

BEFORE THE PUBLIC UTILITIES COMMISSION OF NEVADA

Joint Application of Nevada Power Company d/b/a)
NV Energy and Sierra Pacific Power Company d/b/a)
NV Energy for approval of their 2019-2038) Docket No. 18-06003
Triennial Integrated Resource Plan and 2019-2021)
Energy Supply Plan.)
_____)

At a special session of the Public Utilities
Commission of Nevada, held at its offices
on December 21, 2018.

PRESENT: Chair Ann Wilkinson
Commissioner Ann Pongracz
Commissioner CJ Manthe
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

Before WILKINSON, ANN, Chair and Presiding Officer.

Nevada Power Company d/b/a NV Energy (“NPC”) and Sierra Pacific Power Company
d/b/a NV Energy (“SPPC” together with NPC, “NV Energy”) filed with the Public Utilities
Commission of Nevada (“Commission”) a Joint Application, designated as Docket No. 18-06003,
for approval of a 2019-2038 Triennial Integrated Resource Plan, 2019-2021 Action Plan, and
2019-2021 Energy Supply Plan (collectively, the “Resource Plan”).

NV Energy filed the Joint Application pursuant to the Nevada Revised Statutes (“NRS”) and the Nevada Administrative Code (“NAC”), Chapters 703 and 704, including, but not limited to NRS 704.741, and NAC 704.9005 through 704.9525. Pursuant to NAC 703.5274, NV Energy requested confidential treatment of information submitted under seal with the Joint Application.

“[T]o meet multiple deadlines, provide adequate opportunity for discovery, and best utilize the Commission’s and intervenors’ limited resources, the hearings in this Docket . . . occur[red] in three phases:” Phase I – Load Forecast and Energy Supply portions of the Resource Plan; Phase II – Demand Side Plan portion of the Resource Plan; and Phase III – remaining portions of the Resource Plan: the Supply Side Plan, Financial Plan, and Action Plan, including any issues associated with these Resource Plan components. Procedural Order No. 1, para. 9-12.

On September 4, 2018, BCP, NV Energy, and Staff filed a partial-party Stipulation resolving all of the issues in Phase I. On September 17, 2018, the Presiding Officer held the Phase I hearing on the Stipulation. The Commission subsequently issued an Order on October 12, 2018, accepting the Stipulation that resolved all issues in Phase I.

On October 5, 2018, NV Energy, Staff, BCP, Sierra Club and NRDC, and NCARE filed a partial-party Stipulation, resolving all issues in Phase II of this Docket. On October 9, 2018, the Presiding Officer held the Phase II hearing on the Stipulation. On November 1, 2018, the Commission issued an Order accepting the Stipulation that resolved all issues in Phase II.

Thereafter, on November 13, 2018, the Commission commenced the hearing on Phase III to address the remaining issues of the Joint Application. The Order that follows addresses all of the Phase III issues, arguments, and evidence in greater detail.

II. SUMMARY

Having thoroughly reviewed the record and applicable law, the Commission accepts the Phase III portions of the Resource Plan (the Supply Plan, the Financial Plan, and the Action Plan), as modified by this Order, and grants the underlying portions of the Joint Application as modified by this Order.

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III. BACKGROUND

An integrated resource plan (“IRP”) is a utility’s long-term twenty-year plan, which includes an immediate three-year action plan, to meet demand for electric services in an efficient, reliable, and sustainable manner at the lowest reasonable cost to customers. A public utility that supplies electricity in Nevada must submit its resource plan every three years for the Commission’s acceptance, rejection, or modification. The components of a resource plan are: (1) a load forecast; (2) a demand side plan; (3) a supply plan; (4) a financial plan; (5) an energy supply plan; and (6) an action plan.¹ A utility’s resource plan provides an integrated analysis of the projected need for electricity in the utility’s service territory for a forecasted planning period, and the utility’s plans for meeting the projected need, including the actions the utility plans to take in the next three years. *See*, NRS 704.741(1), 704.746, 704.751 and NAC 704.9006, 704.9156, 704.9225.

Once a utility’s resource plan is filed, the Commission has statutorily-imposed deadlines of 135 days by which to accept, reject, or modify the utility’s energy supply plan, and 210 days by which to accept, reject, or modify all remaining portions of the utility’s plan. NRS 704.751. The Commission is required to convene a public hearing on the adequacy of the utility’s plan, and thereafter, determine whether: (a) the plan’s forecasting methodology is accurate and adequate; (b) the plan includes present and projected reductions in demand resulting from energy efficiency measures; and (c) the plan demonstrates economic, environmental and other benefits to the State and customers of the utility. NRS 704.746.

