 497, 498 (1986)).

Great deference is afforded to the PUCN’s “interpretation of its governing statutes or regulations,” *see Dutchess Business Service, Inc. v. Nevada State Board of Pharmacy*, 124 Nev. 701, 709, 191 P.3d 1159, 1165 (2008), and a higher court will not “reweigh the evidence” or substitute its judgment on factual questions. *Nevada Power Co.*, 122 Nev. at 495, 138 P.3d at 494; NRS 703.373 (11). Evaluating the credibility of witness testimony and the weight to be given to it resides well-within the province of the PUCN’s presiding officer, *i.e.*, fact finder. *See In the Matter of TR v. State*, 119 Nev. 646, 649, 80 P.3d 1276, 1278 (2003). This standard holds true even when expert testimony is conflicting. *See Allen v. State*, 99 Nev. 485, 487-88, 665 P.2d 238 (1983). Indeed, the Nevada Supreme Court has recognized that “[e]xpert testimony is not binding on the trier of fact; [he or she] can either accept or reject the testimony as they see fit.” *Id.*

The PUCN may also take “[n]otice of judicially cognizable facts and generally recognized technical or scientific facts within the specialized knowledge of the agency,” NRS 233B.123(5), and its final decisions “shall be deemed reasonable and lawful” and have operative effect unless they are set aside by a higher court on review upon a showing of clear error or abuse of discretion. *See* NRS 703.373(9); *see also* NRS 703.374(2).

“Findings of fact and decisions must be based upon a preponderance of the evidence.” NRS 233B.125. The “preponderance of evidence” standard is the “minimum civil standard of proof” and represents “the degree of confidence our society thinks [the fact finder] should have in the correctives of factual conclusions for a particular type of adjudication.” *Nassiri v. Chiropractic Physicians Board*, 130 Nev. ___, ___, 327 P.3d 487, 491 (2014) (quoting *Addington v. Texas*, 441 U.S. 418, 423 (1979)). It does not depend upon and is not satisfied simply by finding in favor of the party that produces the greatest number of witnesses or the largest volume of evidence. See *Brown v. State*, 107 Nev. 164, 166, 807 P.2d 1379, 1380-1381 (1991). Rather, a preponderance of the evidence is met when the existence of a fact is more probable than not. *Id.*

THE STIPULATION

Inquiry into a General Rate Application by a public utility, such as Sierra Pacific Power, by the PUCN traditionally encompasses three phases: (1) Cost of Capital; (2) Depreciation and Revenue Requirement; and (3) Rate Design. Here, a procedural order was entered by the PUCN,⁷ which divided the hearings on the general rate application into each of these three phases.⁸

Key Terms of the Stipulation

On October 17, 2016, all of the parties reached and signed a written agreement, *i.e.*, the Stipulation (Exhibit No. 99), which was filed with the PUCN, and was intended by the Parties to resolve the Cost of Capital (Phase 1), the Depreciation and Revenue Requirement (Phase 2), and a distinct portion of the Rate Design (Phase 3) pertaining to all residential and commercial non-NEM customers in this case. The Stipulation contains the following pertinent core terms:

1. Sierra Pacific Power’s annual electric base tariff general revenue requirement shall be reduced by \$2.923 million (or 0.44%). Sierra Pacific Power’s annual gas base tariff general revenue requirement shall be reduced by \$2.402 million (or 2.16%). The return on equity for Sierra Pacific Power’s electric operations shall be set at 9.6% and the stated return on equity for Sierra Pacific Power’s gas operations shall be set at 9.5%.
2. The Stipulation resolves portions of the electric Rate Design Phase of the Consolidated Docket pertaining to all customers and customer classes other than the non-grandfathered net energy metered (NEM-2) customers. For non-NEM-2 customers and customer classes, the Stipulation (a) maintains the existing rate design and (b) spreads the revenue reductions to all classes based on sales through reductions in volumetric charges.

⁷See *PUCN Procedural Order No. 1* at 4 (August 12, 2016).

⁸These matters were re-assigned to a new Presiding Officer effective October 3, 2016.

3. The Stipulation also resolves all rate design issues for Sierra Pacific Power's gas operations by maintaining the existing rate design, spreading the reduction to customer classes based on sales, and effecting the reduction through lowering the per-therm rate.

Revenue Requirement and Cost of Capital

4. Sierra Pacific Power's annual revenue requirement for electric operations will be reduced by \$2.923 million and Sierra Pacific Power's annual revenue requirement for gas operations will be reduced by \$2.402 million. Sierra Pacific Power's electric operations Return On Equity shall be stated as 9.6% and its gas operations ROE shall be stated as 9.5%. Sierra Pacific Power's rate of return shall be based on the capital structure set forth in Statement F of its electric and gas certification filings in Exhibits Nos. 18 and 44 (or 6.65% for electric operations and 5.75% for gas operations).

Operation and Maintenance Expense Adjustments

5. NV Energy will remove from Sierra Pacific Power's and Nevada Power's electric revenue requirement (both capital and lease expense) \$1.7 million attributable to the payment of Newmont's Mining's legal fees. This does not preclude the signatories from arguing the propriety of capital investment in the blocking filters in the next Nevada Power General Rate Application.
6. Sierra Pacific Power will make the following adjustments for the purposes of calculating the electric revenue requirement for the purposes of this case:
 - i. Follow PUCN Staff's proposal with regards to the Tracy Incentive.
 - ii. Exclude from its rate base approximately \$7.8 million associated with the Tracy Wastewater Treatment Plant as proposed by PUCN Staff.
 - iii. Include in its rate base only 37% of the capital investment associated with North Valmy Wells 21, 23, and 27 as proposed by PUCN Staff.
 - iv. Include in rate base only 50% of the capital investment associated with the Valmy Electrical Mechanical Shop, which represents use of the facility for the operation of Valmy until 2025 plus an additional five years for use in connection with remediation and demolition as proposed by PUCN Staff.

7. Sierra Pacific Power reserves the right to include additional amounts in future cases if it makes showings with regard to the Tracy Wastewater Treatment Plant, the North Valmy Wells, and the Valmy Electrical Mechanical Shop.
8. Sierra Pacific Power will make the following adjustments when calculating electric revenue requirement for purposes of this case:
 - i. Follow PUCN Staff's recommendation with regard to the legacy meter regulatory asset adjustment.
 - ii. Extend the amortization of the ON Line lease regulatory assets.
 - iii. Not include the costs of the Tracy Paving project in rate base, as proposed by PUCN Staff and the Bureau of Consumer Protection.
 - iv. Exclude the costs of the Tracy Roof Modification project from rate base as proposed by PUCN Staff.
 - v. Exclude the costs of the Valmy Low NOx Burner project from rate base as proposed by PUCN Staff.
 - vi. Follow the Bureau of Consumer Protection's proposal for the capitalization of Modified Business Tax.
 - vii. Determine the cost of utilizing the General Office Building (GOB) as proposed by Staff and as adjusted by Sierra Pacific Power witness Elena Mello. This determination can be revisited in a future proceeding if Sierra Pacific Power's occupancy levels at the GOB materially change.
9. The following investments will be included in Sierra Pacific Power's rate base and will be considered prudent and the costs will be considered reasonable when calculating electric revenue requirement for purposes of this case:
 - i. 345 kV PLC Replacement.
 - ii. Spanish Springs Under Rate Circuit Breaker Upgrades.

- iii. Tracy 4&5 Control System.
 - iv. Midpoint to Tracy Vibration Dampers.
 - v. EWAM Phase 2.2 (electric).
10. The above-listed projects will not be revisited in future proceedings. For multi-phased projects such as the 345 kV PLC Replacement Program, the provisions of this paragraph only relate to the costs of those phases included in this filing. Costs associated with subsequent phases of such multi-phased projects may be at issue in future regulatory rate review proceedings.

Other Revenue Requirement Adjustments

11. Sierra Pacific Power will make a one-time adjustment of \$1.202 million, when calculating electric revenue requirement for purposes of this case.
12. All proposed adjustments to operating expenses may be revisited in future rate review proceedings. Additionally, for Generally Accepted Accounting Principles of "GAAP" and regulatory accounting purposes, Sierra Pacific Power will only make the adjustments specified in the agreement. Thus, for the purpose of GAAP and regulatory accounting purposes the applications shall be deemed approved as filed excepted as modified in the Stipulation.

Depreciation Adjustments

13. Sierra Pacific Power will make the adjustments to its electric depreciation study as set forth in Exhibit 1 to the Stipulation, and will utilize the revised electric rates of depreciation set forth in Exhibit 1 to the Stipulation for purposes of calculating electric revenue requirement.
14. Sierra Pacific Power will defer the depreciation expense associated with changes in the rates of depreciation for the North Valmy generating facility into a regulatory asset as proposed by Staff and NNUC, when calculating the annual electric revenue requirement to establish rates in this case.
15. Sierra Pacific Power will implement the rates of depreciation set forth in its gas depreciation study, except that it will not change the rate of depreciation for account 380 and will instead maintain the current rate of depreciation calculated using a 65-R3 survivor curve.

Cost of Service and Rate Design

16. Sierra Pacific Power will prepare a manual as proposed by Staff explaining the determination of marginal costs of electric service, including cost responsibility factors and Statement O.
17. The Signatories agree to resolve portions of the electric rate design phase of the case for all customers and customer classes other than NEM-2 customers, as described above.
18. The Stipulation shall reduce the volumetric charges for all classes that do not have Time-Of-Use rates by \$0.00037 per kWh. Except for the GS-4-NG class, this reduction in the volumetric charge will be reduced to reflect any reallocation of responsibility for the revenue requirement to non-NEM and grandfathered NEM customers in this case.
19. For classes with Time-Of-Use rates, Sierra Pacific Power will (a) make sure that the class reduction is appropriate based on total sales and (b) spread the reduction to Time-Of-Use periods in a manner that reflects and maintains the existing relationship between Time-Of-Use periods.
20. Sierra Pacific Power will recalculate the kWh charges for all electric classes that purchase energy from Sierra Pacific Power and all natural gas customer classes, and as a compliance item, will file revised rates with the PUCN within ten (10) days of the approval of the Stipulation, which will be reviewed by PUCN Staff for consistency with the provisions of this Order.
21. The revised tariff sheets will become effective on January 1, 2017, after PUCN Staff's review and approval.
22. Sierra Pacific Power shall implement the results of its electric and natural gas depreciation studies, with the adjustments specified in the Stipulation on January 1, 2017.

(Exhibit No. 99). The Stipulation further provided that the parties agreed and sought to resolve “most issues” raised in Sierra Pacific Power’s pending General Rate Application regarding electric and gas residential and commercial customers and maintain “the existing rate design.” (Exhibit No. 99 at 2). The primary carve-out exception in the Stipulation was to reserve arguments and evidence regarding current (and future) NEM-2 rooftop solar customer-generators who were not covered in the grandfathering terms and conditions approved by the PUCN Order entered on

September 21, 2016,⁹ *i.e.*, Nevadans currently referred to as “NEM-2” customers (Exhibit No. 99 at 9-10). Those matters regarding the non-grandfathered customer-generators (NEM-2) remain unresolved and, therefore, were expressly intended by the parties to be the focus of this case.

On October 19, 2016, the Stipulation was provisionally accepted by the Presiding Officer, *see* Hearing Transcript 10/19/16 at 89, and Exhibit Nos. 1 through 48 (containing 14,374 pages of documentary exhibits) were admitted into evidence, *id.* at 68, and Exhibit Nos. 49-98 (consisting of the written testimony of numerous witnesses), were also admitted into evidence without objection. *Id.* at 89. Approval and full acceptance of the Stipulation was reserved by the Presiding Officer until all proceedings in these matters were concluded; all evidence was admitted and arguments were heard regarding the non-grandfathered NEM-2 customer-generators (to be discussed later in this Order); and analysis could be conducted as to “how everything fits together.” *Id.* at 93-94.

Findings of Fact and Acceptance of the Stipulation by the PUCN

NAC 703.385 provides that parties in a proceeding before the PUCN may enter into a stipulation to settle issues provided that the Stipulation (1) only settles issues related to the instant proceeding and (2) does not seek relief that the PUCN is not empowered to grant. Having reviewed all of the relevant evidence and considered the arguments of the parties, the PUCN makes the following findings of fact and conclusions of law regarding the Stipulation:

1. The signatories to the Stipulation knowingly negotiated its terms in good faith to resolve all of the issues in these proceedings, except for those regarding NEM2 customer-generators.
2. The terms of the Stipulation are just, fair, and reasonable, not contrary to law and are within the legal authority of the PUCN.
3. The terms of the Stipulation are supported by substantial evidence in the record before the PUCN.
4. The Stipulation is in the public interest of ratepayers in the State of Nevada.
5. All terms of the Stipulation, including those not expressly cited in the text of this Order, are hereby incorporated into the provisions of this Order.

⁹The PUCN *Order* in Docket Nos. 16-07028 and 16-07029 effectively approved a stipulation by interested parties that all NEM customer-generators who had “active applications” pending on December 31, 2015, be “grandfathered” for a 20-year billing period under the terms and conditions that existed prior to the PUCN issuing the *Modified Final Order* in Docket Nos. 15-07041 and 15-07042 on February 17, 2016.

6. All terms of the Stipulation shall be binding upon the signatories, including Sierra Pacific Power, and be subject to enforcement by the PUCN.

Nevadans are at our best when we come together to find common ground to resolve complex and difficult problems. The PUCN lauds the hard work by the Parties (and their respective counsel) in reaching mutually-acceptable terms, a reasonable compromise, and narrowing the issue(s) for the PUCN to address. Such work serves the interests of ratepayers within Sierra Pacific Power's service territory, as well as all Nevadans as a whole. Accordingly, the Stipulation is hereby ACCEPTED.

What remains in this Order addresses the arguments, evidence, and law applicable to the Rate Design (Phase 3) of the General Rate Application and subsequent hearings regarding the non-grandfathered solar rooftop customer-generators (NEM-2). Because the parties entered into the Stipulation, those arguments and facts that preceded it are not relevant and will not be discussed.

FACTS AND ARGUMENTS AT NOVEMBER RATE DESIGN HEARINGS

On November 7, 2016, evidentiary hearings before the PUCN on the NEM rate design portion of the General Rate Application began. Seven (7) days of hearings were held, and concluded on November 18, 2016.

All signatories to the Stipulation appeared and were represented by the following counsel: *Assistant General Counsel Elizabeth Elliot, Esq.* of NV Energy on behalf of Sierra Pacific Power; *Kathleen M. Drakulich, Esq.* and *Curt R. Ledford, Esq.*, of the law firm McDonald Carano Wilson, LLC on behalf of the SolarCity, the Coalition, and NNUC; *Robert G. Johnston, Esq.* on behalf of NCARE; *Senior Deputy Attorney General Michael Saunders, Esq.* and *Chief Deputy Attorney General Ernest Figueroa, Esq.* on behalf of the Nevada Attorney General, Bureau of Consumer Protection; *Fred Schmidt, Esq.* of the law firm Holland & Hart LLP on behalf of Newmont Mining Corporation; *David Bender, Esq.* and *Sarah Greenburg, Esq.* on behalf of Vote Solar; *Assistant Staff Counsel Samuel S. Crano, Esq.* on behalf of the PUCN Staff; and *Karen Peterson, Esq.* of the law firm Allison MacKenzie, LTD on behalf of NNIEU.

