BEFORE THE PUBLIC UTILITIES COMMISSION OF NEVADA

PRE-FILED DIRECT TESTIMONY OF

CHARLES A. POTTEY

Sierra Pacific Power Company's

Second Amendment to its 2007 Integrated Resource Plan

DOCKET NO. 08-_____

1. **Q. PLEASE STATE YOUR NAME, TITLE, AND BUSINESS ADDRESS.**

A. My name is Charles A. Pottey. I am the Manager of Long Term Resource Planning for Nevada Power Company ("Nevada Power") and Sierra Pacific Power Company ("Sierra") (together, the "Companies"). My business address is 6226 West Sahara Avenue, Las Vegas, Nevada 89146.

2. **Q. PLEASE DESCRIBE YOUR BACKGROUND AND EXPERIENCE IN THE UTILITY INDUSTRY.**

A. I have approximately thirty years of experience in the electric utility industry. The bulk of that experience has been with Sierra and Nevada Power. Prior to joining the Companies in 1982, I worked for Boston Edison Company, Power Authority of the State of New York, McGraw Edison Company and Tri-State Generation and Transmission Association. My experience with Sierra and Nevada Power includes work in System Control, Transmission Planning, Distribution Planning, Rates and Regulatory Affairs and Resource Planning. Since December 2004, I have been employed as the Manager of Long-Term

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Resource Planning. I graduated from Rensselaer Polytechnic Institute with a Bachelor of Science Degree in Electric Power Engineering in 1975 and with a Master of Engineering Degree in Electric Power Engineering in 1977. I am a registered Professional Engineer in Nevada and Colorado. A Statement of Qualifications that explains my educational background, areas of expertise and employment history is attached as Exhibit Pottey-Direct-1.

3. Q. **PLEASE DESCRIBE YOUR RESPONSIBILITIES AS MANAGER OF LONG TERM RESOURCE PLANNING.**

A. As the Manager of Long-Term Resource Planning, I am responsible for leading a staff of engineers and analysts who perform technical analysis to evaluate the capital cost, production cost, and reliability of various transmission, generation, purchase power, and demand side alternatives to ensure sufficient electric resources are available to provide reliable and economical electric service to Sierra and Nevada Power customers. I manage the preparation of the Integrated Resource Plan ("IRP") and Energy Supply Plan filings. I direct the development of detailed system modeling to accurately represent system operating constraints, including system transmission limitations, for production cost studies of existing and future power supply options.

4. Q. **HAVE YOU PREVIOUSLY TESTIFIED BEFORE THE PUBLIC UTILITIES COMMISSION OF NEVADA ("COMMISSION")?**

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A. Yes. I have testified in numerous proceedings before the Commission including, most recently, PUCN docket numbers 07-06049 (Sierra's 2007 IRP), 07-07013 (Nevada Power's 4th Amendment to its 2006 IRP and Energy Supply Plan Update for 2008-2009), and 07-12020 (Nevada Power's Fifth Amendment to its 2006 IRP).

5. Q. **WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

A. I sponsor the Loads and Resources table that is provided in Section IV of the Second Amendment. In addition, I sponsor the analysis used to determine the proposed transfer pricing methodology for the new Purchase Power Agreement between Sierra and Nevada Power ("Related PPA") for the Carson Lake Geothermal Power Project ("Carson Lake"). I also support the Optional Termination provision based upon the completion of the North-South Intertie and included in the Related PPA.

6. Q. **WHAT IS THE CARSON LAKE PROJECT?**

A. The Carson Lake Project is a planned geothermal generating facility. Nevada Power requested and received Commission approval of a power purchase agreement with the project developer in the First Amendment to the 2006 Resource Plan designated as Docket No. 06-10021. The project developer is ORNI 16 LLC ("Ormat"), a subsidiary of Ormat Nevada Inc. ("ONI"). As originally approved by the Commission, the Carson Lake Project was a 31.5 MW nameplate, 24 MW nominal net capacity facility.

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7. Q. IS NEVADA POWER REQUESTING APPROVALS RELATING TO THE CARSON LAKE PROJECT IN ITS SEVENTH AMENDMENT TO ITS 2006 IRP?