This year, 2018, marked the first time in which NPC and SPPC filed a Joint Application for Commission approval of NV Energy’s Resource Plan. The Commission designated the Joint Application for approval of the 2019-2038 Resource Plan as Docket No. 18-06003. As the cornerstone of the Joint Application, NV Energy seeks approval to add 1,001 megawatts (“MW”) of solar resources and 100 MW of energy storage capacity to its generation portfolio. This proceeding commenced on June 1, 2018, involved eleven (11) separate parties represented by legal counsel, and was heard in three separate Phases. Phase I and Phase II were heard and decided by the Commission as evidenced by its orders issued October 12, 2018, and November 1, 2018, respectively.

The following Order addresses all of the Phase III issues, arguments, and evidence in detail.

IV. LEGAL STANDARD

NV Energy filed the Joint Application pursuant to NRS and NAC Chapters 703 and 704, specifically NRS 704.741 *et seq.* and NAC 704.9005 *et seq.* (Ex. 2 at 3.) When issuing a decision regarding a utility’s Resource Plan application, the Commission’s order must include its justification of the preferences given to measures and sources of supply that: (a) provide greatest economic and environmental benefits to the State; (b) are consistent with the IRP statutes; (c) provide levels of service that are adequate and reliable; (d) provide the greatest opportunity for

¹ Senate Bill (SB) 146 (2017) added distributed resources plan (“DRP”) as a resource plan component. *See, e.g.*, NRS 704.741(5). On November 21, 2018, the Commission adopted a temporary regulation implementing Senate Bill 146. Docket No. 17-08022; LCB File No. T001-18. Pursuant to Section 3.2 of Senate Bill 146, NV Energy shall file its first DRP on or before April 1, 2019, as an amendment to this joint IRP application.

creating new jobs; and (e) provide diverse electricity supply portfolios and which reduce customer exposure to price volatility for fossil fuels and the potential costs of carbon. The Commission's order must consider the costs of these measures and sources of supply to the utility's customers. NRS 704.746, 704.751.

The PUCN may 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. NRS 703.373(9) and (11); see also NRS 703.374(2).

V. PROCEDURAL HISTORY

- On June 1, 2018, NV Energy filed with the Commission a Joint Application, designated as Docket No. 18-06003, for approval of its Resource Plan.
- On June 12, 2018, the Commission issued a Notice of Electric Utilities' Joint Integrated Resource Plan and Notice of Prehearing Conference.
- The Regulatory Operations Staff of the Commission (“Staff”) participates as a matter of right pursuant to NRS 703.301.
- On June 13, 2018, the Attorney General's Bureau of Consumer Protection (“BCP”) filed a Notice of Intent to Intervene and participates in this Docket as a matter of right in accordance with provisions of NRS Chapter 228.
- On July 2, 2018, Nevadans for Clean Affordable Reliable Energy (“NCARE”) filed a Petition for Leave to Intervene (“PLTI”).
- On July 3, 2018, Sierra Club and Natural Resources Defense Council (“NRDC”) filed a joint PLTI.
- On July 5, 2018, Copper Mountain Solar 5, LLC (“Copper Mountain”); Dodge Flat Solar, LLC and Fish Springs Ranch Solar, LLC (collectively, “NextEra”); Interwest Energy Alliance (“Interwest”); Northern Nevada Industrial Electric Users (“NNIEU”);² Smart Energy Alliance (“SEA”); Vote Solar; and Wynn Las Vegas, LLC (“Wynn”) filed PLTIs. The Southern Nevada Air Conditioning Refrigeration Service Contractors Association (“SNARSCA”) filed comments.
- On July 9, 2018, the Presiding Officer held a prehearing conference at which NV Energy, Staff, BCP, NCARE, Sierra Club, NRDC, Copper Mountain, NextEra, Interwest, NNIEU, SEA, Vote Solar, and Wynn participated. At the prehearing conference, the participants discussed the

² NNIEU are EP Minerals, LLC; Heavenly Valley, Limited Partnership; Nevada Cement Company; Nugget Sparks, LLC d/b/a Nugget Casino Resort; Premier Magnesia, LLC; The Ridge Tahoe Property Owners' Association; Prime Healthcare Services – Reno, LLC d/b/a Saint Mary's Regional Medical Center, Inc.; Renown Health; and Newmont USA Limited.

PLTIs, procedural schedule, and discovery procedures.

- On July 13, 2018, the Presiding Officer issued Procedural Order No. 1, which set the procedural schedule for this Docket and designated the portions of the Resource Plan that are remaining after Phase I (addressing the Energy Supply Plan) and Phase II (addressing the Demand Side Plan) as Phase III of these proceedings.
- On July 18, 2018, the Presiding Officer issued an Order Granting Petitions for Leave to Intervene. The order authorized all entities seeking intervention to participate in Phase III.³
- On August 9, 2018, NV Energy filed an errata to its Joint Application.
- On August 14, 2018, the Commission issued a Notice of Hearing.