During the hearing, an additional seventy-nine (79) exhibits were admitted into evidence in addition to the ninety-nine (99) exhibits admitted regarding the Stipulation (placing the total number of admitted exhibits for the entire General Rate Application case at one-hundred and seventy-eight (178) exhibits), and twenty-four (24) witnesses testified. Pursuant to NAC 703.695(1)(a), the hearings occurred with the direct presentation of evidence by the Applicant,

Sierra Pacific Power, and was then followed by the Intervenors, *e.g.*, SolarCity, Vote Solar, NCARE, etc.; the Nevada Attorney General, Bureau of Consumer Protection;¹⁰ PUCN Staff; and concluded with a Rebuttal case presented, again, by Sierra Pacific Power.

Sierra Pacific Power's Direct Case in Chief

Direct Testimony of Laura Walsh

Walsh, who is the Director of Regulatory Analysis, Policy, and Strategy for Sierra Pacific Power and Nevada Power, provided policy support for Sierra Pacific Power's marginal cost of service analysis and rate design. Walsh testified that two considerations affect the cost of service and rate design proposals in this case: (1) the balance between holding total revenue requirement constant while addressing inter-class subsidies established by the Nevada State Legislature and (2) how to align Sierra Pacific Power's pricing structure to reduce intra-class subsidies.

Sierra Pacific Power made two proposals related to cost of service and rate design. First, Sierra Pacific Power proposed to reconcile revenue at full marginal cost to present rate revenue, functionalized on the same basis that was used to set present rates. Second, Sierra Pacific Power proposed that each class have its class revenue requirement set at the full marginal cost share of the total, with the exception of the Interruptible Irrigation (IS-2) and private generation or NEM customer classes. Together, these proposals maintain a zero overall increase but established the target revenue requirement for each class at its full marginal cost based share. Walsh stated that it is appropriate to continue moving toward cost based rates within classes, focusing on reducing intra-class subsidies. (Exhibit No. 100 at 4). Walsh indicated that Sierra Pacific Power is not proposing that Basic Service Charges for NEM classes be changed to include transmission and/or generation demand cost recovery. In addition, Sierra Pacific Power recommended that Time-of-Use rates for NEM ratepayers remain opt-in for now. Walsh testified that Sierra Pacific Power recommended a line item on customer bills that states both the subsidy in current rates and the estimated subsidy under previous net metering rules. (Exhibit No. 100 at 27-29). Walsh indicated that the results of the certification updates have not caused her to alter her position on the policy considerations related to cost of service and rate design in her direct testimony. However, Walsh testified that an updated NEM subsidy calculation decreased the overall subsidy under previous net metering rules by 3.4% from \$1,517,709 to \$1,466,583. (Exhibit No. 101 at 3, 16).

¹⁰Although present, the Nevada Attorney General presented no evidence, asked no questions, and made no arguments during these evidentiary hearings.

Direct Testimony of Jeffrey Bohrman

Bohrman, who is Pricing Supervisor in the Regulatory Pricing and Economic Analysis section of the Regulation Department for Sierra Pacific Power and Nevada Power, testified in support of the technical aspect of Sierra Pacific Power's Marginal Cost of Service Study.¹¹ Bohrman reported that the Marginal Cost of Service Study methodology used in the instant Dockets is "essentially" the same as that used in Sierra Pacific Power's previous general rate cases, with certain refinements. The Marginal Cost of Service Study is generally based upon the methodology of the National Economic Research Associates and develops marginal customer, facilities, energy, and demand costs for each rate class. Demand costs consist of an allocation of annual marginal generation, transmission, high-voltage distribution, and primary distribution costs to each hour of the year. These hourly costs are then applied to the hourly loads of each class. (Exhibit No. 102 at 1-2, 4). Bohrman's certification testimony provided updated input data for the Marginal Cost of Service Study. (Exhibit No. 103 at 1-2, 4-15).

Direct Testimony of Aaron Schaar

Schaar, who is a Pricing Specialist in the Regulatory Pricing and Economic Analysis section of the Regulation Department for Sierra Pacific Power and Nevada Power, testified in support of the Customer Weighting Factor Study (CWFS), which is an input to Sierra Pacific Power's Cost of Service Study. Schaar testified that the CWFS results are a key input to the Marginal Cost of Service Study, contributing to the calculation of each customer class's marginal customer cost and, in turn, the Basic Service Charge. The CWFS results capture the share of customer service and customer account expense attributable across rate classes. Schaar testified that the Solar, Wind, and Water Renewables Department of NVE; the Call Center-NVE North; and the Billing-NVE North Departments underwent changes and increases that lead to increased cost-per-customer inputs for NEM customers. (Exhibit No. 104 at 2, 7-8).

Direct Testimony of Timothy Pollard

Pollard, who is a Pricing Specialist in the Regulatory Pricing and Economic Analysis section of the Regulation and Strategic Planning Department for Sierra Pacific Power and Nevada Power, testified about the calculation of the marginal demand cost and marginal energy cost responsibility factors in the Marginal Cost of Service Study.

¹¹The Marginal Cost of Service Study was prepared by Sierra Pacific Power and admitted as "Exhibit 2" within Exhibit No 102. In the world of utility regulation, the term "marginal" may be understood as the next or future unit of energy.

Pollard testified about the technical aspects and mechanics of Sierra Pacific Power's revenue reconciliation and rate calculations. Pollard stated that Sierra Pacific Power calculated the marginal cost responsibility factors and marginal energy cost in the same way as those previously approved by the PUCN. The objective of these factors is to establish the relative contribution that each customer class makes to the total system marginal demand and energy costs. (Exhibit No. 105 at 1-2, 4). Pollard also testified as to how NEM customer's load shapes were developed for use with the marginal cost responsibility factors. NEM class load shapes are input into the Marginal Cost of Service Study and load shapes used in the Study reflect the standby nature of the service Sierra Pacific Power provides to NEM customers and must account for the facilities that are installed to meet the NEM customer energy requirements when customers' NEM systems are not producing energy. NEM customer's total loads were used to develop the marginal distribution costs and the transmission load shape. NEM customers' delivered load shapes were used to develop the generation load shape and the energy load shape. (Exhibit No. 105 at 8-10).

Additionally, Pollard testified that NEM customers have a distinctly different load shape, load factors, and billing determinants as compared to the average full requirements residential or small general service customers. To incorporate NEM customers into the Marginal Cost of Service Study, hourly load and cost allocation shapes were created for NEM customers using the installed capacity and experienced 15-minute interval load and production data of the existing NEM customers. Pollard argued that the class characteristics that are unique to NEM service must be reflected in the marginal cost of service. Accordingly, for partial requirements customers like NEM customers, marginal distribution, transmission, and generation demand costs must reflect Sierra Pacific Power's public service and reliability obligations to ensure it has facilities to meet the partial requirement of the customers load at any time. (Exhibit No. 105 at 11-12). He supported updates to the data used within the Marginal Cost of Service Study and updates to Sierra Pacific Power's revenue reconciliation and rate design proposals. Pollard testified that the certification "Statement O" does not reflect any significant changes in the rate design methodology or structure. (Exhibit Nos. 106 at 1-2, 5 and 151).

Direct Testimony of Janet Wells

Wells, who is a Supervisor of Load Research for Sierra Pacific Power and Nevada Power, addressed the process for updating class load shapes and the purpose behind class load shapes. Wells testifies that the load shapes for NEM classes were updated from those used in Docket Nos.

15-07041 and 15-07042 to include new customer data, which reflected a 24% increase in D-1 NEM customers and a 9% increase in GS-1 NEM customers between March and September 2015. Wells also performed a statistical test on the uniqueness of the NEM load shapes and determined that there is zero (0%) percent probability that Sierra Pacific Power is incorrect in stating that the distributions of NEM and non-NEM customers are different. (Exhibit No. 106 at 5-7). Wells described changes in class load shapes caused by updates to customer usage data. She provided no testimony as to any changes to NEM customer load shapes. (Exhibit No. 110 at 1-4).

Direct Testimony of Shawn EliceGUI

EliceGUI, who is Senior Vice President of Regulation and Strategic planning for Sierra Pacific Power and Nevada Power, testified about rate design for NEM customers and the value of the excess energy credit. First, EliceGUI addresses the compliance items and directives from the Modified Final Order in Docket Nos. 15-07041 and 15-07042 that effect this case. Next, EliceGUI discusses the regulatory liability in Schedule H-CERT-40 to calculate the revenue that Sierra Pacific Power would have received under the prior framework. (Exhibit No. 50 at 32-33, 44-47). EliceGUI provided a definition of excess energy and discusses the “paradigm” established by the Modified Final Order in Docket Nos. 15-07041 and 15-07042. Sierra Pacific Power’s proposal for the excess energy credit is, according to EliceGUI, consistent with that Order because it uses the Long-Term Avoided Cost (LTAC) in Docket No. 15-07004 as the foundation for its calculation. Sierra Pacific Power accounted for variables that are known and measurable and internal to Sierra Pacific Power, and also included fuel hedging. Should gas prices and the overall price of energy increase, NEM customers may avoid increases in the base tariff energy rate for every unit of energy produced by their NEM system. NEM customers benefited from projected increase in the price of natural gas and purchases because the LTAC reflects the price of natural gas. EliceGUI noted that Sierra Pacific Power has not quantified any additional costs and benefits associated with the integration of NEM and other distributed energy resources. (Exhibit No. 50 at 47-53).

NCARE

Intervenor Testimony of William Steele

Steele, who is a private consultant with a thirty-four-year (34) career advising the Colorado Public Utilities Commission and has a Master in Business Administration Degree from the University of Phoenix and a Bachelor of Science Degree in Business Administration from the University Northern Colorado, testified as an expert witness for NCARE.

Relying on Smart Rate Design for a Smart Future (excerpted in Exhibit No. 115), Steele addressed the issue of having separate rate classes for NEM customers, a discussion of rate design theories, and criticism of Sierra Pacific Power's proposal for increasing the Basic Service Charge for NEM-2 customers. (Exhibit No. 113 at 3). Steele recommended that the PUCN eliminate the separate NEM class and fold the NEM- 2 customers in these classes back into the rate schedules that would apply if they were not net metered customers. Steele recommended that the PUCN focus on NEM customers' ability to feed customer-generated electricity on the grid and determining a fair compensation for the full value of that excess energy, rather than placing NEM customers in new rate classes with higher Basic Service Charges that are unrelated to individual customer's actual usage of the grid. If the PUCN decided to maintain separate rate classes for NEM customers, Steele believed that the Basic Service Charge for these rate schedules should be established at the same levels as the Basic Service Charge for the analogous non-NEM rate schedules. (Exhibit No. 113 at 44-45).

NNIEU

Intervenor Testimony of Geoffrey Inge

Inge, who is President of KTM, Inc. and Director of Energy Services for U.S. Energy Services, a private energy-consulting firm, and holds Master and Bachelor Degrees in Business from the University of Virginia, submitted written testimony and rejected the "ill-defined criteria" proposed by PUCN Staff for excluding transmission costs from demand-based allocations. Inge urged for more transparent transmission cost information in any future Marginal Cost of Service Studies. Inge believed that transmission investment costs should be "socialize[d] . . . to all rate payers on an equal basis." (Exhibit No. 137 at 1-2, 6).

SolarCity

Intervenor Testimony of Ryan Hanley

Hanley, who is Vice President of Grid Engineering Solutions for SolarCity and has a Master of Business Administration Degree from the University of California at Berkeley, a Master of Science Degree in Civil Engineering from Trinity College in Dublin, and a Bachelor of Science Degree in Civil Engineering from John Hopkins University, provided direct, responsive, and oral testimony on behalf of SolarCity.¹²

¹²Hanley filed errata to his direct testimony in Exhibit No. 120 and the table RH-2 as Exhibit No. 129.

Hanley provided an estimate of the net benefits to be realized from the installation of distributed solar photovoltaic systems, *i.e.*, NEM systems. SolarCity conducted its own benefit cost analysis entitled *Distributed Energy Resources in Nevada with an Addendum* and charts and were marked as exhibits “Rh-2 through Rh-3” within Exhibit No. 129, where he concluded that, using the same framework utilized in by the *2014 Energy + Environmental Economics (E3)* in its studies, NEM systems will provide Sierra Pacific Power ratepayers with 2.5 cents/kWh of net benefits in 2014-levelized-dollars. When the societal benefits identified in Docket Nos. 15-07041 and 15-07042, Hanley testified that the net benefits climb to 4.3 cents/kWh. Hanley testified further that Sierra Pacific Power “can readily capture these benefits through its business-as-usual processes, but would benefit from proactively leveraging these assets through a modernized distribution planning process.” (Exhibit No. 118 at 2-3; Exhibit No. 120 at Q & A 4, 23). In his responsive testimony, Hanley addressed the areas within the filings that reinforce SolarCity’s argument that Sierra Pacific Power’s proposed excess energy compensation rate is inadequate, and addressed what he believed to be the correct methodology for valuing transmission and distribution benefits. Specifically, Hanley addressed the testimony of Vote Solar witness Rick Gilliam, as well as PUCN Regulatory Staff witness Dr. Yasuji Otsuka. (Exhibit No. 119 at 1).

Intervenor Testimony of James Heidell

Heidell, who is the Director of a private consulting group and has worked in the energy industry for approximately thirty-five (35) years and has a Master of Science Degree in Civil Engineering from Stanford University, a Master of Business Administration Degree in Finance from the University of Washington, and a Bachelor of Science Degree in Civil Engineering from Tufts University, testified as an expert witness for SolarCity.¹³

Heidell provided an overview of NEM in Nevada and used information contained in Hanley’s testimony to develop his proposed NEM rate design. (Exhibit No. 125 at 2). Heidell believed that although NEM customers have a different load shape than non-NEM counterparts, the differences are not substantial enough to warrant separate rate classes. Heidell disagreed with Sierra Pacific Power’s development of each rate class’s primary distribution marginal costs on just a demand basis, as the primary distribution system has both marginal customer cost and marginal demand cost components. Sierra Pacific Power erred in developing primary marginal distribution cost estimates for the NEM classes based upon total energy usage rather than the actual demands.

¹³Heidell filed several erratas to his testimony as Exhibit Nos. 126, 128, 130, and 131.

A census of NEM customers provides a load shape that reflects the actual use of Sierra Pacific Power's system and reflects the diversity of NEM systems.

Heidell disagreed with Sierra Pacific Power's characterization of the marginal costs associated with standby services to serve a gross peak demand of NEM classes. According to Heidell, there is no evidence that the utility serves that peak demand. Heidell believed that Sierra Pacific Power's Marginal Cost of Service Study overestimated the long-run marginal cost of the customer service and billing components for NEM classes. These costs do not reflect the efficient long-term operations of comparable utilities and appropriate accounting for NEM applications. In Heidell's view, the cumulative effect of Sierra Pacific Power's errors in estimating the distribution and customer marginal costs for NEM customer classes resulted in an over-estimation of the NEM classes' marginal costs. This, in turn, over-allocated a share of Sierra Pacific Power's embedded revenue requirement to NEM customers. After performing his own analysis and "correcting" what he believed to be the errors in the analysis by Sierra Pacific Power, Heidell determined that NEM customer classes are not being subsidized by other customer classes. Therefore, Heidell argued, Sierra Pacific Power has "dramatically" under-estimated the payment that NEM-2 customers should receive for the excess energy exported to the energy grid.

