BEFORE THE PUBLIC UTILITIES COMMISSION OF NEVADA

Application of Nevada Power Company d/b/a NV Energy for approval of a cost-of-service study and net metering tariffs.	)	Docket No. 15-07041
Application of Sierra Pacific Power Company d/b/a NV Energy for approval of a cost-of-service study and net metering tariffs.	)	Docket No. 15-07042

At a general session of the Public Utilities Commission of Nevada, held at its offices on December 22, 2015.

PRESENT: Chairman Paul A. Thomsen
Commissioner Alaina Burtenshaw
Commissioner David Noble
Assistant Commission Secretary Trisha Osborne

ORDER

The Public Utilities Commission of Nevada ("Commission") makes the following findings of fact and conclusions of law:

I. INTRODUCTION

Nevada Power Company d/b/a NV Energy ("NPC") filed an Application for approval of a cost-of-service study and net energy metering ("NEM") tariffs. Sierra Pacific Power Company d/b/a NV Energy ("SPPC," and together with NPC, "NV Energy") filed an Application for approval of a cost-of-service study and NEM tariffs.

II. SUMMARY

The Applications are granted as modified in the discussion and findings below. The Commission revises tariffs and rates for NPC and SPPC.

III. PROCEDURAL HISTORY

- On July 31, 2015, NPC filed an Application for approval of a cost-of-service study and NEM tariffs.

- On July 31, 2015, SPPC filed an Application for approval of a cost-of-service study and NEM tariffs.

DRAFTED: DAVID NOBLE

FILED ON 12/22/15 AT 12:00 P.M

REVIEWED/APPROVED BY: DATE

- [ ] ADMIN/ASST. (_____) ___/___/___
- [x] COMM'N COUNSEL GCW 12/22/15
- [ ] SECRETARY ASST. SEC. ___/___/___
- [ ] OTHER (_____) ___/___/___

• The Applications were filed pursuant to the Nevada Revised Statutes ("NRS") and Nevada Administrative Code ("NAC") Chapter 703 and 704, including but not limited to Section 4.5 of Senate Bill ("SB") 374 of the 78th Session of the Nevada Legislature (2015) and NAC 703.535.

• On August 3, 2015, the Commission issued Notices of Application in Docket Nos. 15-07041 and 15-07042.

• The Regulatory Operations Staff ("Staff") of the Commission participates as a matter of right pursuant to NRS 703.301.

• On August 4, 2015, the Attorney General's Bureau of Consumer Protection ("BCP") filed a Notice of Intent to Intervene pursuant to NRS 228.360 in Docket Nos. 15-07041 and 15-07042.

• On August 14, 2015, the Sierra Club filed a Petition for Leave to Intervene ("PLTI") in Docket Nos. 15-07041 and 15-07042.

• On August 17, 2015, the Alliance for Solar Choice ("TASC") filed a PLTI in Docket Nos. 15-07041 and 15-07042.

• On August 17, 2015, Bombard Renewable Energy ("Bombard") filed a PLTI in Docket No. 15-07041.

• On August 17, 2015, Travis G. Miller filed a PLTI in Docket No. 15-07042.

• On August 17, 2015, Nevadans for Clean Affordable Reliable Energy ("NCARE") filed a PLTI in Docket Nos. 15-07041 and 15-07042.

• On August 17, 2015, the Southern Nevada Homebuilders Association ("SNHBA") filed a PLTI in Docket Nos. 15-07041 and 15-07042.

• On August 17, 2015, the United States Green Building Council, Nevada Chapter ("USGBC") filed a PLTI in Docket No. 15-07041.

• On August 17, 2015, Vote Solar filed a PLTI in Docket Nos. 15-07041 and 15-07042.

• On August 18, 2015, Shawn O'Meara (on behalf of SUNworks, Black Rock Solar, Inc., The Power Company, and Alternative Energy Solutions) filed a late-filed PLTI in Docket No. 15-07042.

• On August 18, 2015, the Solar Energy Industries Association ("SEIA") filed a late-filed PLTI in Docket No. 15-07042.

• On August 18, 2015, the Washoe County School District ("WCSD") filed a PLTI in Docket No. 15-07042.

• On August 19, 2015, the Commission held a prehearing conference. BCP, Bombard, Mr.

Miller, NCARE, NV Energy, SEIA, SNHBA, Staff, TASC, USGBC, Vote Solar, and WCSD made appearances. The Presiding Officer excused the Sierra Club and Mr. O'Meara from appearing. The Presiding Officer consolidated Docket Nos. 15-07041 and 15-07042 for hearing purposes. The Presiding Officer granted the PLTIs filed by Bombard, NCARE, TASC, Vote Solar, and WCSD. The Presiding Officer conditionally granted the PLTIs filed by Mr. O'Meara, SEIA, Sierra Club, SNHBA, and USGBC, subject to those parties filing supplemental information. The Presiding Officer denied the PLTI filed by Mr. Miller.