Phase I:

- On September 4, 2018, BCP, NV Energy, and Staff filed a partial-party Stipulation resolving all the issues in Phase I.
- On September 17, 2018, the Presiding Officer held the Phase I hearing. BCP, NextEra, NNIEU, NV Energy, SEA, and Staff made appearances. At the conclusion of the hearing, the Presiding Officer admitted Exhibits 1 through 21 and confidential Exhibits C-1 through C-3 into the record pursuant to NAC 703.730.
- On October 12, 2018, the Commission issued an Order accepting the Stipulation filed on September 4, 2018, that resolved all issues in Phase I.

Phase II:

- On October 5, 2018, NV Energy, Staff, BCP, Sierra Club and NRDC, and NCARE (the “Signatories”) filed a partial-party Stipulation, resolving all issues in Phase II of this Docket. The Commission issued Procedural Order No. 2 vacating the first day of the Phase II hearing, October 8, 2018, in light of the Stipulation.
- On October 9, 2018, the Presiding Officer held the Phase II hearing on the Stipulation. BCP, NCARE, NNIEU, NV Energy, SEA, Sierra Club and NRDC, and Staff made appearances. At the conclusion of the hearing, the Presiding Officer admitted the Stipulation as Exhibit 22 into the record pursuant to NAC 703.730. SEA filed a letter stating that it did not oppose the Phase II Stipulation and giving its opinion on the structure of Stipulation negotiations.
- On November 1, 2018, the Commission issued an Order accepting the Stipulation filed on October 5, 2018, that resolved all issues in Phase II.

³ The Commission granted Sierra Club’s and the NRDC’s PLTI and SEA’s PLTI on the condition that the organizations submit to the Commission documents responsive to NAC 703.595(2)(b), which the organizations subsequently submitted.

Phase III:

- On October 22, 2018, NV Energy filed Prepared Direct Testimony regarding Phase III.
- On November 13-15, 2018, the Presiding Officer held the Phase III hearing. BCP, Copper Mountain, Interwest, NCARE, NextEra, NNIEU, NV Energy, SEA, Staff, and Vote Solar made appearances. At the conclusion of the hearing, the Presiding Officer admitted Exhibits 23 through 66 and confidential Exhibits C-4 through C-8 into the record pursuant to NAC 703.730.
- On November 20, 2018, BCP, NNIEU, NV Energy, SEA, Vote Solar, and Staff each filed Phase III post-hearing briefs.
- On November 28, 2018, NV Energy, Staff, and Vote Solar each filed Phase III post-hearing responsive briefs.

VI. PHASE III – REMAINING COMPONENTS OF RESOURCE PLAN

In Phase III of this Docket, NV Energy is requesting the Commission address issues pertaining to the remaining components of its Resource Plan: the Supply Plan, Action Plan, and Financial Plan. In addition, Phase III of this Docket also addresses issues that were properly noticed and necessarily flow from NV Energy's filing of its Joint Application.

A. Long-Term Fuel and Purchased Power Price Forecasts**Party Positions****NV Energy**

1. NV Energy requests approval of the base long-term fuel and purchased power ("FPP") price forecasts presented in FPP-1 as presenting the best and most accurate information upon which to base long-term planning decisions through the Action Plan⁴ period. NV Energy includes FPP-1 in Volume 5 of its Application and filed it under confidential seal because, as NV Energy states, it contains sensitive information that would, if made public, otherwise disadvantage NV Energy by limiting its ability to negotiate with prospective energy suppliers

⁴ "Action plan" means "a detailed specification of the actions a utility intends to undertake to meet its demand and energy requirements during the three years immediately following the year in which its resource plan is filed." NAC 704.9006.

and impair its ability to achieve favorable pricing and terms and conditions on behalf of customers. (Ex. 2 at 16-17, 22.)

Staff

2. Staff recommends that the Commission approve NV Energy's long-term FPP price forecasts because they are based upon substantially accurate data and find that the FPP price forecasts are thus appropriate for resource planning decision-making through the Action Plan period. (Ex. 51 at 3.)

Commission Discussion and Findings

3. The Commission approves NV Energy's base long-term FPP price forecasts as presented in FPP-1 and finds them to be the most accurate information upon which to base NV Energy's long-term planning decisions through the Action Plan period.