Heidell believed that the excess energy credit should include all of the benefits provided as calculated in SolarCity's revised study (which was attached to Hanley's direct testimony). (Exhibit Nos. 125 at 3-4 and 126 at Q & A 5). Upon analyzing NEM rate design issues, Heidell testified that he is opposed to Sierra Pacific Power's recommendation to incorporate a cost recovery component of the primary distribution system into fixed customer charges because fixed charges are not avoidable and therefore do not send a price signal to customers. Heidell also disagreed with the assertions by Sierra Pacific Power's witness Walsh's that higher fixed charges create bill stability. (Exhibit No. 125 at 50).

Heidell also addressed Sierra Pacific Power's proposal to simplify Time-of-Use rates: Heidell recommended the creation of more time periods and dynamic pricing structures in order to take advantage of the increasing technology and associated energy management benefits available to Sierra Pacific Power and its customers. (Exhibit No. 125 at 51). In regard to Sierra Pacific Power's proposed fixed charge for NEM customers, Heidell testified that NEM customers should not pay a fixed charge that is higher than the cost the utility actually incurs to serve those customers without consideration of the benefits provided by NEM systems.

He believed it should be similar to comparable non-NEM customers. It should not include any part of the primary distribution system costs and it should not reflect the full customer service cost in Sierra Pacific Power's Marginal Cost of Service Study. Heidell recommended that the separate NEM classes be eliminated. If the PUCN keeps the separate rate classes, Heidell believed that the NEM customer classes should be treated equitably and receive the same corresponding increases/decreases as non-NEM customers. (Exhibit No. 125 at 52-53).

Heidell's proposed rate design for NEM customer classes is found in Exhibit JAH-6 to his direct testimony. His recommendation is to calculate the benefits of customer owner distributed generation based upon the study developed by SolarCity. Based upon this proposal, the benefits less the program costs are \$0.109/kWh without environmental benefits and \$0.12437 kWh with environmental benefits. Heidell stressed that NEM customers should be compensated for the full net benefit they provide to the system, or \$0.127/kWh, and customers should have an opportunity to accept a fixed twenty-year excess energy credit rate. Heidell provided two figures summarizing his rate design recommendation. (Exhibit Nos. 125 at 53-54; 126 at Q & A 129; 127 at 1; 130).

Intervenor Testimony of Sharon Reishus

Reishus, who is a private consultant and a former Chairman and Commissioner of the Maine Public Utilities Commission, testified as an expert witness for SolarCity, and explained generally-accepted principles of rate design, rate design in Nevada, and the rate design of distributed solar. Reishus recommended that the PUCN be guided by the *Bonbright Principles*¹⁴ coupled with modern rate design principles, such as those outlined by the Regulatory Assistance Project.¹⁵ Based on these principles, Reishus believed that the PUCN should not impose unreasonable fixed charges on new solar customer generators above the costs of connecting to the grid. Reishus also encouraged the PUCN to rely on Heidell's analysis, which she believed falls in line with the principles of *Bonbright* and the Regulatory Assistance Project. (Exhibit No. 133 at 1, 20-23). Reishus disagreed with Dr. Otsuka's testimony that a rate case "may not be a good place to take up" the issue of the positive and negative effects of NEM customer's excess energy.

¹⁴ James C. Bonbright is the author of a highly-regarded book entitled "Principles of Public Utility Rates" published by Columbia University Press, New York and London (1961). (Exhibit No. 136).

¹⁵The Regulatory Assistance Project describes itself as "an independent, non-partisan, non-governmental organization dedicated to accelerating the transition to a clean, reliable, and efficient energy future." See www.raonline.org.

Reishus directed the PUCN's attention to the ongoing discussions in other states around the country and notes that the benefits and costs examined in a rate case can include the positive and negative effects of rooftop solar on the distribution grid, on other customers, and on new investments. (Exhibit No. 134 at 1-3). Reishus also testified that she disagreed with Dr. Otsuka on whether cost benefit analyses "have direct applicability in this rate case." Reishus stated that "customers' investments in rooftop solar can and should be accounted for in both the planning that a utility does to ensure it meets public policy goals while investing in a mix of resources to best serve customers in the future as well as in rate cases where examining the cost and benefit of customer generation can be assessed and reflected in rate design." (Exhibit No. 134 at 3-4).

Reishus's responsive testimony addressed witness Vote Solar witness Gilliam's calculation of a NEM subsidy and his suggestion to "single out" other cross subsidies as line items on customer bills. Reishus noted that neither SolarCity nor Vote Solar agree that a subsidy from non-NEM to NEM customers exists; but that she understands the calculation of \$0.11/month to be based on Sierra Pacific Power's calculation of the "customer's monthly responsibility that resulted from the PUCN's Modified Order, Docket Nos. 15-07041 and 15-07042." Reishus stated this is not a significant subsidy and that to separate NEM customers into a distinct class based on a very small difference in cost impact does not seem to be aligned with the principles of *Bonbright*. Reishus disagreed with Vote Solar's witness Gilliam's suggestion that if NEM subsidies are to be "singled out" as line items on a bill other subsidies should be too. Reishus expressed concern that this "flagging of cross-subsidies" could be a 'slippery slope' for the PUCN. (Exhibit No. 134 at 5-6).

Vote Solar

Intervenor Testimony of Rick Gilliam

Gilliam, who is the Program Director of Distributed Generation Regulatory Policy for Vote Solar and has a Master Degree in Environmental Policy and Management from the University of Denver and a Bachelor of Science Degree in Electrical Engineering from Rensselaer Polytechnic Institute in New York, recommended that the PUCN reject Sierra Pacific Power's proposed "mid-rung step changes" to the NEM rates based on the proposal to increase non-NEM rates as contrary to the spirit and the actual language of the Modified Final Order issued by the PUCN on February 17, 2016, in Docket Nos. 15-07041 and 15-07042. Gilliam urged the PUCN to require Sierra Pacific Power to use NEM customers' delivered load shapes in the Marginal Cost of Service Study as the measurement of the utility's costs of standing by to meet NEM customer load.

Gilliam recommended that the PUCN modify the avoided cost rate used to develop the rate for excess energy. Gilliam advocated for allocating customer service costs *pro rata* to all NEM and non-NEM customers as a whole within each group's general classification. In Gilliam's view, the PUCN should specify the bill impacts for the average customer in each class in this case and require that Sierra Pacific Power to include the irrigation, employee discounts, and Rule 9 subsidies be included as line items on customer bills. Gilliam further recommended that the PUCN require Sierra Pacific Power to bill NEM customers based upon hourly netting as ordered by the PUCN in Docket Nos. 15-07041 and 15-07042 as Sierra Pacific Power's current method results in NEM customers paying more on their monthly bills. He believed that the PUCN should require Sierra Pacific Power to refund NEM customers for the over-collections that have occurred while current rates have been in effect. (Exhibit No. 116 at 40).

Gilliam responded to PUCN Staff witness Dr. Otsuka, SolarCity witness Heidell, and NCARE witness Steele. Gilliam agreed with Dr. Otsuka that the actual delivered load shape for NEM customers should be used to allocate transmission costs and excess energy load shape should not be used to allocated distribution costs. Gilliam agreed with Dr. Otsuka's belief that Sierra Pacific Power should recognize that NEM customer's generation reduces their load on the transmission system and, therefore, transmission costs should be allocated based on only the transmission service NEM customers require (net of their generation). Gilliam also agreed with Dr. Otsuka's assertion that because NEM generation reduces loading, and capital expenditures are planned on loading, NEM customers should be credited for the avoided transmission costs.

However, Gilliam also indicated that witness Hanley may be correct in arguing that the amount of avoided transmission costs should be based on thermal loading and is therefore greater than the marginal unit cost calculated by Sierra Pacific Power, which is based on peak loading. (Exhibit No. 117 at 1-2). Gilliam recommended that the delivered load shape be used for distribution demand costs for the same reasons that generation capacity and transmission capacity costs should be allocated only to the delivered load shape of NEM customers. Gilliam believed that all distribution demand costs should be allocated based on actual demand, net of generation. (Exhibit No. 117 at 3-4). Gilliam shared Dr. Otsuka's concerns about information asymmetries and Sierra Pacific Power's lack of incentive to document the benefits of distributed generation; however, Gilliam believed that SolarCity's witnesses provided this missing information.

Gilliam asserted that the record in this case contains “(1) no evidence provided by the Company, (2) an opinion by Dr. Otsuka that there may be some distribution system cost savings provided by NEM customers based on literature and the *E3 Study*, and (3) direct affirmative evidence by SolarCity [sic] witnesses of the value of NEM generation on distribution system avoided costs.” (footnote omitted). All of these circumstances, Gilliam argued, supports the proposition of including an avoided distribution cost component in the excess energy credit. (Exhibit 117 at 5). Gilliam also agreed with witness Heidell’s testimony, but noted that eliminating separate rate classes may result in NEM customers subsidizing non-NEM customers and, therefore, NEM customers should receive the full benefit of the lower cost of service. Gilliam argued that Heidell’s calculations may overstate the cost of providing high voltage distribution service to NEM customers. (Exhibit No. 117 at 6). He disagreed with NCARE witness Steele’s guidelines regarding what should constitute minimum bills: unlike Steele, Gilliam believed it may be reasonable under certain circumstances. (Exhibit No. 117 at 7).

PUCN Regulatory Operations Staff

Testimony of Adam Danise

Danise, who is an Electrical Engineer employed by the PUCN, testified about the Marginal Cost of Service Study and the rate design proposed by Sierra Pacific Power. Danise recommended that the PUCN deny Sierra Pacific Power’s proposed cost allocation of the One Line Transmission Project (ON Line Project), the Apple Solar 60 kilovolt (kV) Terminal Project (Apple Solar Project), and other transmission projects resulting from “energy public policies.” Instead, Danise believed that the PUCN should order Sierra Pacific Power to allocate the above-stated transmission costs based upon the total energy usage by each customer class. Danise advocated for requiring Sierra Pacific Power to provide its methodology and analysis for determining which transmission plant investments to include or exclude in its linear regression model and to identify each transmission plant investment it included or excluded and the rationale for such inclusion or exclusion in future studies. (Exhibit No. 138 at 1).

Testimony of Manual Lopez

Lopez, who is a Senior Economist employed by the PUCN, recommended that the PUCN deny Sierra Pacific Power’s proposed methodology in calculating the Basic Service Charge for several classes, including D-1 NEM and GS-1 NEM customers. Lopez recommended that the PUCN require Sierra Pacific Power to recover only a portion, if any, of the Facilities Charge and

Primary Distribution Charge through the Basic Service Charge. Lopez believed that the Basic Service Charge does not send a price signal (as it is a flat monthly rate) and that increasing the Basic Service Charge for NEM-2 customers will not reduce intra-class subsidies. Lopez recommended that the Basic Service Charge for D-1 NEM customers be set at \$24.00 per month and the Basic Service Charge for GS-1 NEM be set at \$53.50 per month. Lopez believed that these rates will promote conservation while providing customers with more flexibility to control their bills. (Exhibit No. 139 at 1, 4-5, 7, and Attachment ML-2).¹⁶ Lopez testified in response to witnesses Steele, Gilliam, Hanley, and Heidell and is not convinced to change his recommendations with regard to rate design. (Exhibit No. 140 at 1-2).

Testimony of Dr. Yasuji Otsuka

Dr. Otsuka, who is the Manager of the Resource and Market Analysis Division of the PUCN, recommended that the PUCN generally accept the revenue requirement reconciliation process set forth in the Marginal Cost of Service Study prepared by Sierra Pacific Power with several modifications.¹⁷ Dr. Otsuka also recommended that the PUCN order Sierra Pacific Power to include the marginal transmission capacity cost as fully avoided in assessing the value of NEM customers' excess energy sent back to Sierra Pacific Power. While Dr. Otsuka mostly agreed with Sierra Pacific Power's valuation of NEM customers' net excess energy, he believed the position of Sierra Pacific Power on the marginal transmission capacity cost in excess energy value is inconsistent with their position in other places (Exhibit No. 141 at 1-2, 4, 30). After considering the testimony NCARE witness Steele, Vote Solar witness Gilliam, and SolarCity's witnesses Hanley and Heidell, Dr. Otsuka recommended that the PUCN keep the NEM customer classes currently in place as separate rate classes. (Exhibit No. 142 at 1-2).¹⁸

¹⁶Additionally, Lopez recommended that the PUCN require Sierra Pacific Power to review its Time-of-Use period definitions in its next General Rate Application case because Sierra Pacific Power's current Time-of-Use periods differ from those set by Nevada Power. Since Nevada Power and Sierra Pacific Power are running on joint dispatch, there is no reason for their Time-of-Use periods to be materially different from each other. (Exhibit No. 139 at 2, 12).

¹⁷These included the following: (1) customer costs, facilities costs, distribution demand costs, transmission demand costs and generation demand costs should be reconciled separately in the revenue requirement reconciliation process in (Statement O); (2) rescaling factors used to increase the marginal cost pricing revenue (MCPR) for distribution costs, transmission demand costs, and generation demand costs, should be removed; (3) the load shapes of NEM class customers' distribution demand should not be greater than their total loads; (4) the load shapes of NEM class customers' transmission demand should reflect only the amounts of energy that Sierra Pacific Power delivers to NEM customers; and (5) a manual explaining the Marginal Cost of Service Study, including Cost Responsibility Factor Study and Statement O should be developed.

¹⁸ PUCN Staff did not call witness Castledine or mark her testimony during the Rate Design Phase of the hearing.

*Sierra Pacific Power's Rebuttal Case*Rebuttal Testimony of Dr. David Harrison

Dr. Harrison, who is the Senior Vice President of National Economic Research Associates, Inc. (NERA) and Managing Director/Co-Chair of NERA's Global Environment Practice, and a former Associate Professor at the John F. Kenney School of Government at Harvard University, who earned a Doctorate Degree in Economics from Harvard University, a Master of Science Degree in Economics from the London School of Economics and a Bachelor of Arts Degree in Economics from Harvard College, sought to rebut the testimony of SolarCity witnesses Hanley and Heidell.

Dr. Harrison made several conclusions based on Hanley's testimony. First, Dr. Harrison argued that the "CO2 Regulatory Price" trajectory recommended by Hanley is not appropriate and overstated the CO2's price trajectory that is likely to be relevant for future CO2 emissions in Nevada. Second, Dr. Harrison testified that Hanley's use of a "multiplier" to calculate energy avoided costs and other costs was not appropriate because it was based on the flawed CO2 Regulatory Price. Third, Dr. Harrison asserted that Hanley's framework did not reflect the full financial consequences to Sierra Pacific Power from his assumed CO2 regulatory framework because he does not take into account allowance allocation, which can substantially reduce the net financial effects of the program to Nevada. Fourth, Dr. Harrison testified that Hanley's estimates of the societal benefits of reduced CO2 emissions are conceptually flawed and highly speculative and, therefore, are not appropriate for the instant cases because Hanley's estimates do not comply with the Commission's prior requirements for "known and measureable" variables. Dr. Harrison believed that Heidell's recommended rates rely on Hanley's analysis and that the problems in Hanley's analysis "infect and invalidate" Heidell's recommendations. (Exhibit No. 144 at 8-9).