• On August 19, 2015, the Sierra Club filed a Reply to Staff Response to Petition to Intervene in Docket Nos. 15-07041 and 15-07042.

• On August 20, 2015, the Great Basin Solar Coalition ("GBSC"), formerly Mr. O'Meara, filed supplemental information in Docket No. 15-07042.

• On August 20, 2015, SEIA filed a Supplement to Late-Filed Petition for Leave to Intervene in Docket Nos. 15-07041 and 15-07042.

• On August 20, 2015, SNHBA filed a Supplement to the Petition for Leave to Intervene in Docket Nos. 15-07041 and 15-07042.

• On August 20, 2015, USGBC filed a letter rescinding its PLTI in Docket No. 15-07041.

• On August 20, 2015, Vote Solar filed a Supplemental and Errata Filing in Support of Vote Solar's Petition for Leave to Intervene in Docket Nos. 15-07041 and 15-07042.

• On August 21, 2015, the Commission held a hearing in Docket Nos. 15-07041 and 15-07042. BCP, Bombard, GBSC, NCARE, NV Energy, SEIA, Sierra Club, SNHBA, Staff, TASC, and Vote Solar made appearances.

• On September 1, 2015, the Commission issued an Interim Order.

• On September 4, 2015, the Presiding Officer issued a Procedural Order establishing a procedural schedule in Docket Nos. 15-07041 and 15-07042.

• On October 26, 2015, the Presiding Officer held a discovery conference with NV Energy and TASC.

• On October 28, 2015, the Presiding Officer issued Procedural Order No. 2.

• On November 2, 2015, NV Energy and Vote Solar notified the Presiding Officer, via electronic mail to the Administrative Attorney, of an agreement to revise the procedural schedule as it pertains to work papers.

• On November 6, 2015, Sierra Club submitted a letter requesting to withdraw as a party and participate as a commenter.

• On November 12, 2015, the Presiding Officer issued Procedural Order No. 3.

• On November 18-20, 2015 the Commission held a continued hearing in Docket Nos. 15-07041 and 15-07042. BCP, Bombard, GBSC, NCARE, NV Energy, SEIA, SNHBA, Staff, TASC, Vote Solar, and WCSD made appearances. Exhibits 1A-102A were admitted to the record pursuant to NAC 703.730.

• On December 1, 2015, the Presiding Officer issued Procedural Order No. 4.

• On December 2, 2015, BCP, NCARE, NV Energy, SEIA, Staff, TASC, and Vote Solar filed legal briefs. On December 9, 2015, BCP, NCARE, NV Energy, Staff, TASC, and Vote Solar filed reply briefs.[1]

IV. COST-OF-SERVICE STUDIES

NV Energy Position

1. NV Energy recommends that the Commission approve the marginal cost-of-service studies ("MCSS") prepared for NPC and SPPC and find that the MCSS are appropriate for designing rates for classes of customer-generators ("NEM ratepayers").[2] (Ex. 1A at 18; Ex. 4A at 18.)

2. NV Energy states that while it is appropriate to develop NEM ratepayer classes for all sizes of NEM ratepayers, NV Energy limited the MCSS and the new NEM tariffs to those classes that are not currently subject to more cost-based pricing (e.g., time-of-use ("TOU") demand charges, facilities charges). For NPC, the affected ratepayer classes are the single family residential ("RS"), multi-family residential ("RM"), large single family residential

[1] Several parties also included analyses of SB 374 and the relevant statutes and regulations in witness testimony. (See Ex. 29A (NV Energy) at 15-17; Ex. 30A (NV Energy) at 15-17; Ex. 40A (WCSD) at 3; Ex. 41A (SNHBA) at 3-4; Ex. 44A (Vote Solar) at 7-9, 11, 13, 46-47, 50-51, 60, 62; Ex. 49A (TASC) at 6-7, 9-10; Ex. 62A (BCP) at 2; Ex. 64A (Staff) at 3, 11-12, 23-24; Ex. 76A (TASC) at 34, 48; Ex. 99A (NV Energy) at 5, 7-15, 79; Ex. 101A (NV Energy) at 6-7, 21-23, 26-31, 35-37, 39, 41-42; Tr. at 89-90 (NV Energy), 99-100 (NV Energy), 357-359 (TASC), 406 (Bombard), 442-443 (BCP), 474-477 (Staff), 503-505 (Staff), 552-554 (Staff), 580-583 (Staff), 595-596 (Staff), 1103-1104 (NV Energy), 1132-1133 (NV Energy), 1140-1144 (NV Energy).)