B. NV Energy's Preferred and Alternative Supply Plans; Early Valmy Unit 1 Retirement; and Power and Capacity Purchase Agreements

Party Positions

NV Energy

4. NV Energy evaluated four alternative supply plans in its IRP: the All Market Case, the Renewable Case, the Low Carbon Case, and the Development Case. NV Energy states that the All Market Case adds two solar photo-voltaic ("PV") projects to NV Energy's electricity-production supply: the 200-MW Dodge Flats Solar project and the 101-MW Battle Mountain Solar project located in Washoe and Humboldt counties. NV Energy states that, outside of these supply additions, the All Market Case relies on short-term wholesale power purchases during the Action Plan period to meet demand. (Ex. 4 at 5.)

5. NV Energy states that the Low Carbon Case and Renewable Case are very similar. Both Cases add four additional new solar PV projects to the two projects mentioned in

the All Market Case for a total of six new solar projects. These four additional resources are Fish Spring Ranch Solar (a 100-MW project in northern Nevada); Eagle Shadow Mountain Solar Farm (a 300-MW project in southern Nevada); Copper Mountain Solar 5 (a 250-MW project in southern Nevada); and Techren Solar V (a 50-MW project in southern Nevada). Pursuant to the Power Purchase Agreements (“PPAs”) that NV Energy signed with the developers, these six projects will deliver 1,001 MW of solar energy at historically-low prices.⁵ Both the Low Carbon Case and Renewable Case also add three battery storage systems in northern Nevada totaling 100 MW. The battery storage systems are directly tied to the Dodge Flats, Fish Springs Ranch, and Battle Mountain Solar projects, which will provide capacity and flexibility to northern Nevada’s system. (*Id.*; Ex. 25 at 8-9; Ex. 34 at 18-29.)

6. NV Energy states that the only difference between the Low Carbon Case and the Renewable Case relates to the operation of North Valmy Unit 1 (“Valmy 1”), the 254-MW coal-fired generating unit located in Humboldt County. NV Energy owns a 50-percent interest in this unit (along with Idaho Power Company (“IPC”)), which provides 127 MW of capacity to SPPC’s customers. The Low Carbon Case retires Valmy 1 on December 31, 2021, subject to certain conditions, which, according to NV Energy, help mitigate risk, while the Renewable Case maintains the existing resource planning retirement date of December 31, 2025, for both Valmy 1 and North Valmy Unit 2 (“Valmy 2”). (Ex. 25 at 9-10; Ex. 4 at 5.)

7. Lastly, NV Energy states that the Development Case contains the same six solar and three storage projects as the Renewable Case as well as the retirement of Valmy 1 in 2021. The Development Case adds two additional solar PV projects that provide an additional 299 MW of capacity, both owned and operated by NV Energy. (Ex. 4 at 5.)

⁵ PPA prices range from \$21.55 per megawatt-hour (“MWh”) for Copper Mountain 5 output to \$29.96 per MWh for Fish Springs Ranch output. (Ex. 34 at 18-26.)

8. NV Energy requests approval of the Low Carbon Case, which NV Energy identifies as its Preferred Plan. NV Energy identifies the Renewable Case as its Alternative Plan. NV Energy contends that the Low Carbon Case increases renewable energy capacity and production, reduces natural gas capacity and production, and all but eliminates coal-fired capacity and production by 2023. NV Energy selected the Low Carbon Case as the Preferred Plan because it advances Nevada's energy policy, delivers the services that customers value, and fits closely with NV Energy's corporate business strategy. In addition to its short-term goal of doubling renewable resources by 2023, NV Energy has a longer-term aspirational goal to deliver 100 percent renewable energy to customers. NV Energy states that the Low Carbon Case is the next logical step in advancing Nevada's energy goals and NV Energy's strategy to deliver the services its customers value. According to NV Energy, the Low Carbon Case reduces NV Energy's impact on the environment and reduces its generation fleet's carbon intensity while producing significant economic benefits. Notably, both the Low Carbon Case and Renewable Case involve an estimated \$2.175 billion progressive investment in Nevada, provide an estimated 1,785 construction jobs, and approximately 76 long-term jobs. (Ex. 25 at 8-15; Ex. 11 at 7-8.)

9. To implement the Low Carbon Case, NV Energy proposes a conditional, early retirement of Valmy 1 on December 31, 2021. NV Energy subjects the early retirement to six conditions. First, there must be demonstrative evidence that the three new northern PV projects and associated storage projects will achieve commercial operation by June 2022. Second, NV Energy must have adequate capacity to serve customer load, which will be determined using specific metrics.⁶ Third, NV Energy must have sufficient access to economic capacity and

⁶ These metrics include: (1) for any given hour, an increase in the Loss of Load Probability ("LOLP") by more than 100 percent would trigger the re-evaluation of the Valmy 1 retirement; (2) any megawatt-hour increase in Expected Unserved Energy ("EUE") under the Valmy 1 retirement scenario would trigger a re-evaluation of the retirement;

energy in western markets to mitigate cost pressure and alleviate a reduction in flexibility associated with not having power available from Valmy 1. Fourth, a transmission area load of 2,800 MW will trigger a re-evaluation of retirement of Valmy 1. Fifth, accounting treatment regarding decommissioning Valmy 1 must be consistent with other retired NV Energy generation assets. Specifically, the costs of decommissioning Valmy 1 will be tracked and placed into a regulatory asset, and a carrying charge equal to SPPC's currently-approved cost of capital would apply. Upon completion of decommissioning, the balance in the regulatory asset will be placed into rate base.⁷ Sixth, the accounting treatment regarding undepreciated book value of Valmy 1 must be consistent with the tracking accounting treatment authorized in prior dockets.