A. Yes. In its Seventh Amendment to its 2006 IRP, Nevada Power is requesting: (i) approval of the Carson Lake Joint Ownership Agreement with Ormat, pursuant to which Nevada Power would purchase a 50% share of the Carson Lake Project, subject to certain conditions; (ii) approval of Amendment Numbers 2 and 3 to the power purchase agreement between Ormat and Nevada Power which previously was approved by the Commission in Docket No. 06-10021; (iii) approval of the Related PPA between Nevada Power and Sierra pursuant to which Sierra will purchase Nevada Power's 50% share of the Project, and (iv) approval of the capital cost estimate for Nevada Power's proposed 50% share of the Carson Lake Project.

8. Q. WHAT APPROVAL IS SIERRA REQUESTING IN ITS APPLICATION?

A. Sierra is requesting approval to enter into the new Related PPA with Nevada Power for the 50% share of the Project that would be owned by Nevada Power.

9. Q. WHY IS SIERRA REQUESTING AUTHORITY TO PURCHASE THE CAPACITY AND ENERGY ASSOCIATED WITH NEVADA POWER'S INVESTMENT IN THE CARSON LAKE PROJECT?

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A. Nevada Power has found that one of the lowest priced technically feasible projects through which it can meet its renewable resource obligations is the investment in the Carson Lake Project. This project is physically located in Sierra's control area. In order to obtain the required portfolio energy credits ("PCs") to meet the State of Nevada's Portfolio Standard, Nevada Power is proposing to invest in the development of this project. Because Sierra's and Nevada Power's control areas are not yet directly interconnected, the capacity and energy associated with the Carson Lake Project cannot be delivered to Nevada Power without wheeling it through transmission systems owned by others. Rather than incur these additional transmission wheeling costs, Nevada Power is proposing to sell the capacity and energy from Carson Lake to Sierra at a rate equal to what Sierra otherwise would incur for a comparable amount of capacity and energy. Nevada Power will retain the PCs in order to meet the State of Nevada's Portfolio Standard. The contractual mechanism to accomplish this transaction between the Companies is the Related PPA. Sierra is proposing that the Commission approve the Related PPA because the proposed transfer pricing methodology will keep Sierra's ratepayers whole, and the transaction will facilitate Nevada Power's efforts to meet the State of Nevada's Portfolio Standard.

10. Q. **IS THE PROPOSED TRANSFER PRICING METHODOLOGY DIFFERENT IN THE NEW RELATED PPA FROM THAT APPROVED BY THE COMMISSION IN DOCKET NO. 07-01036?**

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A. Yes, it is. The Related PPAs in Docket No. 07-01036 provided that on an annual basis the total amount paid by Sierra for purchases under a Related PPA with Nevada Power was capped at the actual price paid by Nevada Power for the capacity and energy from the underlying Generator PPA. In this case, because Nevada Power will own a 50% share of the Carson Lake Project , there will not be an underlying Generator PPA for Nevada Power's share of the project. Therefore, the transfer pricing mechanism from Docket No. 07-01036 has been modified.

11. Q. PLEASE DESCRIBE THE BASIS FOR THE PROPOSED TRANSFER PRICING METHODOLOGY.

A. The Companies propose to cap the transfer price paid by Sierra to Nevada Power under the Related PPA *at the price* that Sierra would have paid if additional combined cycle unit capacity and energy had been acquired in lieu of the Carson Lake Project purchases. Another way of thinking about it is that Sierra pays only for the costs that it avoids by purchasing from Carson Lake Project.

12. Q. WILL SIERRA PAY ITS AVOIDED CAPACITY AND ENERGY COSTS?

A. Yes. When Sierra has an open position (as shown in the Commission approved Load and Resources tables), Sierra will pay a transfer price that includes both a capacity and an energy component as outlined below.

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However, when Sierra does not have an open position, Sierra will only pay the energy component of the transfer price as outlined below.

13. **Q. DOES SIERRA HAVE A NEED FOR THE ADDITIONAL CAPACITY ASSOCIATED WITH NEVADA POWER'S SHARE OFTHE CARSON LAKE PROJECT?**

A. Yes. The Loads and Resource Table ("L&R Table") for Sierra's system is shown in the Second Amendment to Sierra's 2007 Resource Plan. The total project capacity (Nevada Power's share plus Ormat's share) of the Carson Lake Project is shown in this table beginning in 2011 under "Planned Purchases: (Internal)." (Capacity is expressed as net dependable capacity at the time of system peak). Even with the addition of this 25 MW of capacity, the L&R Table shows an open position of 47 MW.