[2] NEM ratepayers who have completed applications that were accepted or approved by NV Energy prior to the cumulative capacity of all NEM systems reaching the 235 megawatts ("MW") are referred to as NEM1 ratepayers. NEM ratepayers who have completed applications that were accepted or approved by NV Energy after the cumulative capacity of all NEM systems reaching the 235 MW are referred to as NEM2 ratepayers.

("LRS"), and small general service ("GS") classes. For SPPC, the affected ratepayer classes are the single-family residential ("D-1"), multi-family residential ("DM-1"), and small general service ("GS-1") classes. The rate structures for the larger ratepayer classes have cost-based customer and facility distribution charges and recover a significant portion of the transmission and generation costs through TOU demand charges. (Ex. 2A at 26; Ex. 5A at 26.)

3. NV Energy states that the MCSS guides the development of each ratepayer class's total revenue requirement and rate design. The MCSS develops the revenues at full marginal costs that would be realized if hourly differentiated prices equal to NV Energy's marginal costs were charged to each ratepayer class. Through Statement O, the ratepayer class marginal revenues are used to allocate the embedded revenue requirement to the various classes. (Ex. 2A at 26, 46-47, 164-167; Ex. 5A at 26, 46-47, 158, 160.)

4. The MCSS demonstrate that NEM ratepayers have unique service and cost characteristics. The average NEM ratepayer and non-NEM ratepayer have distinctly different load shapes, load factors, and billing determinants. The load levels and hourly usage differences (let alone the partial-requirements nature of their service) are sufficient to justify separate rate classes. Further, the ability for the NEM ratepayers to flow energy back into the utility systems is something NV Energy does not allow larger partial-requirements (stand-by) ratepayers to do. The result is a substantial cost shift from NEM ratepayers to non-NEM ratepayers. (Ex. 2A at 11, 21, 33-35, 163, 177-184, 187; Ex. 5A at 11, 21, 32-35, 162, 166-172, 174; Tr. at 167-168.)

5. NV Energy states that while the MCSS redistributed the revenue requirement to all ratepayer classes, no other ratepayer class rate changes are being proposed. The sole objective of the Applications is to establish NEM ratepayer classes and rates based on the MCSS. NV Energy prepared the MCSS consistent with: (1) the Commission's regulations; (2) NV

Energy practices that have evolved over 30 years; (3) previous MCSS that have been vetted and approved in the past by the Commission; and (4) the presentation made by NV Energy at the May 1, 2015, workshop in Docket No. 14-06009. (Ex. 2A at 9-10, 14, 16, 25, 46; Ex. 5A at 9-10, 14, 16, 25, 46.)

6. NV Energy states that it updated numerous inputs for the MCSS. NV Energy updated the marginal energy cost and hourly loss of load probability, which is used in the marginal generation cost allocation. NV Energy used the PROMOD results to reflect NPC's integrated resource plan filing (Docket No. 15-07004) preferred plan. NPC's integrated resource plan filing PROMOD results are used for both NPC and SPPC for marginal energy costs due to joint dispatching. The marginal energy costs cover the period 2016-2018, which is the potential rate effective period. NPC's and SPPC's loss of load probabilities are determined separately because neither utility's resources can prevent a loss of load occurrence for the other utility. The hourly loss of load probability is the hourly cost responsibility factor used to spread generation unit demand costs to each ratepayer class. The loss of load probability data was for the period prior to the forecasted significant capacity addition in 2020 (i.e., 2016-2019). NV Energy updated the probability of system peak cost responsibility factor used in the ratepayer class allocation of distribution demand and transmission costs. NV Energy also updated the historical ten-year period data to 2005-2014 and the forecasted period year to 2016. NV Energy updated NPC's rate of return to reflect the authorized rate in the Docket No. 14-05004 Stipulation. NV Energy used the billing determinants for the twelve-month period that ended May 2014 for NPC and the twelve-month period that ended March 2015 for SPPC. The NEM2 class load shapes were developed for the twelve months ended May 2015 and were removed from the otherwise full requirements class. The Customer Weighing Factor Study ("CWFS") was updated to

include the new NEM classes. New surveys of the pertinent departments serving NEM ratepayers were made to determine the relative proportion of customer service and accounts expense attributable to the separate NEM ratepayer classes. (Ex. 2A at 26-28, 35, 38, 63; Ex. 5A at 26-27, 35, 38, 60-61, 68.)