Rebuttal Testimony of Laura Walsh

Walsh's rebuttal testimony addresses the testimony of Vote Solar witness Gilliam; SolarCity witnesses Heidell and Reishus; NCARE witness Steele; and PUCN Staff witnesses Danise, Lopez, and Otsuka.¹⁹ In response to Heidell's and Steele's comments about marginal cost of service analysis and rate design, Walsh gave background on the process, and noted that this type of work requires understanding of a broad range of different services Sierra Pacific Power provides

¹⁹Walsh filed two corrected exhibits to her rebuttal testimony. (Exhibit Nos. 146 and 147).

and the electricity needs of its customers, as well as the customer's needs to be treated fairly and equitably. (Exhibit No. 145 at 4-5).

On the issue of cost-based rates, Walsh pointed to the PUCN's Modified Final Order in Docket Nos. 15-07041 and 15-07042, and argued that cost-based rates are important because they ensure equity, provide efficient price signals, and reduce subsidies. Walsh reiterated Sierra Pacific Power's argument that the Marginal Cost of Service Study in the instant proceedings are built on the foundation of and consistent with the Commission's prior decisions. In Walsh's view, the interveners, *i.e.*, SolarCity, Vote Solar, NCARE, etc., ignore the PUCN's Modified Final Order in Docket Nos. 15-07041 and 15-07042, as well as Senate Bill 374, in their review of the Marginal Cost of Service Study. (Exhibit No. 145 at 6-9, 12-13).

Walsh argued that the interveners have not accurately explained marginal cost of service analysis and its application in Nevada, in part because none of the intervening witnesses have ever performed a complete Marginal Cost of Service Study that was used by any jurisdiction to determine class revenue requirement and to set rates. Marginal cost of service analysis "determines the cost of the next customer, next kW of capacity to serve load and the cost of the next kWh in each hour after serving all the energy that was required in that hour." Walsh disagreed with Steele's emphasis on average monthly usage and notes that Steele argued against separate rate classes while elsewhere acknowledging that there is a primary "characteristic that distinguishes NEM customers from other customers: their ability to feed customer-generated electricity into the grid." (Exhibit No. 145 at 9-11). Walsh also disagreed with Heidell's use of "simple averages" and notes that Heidell recommended the PUCN fold 'partial requirements' NEM customer back into the full requirements class; while, she believed that his evidence demonstrates why NEM customers should remain in a separate rate class. (Exhibit No. 145 at 11).

On the issue of separate rate classes, Walsh again looked to the PUCN's Modified Final Order in Docket Nos. 15-07041 and 15-07042, and asserted that the interveners recommendations do not appropriately address the recognized differences between full requirements and partial requirements customers. Walsh believed that the interveners provided "little evidence" for reversing the Commission's decision to establish separate rate classes, and that what information they do provide is "flawed or not relevant." For example, Heidell's testimony does not reflect the standby nature of NEM customers. (Exhibit No. 145 at 15, 17).

Walsh disagreed with Gilliam's assertion that Sierra Pacific Power's proposal goes beyond the PUCN Modified Final Order in Docket Nos. 15-07041 and 15-07042. (Exhibit No. 145 at 18-19). Walsh stated that her recommendations regarding Sierra Pacific Power's General Rate Application are not changed by the direct and responsive testimony of the interveners. Walsh argued that the cost of service analysis and resulting rate design are sound and consistent with past PUCN orders. Walsh also asserted that the analysis and rate design specifically implement the methods approved by the PUCN in Docket Nos. 15-07041 and 15-07042. Walsh believed that Sierra Pacific Power provided "ample" evidence to affirm the use of separate rate classes for NEM customers by demonstrating load levels, hourly load shapes, intermittency of loads within and across hours, load factors, billing determinants, and costs. (Exhibit No. 145 at 56).

Walsh testified that the use of distribution and transmission marginal costs, "the logic and basis for Sierra Pacific Power's proposal is consistent with marginal cost theory and is consistent with the past practice approved by the PUCN of including large partial requirements total load in the costing shapes for the otherwise applicable class that their standby rates are based upon." (Exhibit No. 145 at 57). Walsh recommended that the PUCN accept in whole Sierra Pacific Power's Marginal Cost of Service Study and rate design as the basis for NEM cost based and laddered rates. (Exhibit No. 145 at 57).

Rebuttal Testimony of Amparo Nieto

Nieto, who is the Associate Director of NERA and who has a Master's Degree in Economics and Public Policy from the Fiscal Studies Institute in Madrid and a Bachelor's Degree in Economics from the Carlos III University in Madrid, testified that Sierra Pacific Power's Marginal Cost of Service Study "employs valid and reasonable estimation techniques from a long-run marginal cost perspective." (Exhibit No. 151 at 1-2). Nieto notes that there is no single best way to determine marginal costs, but that Sierra Pacific Power's proposed NEM rate design is consistent with the Marginal Cost of Service Study results and rate objectives. Nieto believed that the new rates will enable more equitable pricing and reduce intra-class cross subsidies while respecting the gradualism principle. Sierra Pacific Power's approach will move usage charges in the direction of more closely reflecting the underlying marginal cost, which is desirable. Nieto noted that as Sierra Pacific Power's modeling for the distribution system improves, the marginal cost analysis will capture those changes and modify the relative class-cost responsibilities. (Exhibit No. 151 at 24-25).

Rebuttal Testimony of Aaron Schaar

Schaar rebutted the recommendations of Vote Solar witness Gilliam and SolarCity witness Heidell on the issue of Sierra Pacific Power's CWFS. Schaar provides an overview of the CWFS and discusses corrections made to the Call Center expenses and to NVE North-Major Accounts (D421). Schaar disagrees with Heidell's assertion that the CWFS is incomplete and states that the surveys were done in a thorough manner. (Exhibit No. 152 at 2-6).

In response to witnesses Gilliam and Heidell's concerns with the Solar, Wind, and Water Renewables Expense Allocation (Department D402), Schaar provided background information on the on-going costs incurred by Department D402 and explains that application costs are not included in the CWFS and that the labor-related administrative costs that are included in the CWFS are not application costs. Schaar disagreed with Heidell's recommendation to levelize the costs for D402 because it would result in a misallocation of the cost responsibility for the D402 expenses in the rate-effective period, moving away from cost-based rates and introducing another cost shift about from NEM customers to other customer classes. Schaar also disagreed with Heidell's use of costs from a California study as inapplicable to the instant situation. (Exhibit No. 152 at 6-11).

Schaar argued that Heidell "ignores" the corrections made by Sierra Pacific Power to the NV Energy North Major Accounts (D421) Expenses and, in response to Gilliam, stated that there is "ample evidence that call duration, and thus expense per-customer, is greater for NEM customers than for non-NEM customers." Schaar also refuted Gilliam's charges that Sierra Pacific Power has not explained the services provided by the billing department by pointing to responses to data requests. Schaar addressed Gilliam's criticisms related to estimates for needed full time employees (FTEs) in the Billing Department. Schaar stated that Sierra Pacific Power needed more FTEs than it did in 2015. Schaar noted that the long-term plan for the department is to add automation and move away from manually reviewing every NEM bill but that systems are not yet available at Sierra Pacific Power. The ability to move away from manual verification and towards automation is not expected to be in place within the rate period. In response to Heidell's comparisons between the Billing Department and California utilities, Schaar argues that Heidell's methodology is inconsistent. And in response to Gilliam, Schaar stated that grandfathering NEM customers should not affect the class allocations in the CWFS. Schaar disagrees with Heidell's recommendation to reduce marginal customer costs as these costs are based on the corrected CWFS. (Exhibit No. 152 at 11-19).

Schaar addressed some of the interveners' testimony regarding utility administration costs. Hanley references program costs in his testimony that Schaar says are not equivalent to utility administration costs because the program costs are levelized and stated on a cents-per-kWh basis. The administrative costs from the CWFS are calculated on a cost-per-customer basis and are determined for the rate effective period. However, the utility administration costs calculated for the Navigant study were calculated on a per-kWh basis using the weighted average of the incremental NEM administrative costs developed for Sierra Pacific Power and Nevada Power because the weighted average provides the most reasonable projection of long-term the costs. (Exhibit No. 152 at 19-21).

Rebuttal Testimony of Timothy Pollard

In conjunction with witnesses Sierra Pacific Power witnesses Walsh, Wells, Bohrman, and Elicegui, Pollard rebutted the recommendations from Vote Solar witness Gilliam, SolarCity witness Heidell, and PUCN Staff witness Dr. Otsuka. In particular, Pollard's rebuttal addressed: NEM load shapes as inputs to the hourly demand cost responsibility factors and to the Marginal Cost of Service Study in the development of marginal distribution and transmission costs; the approved methodology for reconciling the marginal cost revenue to the embedded revenue requirement; the calculation of the annual average LTAC and the inclusion of the cost of the distribution system in the excess energy credit paid to NEM customers for their excess generation that is sent back to Sierra Pacific Power's system and under what circumstances that credit should be Time-Of-Use based; and the rate design of the newly proposed Critical Peak Pricing (CPP) and Planned Demand Use (PDU) optional residential schedules as it relates to the approved Stipulation. (Exhibit No. 158 at 1-2). Pollard noted that there are corrections to be made to the NEM class load shapes filed at certification. The first item was identified in Sierra Pacific Power's response to PUCN Regulatory Operation Staff's data request No. 406: Sierra Pacific Power inadvertently calculated the distribution load shape by comparing the total load shape to the sum of the delivered and excess energy loads by hour, rather than to excess energy loads only.

The certification did not reflect Pollard's direct testimony and instead should have included the approved methodology of choosing the higher of either the total load or only excess energy, not the sum of delivered and excess energy of the class to compare to total loads. This correction reduced the marginal distribution costs for the D-1 NEM and GS-1 NEM classes by 2.1% and 2.2%, respectively. The second correction relates to an update to the ratio applied to the loads to

diversify the D-1 NEM and GS-1 NEM transmission load shape. Correcting this issue increases the D-1 NEM transmission load by 0.5% and decreases the GS-1 NEM transmission load by 3.4%. (Exhibit No. 158 at 13-14).

Rebuttal Testimony of Jeffrey Bohrman

Bohrman responded to the testimony of SolarCity witness Heidell, Vote Solar witness Gilliam, and PUCN Staff witness Otsuka regarding the technical aspects of the MCOSS. Specifically, Bohrman responds to Heidell's critiques of Sierra Pacific Power's methodology for calculating marginal primary distribution demand costs, Heidell's and Gilliam's testimony regarding the regression analysis used to develop marginal unit investment costs, and Dr. Otsuka's recommendation regarding the rescaling factors used in the Marginal Cost of Service Study. Bohrman stated that the intervening parties "have not presented sufficient evidence to warrant the deviations from the established and approved marginal cost of service methodologies utilized by the Company in this proceeding." Bohrman asserted that Sierra Pacific Power's analysis is grounded in tried and true methods and theories and that all the issues discussed in his rebuttal are all appropriate for use in determining the cost to service Sierra Pacific Power's customers and should therefore be approved by the Commission. (Exhibit No. 160 at 2, 28-29).

Rebuttal Testimony of Janet Wells

Wells testified about the need for separate rate classes for NEM customers and addresses the testimony of SolarCity witnesses Heidell and Reishus, NCARE witness Steele, and PUCN Staff witness Dr. Otsuka. (Exhibit No. 161 at 1-2). In response to the interveners' testimony, Wells pointed to the load data in stating that the differences between NEM and non-NEM customers that the PUCN previously identified and relied upon in establishing separate rate classes are still present. Wells reiterated her belief that there is a "zero percent probability that it is incorrect to conclude that the distributions of NEM and non-NEM customers are different." Similar to other Sierra Pacific Power witnesses, Wells disagreed with Heidell's use of monthly and annual averages, and finds his comparisons in appropriate. (Exhibit No. 161 at 4-6, 6-7, 7-12). Wells also disagreed with witness Steele's proposal to eliminate the NEM classes. She testified that Steele provided no new evidence for his proposal and recommended that the PUCN reject it. Wells added that Steele did not provide any "valid and accurate" analysis to support his argument that all residential customers are alike, regardless of the presence of a NEM system.

Wells further disagreed with Steele's methodology for his analysis: "Whether we compare the average monthly usages of all customers, quintiles of customers, or some other slice of monthly average data, conclusions regarding the usage characteristics of NEM and non-NEM customers should properly be based on hourly load data, which is critical for use in the marginal cost of service analysis." (Exhibit No. 161 at 13-16). Wells agreed with Dr. Otsuka's recommendation to maintain separate NEM classes and points to her direct testimony, as well as her Exhibit Wells Rebuttal-2. Wells stated that "[g]eneration production is volatile and the resulting delivered loads required by NEM customers rapidly change" (Exhibit No. 161 at 18-22). Wells urged the PUCN to reject Heidell's and Steele's proposals because they "use inaccurate and irrelevant analyses, and do not rely on the tests articulated by the Commission and upon which it relied in concluding that it is just and reasonable and in the public interest to establish separate rate classes for NEM classes." (Exhibit No. 161 at 23).

Rebuttal Testimony of James Doubek

Doubek, who is the Vice President of Resource Planning and Analysis for Sierra Pacific Power and Nevada Power, provided pre-filed and oral rebuttal on behalf of Sierra Pacific Power. Doubek's testimony addresses the recommendations of Vote Solar witness Gilliam with regard to the use of the LTAC rates approved by the Commission in Sierra Pacific Power's 2013 Integrated Resource Plan (IRP). Doubek disagreed with Gilliam's characterizations of and recommendations for Sierra Pacific Power's use of the LTAC. (Exhibit No. 163 at 1-10). In response to Gilliam, Doubek asserts that Sierra Pacific Power's proposal did not undervalue the energy and capacity benefits of excess energy although it does not attribute any long-term planning capacity value to NEM installations. Doubek pointed to Elicegui's testimony to note that "excess energy is the functional equivalent of imbalance energy – that is, energy delivered to Sierra because there is a difference between load and generation. Imbalance energy has no capacity value in the context of resource planning." Doubek cautioned the PUCN against proposing changes to the LTAC methodology outside of IRP or IRP amendment proceedings and recommended using a different metric to price excess energy would be appropriate in this case. (Exhibit No. 163 at 5-6, 9-10).

Rebuttal Testimony of Robert Kocour

Kocour, who is the Manager of Long-Term Resource Planning for Sierra Pacific Power and Nevada Power, testified about the analyses performed by Sierra Pacific Power that were used by its expert witnesses from Navigant in rebutting the valuation of excess energy offered by

SolarCity. Kocour's team performed production cost simulations to compute avoided production costs, avoided CO2 costs, and avoided effluent emissions for CO2, nitrogen oxide, and sulphur oxide for different NEM modeling scenarios. (Exhibit No. 164 at 1-5).

Rebuttal Testimony of Marc Reyes

Reyes, who is the Manager of Market Fundamentals for Sierra Pacific Power and Nevada Power, responded to SolarCity witness Hanley's recommendation to adopt an alternative generation capacity price forecast for purposes of calculating SolarCity's excess energy credit. Reyes also supported the generation capacity price forecast used in the Navigant Report and the process for generating the forecast is outlined in his testimony. (Exhibit No. 165 at 2, 8-9). Reyes thought Hanley's capacity price analysis was flawed and that his approach "significant[ly] overstates" the value of avoided generation capacity. Reyes believed that Hanley's recommended adjustments are not appropriate for purposes of integrated resource planning or rate design in this case. (Exhibit No. 165 at 8).