Specifically, the undepreciated book value of Valmy 1 will be placed into a regulatory asset where it would not earn a carrying charge. SPPC will amortize the regulatory asset balance using the depreciation rate for Valmy 1 until the balance is included in SPPC's revenue requirement. NV Energy includes these conditions in its Low Carbon Case because the planning environment in which it operates is becoming increasingly fractured and uncertain due to things like not knowing where new or existing distribution-only service customers are acquiring their network resources or how they will be delivered to the distribution system. NV Energy identifies this uncertainty as the reason these conditions must be met before Valmy 1 is retired. (Ex. 2 at 23-24; Ex 25 at 17-20; Tr. at 136.)

10. NV Energy states that it has not committed to retiring Valmy 1 early because the unit provides flexibility and critical load reliability and service to northern Nevada. NV Energy

and (3) the Loss of Load Expectation ("LOLE") does not exceed the one day in 10 years criterion. (Ex. 2 at 23 of 260.)

⁷ At the hearing, NV Energy clarified that it will incur only a minimal decommissioning expense prior to the retirement of both Valmy units. (Tr. at 136-37.)

predicts that, with the addition of the northern Nevada PPAs outlined above, as well as battery storage systems, NV Energy should be able to retire Valmy 1 by the end of 2021 without compromising service ability and reliability. However, NV Energy identifies a gap between its long-term planning tools and the tools needed to predict real-time operating conditions. Thus, NV Energy recognizes a need to confirm its ability to safely retire Valmy 1 with additional, real-time analysis as 2021 approaches. To bridge the gap, NV Energy is currently investigating upgrades to the tools resource planners use to assess system performance. (Ex. 25 at 17-19; 23-24.)

11. NV Energy indicates that, while transmission planning issues exist, reliability is paramount, and Valmy 1 is key to reliability within the constrained northern Nevada transmission system. According to NV Energy, under the current system configuration, the operation of generation interconnected at the Valmy substation is critical. NV Energy further contends that generation located within the constrained portion of the northern Nevada transmission system provides essential ancillary services and allows NV Energy to maintain import capability. NV Energy references the disaggregation of centralized transmission planning processes as further complicating the reliability calculus. NV Energy notes that, at this point in the planning process, the location, attributes, and operating characteristics of the generation that would meet energy supply needs of potential load growth are not required to be identified by potential NRS Chapter 704B customers until the customer actually files a request with the Commission to exit bundled electric service under NRS Chapter 704B. Consequently, transmission needs are not known with certainty, thereby increasing the difficulty in determining whether generation at Valmy needs to stay interconnected. NV Energy further states that, because transmission additions in Nevada often require a long lead time (seven to ten years), if a

supply deficiency were projected, NV Energy would need to take action to add or maintain generation interconnected at the Valmy substation. NV Energy expresses awareness that it needs to be vigilant and reassess real-time operation conditions and load growth as 2021 approaches. Nevertheless, NV Energy concludes that the Low Carbon Case allows NV Energy to maintain reliability and ensure prudent decisions. (Ex. 56 at 7-10.)

12. NV Energy acknowledges the Renewable Case, not the Low Carbon Case, is actually the lowest-cost case NV Energy analyzed, and it has essentially the same impact on Nevada's economy as the Low Carbon Case. NV Energy recommends that, if the Commission does not believe that the conditions identified for the early retirement of Valmy 1 are necessary to adequately ensure reliable operations, then the Commission should select the Renewable Case. (Ex. 25 at 17.)

NCARE

13. NCARE recommends approval of NV Energy's Low Carbon Case due to the plan's environmental benefits. However, NCARE limits its recommended approval to the following elements of the Low Carbon Case: the early retirement of Valmy 1; the addition of 1,001 MW of renewable energy sourced from the six new solar PPAs and three co-located battery storage projects; and approval to construct the network upgrades necessary to interconnect the six new PPAs to NV Energy's transmission system. NCARE contends that these actions reduce carbon emissions, as well as emissions of criteria pollutants. NCARE notes that, when comparing carbon emissions among the four Cases under the No Carbon Price Scenario, the emission benefits of the Low Carbon Case exceed those of the All Market Case; the emissions benefits of the Renewables and Development Cases are similar to the Low Carbon Case. As another benefit of the Low Carbon Case, NCARE identifies increased resource

diversity, which provides environmental benefits and mitigates potential risk to rising natural gas prices in the future. Conversely, NCARE recognizes that the All Market Case relies more heavily on natural gas. (Ex. 37 at 4-8.)