7. NV Energy states that the MCSS have four functional components: facilities; customer; demand-related (non-revenue distribution feeders, substations, transmission, and generation); and energy. Other than facilities and customer costs, the marginal costs are determined using hourly data, developed from PROMOD outputs and historical data. Additionally, facilities and customer costs are recovered through the monthly basic service charge. (Ex. 2A at 26, 31-32; Ex. 5A at 26, 30, 32.)

8. NV Energy states that the facilities costs represent NV Energy's investment in distribution facilities installed closest to the ratepayer (e.g., service drops, transformers, secondary distribution). The facilities investments are limited to those allowed pursuant to NV Energy's line extension rules ("Rule 9"). As the density of NEM systems increases, additional costs or savings may be identified, but no differences have been identified to date. (Ex. 2A at 30, 73-77, 110; Ex. 5A at 29, 72-76, 102.)

9. NV Energy states that customer costs are comprised of the revenue requirement associated with meter investment, and related meter expenses, customer accounting expenses, and customer service expenses. The meter investment was developed by class, and a generation meter was also developed for each NEM ratepayer class. While NEM and full-requirements ratepayers use identical billing meters, the NEM ratepayers' meters need to be programmed to measure bi-directional flow. The skillset requirements for replacing a standard-billing meter with the NEM-modified version necessitate that journeyman electricians or meter technicians

perform such installations. The NEM ratepayer meter costs exceed those for the residential full-requirements ratepayer. (Ex. 2A at 68-71, 111; Ex. 5A at 64-66, 103.)

10. NV Energy states that the customer accounting and service costs are allocated to each class through the use of a CWFS, with the results applied to the historical costs used in the last MCSS. NV Energy states that there are two causes for the increase in NEM ratepayer customer costs: fully dedicated employees and the Renewable Energy Department. NPC has three customer service representatives plus one supervisor's allocated time, and SPPC has 1.5 customer service representatives to handle phone calls and manually review NEM ratepayers' bills. The department heads anticipate the cost per NEM ratepayer not to change, but there will be an increase overall in costs due to the increase in the number of NEM ratepayers. 94 percent of the Renewable Energy Department internal labor costs are allocated to NEM ratepayer classes. The Renewable Energy Department processes the NEM applications. As the program transitions from an incentive program to serving the NEM ratepayer classes, the internal labor costs will still be incurred. The MCSS determined that the NEM ratepayer classes have greater customer accounting and service expenses. (Ex. 2A at 29, 64-66, 69-73, 75; Ex. 5A at 28, 62-64, 68-72; Ex. 17A; Ex. 18A.)

11. NV Energy states that the marginal distribution demand related costs (non-revenue distribution feeders, substations, and high voltage distribution) are allocated between ratepayer classes based upon the class load shapes (e.g., contribution to the hourly load) and the hourly normalized probability of peak cost responsibility factor.[3] The NEM ratepayer's load shape for each fifteen-minute interval is the greater of the excess generation returned to the utility's system or the total load. The total load is the sum of the deliveries to the NEM ratepayer

[3] Probability of peak is based upon those hours during which there is a 90-percent probability that the system peak will occur. (Ex. 2A at 40-41; Ex. 5A at 40-41.)

by the utility and the NEM ratepayer generation consumed by the NEM ratepayer during the fifteen-minute interval. The total load represents the maximum potential burden on the distribution system if the NEM ratepayer were to lose their own generation. The excess generation above the NEM ratepayer's total load represents additional use of the distribution system by the NEM ratepayer to facilitate sending energy to the utility. The distribution system is designed to meet the ratepayer's estimated peak load demand, which is total load. No quantifiable primary distribution costs reductions have been identified for NEM customers. The excess generation component accounts for 0.1 percent of the NEM increase in marginal distribution costs, attributable to the excess energy occurring at times of relatively low distribution demand cost (primarily winter season). (Ex. 2A at 23, 40-41, 75, 78; 5A at 23, 37-40, 72.)

12. NV Energy states that until further studies are performed, no basis exists for altering the distribution planning at this time. Additional costs may be incurred in the future, depending on the level of NEM system penetration and additional clustering of NEM systems. NV Energy is conducting studies on the matter. (Ex. 2A at 77-79; Ex. 5A at 75-76.)