Rebuttal Testimony of Joseph Sinobio

Sinobio, who is the Manager of Major Projects-Delivery for Sierra Pacific Power and Nevada Power, responded to SolarCity witness Hanley's (1) comments and discussion in Exhibit RH-5 regarding valuation of the voltage support benefit of NEM; (2) comments and discussion in Exhibit RH-2 regarding valuation of the distribution capacity benefits of NEM and SolarCity's approach to valuation utilizing a "thermal demand framework" rather than the traditionally-used "peak demand framework" in Exhibit RH-4; (3) comments regarding certain statements in the prepared direct testimony of Sierra Pacific Power witness Kelly; and (4) comments regarding Sierra Pacific Power's overbuilding and underutilization of installed capacity, and the need for Sierra Pacific Power to modernize its grid planning processes. (Exhibit No. 166 at 1-3).

With regard to voltage support, Sinobio testified that Hanley's testimony assumes that a utility has employed a conservation voltage reduction (CVR) scheme, but that Sierra Pacific Power does not employ a CVR scheme on its distribution system and that the potential benefits of such a scheme have not been proven and quantified on the Sierra Pacific Power distribution system. Sinobio stated that Hanley's analysis assumes that smart inverters can directly control voltage on the Sierra Pacific Power distribution system but that this assumption is not valid at the present. Sinobio argued that, although Hanley testified otherwise, capturing voltage support benefits of smart inverters is not straightforward and requires incremental infrastructure investments.

Additionally, Sinobio commented on Hanley's basis for the calculation of a \$0.9 cents/kWh benefit and questions why the data used to produce a case study for Southern California Edison is directly translatable into the calculation of the "purported Voltage Support benefit for the Sierra system. An assumption of that nature cannot and should not be made." Sinobio therefore argues against using Hanley's \$0.9 cents/kWh figure in calculating the value of NEM excess energy. (Exhibit No. 166 at 3-10).

With regard to distribution capacity, Sinobio compared Hanley's value of distribution capacity to that of the *E3 Nevada Net Energy Metering Impacts Evaluation 2016 Update (Updated E3 Study 2016)*. Sinobio argued that "[a]ny eventual benefit of private solar systems in deferring or eliminating the costs associated with distribution system investments or upgrades on the Sierra distribution system will occur beyond the period during which the rates set in this case will be in effect and is presently zero," because Sierra Pacific Power's distribution lines operate radially. Sinobio disagreed with Hanley's assumption of a 10% penetration rate for NEM in the Sierra Pacific Power system. Sinobio challenged Hanley's reasoning for a 32% adjustment factor to the distribution capacity benefits identified in the *Updated E3 Study 2016*. Sinobio disagreed with Hanley's idea for planning Sierra Pacific Power's distribution system, and stated that it is "well established" that DER effects are very site-specific and that the value of DER to grid depends on "its location and ability to provide a level of availability commensurate with traditional solutions." No utilities and/or regulatory commission are currently employing or planning to employ the "thermal demand framework" that Hanley suggested. Sinobio disagreed with Hanley's review of Kelly's testimony pertaining to smart grid technology. (Exhibit No. 166 at 11-17, 17-18).

With regard to utilization of capacity and modernized grid planning processes, Sinobio characterized Hanley's inference that Sierra Pacific Power's "failure to incorporate distributed PV into its planning processes" has resulted in Sierra Pacific Power overbuilding and/or underutilizing infrastructure or building incremental capacity that is not needed on its transmission and distribution systems as "simple conjecture." However, Sinobio agreed with Hanley that Sierra Pacific Power should modernize its grid planning processes. (Exhibit No. 166 at 18-20).

Rebuttal Testimony of Charles Pottey

Pottey, who is the Director of Transmission Policy, Contracts, and Business Services for Sierra Pacific Power and Nevada Power, responded to the testimony of SolarCity witness Hanley. Pottey stated Sierra Pacific Power has not experienced any documented benefits or negative

impacts to the transmission system at the current NEM penetration level. Pottey pointed out that at “higher penetration levels, the variability of output from private solar generation caused by natural events such as sunrise, sunset and intermittent clouds, is expected to significantly increase daily ramping and reactive requirements.” (Exhibit No. 168 at 1-3). Pottey compared between the transmission system peak and NEM output, and stated that solar PV output usually hits peak around 2 p.m. and then decrease rapidly between 4 p.m. and 7 p.m.; whereas NV Energy has seen system peaks as late as 6 to 7 p.m. (Exhibit No. 168 at 4-6). He further provided an overview of the existing and projected effects of NEM on the bulk electric transmission system, local electric transmission, and transmission system operations and future avoided transmission costs. (Exhibit No. 168 at 6-8, 9-10). Pottey disagreed with Hanley’s ideas regarding reduction of ancillary service costs and proposal to use a thermal demand framework to quantify transmission capacity benefits. (Exhibit No. 168 at 10-11).

Rebuttal Testimony of Eugene Shlatz

Shlatz, who is the Director at Navigant Consulting, Inc. (Navigant), who has a Master of Science Degree and Bachelor of Science Degree in Electrical Power Engineering from Rensselaer Polytechnic Institute, summarized and supported the results of a Navigant report entitled *Sierra Pacific Power Company Net Excess Energy Charge Analysis (Navigant Report)*.²⁰ According to Shlatz, the results of the Navigant Report rebut the valuation of costs and benefits provided by Soar City witness Hanley in both the May 2016 SolarCity report and the October 2016 addendum. Shlatz also rebutted Hanley’s proposal for values for certain costs and benefits, including the recommendation to add a twelfth (12) factor for “Voltage Support” or CVR to the eleven (11) factors set forth in the PUCN’s Modified Final Order in Docket Nos. 15-07041 and 15-07042. Shlatz believed that his testimony provides “independent, objective” analysis of the excess energy variables. (Exhibit No. 169 at 1-3). Shlatz’s provided detailed information on how Navigant arrived at the costs and benefits for each of the PUCN’s eleven (11) factors. (Exhibit No. 169 at 3-19, 19). Shlatz addressed the proposals and comments of SolarCity witness Hanley with which he disagrees, particularly several of Hanley’s relied-upon electrical engineering principles and the application of those principles to Sierra Pacific Power’s system to estimate the value of known and measureable changes. (Exhibit No. 169 at 20-28).

²⁰Shlatz filed an errata to his rebuttal testimony. (Exhibit No. 170).

Rebuttal Testimony of Tim Stanton

Stanton, who is a Managing Consultant at Navigant and has a Master of Science Degree in Civil and Environmental Engineering from the Stanford University and a Bachelor of Science Degree in Civil and Environmental Engineering from the University of Illinois at Urbana-Champaign, rebutted the testimony of SolarCity's witnesses in regard to the valuation methodologies used for determining an excess energy charge applicable to the sale of energy by NEM customers to the utility and through the lens of the Navigant Report.²¹ Stanton supported the methods and models Navigant used to perform an alternative Sierra Pacific Power excess energy charge analysis.

Stanton outlined the three cases analyzed in the *Navigant Report*: (1) the Avoided Market Purchases Conventional Generation (Market Case), which displaces energy from dispatchable resources and the market purchases and capacity purchases from the market, with incremental NEM generation; (2) the Avoided Universal Solar Scale Solar (Utility Scale Solar) PV Purchase Case (Universal Solar Case), which analyzes the value of avoiding a utility scale solar PV Power Purchase Agreement (PPA) with NEM generation; and (3) the Avoided Combined Cycle Generation Turbine Acquisition Case (Combined Cycle Case), which analyzed the value of avoiding the acquisition of a combined cycle gas turbine with NEM generation. (Exhibit No. 172 at 1-2, 5-6). On pages 6-14 of his testimony (as modified by his errata), Stanton described in detail the methodologies used for various inputs to the Navigant Report. On page 16 of the *Navigant Report*, Stanton presented a table comparing Navigant's results with the SolarCity October 2016 analysis (as updated by Hanley's errata). The table shows an excess energy value as follows: \$0.065 under the Market Case; \$0.040 under the Universal Solar Case; \$0.040 under the Combined Cycle; and, \$0.117 under SolarCity's analysis. (Exhibit No. 171 at 1-2; Ex. 172 at 6-14, 16).

Rebuttal Testimony of Shawn Elicegui

Elicegui responded to the testimony of NCARE witness Steele; the testimony of SolarCity witnesses Hanley, Heidell, and Reishus; the testimony of Vote Solar witness Gilliam; and the testimony of PUCN Staff witness Dr. Otsuka. Elicegui testified about the background of the scope of the proceedings and some information about the analytical framework. In response to Reishus, Elicegui agreed that the PUCN "should weigh and balance policy objectives, including policy objectives specified by the Legislature *and* the State's Chief Executive Officer."

²¹Stanton also filed an errata to his rebuttal testimony. (Exhibit No. 171).

Elicegui encouraged the PUCN to place considerable weight on prior decisions, including “time-tested decisions addressing fundamental regulatory concepts, and recent decisions looking at very similar factual evidence.” (Exhibit No. 175 at 2-5, 5-6). He provided context for SB 374 and pointed to places in legislative history when Legislators expressed concern over NEM cost shifts. According to Elicegui, former Nevada State Assemblywoman Marilyn Kirkpatrick summarized her understanding of the policy behind SB 374: “I want ratepayers across the board to stop subsidizing an industry that is doing well.” Elicegui noted that Section 4.5 of SB 374 required Sierra Pacific Power to file a cost of service study with the PUCN and required new prices to “adequately reflect the marginal costs of providing service to customer-generators” (footnote omitted). (Exhibit No. 175 at 7-10). Elicegui introduced through his testimony the *Updated E3 Study 2016* and stated that he believed that according to the Study the costs of maintaining NEM for Nevadans as it existed before the PUCN’s Modified Final Order in Docket Nos. 15-07041 and 15-07042 “far exceed” the benefits. (Exhibit No. 175 at 11-12).

Elicegui suggested the PUCN to answer the following questions in this case: (1) should the PUCN maintain separate rate classes for NEM customers; (2) should the PUCN continue the “buy-sell” framework; (3) should the PUCN accept the Marginal Cost of Service Study; and (4) what value should the PUCN establish for NEM excess energy? Elicegui recommended the following responses: (1) the PUCN maintain existing NEM classes, which is supported by PUCN Staff and the direct and rebuttal testimony of Sierra Pacific Power witnesses Walsh, Bohrman, Pollard, Wells, and Schaar; (2) the PUCN maintain the “buy-sell” framework; (3) the PUCN adopt the prices proposed by Sierra Pacific Power in its Marginal Cost of Service Study, which is supported by witnesses Bohrman, Pollard, Schaar, Walsh, Wells, and Nieto; and (4) the PUCN adopt the excess energy credit rates proposed by Sierra Pacific Power, which is supported by witnesses Doubek, Pottey, Kocour, McGinley, Reyes, Shlatz, Sinobio, Stanton, and Harrison. (Exhibit No. 175 at 13-17).

At the conclusion of the hearing, the parties were provided an opportunity to submit closing briefs. Briefs were filed by Sierra Pacific Power, SolarCity, Vote Solar, NCARE, and PUCN Staff. No briefs were filed by the Office of the Attorney General, Bureau of Consumer Protection; NNIEU; or Newmont.²²

²² Having reviewed the motion by SolarCity, Vote Solar, and NCARE to strike the ‘oversized’ brief filed by Sierra Pacific Power on December 1, 2016, the motion is hereby denied.

DISCUSSION

Much discussion has occurred in these proceedings regarding the relevance of the PUCN's Modified Final Order issued on February 17, 2016, in Docket Nos. 15-07041 and 15-07042, and the weight it should be given in the PUCN's instant decision and those cases involving NEM that may appear in the future. However, the PUCN finds that the Modified Final Order previously issued is problematic in several respects and, therefore, provides only marginal guidance. First, the PUCN takes notice that it was a highly controversial decision,²³ see Hearing Transcript 11/08/16 at 512-13, 530, which squarely places it at odds with *Bonbright's Principles* that posit "public acceptability" and "[f]reedom from controversies" are hallmarks of good rate design. (Exhibit No. 136). Second, the First Judicial District Court of Nevada in Carson City held on judicial review that at least a portion of the Modified Final Order was "made upon unlawful procedure."²⁴ Third, the PUCN later reversed decisions it made in the Modified Final Order in Docket Nos. 16-07028 and 16-07029 at the behest of the Parties, who were uniformly dissatisfied with a portion of the PUCN's decision.

Finally, and most important, the impact of the Modified Final Order all but crushed the rooftop solar industry in Northern Nevada, reducing the booming industry from 983 applications by residential homeowners and small commercial businesses in Sierra Pacific Power service territory in 2015, see (Exhibit No. 116), to forty-one (41) applications in 2016. See Hearing Transcript 11/07/16 at 294. As will be further explained, the PUCN finds that this result was incongruous with the policy of the State of Nevada, the intent of SB 374, and the public interest. New information, better experience, and amended reports have evolved in the past months since that decision was rendered. Indeed, nationally-recognized and new analysis regarding rooftop solar and rate design was being published in November 2016 as the instant hearings were ongoing. See, e.g., *Distributed Energy Resources Rate Design and Compensation: A Manual Prepared by NARUC* (November 2016).²⁵

²³See NAC 703.755(3) recognizing that the PUCN may take notice of "[m]atters of common knowledge."

²⁴The PUCN takes notice pursuant to NAC 703.755 and NRS 233B123 of the Order Granting In Part and Denying In Part Petition for Judicial Review issued in *Vote Solar v. The Public Utilities Commission of Nevada*, Case No. 16-06-00052-1B (September 12, 2016).

²⁵NARUC is the acronym for the National Association of Regulatory Utility Commissioners, and notice of the manual is taken by the PUCN pursuant to NAC 703.755 and NRS 233B.123(5).

The landscape on these issues continues to grow. Abraham Lincoln once said that “[b]ad promises are better broken than kept.”²⁶ The PUCN’s prior decisions on NEM, in several respects, may be best viewed as a promise better left unkept. The PUCN is free to apply a new approach. Indeed, the Nevada Supreme Court has held that “administrative agencies are not bound by *stare decisis*.” *Desert Irrigation, LTD. v. State*, 113 Nev. 1049, 1058, 944 P.2d 835, 841 (1997). Even if they were, it is clear departure from *stare decisis* may be at times warranted to remedy “the perpetuation of error” or for other compelling reasons. *Armenta-Carpio v. State*, 129 Nev. ___, ___, 306 P.3d 395, 398-99 (2013).²⁷ New perspectives and a fresh look are certainly warranted. They will be conducted here.

THE BALANCE OF SENATE BILL 374

A threshold question before the PUCN in these proceedings is the meaning of SB 374 which was passed during the 78th Regular Session of the Nevada State Legislature in 2015 and signed into law by Nevada Governor Brian Sandoval. The relevant provisions of that Bill were later codified in NRS 704.7735 and have been the subject of some debate. To interpret the law, we must look to the rules of statutory interpretation. It is well-settled in Nevada that “when a statute is facially clear” it should be given its plain meaning. *Public Employees Benefits Program v. Las Vegas Metropolitan Police Department*, 124 Nev. 138, 144, 179 P.3d 542, 546 (2008). There is no need to examine or probe legislative intent. *Id.* And the Nevada Supreme Court has held that “great deference” is afforded to “an agency’s interpretation of a statute the agency is charged with enforcing.” *State, Div. of Ins. v. State Farm Mut. Auto. Ins. Co.*, 116 Nev. 290, 293, 995 P.2d 482, 485 (2000). However, when the plain language of a statute is ambiguous, then it is appropriate to examine legislative intent and to “interpret the statute’s language in accordance with reason and public policy.” *Lader v. Warden*, 121 Nev. 682, 687, 120 P.3d 1164, 1167 (2008).