14. NCARE also urges the Commission to consider environmental impacts and climate change in this proceeding because these impacts will result in damages and costs to Nevadans, including threats to life, infrastructure, food, livelihoods, ecosystems and future costs of complying with carbon regulations. NCARE supports the Low Carbon Case because it reduces emissions and thereby mitigates risk of the most severe impacts of climate change. Additionally, regarding social costs and benefits, NCARE notes that the present worth of the environmental costs included in the Present Worth of Societal Costs (“PWSC”) of the Low Carbon Case is nearly half a billion dollars less than the All Market Case. At the same time, NCARE concedes that the present worth of the environmental costs included in the PWSC of the Renewable Case is similar to the Low Carbon Case. (*Id.* at 13-14.)

15. NCARE also offers recommendations for improving NV Energy’s IRP process as it relates to emissions because, as NCARE argues, the current process does not do enough to reduce carbon emissions over the next 20 years. NCARE observes that, after 2024, NV Energy’s carbon emissions cease declining, then plateau, and then actually begin to rise due to natural gas investments. According to NCARE, a “true” low-carbon portfolio would identify a set of clean energy resources needed to meet long-term emission reduction goals, including resources added outside of the Action Plan period, and would allow for a continued reduction in carbon emissions beyond the Action Plan period rather than a plateau. NCARE recommends that the Commission direct NV Energy, in its next IRP, to develop a true low-carbon portfolio that reduces emissions

consistent with science, including an evaluation of low-carbon resources over the 20-year planning horizon. (*Id.* at 18-29; 34.)

16. NCARE outlines some changes to NV Energy's presentation of resource portfolios that, in NCARE's opinion, would improve the Commission's evaluation of those portfolios and achieve the goals of Senate Bill ("SB") 65 (2017). NCARE recommends that, in addition to what SB 65 requires, NV Energy include a clear presentation of the emissions associated with each of the proposed portfolios and a graph presenting carbon emissions associated with each of the four portfolios over the 20- or 30-year period. NCARE also recommends that NV Energy include a graphical representation of its fuel mix over time, reflecting energy balance under the Low Carbon Case, in addition to a table showing the projected fuel mix that is required by SB 65. NCARE contends that additional changes to the IRP's analysis could help better inform Commission decisions relating to carbon emissions. Noting the regulation adopted to implement SB 65, NCARE argues that NV Energy should calculate the PWSC using the social cost of carbon in each year of the portfolio. In years where NV Energy models a compliance cost in the Present Worth of Revenue Requirement ("PWRR"), the value added to calculate the PWSC should be the difference between the social cost of carbon and the compliance cost modeled. Accordingly, NCARE recommends that the Commission direct NV Energy to present a more comprehensive set of information in the IRP summary on fuel diversity and carbon emissions, and present an analysis of the cost of carbon emissions, particularly social costs, that is consistent with the Commission's regulation implementing SB 65. (*Id.* at 29-34.)

SEA

17. SEA critiques NV Energy's IRP for failing to properly account for customers departing NV Energy's system under NRS 704B, and, thus, finds NV Energy's request for additional generation resources unnecessary and economically burdensome to ratepayers. SEA considers both of NV Energy's resource plans unrealistic because they fail to recognize pending load departures under NRS 704B and the preference of large-load customers to purchase from the market. SEA acknowledges that NV Energy assumes that some amount of load will depart, but only in 2019. SEA finds NV Energy's resource plans defective also because they do not consider the ability of new, large, single-load customers to select an alternative energy provider, thus producing a dramatically overstated and aggressive load forecast. SEA further states that NV Energy's assumption that each new load will select the utility as its preferred energy supplier is unreasonable, given NV Energy's rates. SEA states that NV Energy should consider 704B customers in its IRP and that the pool of existing eligible 704B customers should serve as a basis for the capacity that may be freed up due to departures. Additionally, SEA recommends that NV Energy be prohibited from including any new large loads in its forecast, except those that have explicitly contracted to take service from NV Energy. SEA thus recommends the Commission not approve NV Energy's request for additional generation. (Ex. 54 at 2-5.)