13. NV Energy states that the marginal transmission system demand costs were calculated consistent with calculations for all other ratepayer classes. As with distribution demand cost, the class transmission marginal cost allocation is calculated using the probability of peak and the class load shape. Consistent with the distribution demand, NEM generation is assumed to be contained within the distribution system; therefore, the NEM ratepayer class total load shape is used in the transmission cost allocation. Further, recognizing some load diversity does exist, the total hourly load was reduced by the ratio of the NEM class non-coincident peak

to the total load non-coincident peak.[4] This reduction results in a transmission cost that is roughly eleven percent lower than that which would result if the total load shape were used, and it appropriately reflects the diversity of the NEM system self-generation and its impact on the loads of all ratepayers within the class. (Ex. 2A at 42-43; Ex. 5A at 42-43).

14. NV Energy states that it has not experienced any documented beneficial effects of NEM systems on the transmission system. NV Energy also states that it has not seen dramatic shifts in operational complexity or costs caused by NEM systems, but it notes that significant penetration relative to load during any time of the year could cause dramatic shifts in reactive power switching, generation dispatch, and unit ramping requirements. (Ex. 2A at 79, 81-82; Ex. 5A at 76, 78-79.)

15. NV Energy states that marginal generation demand costs were calculated in the same manner as those calculated for other ratepayer classes.[5] The NEM ratepayer class' delivered load shapes were used. The delivered load shapes recognize load diversity and NV Energy's inability to quantify the standby reservation and load-following costs. However, because system peaks are later in the day when rooftop solar production is in decline, the NEM ratepayer delivered load shape still results in significant capacity costs being allocated to these NEM ratepayer classes. (Ex. 2A at 24-25, 37, 39; Ex. 5A at 24-25, 37, 39.)

16. NV Energy states that the marginal energy costs were calculated in the same manner as they are calculated for other ratepayer classes. The NEM ratepayer class delivered load shapes were used. Marginal energy costs were developed consistent with the approved

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[4] The reduction was accomplished by comparing, on an hourly basis, the maximum delivered kilowatts ("kW") to the total load kW in the load shape. (Ex. 2A at 42; Ex. 5A at 42.)

[5] Marginal generation costs allocated to each ratepayer class were determined by using the hourly loss of load probability calculated using PROMOD for the period of time before the next significant generation capacity addition. In the MCSS, with the next significant capacity addition forecasted to occur in 2020, the loss of load probability period was 2016-2019. (Ex. 2A at 38; Ex. 5A at 38.).

methodology used in NV Energy's last general rate case. The marginal energy costs were calculated hourly using the utilities' preferred integrated resource plan PROMOD for the anticipated three-year rate effective period (2016-2018). The hourly data were averaged. The marginal energy costs were adjusted for line losses to the secondary distribution voltage level for each NEM ratepayer class. The adjusted hourly rate was multiplied by the NEM ratepayer class's delivered load shape. The resulting hourly amounts were aggregated by TOU period. (Ex. 2A at 25, 35-36, 61; Ex. 5A at 25, 35-36, 60.)

17. NV Energy states that the NEM ratepayer class load shapes were developed using all active NEM ratepayers as of March 31, 2015, for the entire study period of June 2014 through May 2015. Actual generation data was used when available. Missing hourly generation data was estimated using the average of those ratepayers that have at least 95 percent of the necessary fifteen-minute generation data. The compiled data was then compared to the National Renewable Energy Laboratory's averages for reasonableness. (Ex. 2A at 52-54; Ex. 5A at 50-52.).

18. NV Energy states that the E3 Study[6] is a cost/benefit study. A cost/benefit study does not estimate marginal costs or prices of any kind. Rather, it focuses on whether a specific investment, policy, or program is desirable or not. (Ex. 29A at 14-15; Ex. 30A at 14-15.)

19. NV Energy limited any ratepayer class revenue requirement change to that driven by the MCSS. The proposed rate revenue requirement represents the embedded revenue requirement allocated to each customer class using the MCSS developed class marginal revenue requirement through Statement O. Both the proposed and present rate revenue requirements were developed using the total general and base tariff energy rates effective July 1, 2015. (Ex.

[6] The E3 Study was completed in Docket No. 13-07010, an investigation to examine the costs and benefits of net metering in Nevada pursuant to Assembly Bill 428 of the 77th Legislature (2013).

2A at 46-47; Ex. 5A at 46-47.)

20. NV Energy states that the introduction of NEM systems coupled with the legacy two-part rate structure has resulted in the shifting of costs and revenues. The utilities receive less revenue from ratepayers who continue to pay two-part rates after these ratepayers install NEM systems; however, the fixed and demand costs incurred by the utilities to serve the NEM ratepayers largely remain the same. Responsibility for these costs then shifts to non-NEM ratepayers during the reallocation of costs resulting from lower billing determinants (due to reduced energy use by the NEM ratepayers) in the next general rate case. As a result, NEM ratepayers are subsidized by non-NEM ratepayers when a simple two-part rate design that relies primarily on volumetric rates to recover demand and fixed costs continues to be used. (Ex. 29A at 10-13; Ex. 30A at 10-13.)

