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and Utah Clean Energy

BEFORE THE PUBLIC SERVICE COMMISSION OF UTAH

Matter: of the Application of Rocky Mountain Power for Authority to Increase its Retail Electric Utility Service Rates in Utah and for Approval of Its Proposed Electric Service Schedules and Electric Service Regulations, Consisting of a General Rate Increase of Approximately \$161.2 Million Per Year, and for Approval of a New Large Load Surcharge

Docket No. 07-035-93

REBUTTAL TESTIMONY OF RICHARD COLLINS

ON BEHALF OF WESTERN RESOURCE ADVOCATES AND UTAH CLEAN ENERGY

Western Resource Advocates and Utah Clean Energy hereby submit the Pre-filed Testimony of Richard Collins in this docket.

DATED this 3^{rd} day of September, 2008.

/s/______Representing Western Resource Advocates and Utah Clean Energy

- 1 Q. Please state your name and occupation.
- 2 A. My name is Richard S. Collins. I am an Associate Professor of Economics and Finance
- at Westminster College located at 1840 South 1300 East, Salt Lake City, UT 84108.
- 4 Q. On whose behalf are you filing testimony in this Docket?
- 5 A. Western Resource Advocates and Utah Clean Energy.
- 6 Q. Are there other organizations that are supportive of this testimony?
- 7 A. Yes. The concepts expressed in this testimony are supported by the Southwest Energy
- 8 Efficiency Project, a public interest organization dedicated to advancing energy
- 9 efficiency as a means of promoting both economic prosperity and environmental
- protection in the six states of Arizona, Colorado, New Mexico, Nevada, Utah, and
- Wyoming.
- 12 Q. Are you the same Richard S. Collins that previously submitted pre-filed direct
- testimony in this case?
- 14 **A:** Yes, I am.

15 **SUMMARY OF TESTIMONY**

- 16 **Q:** Could you summarize your rebuttal testimony?
- 17 **A:** Yes, I review the testimony of witnesses that submitted testimony on rate design for
- residential customers and make recommendations to the Commission on a variety of
- issues germane to determining the rate design for residential customers given the
- 20 environment that the utility and its ratepayers are facing today. I will address the issues
- one by one and make specific comments and recommendation for each.

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- Q. How many different issues have been introduced in the testimony on residential rates?
- 3 **A:** I counted over ten separate issues for the Commission to address regarding residential rate design that were raised by the various interveners.
- 5 Q: Could you briefly list them?
- Yes, they include the guiding rate design objectives and the changed regulatory 6 A: 7 environment, the use of marginal cost pricing for rate design, the customer charge, the minimum bill, the proposed customer load charge (CLC), the summer-winter differential, 8 9 the number of blocks to be included in the summer tariff, the price differential between 10 blocks of the summer tariff, and the inclusion of external costs in rate design. addition, other issues were raised that need Commission attention; they include 11 12 recommendations for a working group to study both marginal cost of service and innovative rate designs that will encourage the efficient utilization of energy as well as 13 the recommendation that the Company pursue an educational process that will better 14 15 inform ratepayers of rates and rate design. A final issue to be investigated is the use of DSM programs as an alternative to certain rate design features. 16
- Q. Could you summarize the comments made about rate design principles and the changing regulatory environment and how these issues should guide the Commission's decisions on residential rate design?
- 20 **A.** The Division explicitly states its rate design objectives as specified by Utah Code UCA
 21 54-4a-6. Rates should be stable, simple, understandable and acceptable to the public,
 22 economically efficient, promote fair apportionment of cost among individual customers
 23 within each customer class with no undue discrimination and should protect against

wasteful use of utility services. It should be noted that Utah Code 54-4a-6 also requires the Division to: (c) protect the long-range interest of consumers in obtaining continued quality and adequate levels of service at the lowest cost consistent with the other provisions of Subsection (4). Therefore a long-term view of energy resources and energy pricing is needed at this time; one that centers on energy efficiency and demand side management (DSM), as increasing efficiency is generally the lowest cost option.