14. **Q. HOW WILL SIERRA AND NEVADA POWER DETERMINE THE PRICE THAT SIERRA WOULD HAVE PAID "BUT FOR" THE CARSON LAKE TRANSACTION??**

A. In the Eighth Amendment to the Action Plan of Sierra's 2005-2024 Integrated Resource Plan (*see* PUCN Docket No. 05-8004), Sierra requested and the Commission approved the construction of the Tracy combined cycle unit ("Tracy CC"). The cost of the Tracy CC is used as a proxy for the amount Sierra would have paid for capacity and energy but for the Carson Lake Project purchases.

15. Q. **HOW WOULD THE PROPOSED TRANSFER PRICING METHODOLOGY WORK IN PRACTICE?**

A. On an annual basis the total amount paid by Sierra for purchases under the Related PPA with Nevada Power shall not exceed an amount equal to the costs approved by the FERC-approved price for wholesale sales from Nevada Power's share of the Carson Lake Project.

Subject to the cap as described above, when Sierra has an open position during the term of the Related PPA (as shown in the Commission approved Load and Resources tables), Sierra will pay a transfer price that includes both a capacity and an energy component. However, when Sierra does not have an open position, Sierra will only pay the energy component of the transfer price. With the addition of the new Tracy CC and the Newmont coal plant in 2008, a large portion of Sierra's open position will have been filled. The capacity component will therefore only be paid for the four peak load summer months of June, July, August, and September.

The capacity component of the transfer price is intended to reflect the levelized cost of owning a gas-fired combined cycle generating unit. The capacity charge will be equal to 4/12 of the installed cost of the combined cycle unit (reflecting the summer months' usage) and associated transmission facilities (including AFUDC) times the levelized fixed charge rate. The combined cycle unit cost will be based on the Commission approved budget for the Tracy CC.

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The levelized fixed charge rate will be based on the financial parameters approved by the Commission as part of Sierra's 2007 Resource Plan (*see* PUCN Docket No. 07-06049).

The energy component of the transfer price is intended to reflect the options that would have been available to Sierra if it had actually constructed an additional combined cycle unit such as the Tracy CC. Consequently, the hourly energy component of the transfer price will be the lower of the cost of Sierra's "avoided" by not purchasing from the regional wholesale market or the cost attributable to running the combined cycle unit.

16. Q. **HOW WILL THE COST OF ADDITIONAL MARKET PURCHASES BE CALCULATED?**

A. The cost of additional market purchases will be calculated hourly from the daily Dow Jones Firm Electricity Price Index. The on-peak and off-peak daily price index at California-Oregon Border ("COB") will be shaped according to the Mid-C hourly index report, plus a basis differential for transmission costs. The basis differential shall equal to the point-to-point transmission rate for PacifiCorp and Bonneville Power Administration ("BPA") under their respective Open Access Transmission Tariff ("OATT") (currently at $5.84/MWH plus 4.48% for losses for PacifiCorp and $3.742/MWH plus 1.90% for losses for BPA) and shall be updated if necessary to include changes to those OATTs during the term of the Related PPAs. This is the same index

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that is used in the methodology previously approved in Docket No. 07-01036. If Dow Jones discontinues publishing the on-peak and off-peak daily index at (COB) or the Mid-C hourly index report then the Companies will substitute the most appropriate available regional wholesale market price index, including any necessary basis differentials, to reflect the cost of power delivered to Sierra's system.

17. Q. **WHY IS IT NECESSARY TO ADD A BASIS DIFFERENTIAL TO THE COST OF POWER AT COB?**

A. Sierra's system is not directly connected to the COB trading hub. The basis differential reflects the cost of transmission to deliver the power from COB to Sierra's system plus associated energy losses.

18. Q. **HOW SHOULD EXCESS ENERGY BE TREATED?**

A. Sierra will purchase excess energy from Nevada Power on an hourly basis at the lesser of the cost of additional market purchases or the cost attributable to running a combined cycle unit without a payment for capacity.