BCP Position

21. BCP states that it is concerned that the marginal distribution facilities costs (a portion of the ratepayer-related costs), developed by NV Energy in the most recent general rate cases and used in this proceeding, are unreasonable for all residential ratepayers. Rule 9 allowances have been skewed upward by an unrepresentative sample of new construction based on the small amounts of home building that occurred during the recession. The skewed study, in combination with higher Rule 9 allowances, resulted in higher marginal facilities costs. As a result, many residential ratepayers are in fact paying twice for their facilities—(1) through higher house prices arising from the lower Rule 9 allowances in place when their houses were built in the decade before the allowances were changed, and (2) through the marginal facilities costs based on current Rule 9 allowances. Therefore, BCP is concerned that all residential ratepayers, including residential NEM ratepayers, could be significantly overcharged. BCP was prepared to

litigate this issue in NPC's last general rate case (Docket No. 14-05004) until that case settled with a zero rate change for everyone, which BCP believed was more advantageous than litigating the case. BCP states that it believes that the proper forum for litigating the correct level of marginal facilities costs is in a general rate case. Piecemeal solar rates should not be developed based on marginal costs that have not been adequately vetted and which contain serious conceptual flaws. (Ex. 62A at 4-6.)

22. BCP states that the customer accounting effort studies prepared by NV Energy over the past two decades have always resulted in fairly accurate estimates but may not be totally accurate for small ratepayer classes. NEM ratepayers are a very small class for both utilities. In the past, BCP found anomalies in the overall marginal ratepayer accounting costs. Further, the supervisors and managers who fill out the forms used for the studies know that NV Energy is concerned about NEM, so choosing a higher number rather than a lower number within a range might not be surprising. Finally, some of the costs associated with NEM systems are likely to be one-time costs of connecting new NEM ratepayers, not ongoing costs for maintenance. Perhaps a one-time fee should be considered to collect some of those costs; however, such a fee cannot be estimated from the record before the Commission and should be an issue in a general rate case. (Ex. 62A at 6-7.)

23. BCP states that it is concerned that the load analysis conducted by NV Energy is overloading NEM ratepayers with transmission and distribution costs. Using the higher of total ratepayer loads or energy delivered to the utility in each hour to establish the distribution load pattern is not reasonable. Unless whole neighborhoods are solar, the feedback into the distribution system will be absorbed in a localized area and will not affect most of the distribution system, other than to reduce line loadings and losses. If a NEM ratepayer feeds

power to its close neighbors for a few hours, the rest of the distribution system is largely unaffected. The same issue applies to transmission demands. While NV Energy points to the construction of transmission to serve bulk power needs of various sorts, many of these lines are not load-related transmission but are in fact interties that are historically excluded from MCSS because they are theoretically considered to be incorporated in the marginal generation costs. NEM ratepayers who do not use as much peak energy as other ratepayers should not pay more for bulk power just because there is a generator behind the meter. (Ex. 62A at 7-9.)

Bombard Position

24. Bombard states that the Commission should not adopt NEM ratepayer classes that penalize ratepayers for contributing to Nevada's sustainable energy future. Any concern about cost-shifting between NEM ratepayers and non-NEM ratepayers can be handled adequately through a TOU rate. (Ex. 59A at 3).

25. Bombard states that TOU rates are designed to encourage ratepayers to reduce demand when energy prices are higher and to reward ratepayers by lowering energy prices to the ratepayer when the utility experiences lower energy costs. Accordingly, the utility value, and inherently the non-NEM ratepayer value, is included in the TOU rate. Further, TOU rates can and will be adjusted based upon economic principles of supply and demand through a general rate case adjudicated before the Commission, providing both the utility and ratepayers protection. If high penetration of NEM systems is experienced, then the Commission will have the opportunity to adjust the TOU rate in a general rate case. (Ex. 59A at 3.)

26. Bombard states that the E3 Study concluded that NEM policies do not result in NEM ratepayer free-riding and unreasonable cost-shifting; further, NEM ratepayers create an estimated total net present value to the non-NEM ratepayer of $36 million during the systems'

lifetimes. NV Energy's attempts to demonstrate that NEM creates a burden on the system while providing little or no benefit does not make common or logical sense. (Ex. 59A at 4-5.)

SEIA Position

27. SEIA states that NEM is currently available in 43 states. There are currently 13 states where legislative efforts are under way, and 31 states where regulatory efforts are under way, to revise NEM policies. (Ex. 45A at 3.)