Vote Solar

18. Vote Solar recommends that the Commission not approve the Low Carbon Case in total, but approve parts of the Case that have been demonstrated to be cost-effective, specifically, the six solar PV and three storage projects. Vote Solar argues that NV Energy's Low Carbon Case does not demonstrate that the open position⁸ and fossil generation included in

⁸ The "open position" is defined as any value resulting from the peak load, net of demand-side and private generation resources, plus planning reserves that is greater than the sum of the peak capacities for all of the available supply-side resources. (Ex. 28 at 8.)

the Low Carbon Case are lower-cost and lower-risk for meeting customer needs than a plan that includes greater utilization of solar and storage and retirement of additional fossil fuel units. Vote Solar states that NV Energy's proposal to add 1,001 MW of new solar resources is insufficient to demonstrate that the Low Carbon Case results in the lowest-cost, least-risk option because all of the considered Cases include either the 1,001 MW of solar resources contained in the Low Carbon Case or a subset of those resources. Vote Solar observes that none of the Cases considered retiring Valmy 1 earlier than 2021 or Valmy 2 earlier than 2025 or considered earlier retirement of gas units. According to Vote Solar, NV Energy's analysis lacks cases that add more solar PPAs at the current low prices, retire fossil fuel generation sooner, or both. (Ex. 40 at 19-20; Tr. at 361-62.)

19. Vote Solar acknowledges that NV Energy's proposal is a step in the right direction but argues that more can and should be done to transition away from fossil fuels. Vote Solar notes that retiring Valmy 1 early appears to result in more overall coal generation than if it were retired with Valmy 2, as Valmy 2 would need to make up for any reduced coal-burn at Valmy 1. Vote Solar states that, moreover, NV Energy has not calculated any cases reflecting accelerated retirement of any other coal or gas-fired generation resources. NV Energy seeks to extend the lives of eight gas-fired combustion turbines. Vote Solar argues that NV Energy's simplistic analysis conducted to justify this proposal does not take into account the possibility of replacing capacity gas units with solar generation or storage that provides both capacity and energy. Vote Solar states that replacing gas units with solar will have a lower overall net cost than the market purchases NV Energy used in its analysis, potentially lower than the existing operating costs of the gas plants. Vote Solar contends that the replacement solar PV should provide an energy value over its life that exceeds the cost, even before adding the capacity value

of avoiding operation and maintenance and other costs to keep old gas plants open. (Ex. 40 at 23-27.)

20. Vote Solar contends that NV Energy and its customers would also benefit economically from additional solar generation even after adding the 1,001 MW of new solar PPAs proposed in its plan. Vote Solar sees no reason why the current downward trend of solar prices will reverse in the near term, yet NV Energy's assumed future solar prices are inconsistent with the history of solar costs and solar PPA pricing, which has shown a steep and steady decline. Vote Solar states that another benefit of replacing Valmy with solar-plus-storage is one that NV Energy recognized: connect solar PV directly at North Valmy or within the Carlin Trend to provide dynamic reactive compensation in the event that the TS Power Plant is unable to operate after 2023. Vote Solar identifies additional potential low-cost solar PV generation beyond 1,001 MW. NV Energy received bids totaling 3,774 MW of renewable energy capacity and 797 MW of battery storage capacity in its 2018 request for proposals ("RFP"), but only 1,001 MW were selected. Moreover, NV Energy received proposals for 450 MW of qualified facility ("QF") resources in 2017, but only two proposals—totaling 50 MW—were awarded. The RFP in 2017 stated that bids should be priced below the long-term avoided cost ("LTAC"), so Vote Solar argues that most, if not all, of the QF bids totaling 450 MW should have come in under the projected marginal cost of energy and capacity over the 25-year contract term solicited. (*Id.* at 27-34.)

BCP

21. BCP recommends that the Commission reject NV Energy's Low Carbon Case and instead approve its Renewable Case, with the availability of Valmy 1 and 2 through 2025. BCP states that, as NV Energy recognizes, Valmy 1 is critical in ensuring system reliability in

northern Nevada. BCP notes that NV Energy recognizes that it does not have the right analytical tools to ensure system reliability after an early retirement date for Valmy 1. Moreover, despite NV Energy conditioning the early retirement of Valmy 1 on, among other things, the metrics of loss of load probability, and proposing that it will re-evaluate the early retirement date of Valmy 1 (if approved), such reliability metrics have never been applied to a re-evaluation of a Commission-approved retirement of a generating facility. BCP further observes that, under NV Energy's proposed re-evaluation process, NV Energy can, on its own, claw back the Commission's approval. Given the uncertainties, BCP believes it is bad policy for the Commission to approve Valmy 1's early retirement with the ability to have its approval reversed through a future compliance filing by NV Energy. BCP cautions that, if the Commission were to approve the early retirement and NV Energy determines not to retire Valmy 1 through a re-evaluation and compliance filing, there could be heated opposition from other parties in future filings. (Ex. 43 at 2-8.)