Plain Language

The pertinent provisions of NRS 704.7735 are in Section 2 and provide that the PUCN:

- (a) May establish one or more rate classes for customer-generators.

²⁶Freedman, Russel. *Lincoln: A Photobiography*. Clarion Books, New York at 137 (1987) (speech dated April 11, 1865).

²⁷“Stability of the rates themselves” is a prescript of *Bonbright’s Principles*. So is respect for *stare decisis* as a bedrock judicial doctrine. These legal guideposts are not lightly set aside; but, the nature of these proceedings are administrative, not constitutional, and the discretion afforded to the PUCN to redress past errors is inherent.

(b) May establish terms and conditions for the participation by customer-generators in net metering, including, without limitation, limitations on enrollment in net metering which the Commission determines are appropriate to further the *public interest*.

(c) May close to new customer-generators a tariff filed pursuant to subsection 1 and approved by the Commission if the Commission determines that closing the tariff to new customer-generators is in the *public interest*.

(d) May authorize a utility to establish just and reasonable rates and charges to avoid, reduce or eliminate *an unreasonable shifting of costs* from customer-generators to other customers of the utility.

(e) Shall not approve a tariff filed pursuant to subsection 1 or authorize any rates or charges for net metering that *unreasonably shift costs* from customer-generators to other customers of the utility.

(Emphasis added).

Two distinct phrases repeat twice in the plain language of NRS 704.7735. The first phrase is “public interest.” The second phrase is “unreasonable shifting of costs” or “unreasonably shift costs.” The commonly-understood discretionary term “[m]ay” appears four separate times and the commonly-understood mandatory term “shall” appears only once. While the phrase “public interest” and the concept of ‘reasonableness’ invoke broad discretion within the PUCN to both interpret and apply their meaning, the PUCN finds that the existence of discretion does not create ambiguity in the statutory provisions. The term ‘reasonable’ is commonly understood to mean “[f]air, proper, just, moderate, suitable under the circumstances.” Black’s Law Dictionary, 1265 (6ed. 1991). At most, NRS 704.7735 only leaves room for disagreement about how the PUCN exercises and interprets its discretion in determining the “public interest” and what is ‘reasonable.’

The Nevada Supreme Court has held that “[a] statute must be construed to give meaning to all of its parts and language” and “each sentence, phrase, and word” must be read to give meaning to the provision as a whole. *V and S Railway, LLC v. White Pine County*, 125 Nev. 233, 238, 221 P.3d 879, 883 (2009) (other internal citations and quotations omitted). It is well understood that cost shifting at some level is “unavoidable in practical rate design.” *Distributed Energy Resources Rate Design and Compensation: A Manual Prepared by the NARUC Staff Subcommittee On Rate Design* (November 2016) at 67.

Had the Nevada State Legislature intended to eliminate either the discretion of the PUCN or the existence of *any cost shift* between customer classes when it passed SB 374, maxims of statutory construction mandate that the two phrases referring to *cost shifts* would not have been predicated, qualified, and clothed with the terms “unreasonable” or “unreasonably.” They did not. Accordingly, the PUCN finds that only *unreasonable* cost shifts are prohibited by SB 374. Nevertheless, any ambiguity must be resolved by examining legislative history and public policy behind NEM. As will be explained, legislative history and public policy support the PUCN in resolve NEM issues by applying reasonableness and balance.

Legislative History and Public Policy

To the extent some find ambiguity in NRS 704.7735, *see* Hearing Transcript 11/16/16 at 1589-90, looking to legislative history and public policy does not contravene the above conclusion. If anything, it reinforces it. Rooftop solar NEM was first established in Nevada in 1997 during the 69th Regular Session of the Nevada State Legislature. *See* NRS 704.771. To foster growth of NEM, NRS 704.773(1)(a) mandated that a public utility “offer net metering” until a cap on state-wide cumulative MW capacity was reached. That cap began as one percent (1%) and eventually grew to three percent (3%). As the growth of NEM accelerated, and solar technologies improved, so did concerns about its *costs and benefits*. During the 2015 Nevada Legislative Session, NRS 704.773(1)(a) was amended through SB 374 and the three percent (3%) cap was replaced by a hard-cap of 235 MW of state-wide cumulative capacity. The primary legislative sponsor of SB 374 explained to the Assembly Committee on Commerce and Labor:

I would like to explain the importance of the provisions regarding net metering and this bill. Nevada is a national leader in renewable energy with one of the most aggressive portfolio standards in the nation. We have had net metering for close to two decades. Today, Nevada enjoys robust jobs in the renewable energy industry that include rooftop solar as well as large-scale solar, geothermal, and wind developments. Over the years, this body has placed limits on the amounts of net metering that can occur because of financial impacts to other customers who do not install solar generation. Rather than having to revisit this cap issue every legislative session, this amendment requires *the Public Utilities Commission of Nevada (PUCN) to do a thorough analysis of what the appropriate costs and subsidies are that should or should not be borne by utility customers in this state.*

(Nevada State Senator Patricia Farley, Hearing Before the Assembly Committee on Commerce and Labor, May 20, 2015, at 39) (emphasis added). That Bill was later passed with bipartisan support in both chambers of the Nevada State Legislature, as well as the support from both NV Energy and the solar industry, including SolarCity. *Id.*

While it is possible to isolate select statements of Legislators during deliberative discussions about what was or was not intended, reviewing the legislative history of SB 374 as a whole shows that the Bill was not meant to be a blunt instrument to kill the NEM rooftop solar industry in Nevada. Indeed, Nevada State Senator Aaron D. Ford, who was a signatory to SB 374, wrote a letter to the PUCN on January 6, 2016, that it was his intent that SB 374 would allow the PUCN to “strike a balance by appropriately valuing NEM” while continuing to pursue the State’s explicit renewable energy goals that “have not changed.”²⁸ Rather, SB 374 is best viewed as a piece of legislation that was intended to grant the PUCN authority to review and investigate the costs and benefits of NEM rooftop solar, and fairly allocate costs to all customer classes so that one group (or class) of ratepayers is not *unreasonably* paying for the growth of NEM.

In other words, the legislative intent appears to authorize the PUCN to establish fair and reasonable rates while still maintaining NEM rooftop solar growth.²⁹ This interpretation is also supported by and consistent with the multiple articulations of the policy of the State of Nevada regarding the solar industry and renewable energy resources (which will be more thoroughly addressed later in this Order). Had the Nevada State Legislature not intended to continue supporting NEM, it is fair and reasonable to presume that it would have amended and/ or repealed several other statutes with the passage of SB 374. It did not. Reading the provisions of Nevada law as a whole, as well as looking beyond the plain language of SB 374’s text to Nevada’s clearly-stated policy goals, the PUCN hereby finds consistency in both the plain language and legislative intent of the new law, *i.e.*, to serve the ends of reasonableness, balance, and the public interest of *all* Nevada ratepayers—any cost shift is only prohibited by law to the extent it is unreasonable.

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²⁸Notice is taken of a letter written by Nevada State Senator Aaron D. Ford on January 6, 2016, to former PUCN Commission David Noble, who was the Presiding Officer in Docket No. 15-07041. *See* NAC 703.755.

²⁹Sierra Pacific Power agreed during the hearings on this instant matter with the characterization that SB 374 was intended to strike a “balance.” *See* Hearing Transcript 11/16/16 at 1590-1591.

SEPARATE RATE CLASSES FOR NEM CUSTOMER-GENERATORS

Whether the PUCN should maintain or depart from its previous determination to establish separate rate classes for NEM and non-NEM residential and small commercial customers is another fundamental issues raised in these proceedings. As discussed above, NRS 704.7735(a) clearly granted the PUCN the authority to do so—the question is whether it is in the public interest and a good idea warranted by the evidence. It is.

Debate about Load Shapes

Considerable evidence about the load shape, *i.e.*, electrical usage, of NEM and non-NEM customers has been presented. Within that discussion, sub-arguments about whether the PUCN should rely on the “total load,” *i.e.*, the total amount of electric capacity the utility needs to have on standby to serve all of a customer’s needs, or the “delivered load,” *i.e.*, the amount of electricity a customer actually uses, have emerged. Compare rebuttal testimony of Walsh (Exhibit No. 145), with testimony of Gilliam and Heidell (Exhibit Nos. 125, 126, and 116). Within these sub-arguments deeper sub-arguments have emerged about whether the load data information should be examined on a 15-minute, hourly, monthly, or yearly basis to accurately reflect a customer’s true load pattern. And yet even further sub-arguments have occurred about the effectiveness and reliability of the methodology employed by the varying experts on what that load data means.

For example, Vote Solar witness Gilliam testified that there were similarities between the load shapes of NEM and non-NEM customers when reviewing monthly billing data. (Exhibit No. 116). Yet, Sierra Pacific Power witness Wells testified that she analyzed hourly load shapes (not monthly) and concluded that they were different between NEM and non-NEM customers. (Exhibit No. 161). Indeed, she testified that there was “zero” possibility that they were the same. SolarCity witness Heidell acknowledged that the load shapes between the average NEM and non-NEM residential customer are “probably dramatically different.” Hearing Transcript 11/16/16 at 678. In fact, the PUCN finds based on the record before it that the load shapes of NEM and non-NEM customers are distinct. That conclusion is only logical as NEM customers can only generate electricity during certain daylight hours—their use patterns and relationship with the utility are guided by a different cycle than that of non-NEM customers. However, the PUCN concludes that different load shapes are not the dispositive factor as to why separate rate classes for NEM and non-NEM customers is important in this case.

Unique Relationship with Utility

NEM customer-generators have a fundamentally distinct and unique relationship with the utility. That distinction is already somewhat recognized in Nevada law: NRS 704.768 defines a “[c]ustomer-generator” as “a user of a net metering system.” That a customer-generator produces electricity that is distributed back to the grid which *must*, pursuant to Nevada law, be accepted and purchased by a public utility, *i.e.*, Sierra Pacific Power, *see* NRS 704.773, places that customer in a unique financial, customer-service, and infrastructure relationship with the utility that is markedly distinct from a non-NEM customer, who simply purchases electricity from Sierra Pacific Power through a monthly bill and relies upon the utility for *all* infrastructure, installation, generation, planning, and maintenance. Non-NEM customers produce nothing and sell nothing to no one. This distinction is relevant and persuasive.

Buy-Sell Relationship

The “buy-sell” relationship between a NEM customer-generator and the utility also makes practical sense and supports a separate rate class distinction. A “buy-sell” framework is consistent with the “customer-generator” concept articulated by the Nevada State Legislature and the provisions of NRS 704.766-.775, inclusive. No compelling arguments or evidence were presented for the PUCN to depart from the “buy-sell” arrangement.

Individual Energy Choice to Join Separate Rate Class

It should be remembered that it is an energy *choice* that a Nevadan is free to knowingly make as to whether or not he or she enters into a NEM business relationship with the public utility (and potentially a third-party solar provider) and joins that separate customer class. No person or entity forces that decision. But once entered, NEM customers are effectively becoming a part of the greater energy grid system of Nevada and with that choice they should recognize that they are thereafter a part of an interconnected network that is greater than any single individual. With that choice they may have both benefits and responsibilities which non-NEM customers do not.

Need for More Information and Research

Conflicting evidence was presented throughout the proceedings as to what benefits actually exist from NEM and, if so, what they may or may not be (and what they should or should not be). But, if it is true, as some solar advocates argue, NEM customer-generators actually produce a net benefit to the grid, then having them in a separate class may ultimately serve everyone’s interests. The benefits NEM customer-generators provide to the grid need to be better identified and

understood. *See* (Exhibit No. 145 at 19 and Exhibit No. 151 at 19). Based on the evidence currently in the record, the PUCN finds that maintaining separate rate classes for NEM customer-generators is in the public interest and simply makes sense at this time. But more information and research is needed in this area.

THE EVOLVING VALUE OF ROOFTOP SOLAR

Ralph Waldo Emerson once stated that “[t]here are no fixtures in nature. The universe is fluid and volatile. Permanence is but a word of degrees.”³⁰ Energy prices can be too.

The record is replete with conflicting evidence regarding the existence of a cost shift, whereby reports and testimony proffered by Sierra Pacific Power reach remarkably different conclusions than those that were prepared by the intervenors, *i.e.*, SolarCity, Vote Solar, NCARE, and their expert witnesses. *Compare, e.g.*, Rebuttal Testimony of Elicegui (Exhibit No. 175), with Intervenor Testimony of Hanley (Exhibit Nos. 118 and 119). Often, testimony presented at the hearings was a ‘battle of the experts’ on whose methodology and conclusions were the ‘most right’ and why.

One of the purposes behind the original Energy Environmental Economics (E3) Study entitled *Nevada Net Energy Metering Impacts Evaluation (E3 Study 2014)* that was commissioned by the PUCN at the direction of the Nevada State Legislature through Assembly Bill 428 (2013) and completed in 2014, was to obtain an independent and objective analysis performed on the costs and benefits of NEM in Nevada to help inform the PUCN.³¹ But perhaps one of the best example of the unsettled issues at the heart of the NEM debate is evident in the E3 studies themselves.

For example, the *E3 Study 2014* concluded that the costs between NEM and non-NEM customers will be “very nearly neutral and [non-NEM customers] will experience neither a large benefit nor a cost due to new NEM installations.” *E3 Study 2014* at 7. The *E3 Study 2014* further concluded that “we do not estimate a substantial cost shift to non-participants due to NEM going forward given the current and proposed reforms to the program.” A total benefit to non-NEM customers between the years 2004 through 2016 was estimated to be approximately \$36 million dollars to ratepayers over the lifetime of the average NEM system.” *Id.* at 7-8.

³⁰Emerson, Ralph W., *Essays of Ralph Waldo Emerson: Circles*. Garden City Publishing Corp., New York at 102. (1941).

³¹Notice of the *E3 Study 2014* is taken by the PUCN pursuant to NAC 703.755 and NRS 233B.123(5), as it was also filed in Docket Nos. 15-07041 and 15-07042.

Yet, an updated *E3 Study* was completed in 2016 (*Updated E3 Study 2016*), see Exhibit No. 175, at the request of the Nevada State Legislature and its conclusions were notably different than those it reached in the original *E3 Study 2014*. Indeed, the conclusions appear very opposite. The *Updated E3 Study 2016* now concluded that “[t]here is a cost-shift from NEM customers to non-participating customers for both existing installations and future installations.” Exhibit No. at (*Updated E3 Study 2016* at 7). The *Updated E3 Study 2016* recognized the different conclusion from its *E3 Study 2014*, though both studies generally followed “the same framework.” *Id.* at 3. The key difference in conclusions was that the data used between the two studies was “substantially different” and it is those data inputs that drive the results. Two notable factors that changed was that the price of natural gas lowered by approximately fifty-percent (50%) and the costs of large-scale utility solar facilities declined by approximately sixty-four percent (64%). Both of these changes, the *Updated E3 Study 2016* concluded, currently render NEM rooftop less economically attractive than it was just a few years ago.