28. SEIA states that NEM has many economic and environmental benefits. These benefits include allowing NEM ratepayers to reduce their electricity bills and increase predictability over their electricity costs by hedging a portion of all of their electricity usage. NEM also increases the amount of clean energy consumed by the public and capitalizes on the most efficient method of producing electricity with no line loss—consuming electricity at the point of generation. NEM empowers ratepayers by offering them a choice and the ability to limit the amount of electricity they take from traditional investor-owned utilities. NEM also opens the door to innovation. That innovation triggers large capital investments in the advanced battery and smart grid sectors. (Ex. 45A at 4-5.)

SNHBA Position

29. SNHBA states the results of the MCSS are presented largely without limitation or qualification even though it appears to be a very preliminary work in progress. There is no quantification of the errors or range of variation in the input data used to conduct the MCSS or an estimate of the corresponding errors or expected variations in the calculated results from the MCSS. As a result, the MCSS do not meet the minimum requirements for transparency required to adequately evaluate the public policy recommendations contained in the filing. The analysis method is largely academic in nature and is based on idealized economic assumptions that do not

actually apply to real residential homeowners. The MCSS are not grounded in real world policymaking or sufficient data. NV Energy's exclusive reliance on this analysis fails to account for much of the value that rooftop solar is widely acknowledged to provide to the grid and NV Energy's ratepayers. (Ex. 41A at 17-18.)

30. SNHBA states that the MCSS are based on a large number of unsubstantiated cost assumptions. Further, many of the NEM ratepayer costs cited by NV Energy are a direct result of NV Energy's business decisions and are not caused by the NEM ratepayer. For example, the NV Energy's decision to apply demand charges to NEM ratepayers dramatically increases metering costs for NEM ratepayers compared to flat rate non-NEM ratepayers with demand charges—NV Energy will have to add the capability to evaluate a long stream of time series demand data for each NEM ratepayer in order to apply a demand charge to NEM ratepayers. Further, NV Energy's decision to require NEM ratepayers to have a generation meter dramatically increases metering costs for NEM ratepayers compared to non-NEM ratepayers. The primary purpose for the generation meter is to enable carbon offset benefits based on generation from the NEM systems. Yet, NV Energy ignores the value of carbon offsets. NV Energy attempts to justify its failure to account for the NEM benefits in its analysis by claiming that they are difficult to document due to the low penetration (less than one percent of total ratepayers) and broad geographical distribution of NEM systems. NV Energy's decision not to include NEM benefits in the MCSS is not supportable. There have been many previous studies of net NEM value that could have been used in NV Energy's analysis. (Ex. 41A at 8-9.)

31. SNHBA states that it is the reasonableness of NEM's financial implications that are being examined in this proceeding. NV Energy's analysis is rendered questionable by the E3 Study that concluded NEM policies do not result in solar free-riding and unreasonable cost-

shifting. Instead, according to the E3 Study, there is a total net present value to non-participating ratepayers of $36 million during the NEM systems' lifetimes. (Ex. 41A at 14-16.)

Staff Position

32. Staff recommends that the Commission reject NV Energy's MCSS and Statement O and not use them to develop specific rates for the proposed NEM ratepayer classes. While Staff believes that NV Energy performed the MCSS consistent with SB 374, NV Energy's proposals do not appropriately and consistently use the methods of rate design for ratepayers that NV Energy has used in the past. (Ex. 82A at 1-2.)

33. Staff states that the most appropriate venue in which costs should be allocated and rates established for all ratepayer classes is a general rate case. In a general rate case, all parties and their respective experts can thoroughly review and analyze the data and provide their recommendations so that the Commission has sound and robust evidence for setting just and reasonable rates for all ratepayers. NV Energy should have utilized the allocations previously approved by the Commission in the most recently completed general rate cases, while using different billing determinants to generate a rate, thus keeping NV Energy revenue neutral. (Ex. 82A at 3-4, 9.)

34. Staff states that it is not appropriate to shift revenue from the NEM ratepayer classes to other ratepayer classes between general rate cases. Part of the change in revenue requirement is due to updating the inputs; however, the revenue requirement for several ratepayer classes has changed not only from updating the inputs but also from creating new NEM ratepayer classes. The rates to recover that adjusted revenue requirement should also reflect these changes. (Ex. 82A at 4.)