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19 **Q. WHY SHOULD THE PRICE PAID BY SIERRA TO NEVADA POWER FOR THIS POWER BE CAPPED AT THE COSTS APPROVED BY THE FERC UNDER THE FEDERAL POWER ACT SECTION 205 FOR RECOVERY IN WHOLESALE RATES FOR SALES MADE FROM NEVADA POWER'S OWNERSHIP INTEREST SHARE OF THE CARSON LAKE PROJECT?**

A. There are two reasons for capping the price at the FERC approved wholesale rates. First, the cap provides substantial price protection for Sierra's customers. If Nevada Power did not need the PCs associated with generation from the Carson Lake Project, then Sierra probably would not enter into similar long-term purchase power contracts at this time. If Sierra did enter into similar long-term purchase power contracts, it is unlikely that Sierra would agree to a floating market rate without some maximum price cap in place. By capping the price that Sierra pays to Nevada Power for the energy from the project, Sierra's customers have access to energy at a cost that would not exceed an equivalent power purchase from a non-affiliate. Second, including such a cap should facilitate approval of the Related PPA by the FERC, which also has jurisdiction to review this (affiliate transaction) agreement. Capping the rate in this affiliate agreement at the FERC approved rates protects both Nevada Power's and Sierra's customers. Nevada Power may not be enriched by the transaction due to the cap and Sierra's customers are protected by the limitations on when capacity payments are made, by the "lesser of" energy cost provisions and by the overall annual cap.

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20. Q. HOW WILL SIERRA'S CUSTOMERS BENEFIT FROM THE PROPOSED TRANSFER PRICING METHODOLOGY?

A. The proposed transfer pricing methodology will provide Sierra's customers with additional energy at a "lower of" price. Energy is priced at the lower of the cost of market purchases or the running cost of the new, high efficient Tracy combined cycle plant, but Sierra's customers are only expected to pay the capacity charge associated with that low-cost energy in the four peak load summer months. Total annual payments to Nevada Power will be capped at the FERC approved rates for capacity and energy from the generating facility. The Related PPA provides Sierra's customers with a substantial hedge against increases in fuel costs that would not be available with the ownership of additional combined cycle capacity.

21 Q. IS THE PROPOSED PRICE CAP THAT PROTECTS SIERRA'S CUSTOMERS PUNITIVE TO NEVADA POWER'S CUSTOMERS?

A. No. If Nevada Power did not need the PCs, it is unlikely that either Nevada Power or Sierra would have invested in this project. If Nevada Power were to sell this energy to an unrelated party, it would only receive the COB price minus the transmission basis required to deliver the power from the Sierra control area to COB (the liquid trading hub). Nevada Power's customers therefore receive the benefit of PCs without having to pay the cost of delivering the renewable energy from which the PCs are generated into its own system. Sierra's purchase of this energy at the lesser of the cost of combined

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cycle generation or the shaped COB index price plus the basis differential capped annually at FERC-approved wholesale price will result in a fair balance of the benefits between Sierra and Nevada Power.

22. Q. **HOW LONG MIGHT THE RELATED PPA REMAIN IN EFFECT?**

A. The Related PPA (including the transfer pricing methodology) may terminate upon the completion and commercial operation of the EN-Ti between the Sierra and Nevada Power systems. The EN-Ti is associated with Phase One of the Ely Energy Center ("EEC"). Once the EN-Ti is in service it will be possible to deliver the capacity and energy from the Carson Lake Facility directly to Nevada Power and it will no longer be necessary for Sierra to purchase the capacity and energy from Nevada Power. For that reason, the Companies have included the Optional Termination provision in the Related PPA. It is also anticipated that a portion of the EEC will be allocated to Sierra and that, when the EEC is completed, Sierra will no longer have a need for the capacity and energy from these renewable energy contracts. Upon completion of the EN-Ti either party may terminate the Related PPA with 30 days notice to the other party.

23. Q. **WHY SHOULDN'T THE RELATED PPA AUTOMATICALLY TERMINATE UPON COMPLETION OF THE EN-TI?**

A. It is possible that even after the completion of the EN-Ti that the Related PPA will continue to provide benefits to both Sierra and Nevada Power. Automatic

termination would prevent them from receiving these potential benefits. Allowing either party to terminate the Related PPA with 30 days notice will allow both parties to continue receiving benefits from the Related PPA for as long as it continues to provide benefits to both parties. If the Related PPA is no longer providing benefits to one of the parties, then that party will have the option to terminate it.

24. Q. WHAT ACTION DO YOU RECOMMEND THE COMMISSION TAKE IN THIS DOCKET?

A. I recommend that the Commission approve the Related PPA between Nevada Power and Sierra Pacific for Nevada Power's share of the Carson Lake Project and the associated transfer pricing methodology.

25. Q. DOES THIS COMPLETE YOUR PRE-FILED DIRECT TESTIMONY IN THIS CASE?

A. Yes, it does.

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QUALIFICATIONS OF WITNESS

CHARLES A. POTTEY

My name is Charles A. Pottey. My business address is 6226 West Sahara Avenue, Las Vegas, Nevada. I am the Manager of Long Term Resource Planning for Nevada Power Company and Sierra Pacific Power Company

I graduated from Rensselaer Polytechnic Institute with a Bachelor of Science Degree in Electric Power Engineering in 1975, and a Master of Engineering Degree in Electric Power Engineering in 1977.