22. BCP identifies major uncertainties affecting NV Energy's resource planning period, which NV Energy recognizes. First, BCP recognizes a high level of uncertainty with the accelerating load growth in the Tracy Area of the northern system and notes that NV Energy has received an unprecedented number of customer load requests, with loads in excess of 1,449 MW. Second, BCP identifies the uncertainty surrounding the operation of Newmont's 200 MW TS Power Plant co-located with North Valmy within the Carlin/Elko load pocket of the northern system. Newmont has approval to depart from NV Energy's bundled electric service under the provisions of NRS 704B. BCP notes that NV Energy stated it may continue to operate Valmy 1 if, in 2021, it becomes known that Newmont will not operate its TS Power Plant. Third, BCP references the negotiations between NV Energy and IPC to address uncertainties associated with

an end to IPC's participation in the operation of Valmy 1 in 2019. BCP also states that, regarding the transmission area load growth of 2,800 MW that will trigger a re-evaluation of early Valmy 1 retirement under NV Energy's Low Carbon Case, both Valmy 1 and the proposed 401 MW of solar PV generation with 100 MW of paired battery storage may be necessary to maintain the northern transmission load capability of 2,800 MW. Thus, according to BCP, early retirement of Valmy 1 would create system reliability issues. Stated differently, BCP finds that the early Valmy 1 retirement would lower the system reliability and flexibility with or without the proposed 401 MW of PV solar generation and 100 MW of battery storage. (*Id.* at 9-12; 28)

23. BCP observes that the driving factor for the Low Carbon Case costing \$22 million more than the Renewable Case is the cost of replacement capacity for the lost capacity of Valmy 1 between 2022 and 2025. According to BCP's calculations, this additional cost could result in an increase of up to seven percent to the Base Tariff Energy Rate ("BTER") of SPPC's customers between 2022 and 2025. BCP notes that another cost incorporated in the Low Carbon Case is the cost associated with NV Energy's request that costs to isolate and make safe Valmy 1 upon retirement be placed into a regulatory asset as a decommissioning cost. BCP estimates the present value of this cost at \$1.65 million, resulting in the Low Carbon Case costing approximately \$23.7 million more than the Renewable Case. This increased cost would solely burden SPPC's ratepayers. BCP observes that the early retirement of Valmy 1 also does not reduce the overall impact on the environment; environmental impact is equal between the Low Carbon and Renewable Cases. BCP contends that both the Low Carbon Case and the Renewable Case comply with Nevada's energy policy, despite the Renewable Case not retiring Valmy 1 early. (*Id.* at 16-19; 24-26.)

24. BCP argues that the fact of the matter is that NV Energy does not know whether the new PPAs adequately replace Valmy 1's capacity in the event of the early retirement. BCP states that NV Energy must acquire the tools necessary to conduct such an analysis. BCP supports the Renewable Case because it better manages the relationship between mitigating risk, minimizing cost, and maximizing reliability in accordance with NAC 704.948(2).⁹ According to BCP, the Low Carbon Case is less in accordance with this requirement. (*Id.* at 29.)

Staff

25. Staff recommends that the Commission reject NV Energy's Low Carbon Case as its Preferred Plan and reject its request for approval to conditionally retire Valmy 1 early. Staff recommends that the Commission instead approve NV Energy's Alternative Plan, the Renewable Case, with one modification: order both Valmy 1 and 2 to be permanently retired no later than December 31, 2025. (Ex. 46 at 2-3.)

26. Staff notes that the amount of carbon emissions resulting from the Low Carbon and Renewable Cases are essentially the same. Staff conducted a PROMOD¹⁰ analysis to quantify the difference between carbon emissions of the Renewable Case and Low Carbon Case. Staff found that the Low Carbon Case actually has higher carbon emissions than the Renewable Case. Staff states that, after presenting these findings to NV Energy, NV Energy stated that PROMOD only accounts for carbon emissions from internal generation and does not include emissions from market purchases. Staff observes that the global analysis of emissions, prepared

⁹ NAC 704.948 requires a utility to analyze its resource planning decisions, taking into account its assessment of risk and identifying risks with respect to costs, reliability, finances, the volatility of the price of purchased power and fuel, and any other uncertainties the utility identifies.

¹⁰ "PROMOD" is an economic production cost model that NV Energy uses to evaluate its alternative supply plans over the planning period. PROMOD simulates the operation of the electric system and computes production costs (fuel, purchased power, variable and fixed costs to operate) by performing hourly, chronological economic unit commitment and dispatch of NPC's and SPPC's electric production resources and market purchases to satisfy hourly load requirements in a least-cost solution over the planning period. (Ex.28 at 9.)