35. Staff states that the total load for NEM ratepayers was derived by summing the

amount of delivered load plus the NEM ratepayers' generation output less the amount of energy produced by the NEM ratepayers' excess generation output received by NV Energy. In Staff's view, this is an appropriate mathematical representation of a NEM ratepayer's load. If the NEM ratepayer's generation is off-line for any reason, NV Energy will then have to serve the load. Further, the load profile data was very robust with NV Energy using sample sizes anywhere from thirteen percent to thirty-six percent, which is a much higher percentage of ratepayers to represent the loads than what is normally used in a general rate case where NV Energy uses a sample size of less than one percent. However, the load profiles only show that NEM ratepayers are high usage ratepayers, not that additional costs are incurred to serve NEM ratepayers. (Ex. 82A at 4-6.)

36. Staff states that one load shape causes concern because NV Energy references an additional burden on the distribution system when excess generation from the NEM system is placed onto the distribution system. Staff states that it believes that the distribution system is not being burdened by the NEM systems and that it is merely in standby mode, although Staff recognizes that this could be a cost in the future. As the locational penetration of NEM systems increases, their production could exceed the capability of the distribution system. The impacts of increased locational penetration is something that would need to be analyzed as part of rate setting for the NEM ratepayer classes in a general rate case. However, at this point in time, increased locational penetration does not appear to be an issue. NV Energy should research and account for these costs and include that research when completed to assist in determining whether rates need to be further modified for NEM ratepayer classes in the next general rate case. (Ex. 82A at 7-8.)

37. Staff states that there are no specific benefits provided by NEM ratepayers to NV

Energy in the short run. Staff asked Bombard, SEIA, TASC, and Vote Solar for support through specific examples of short run benefits, and none could provide this information. Benefits, if any, come in the future. (Ex. 82A at 8-9.)

38. Staff states that NV Energy's use of estimated peak demand in the planning and designing of transmission and distribution systems is reasonable at this time. The forecasted NEM systems' output reduces NV Energy's overall peak demand and retail energy sales contained in the load forecasts. However, by 2017, NPC is forecasting the peak demand to occur in the early evening hours; therefore, NEM systems will have little to no impact on NV Energy's actual peak demand. Further, in order to serve the expected peak demand, NV Energy does not currently design its distribution systems to account for any NEM system output. It is unreasonable for NV Energy to design and install smaller-sized capacity distribution facilities that would not meet the expected peak demand due to the installation of NEM systems for two reasons. First, sizing capacity distribution facilities on the maximum peak demand is most appropriate to ensure reliable service to all ratepayers, including NEM ratepayers. NV Energy is generally obligated to serve all ratepayers in its service territories. If NEM systems experience a reduction in output or cease to operate entirely, NV Energy would be expected to reliably supply the NEM ratepayers' demand and energy needs. Second, the average service lives of NV Energy's distribution facilities (38-70 years) and NEM systems (20-25 years) do not align. In order to even consider downsizing distribution facilities to account for the installation of NEM systems, NV Energy would have to assume that the NEM systems would always be replaced once the original NEM systems reach their end-of-life. There is no data to support such an assumption, especially given ownership turnover, changing economic factors, etc. Therefore, at this point, it is impractical and unreasonable to design and install smaller sized capacity

distribution facilities for NEM systems. (Ex. 83A at 1-5.)

39. Staff states that there are currently no short-term (less than three years) impacts or benefits to NV Energy's transmission system due to the current NEM system penetration accounting for 1.5 percent and 1.84 percent of peak demand as of August 31, 2015, for NPC and SPPC, respectively. However, as the penetration of NEM systems continues to increase, NV Energy's transmission systems could experience short, steep ramping of generation (increases and decreases in generator output), decreased frequency response, and/or voltage instability as a result of the "duck curve". The "duck curve" represents the net load of a utility's electrical system with high solar photovoltaic ("PV") penetration and shows the dynamics associated with integrating solar PV. Similarly, there are currently no short-term impacts or benefits to NV Energy's distribution system. However, as the clustering and/or penetration of NEM systems increases on NV Energy's distribution system, voltage, frequency, and/or power factor stability issues may arise and require additional upgrades and/or mitigation procedures. NV Energy expects to fully implement modeling software by the end of 2015 and start load-flow studies of its distribution system based upon NEM system installations in early 2016. (Ex. 33A at 6-8.)

40. Staff states that the long-term (greater than three years) impacts and/or benefits NV Energy's transmission and distribution systems will experience due to NEM system penetration are currently unknown. As penetration increases, NV Energy will likely experience increased costs associated with mitigating the "duck curve" and the resulting effects on the distribution system. However, NEM systems may also provide benefits to ratepayers if the NEM systems delay or mitigate the need for any transmission system upgrades or capacity additions or reduce losses on the distribution system. Technological advances, such as cost-effective energy storage, may further mitigate the intermittency associated with NEM systems and may provide