I am a registered Professional Engineer in Nevada and Colorado.

Since December 2004 I have been employed as the Manager of the Long-Term Resource Planning. I am responsible for directing technical analysis to evaluate the capital cost, production cost, and reliability of various transmission, generation, purchase power, and demand side alternatives to ensure sufficient electric resources are available to provide reliable and economical electric service to Sierra Pacific Power and Nevada Power customers. I manage the preparation of the Integrated Resource Plan and Energy Supply Plan filings. I direct the development of detailed system modeling to accurately represent system operating constraints including system transmission limitations for production costing studies of existing and future power supply options.

From February, 2002 until December 2004 I was employed as principle consultant in Sierra's Long-Term Resource Planning Department. I was responsible for developing analysis of various resource options to ensure sufficient resources are available to reliability and economically serve Sierra and Nevada Power's electric customers.

From June 2000, until February 2002, I was employed as a Senior Rate Engineer in Sierra's Rates and Regulatory Affairs Department. I am responsible for preparing price analysis and developing rates for electric, gas and water services offered by Sierra Pacific and Nevada Power.

From January 1991 until June 2000 I was employed as a Senior Engineer in Sierra's Resource Planning department. I was responsible for performing technical analyses to evaluate the capital cost, production cost, and reliability of various generation, purchase power, and demand side alternatives to ensure sufficient electric resources are available to provide reliable and economical electric service to Sierra's customers. I developed detailed modeling of Sierra's system to accurately represent system operating constraints including system transmission limitations for production costing studies of existing and future power supply options. I have performed production costing, reliability, and economic analysis to evaluate the cost, benefits, and reliability of potential supply and demand side alternatives to satisfy specific future resource requirements. I have also evaluated the economics and reliability of Qualifying Facilities, Independent Power Producers, and other non-Sierra owned generation options.

From August 1988 until January 1991 I was employed as a Senior Engineer in Sierra's Electric System Planning department. I was responsible for performing engineering studies to evaluate Sierra's long range and operational transmission and distribution system requirements. I performed powerflow and stability studies to evaluate the operation of Sierra's system and analyze required system additions and recommended optimal additions considering economics, feasibility performance, and reliability of the alternatives. I developed a loss evaluation procedure to calculate the present worth value of system losses. I evaluated system import and export constraints and prepared appropriate operating nomograms.

From November 1982 until August 1988 I was employed as a Senior Engineer in Sierra's Electric System Control Center. I was responsible for providing technical support to Sierra's Electric System Control Center to assure optimal system operation. I evaluated generation dispatch and scheduled power purchases to insure Sierra system was operated in the most economic manner possible while maintaining required system reliability. I developed operating guidelines and procedures for transmission and distribution facilities.

From December 1979 until November 1982 McGraw Edison employed me as an Apparatus Engineer. I was Responsible for providing sales engineers, product departments, and electric utility customers throughout the Rocky Mountain region with technical assistance on the application, installation, testing, and maintenance of McGraw Edison's complete line of electrical equipment.

From August 1978 until December 1979 Tri–State Generation and Transmission Association, employed me as a Project Engineer. I was responsible for coordinating all project activities for major substation and transmission line additions.

From May 1977 until August 1978 McGraw Edison Company employed me as a Power System Engineer. I was responsible for performing analytical studies for electric utility clients. I performed insulation coordination studies, calculated system unbalances, evaluated negative sequence currents, and analyzed transient recovery voltages.

AFFIRMATION

STATE OF NEVADA)
) ss.
COUNTY OF CLARK)

I, CHARLES A. POTTEY do hereby swear under penalty of perjury the following:

That I am the person identified in the attached Prefiled Direct Testimony and that such testimony was prepared by me or under my direct supervision; that the answers and information set forth therein are true to the best of my knowledge and belief; that if asked the questions set forth therein, my answers thereto would, under oath, be the same.

Charles A. Pottey
CHARLES A. POTTEY

Subscribed and sworn to before me
this 24th day of March 2008.

Nancy M Barker
NOTARY PUBLIC

NANCY M. BARKER
Notary Public State of Nevada
No. 93-5212-1
My appt. exp. Oct. 15, 2009

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