What the PUCN finds most significant about the conflicting and various conclusions submitted during these proceedings is that credible and well-educated economists, engineers, analysts, lawyers, and well-respected Nevada businesses fail to agree on facts and methodology at the most fundamental levels. Perhaps this is due to Nevada being at a cross-roads where traditional thinking is colliding with new technology and disruptive business models—new ways of looking at old energy problems are emerging. The lack of consensus may also be because the facts regarding energy valuation, in many ways like the price of other commodities, change and continually evolve. What a cost prohibitive energy resource is today could very well be a fantastic value tomorrow. And what conclusions the PUCN (or other entities) may reach regarding a cost-shift between NEM and non-NEM customer classes is variable and not static or set in stone, depending upon the energy market at any given time.

Uncertainty is unsettling and, at times, uncomfortable. But to work well, there must be some “play in the joints” regarding a final determination about the true existence of a cost-shift. See *Bain Peanut Co. of Tex. v. Pinson*, 282 U.S. 499, 501 (1931) (recognizing that “the machinery of government would not work if it were not allowed a little play in the joints”) (Holmes, J.). Utility regulation is often a world of facts and certainty; but, it is also one of theories and policy. Rate design involves a process that is indeed both a science and an art, as recognized by SolarCity witness Reishus:

A large body of literature has been written exploring the principles that regulators often take into consideration when setting consumer electric prices . . . rate design is as much art as science. . . . [W]hen setting and designing rates, [the PUCN] must weigh and balance multiple policy objectives, including those established by the state's legislature or executive . . . as they consider how to take the utility's total revenue requirement determined in a general rate case and spread that revenue requirement across all consumer classes in rates.

(Exhibit No. 133 at 3-4). Jumping to a premature conclusion for the mere sake of having a resolution while the conversation and technology is evolving would not serve the public interest and Nevada. No certain answer at this time is better than the wrong one. More information, time, and analysis are necessary to find the appropriate balance for Nevada. The statement above is all-the-more true in the valuation of NEM rooftop solar, as it impacts the overall cost-shift analysis.

Known and Measurable Costs

In its Modified Final Order in Docket Nos. 15-07041 and 15-07042, the PUCN stated its intent in future General Rate Application cases to value rooftop by analyzing both the positive and negative effects of NEM by looking toward the following 11 factors: (1) avoided energy; (2) energy losses/line losses; (3) avoided capacity; (4) ancillary services; (5) transmission and distribution capacity; (6) avoided criteria pollutant costs; (7) avoided carbon dioxide emission costs; (8) fuel hedging; (9) utility integration and interconnection costs; (10) utility administration costs; and (11) environmental costs. In that Order, the PUCN bound those factors to only those things which are “known and measurable.” See PUCN Modified Final Order in Dockets Nos. 15-07041 and 15-07042 at 156. While the inclination of the PUCN in that Order to rely exclusively on a “known and measurable” standard is understandable, see, e.g., NRS 704.110; NAC 704.6528, it failed to fully account for the importance of what remains unknown at this time.

Simply because a factor cannot be easily quantified does not mean that its value is zero. While Sierra Pacific Power urges the PUCN to strictly adhere to *only* the 11 factors previously recognized by the PUCN, other facts and policies—even those difficult or impossible to objectively quantify—must be included in a comprehensive NEM valuation analysis.

Unknown NEM Value

Albert Einstein has been credited with coining the following quote: “Not everything that counts can be counted, and not everything that can be counted counts.”³²

³²This quote has also been attributed to William Bruce Cameron in a published article *The Elements of Statistical Confusion Or: What does the Mean Mean?* (American Association of University Professors 1957).

NARUC, which is a national utility regulatory organization, recently recognized that new distributed solar models for rate making are “turning the traditional model upside down.” *See, Distributed Energy Resources Rate Design and Compensation: A Manual Prepared by NARUC at 42.* Yet, because factors are hard to quantify does not mean they should be dismissed or given perfunctory treatment. Additional factors, *i.e.*, externalities, in valuing NEM may be included by the PUCN in its analysis, such as: (1) promoting economic development and job growth throughout Nevada; (2) building diversity in Nevada’s electricity grid infrastructure; (3) stimulating renewable energy technology and infrastructure, including the development of new battery and storage capacity systems; and (4) encouraging energy choice and increasing consumer independence.

Value in NEM rooftop solar may further be found and maximized for optimal performance and quantified through (5) recognizing the importance of home orientation, *i.e.*, NEM systems on some rooftops facing certain directions and/or with prime daylight geographic locations may be more valuable than others; (6) mapping geographic areas or neighborhoods of high electric usage and grid congestion to identify locations where the more grid diversity through NEM installation would be of the greatest benefit; (7) identifying certain rural areas where developing battery storage systems combined with a NEM installation can readily result in infrastructure and service cost savings (avoided costs) to the utility; (8) providing for the installation of smart inverters with NEM systems; and (9) coordinating more predictable NEM system production patterns.

To be fully realized and flow to all ratepayers, many of these above-listed NEM benefits may require re-thinking utility planning and operations practices. Collaboration among the utility, the solar industry, ratepayers, and the PUCN is encouraged to arrive at a true consensus for just and fair NEM valuation. The challenge for Nevadans is to advance what can become known and measurable in NEM valuation and not standby waiting for the day it arrives.

This list above is not exhaustive, and because a value is difficult to quantify, does not mean it should be ignored or summarily dismissed by the PUCN in the instant or future cases. Rather, the PUCN will exercise its discretion in considering *all* reliable and relevant evidence of these, as well as the original 11-factors, in valuing NEM rooftop solar in rate design proceedings. It is recognized that “over the long term,” NEM rooftop solar can help “avoid or defer the construction of new infrastructure, including generation facilities and transmission lines, and assist and support meeting local reliability needs.” *Id.* at 66. Latitude must exist in these calculations. The

possibility of additional factors or criteria based on peer-reviewed and/or well-settled methodologies remains open.

Renewable and Solar Energy Policies of the State of Nevada

This new approach to NEM rooftop valuation realigns the PUCN's responsibilities and discretion to those with the clear policy positions of the Nevada State Legislature and the Governor to advance renewable clean energy in Nevada. The policy of Nevada is not obscure or clouded. The Nevada State Legislature has expressly declared that it is the policy of Nevada to “[e]xpand and accelerate the development of solar distributed generation systems” and to “[e]stablish a sustainable and self-sufficient³³ solar renewable energy industry in this State in which solar energy systems are a viable mainstream alternative for homes” NRS 701B.190. The Legislature has also found that “[g]overnment and private enterprise need to accelerate research and development of sources of renewable energy and to improve technology” NRS 701.010(1)(f). The Legislature has even prohibited the adoption of any ordinance or regulation or plan or action that “unreasonably restricts or has the effect of prohibiting or unreasonably restricting the owner of real property from using a system for obtaining solar energy” NRS 278.0208(1); *see also* NRS 701A.200 (providing for certain tax exemptions for installing solar energy system). Indeed, Nevada law expressly requires a public utility to offer NEM, *see* NRS 704.7735, and it is the “purpose and policy” of the State to encourage private investment in renewable energy, use it to stimulate economic growth, diversify energy resources, and make it easier for Nevadans to install NEM systems. *See generally* NRS 704.766. These statutes have not been repealed or amended—it remains official State policy to encourage NEM.

Governor Sandoval has also expressed his view that “Nevada is home to some of the most abundant and accessible sources of clean energy in the world, including solar” and that the development of “clean and renewable energy is important to the economy and the environment.” *See* Executive Order No. 2016-04 (Order Directing the Governor’s Office of Energy to Reconvene The New Energy Industry Task Force, February 23, 2016) (Exhibit No. 177). Governor Sandoval was one of seventeen Governors of the United States to endorse the bipartisan *Governors’ Accord for a New Energy Future* on February 16, 2016, which affirmed Nevada’s commitment to diversify energy generation and expand clean energy sources by embracing new energy solutions,

³³The phrase “self-sufficiency” is only one of several policy objectives in this statute. It does not exclude the others.

modernizing grid infrastructure, decreasing air pollution, and supporting business growth.³⁴

Governor Sandoval's New Energy Industry Task Force expressly recommended that the Nevada State Legislature re-visit the PUCN's Modified Final Order in Docket Nos. 15-07041 and 15-07042 and direct the PUCN to consider such factors as economic and environmental benefits, job creation, and energy portfolio diversification in its IRP process. *New Energy Industry Task Force Final Recommendations* (September 30, 2016 at 1-2.) (Exhibit No. 133 at SR-3 at 1-2) (Exhibit No. 178). The New Energy Task Force has recommended that the 2017 Nevada Legislature consider a bill to direct the PUCN to establish a "Value of Distributed Solar" examining both 'known and measurable' benefits and costs, as well as those external, so that Nevadans who invest in distributed energy resources can "be reasonably certain" that policy and rate design changes will not hurt their investment. (Exhibit No. 133 at SR-3 at 4-5).

Additional analysis, research, and study may be necessary for any deliberative body to arrive at an accurate value for NEM rooftop solar that withstands scrutiny from utilities, solar advocates, and the public. The time for that analysis—to get it right—may extend well beyond the statutorily-imposed deadline that the PUCN is working under in this case. *See* NRS 704.110(2).

Disagreement about Per kWh Value for NEM Rooftop Solar

It is against this backdrop that the PUCN is tasked with determining a just and reasonable per kilowatt (kWh) value for NEM rooftop solar in this case—most Parties disagree. Based upon its calculations set forth in its Modified Cost of Service Study, Sierra Pacific Power submits that NEM-2 (D-1) customers receive should receive \$0.07175 per kWh they generate and 'sell' back to the utility using the previous "ladder" approach. (Exhibit No. 175 at 31). In contrast, SolarCity submits that the value should be paid at \$0.12437 per kWh (Exhibit No. 118 at RH-2, RH-4, and RH-5 and Exhibit No. 130). Thus, a \$0.05262 per kWh difference between the two submitted values exist—about a nickel. *See* (Exhibit No. 118 at 43).

How the gap in that nickel difference could be and should be bridged is where much of the ensuing debates about "known and measurable" costs, the difficult-to-quantify and unknown values of NEM rooftop solar, and Nevada policy have collided.

THE MARGINAL COST OF SERVICE STUDY

Turning to the Marginal Cost of Service Study, significant testimony and evidence in

³⁴Notice is taken by the PUCN pursuant to NAC 703.755 and NRS 233B.123(5).

support of (and criticism against) was submitted in the record before the PUCN. *Compare, e.g.* Testimony of Walsh (Exhibit No. 145 at 57) (recommending adoption of Study in whole), *with* Testimony of Dr. Otsuka (Exhibit No. 141 at 1-2, 4, 30) (recommending adoption of Study with some noted changes), *with* Testimony of Heidell (Exhibit No. 125 at 3-4) (recommending rejection of the Study with some slight agreement). That Study was performed by Sierra Pacific Power in accordance with NRS 704.7735 and attempts to incorporate the 11-factors set forth in the PUCN's Modified Final Order in Docket Nos. 15-07041 and 15-07042. The PUCN finds that sufficient and credible evidence supports the facts and calculations in the Marginal Cost of Service Study, except as where modified by this Order; however, a greater conversation and further analysis must occur as to whether those calculations and methodologies are fair and consistent with the vision for the "New Nevada."

The witnesses called by Sierra Pacific Power were knowledgeable and credible and generally supported by the testimony of PUCN Staff. The PUCN is not inclined at this time to depart from the time-tested methodology set forth in the Marginal Cost of Service Study analysis. But the PUCN's reluctance of rejecting it in this case should not be overly-interpreted by any Party as settled precedent either.

The *Update E3 Study 2016* recognized that "[a]n increase in average utility rates is a cost-shift from NEM customers to non-participating utility customers." (Exhibit No. 175/ *Update E3 Study 2016* at 47). With regard to Sierra Pacific Power's non-grandfather NEM customers, until an unreasonable cost-shift materializes under the data and methodology advanced by Sierra Pacific Power in its Marginal Cost of Service Study, reaching 'under the hood' and possibly reworking that engine would be premature and, in light of the need for additional information, imprudent. *See Hamm v. Carson City Nugget, Inc.*, 85 Nev. 99, 101, 450 P.2d 358, 359 (1969) ("Judicial restraint is a worthwhile practice when the proposed new doctrine may have implications far beyond the perception of the court asked to declare it."). The PUCN finds and concludes that the Marginal Cost of Service Study and its methodology are accepted in this case. However, even accepting these calculations and analysis, this case does not end. The PUCN does not find it necessary (or reasonable) to eliminate any cost-shift calculated by Sierra Pacific Power.

ANY COST SHIFT THAT MAY EXIST IS NOT UNREASONABLE

Until a universally-acceptable formula can be settled upon to determine an appropriate value for NEM rooftop solar generation in Nevada, questions regarding the existence of a cost-

shift will remain unresolved. More than ‘known and measurable’ costs need to be included in this analysis. However, how is monetary value to be placed on the prevention of climate change? Clean air? Encouraging job growth? Grid diversity? Energy choice and independence? Building a “New Nevada” for our children? Commissioners of the PUCN could assert their personal judgments into these questions and very-likely arrive at a monetary valuation for NEM—but to do so may require subjectivity beyond the PUCN’s jurisdiction—and these may be decisions best left to the policy makers of Nevada to at least provide more guidance on where that value lies. Yet, *assuming arguendo* that a cost-shift exists under the facts of this case, as discussed above, NRS 704.7735 (SB 374) only prohibits the PUCN from approving an “unreasonable” cost shift between NEM and non-NEM customer classes. Even if there were a cost shift at this time, the PUCN finds that any such shift would be reasonable for several reasons.

First, there will be no discernable cost increase on the average monthly bill to non-NEM residential customers for up to 6 MW of newly-installed capacity for new and existing NEM-2 customers in Northern Nevada under the old NEM-1 rates. Indeed, Northern Nevada ratepayers will experience a net decrease in the average monthly bill by at least one cent (\$0.01) per month if the additional 6 MW of NEM are reached—a penny. This is possible because the other phases of this case were resolved in a manner that resulted in an anticipated average \$0.27 (twenty-seven cents) per month decrease. According to the Marginal Cost of Service Study provided by Sierra Pacific Power, a \$0.26 (twenty-six cents) per month cost-shift may be created by adding 6 MW of newly-installed capacity under NEM-1 rates and terms. The difference between the two numbers nevertheless results in an overall decrease of one cent (\$0.01) to the average residential ratepayer’s monthly bill. It will also result in a decrease of approximately \$0.43 (forty-three cents) per month for average small commercial customers.³⁵

Based upon data presented in this case through the Stipulation (and even accepting the Marginal Cost of Service Study), calculations by PUCN Analysts based on evidence in the record (Exhibit No. 147) are as follows:

³⁵The decision in this portion of the case regarding NEM-2 customers should have no discernable impact whatsoever on other customer classes and ratepayers, such as large commercial classes.

Line No.				Source/Calculation
1	Additional Estimated Residential NEM - MW		5.55	6 MW x 2,148/2,321
2	Average Residential System Size - kW	4.80		Exhibit 147
3	New Systems		1,157	5.55 MW x 1,000/4.80
4	Annual Calculated Per D-1 NEM Customer Subsidy	\$ 585	\$ 676,845	Ex. 147 x Line 3
5	Average Residential D-1 Monthly Usage - kWh	743		1,921,599,453/215,591/12
6	SPPC D-1 kWh Annual Sales	1,921,599,453	\$ 0.00035	\$676,845/1,921,599,453
7	Average Monthly Residential Bill Impact - D-1 Only		\$ 0.26	743 x \$0.00035
8	GRC Revenue Credit	(0.00037)	\$ (0.27)	743 x Stipulation Credit
9	Net Residential D-1 Monthly Rate Impact - <u>Decrease of</u>		\$ (0.01)	Line 7 - Line 8
10	Additional Estimated Small Commercial NEM - MW		0.45	6 MW x 173/2,321
11	Average Small Commercial System Size - kW	24.60		Exhibit 147
12	New Systems		18	.45 MW x 1,000/24.60
13	Annual Calculated Per GS-1 NEM Customer Subsidy	\$ 1,392	\$ 25,056	Ex. 147 x Line 12
14	Average Small Commercial Monthly Usage - kWh	1,290		625,903,655/40,429/12
15	SPPC GS-1 kWh Annual Sales	625,903,655	\$ 0.00004	\$25,056/625,903,655
16	Average Monthly Small Commercial Bill Impact - GS-1 Only		\$ 0.05	1,290 x \$0.00004
17	GRC Revenue Credit	(0.00037)	\$ (0.48)	1,290 x Stipulation Credit
18	Net Small Commercial GS-1 Monthly Rate Impact - <u>Decrease of</u>		\$ (0.43)	Line 16 - Line 17

Second, even viewed in isolation, while twenty-six cents (\$0.26) a month is not insignificant, it is also not substantial. This amount is less than the average of twenty-nine cents (\$0.29) that is paid per month on a bill for the Universal Energy Charge pursuant to NRS 701.160.

Finally, the PUCN's measure of reasonableness is guided and informed by the clear policies of the State of Nevada as enacted by the Nevada State Legislature that support renewable energy. Some of these include the use of solar energy as a "mainstream alternative for homes." See NRS 701B.190. Others include supporting economic development throughout Nevada. See, e.g., NRS Chapter 231 (establishing the Governor's Office of Economic Development). Even others promote NEM as a viable Nevada program. See NRS 704.773 (requiring that NEM be offered by a utility as a matter of law). Opening up an additional 6 MW of NEM rooftop solar capacity at NEM-1 rates for Northern Nevada is consistent with these declared policies.

Given the totality of these considerations, the PUCN hereby finds and concludes that any cost-shift that may exist (based upon the Marginal Cost of Service Study) is reasonable. Therefore, reaching the remaining issues regarding the valuation of NEM rooftop solar in this case will remain factually unripe and in administrative abeyance until the new cap of installed capacity is reached and any new theoretical cost shift materializes and becomes "unreasonable."

6 MW OF NEW NEM-1 ROOFTOP SOLAR OPENED FOR NORTHERN NEVADA

Based on the analysis above, the PUCN hereby finds that 6 MW of newly-installed rooftop solar capacity under the NEM-1 rates shall be opened January 1, 2017. Sierra Pacific Power's service territory covers much of Northern Nevada, with approximately 290,000 residential customers. 11/07/16 Hearing Transcript at 294. Evidence shows that since 1997, when NEM rooftop solar was first introduced in Nevada, a total of 2,148 residential customers (D-1 NEM rate class) have enrolled in NEM. (Exhibit No. 147). Meaning, less than one percent (1%) of residential ratepayers in Sierra Pacific Power territory are currently-enrolled NEM customers. *Id.* at 294. The total installed capacity load for these NEM customers is 10.31 MW. (Exhibit No. 147). Similarly, there are currently 173 small commercial (GS-1 NEM rate class) customers in Sierra Pacific Powers territory, with a total installed load capacity of 4.26 MW. *Id.* Combining the totally megawatt loads for residential (D-1 NEM) and small commercial (GS-1 NEM) rate classes results in a total of 14.57 MW. Reopening 6 MW of new NEM installed capacity allow for an increase of approximately forty percent (40%) of the total load.

The PUCN finds that this increase is reasonable given that the frequency of a General Rate Application case occurs three (3) years, *see* NRS 704.110, and during the three (3) years prior to 2016 and this case, a total of 1,208 new NEM residential and small commercial customer applications in Northern Nevada were submitted as follows:

	2013 = 138 NEM applications
+	2014 = 87 NEM applications
	2015 = 983 NEM applications
<hr style="width: 20%; margin: 0 auto;"/>	
Total = 1,208 NEM applications	

(Exhibit No. 116 at RG-4). Relying upon an average residence (D-1 NEM) system load capacity of 4.80 kWh, and an average small commercial customer (GS-1 NEM) system load capacity of 24.60 kWh, opening 6 MW of newly-available and installed NEM capacity will allow for approximately 1,175 new systems in Northern Nevada over the next three (3) years. This would be nearly double the overall NEM growth in Northern Nevada that has occurred the past three (3) years. In other words, this allows for nearly fifty percent (50%) increase in that total capacity number and the rooftop solar industry to restart and regrow in Northern Nevada—immediately.

Re-Establishing Prior NEM-1 Rates for New NEM-2 Customers

Newly-increased capacity of 6 MW is under the old NEM-1 rates, where NEM and non-NEM customers receive the same basis service charge and terms as those customers who enrolled prior to December 31, 2015, and were subsequently ‘grandfathered’ by the PUCN in Docket Nos. 16-07028 and 16-07029. The 28 residential (NEM-2) who are not ‘grandfathered’ and had their systems installed in 2016 shall be grandfathered and included in this class, as well as the 1 non-grandfathered small commercial customer. The PUCN finds that permitting the current NEM-2 rate payers to be grandfathered is fair and supports the public interest.³⁶ If the 6 MW cap is reached in the Sierra Pacific Territory prior to the next statutorily-mandated General Rate Application case in 2019, the PUCN will review a request to allow additional capacity in Northern Nevada based upon the facts and evidence presented at that time.

Fact Specific Analysis Applicable Only to this Case at this Time

The Nevada Supreme Court has recognized the long-standing principle of restraint:

[T]he duty of every judicial tribunal is to decide actual controversies by a judgment which can be carried into effect, and not to give opinions on moot questions or abstract propositions, or to declare principles of law which cannot affect the matter at issue before it.

University and Community College System of Nevada v. Nevadans for Sound Government, 120 Nev. 712, 720, 100 P.3d 179, 186 (2004). Because this case can be decided on grounds without reaching the other arguments involved, exercise of restraint by the PUCN is appropriate.

Moreover, the PUCN cautions that the decision reached in this Order is based upon the facts presented in this General Rate Application by Sierra Pacific Power in Northern Nevada only. The results of this decision are fact-specific shall have no precedential or binding effect upon this or any future rate case before the PUCN, and the dictum contained within this Order are for guidance purposes only. When an appropriate case appears before the PUCN that implicates the prohibitions of NRS 704.7735 and results in what may be deemed an unreasonable cost shift, then it may be more appropriate and necessary to examine NEM rooftop solar valuation in Nevada.

³⁶The ‘gradualism’ or ladder approach adopted by the PUCN in the Modified Final Order in Docket Nos. 15-07041 and 15-07042 is disavowed as impracticable.

SUMMARY OF PUCN FINDINGS OF FACT AND CONCLUSIONS OF LAW

Having thoroughly reviewed thousands of pages of documents and exhibits, considered conflicting expert testimony from well-educated and credible witnesses over seven (7) days of hearings, and applied the balance and reasonableness sought in Nevada law and policy, the PUCN hereby finds and concludes that opening up to 6 MW of new installed capacity of rooftop solar for existing and new NEM-2 customer-generators under the NEM-1 terms and rates in Sierra Pacific Power's service territory are just and reasonable, and in the public interest. In summation, the PUCN hereby makes the following findings of fact and conclusions of law:

1. New residential and small commercial ratepayers who have installed NEM systems between January 1, 2016, through December 31, 2016, shall be grandfathered into the NEM-1 rate class with the NMR-G grandfathering rate rider.
2. The PUCN authorizes net metering using full retail requirements rates for an additional 6 MW in capacity in Sierra Pacific Power's service territory during the three year general rate effective period beginning January 1, 2017. If the 6 MW cap is reached before new general rates are set on January 1, 2020, a Party in this case may file a petition with the PUCN to further review an increase in the cap.
3. The maximum estimated monthly bill impact to non-NEM residential D-1 customers for the added NEM capacity is an increase of approximately \$0.26 per month. The revenue credit agreed to by the parties in the Stipulation dated October 18, 2016, would result in a decrease to the non-NEM residential D-1 customers of approximately \$0.27 per month. The net estimated monthly bill impact to non-NEM residential D-1 customers is a decrease of approximately \$0.01 per month.
4. The maximum estimated monthly bill impact for non-NEM small commercial GS-1 customers for the added NEM capacity is an increase of approximately \$0.05 per month. The revenue credit agreed to by the parties in the Stipulation dated October 18, 2016, will result in a decrease to the non-NEM residential D-1 customers of approximately \$0.48 per month. The net estimated monthly bill impact to non-NEM small commercial GS-1 customers is a decrease of \$0.43 per month.
5. The retail net metering rates for the additional 6 MW capacity will be effective from January 1, 2017, through November 30, 2036. The date of November 30 coincides with the 'grandfathered' rate schedule NMR-G as approved in Docket No. 16-07029.

6. For all non-grandfathered NEM customers beyond the 6MW of NEM-1 capacity re-opened pursuant to this Order, the PUCN re-affirms its finding in Docket Nos. 15-07041 and 15-07042 that net metering settlements are to be calculated on an hourly basis (and billed monthly) and finds that the currently-established “buy-sell” framework shall be retained.
7. The PUCN finds that credible and substantial evidence supports the Marginal Cost of Service Study submitted by Sierra Pacific Power, except where specifically modified by this Order.
8. Sierra Pacific Power shall modify its marginal cost of service study and rate design to reflect the following adjustments:
 - i. Revise the customer weighting factor study to use a three year historical average for NEM system applications in allocating costs for Department D402.
 - ii. Revise the customer weighing factor study to reduce the call center expenses in Department D432 allocated to NEM customers by the same percentage reduction allocation for Department D402.
 - iii. Revise the basic service charge allocation to 50% of facilities costs and primary distribution costs in lieu of 100% and 25%, respectively.
9. Sierra Pacific Power shall make a compliance filing within thirty (30) days from the date of this Order, including the updated marginal cost of service study and revised cost-based rates for all NEM rate classes. Should the 6 MW cap be reached and no Party petitions to increase the cap, the cost-based rates will apply to subsequent NEM installations.
10. Sierra Pacific Power shall calculate general rate (Basic Service Charge plus Base Tariff General Rate) annual revenue per NEM customer (by rate class) using the revised cost-based rates above. Sierra Pacific Power shall compare the general rate revenue collected monthly from NEM customers to the annual per customer revenue divided by twelve. Sierra Pacific Power shall record the difference in a regulatory asset account, which will accrue carrying charges.
11. Sierra Pacific Power shall track the variance by rate class and month between the Retail Energy Credit Rate afforded to all NEM rate classes and an Alternate Credit Rate for illustrative purposes. The Alternate Credit Rate to be applied shall depend upon the PUCN’s decision in consolidated Docket Nos. 16-07001 and 16-08027 with respect to NV Energy’s proposed acquisition of the South Point Energy Center.

- i. If the PUCN approves the acquisition of the South Point Energy Center, the Alternate Credit Rate to be applied shall be \$0.04900 per kWh for 2017, and \$0.05300 per kWh for 2018 and 2019.
 - ii. If the PUCN does not approve the acquisition of the South Point Energy Center, the Alternate Credit Rate to be applied shall be \$0.02300 per kWh for 2017, \$0.02300 per kWh for 2018, and \$0.02500 per kWh for 2019.
12. For the purposes of the instant docket, the PUCN rejects PUCN Staff's recommendation regarding the marginal cost of service revenue reconciliation and rescaling, and the allocation of "energy public policy" transmission project costs. However, the PUCN is open to considering new evidence regarding these issues in a future proceeding.
13. The PUCN approves Sierra Pacific Power's request to establish new optional residential Planned Demand Use and Critical Peak Pricing rate schedules and rate effective dates.
14. The PUCN approves Sierra Pacific Power's request to simplify its Time-Of-Use periods. In its next general rate case application, Sierra Pacific Power should review the Time-Of-Use periods for conformity with Nevada Power company in conjunction with balancing area joint dispatch.
15. Sierra Pacific Power has to plan and stand ready to support the electrical systems of Nevadans based on the total load, even for NEM customer-generators. Insufficient evidence supports reliance upon delivered loads for transmission and distribution at this time.
16. Sierra Pacific Power has complied with Directives 11, 13, and 15 contained in Docket Nos. 15-07041 and 16-07042.
17. Paragraph 15 in the Modified Final Order in Docket Nos. 15-07041 and 15-07042 shall be stricken.³⁷

³⁷The PUCN remains concerned that the creation of separate rate classes fosters an 'us versus them' environment whereby non-NEM ratepayers have been pitted against NEM ratepayers and, at times, the opposing camps may lose sight that we are one Nevada with common goals. Use of the term "subsidy" may further inflame and increase this divide with few productive results. It is noteworthy that the term "subsidy" appears nowhere in NRS Chapters 703, 704, and 704B. Rather, the term "subsidize" appears once in NRS 704.223(5) in a context that has nothing to do with the ongoing NEM debate. But, the term "subsidy" has nevertheless become a rhetorical device that clouds the NEM solar discussion. Nevadans are at our best when we work together to resolve the energy challenges in our future.

18. All arguments raised by the Parties not specifically addressed in this Order are hereby denied as either unripe for review or failing to overcome the evidence admitted by Sierra Pacific Power at this time. However, any such arguments may be re-raised in future rate proceedings.
19. The findings and conclusions in this Order are fact-specific and are not to serve as binding precedent in future rate proceedings before the PUCN.
20. The PUCN shall open an investigation to consider a universally-acceptable methodology for the valuation of NEM rooftop solar in Nevada to be used in future proceedings.³⁸

CONCLUSION

No discernable increase to the average monthly bill is expected under the unique facts of this case and, therefore, no unreasonable shifting of costs is present pursuant to SB 374. Indeed, evidence in the record supports the conclusion that there is an anticipated overall cost decrease of \$0.01 per month on the average residential customer's bill. The PUCN finds and concludes that SB 374 sought to achieve balance and provide for measured thoughtful growth for NEM, protect all ratepayers, and continue building Nevada's solar energy future. The unique facts of this case provide an opportunity for that balance to be restored in Northern Nevada.

It is so ORDERED.

DATED this ____ day of December 2016.

By: _____
JOSEPH C. REYNOLDS
Chairman and Presiding Officer

PAUL A. THOMSEN
Commissioner

ANN C. PONGRACZ
Commissioner

³⁸All pleadings, testimony, and exhibits received into the record during these proceedings that are not specifically cited in this Order have nevertheless been reviewed and considered in reaching the decisions herein.

Attest: _____

TRISHA OSBORNE
Assistant Commission Secretary

Dated: Carson City, Nevada

(SEAL)

DRAFT