The Division witness Dr. Abdulle also cites previous Division testimony on guiding principles to achieve the state mandated objectives. The guiding principles include: simplicity, correct price signals, multi-part rates, gradualism, consideration of marginal cost versus embedded costs, and its perception of the correct way to calculate customer charges. The Division also states that it recognizes that the current economic and policy environment of Utah places greater emphasis on energy efficiency and conservation and such policies should help guide rate design. The Division correctly notes that this rate case and others to follow are largely driven by the need to build new higher-cost generating facilities and to account for rising fuel costs. Conservation and efficiency measures can mitigate the need for new resources and more efficiently utilize existing resources. The Division states that demand reduction is a cost-effective strategy in an environment of rapidly rising energy costs. The Division also explicitly notes that the external cost of energy production should be recognized and its impacts considered when determining rates.

Witness Johnson, representing AARP, Salt Lake CAP and Crossroads Urban Center also urges the Commission to consider the conditions that are expected to exist during the period in which it is setting rates. He cites Bonbright's list of criteria for rate

setting and emphasizes the cost of providing service, in particular, the costs imposed on the Company if the customer chooses to consume additional energy. Dr. Johnson advises that no single factor should guide rate setting and that it is a balancing of factors. But, Dr. Johnson recommends that the primary consideration for the design of rates should be to discourage high levels of consumption of electricity. Committee witness Gimble also notes the importance of energy conservation in rate design. Rates should be designed to send proper price signals to encourage customers to reduce or shift their pattern of energy use. Inverted block rates are advocated to bring prices closer to marginal costs and to encourage heavy users to curb their electricity use. The Committee reiterates that the Commission should take a long run view in effectuating sound rate design policies.

UCE and WRA generally agree with the parties' guiding principles for rate design. However, we believe that a reordering of priorities on rate design principles should be adopted at this time. We strongly agree with the above-cited witnesses on their position that economic and policy direction in Utah has changed and that rates should be designed to encourage more efficient utilization of energy. It is crucial that the Commission take a long run view of the utility industry and the economic and environmental policies that will affect its cost of doing business in the future. The governor has developed strong measures to reduce the state's energy use, and he has asked for sacrifices from state employees to implement these policies. The Commission should similarly reprioritize its criteria for determining rate design and place a greater emphasis on designing rates that will send the necessary price signals to customers to use less energy and to do so more efficiently. The time is ripe for the Commission to ask ratepayers to reduce future demand and mitigate the need for costly new resources.

While rates should be constructed to recover revenue requirements, they must also be designed to help reduce demand. The Company's witnesses have agreed with this principle. The evidence on the record strongly supports a reemphasis on energy efficiency and conservation in rate design.

Q: Could you comment on the parties' position on the use of marginal costs in the determination of rates and rate design?

Yes, Committee witness Chernick states that "Considerations of marginal cost and incentive effects, not embedded costs, should be the primary basis for design of rates for individual classes". Committee witness Gimble cites the Commission's order in the last case that "marginal cost information can and should be used to guide rate design."² Witness Dr. Johnson cites the difficulty in determining marginal costs or correctly calculating allocated costs for the purpose of setting rates. He concludes that precise measurement of any cost component or setting rates to recover precisely the amount of revenue determined by a specific cost calculation is not a worthwhile activity. He recommends the use of judgment with an emphasis on the need to price marginal usage closer to marginal cost than embedded costs. Division Witness Abdulle discusses the theoretical basis for pricing at marginal costs and some of the controversial issues that surround the definition and measurement of marginal costs. However, he makes clear that when the time horizon is sufficiently long, all costs are relevant. Thus, long-run marginal costs should include short-run fixed costs, variable costs as well as external costs. So when setting rates, the Commission should look at the long run and design rates in a manner that reflects the long-run marginal costs of producing electricity.

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^{1.} Chernick Pre-filed Direct TestimonyDocket No. 07-035-93, page 5, line 98-99.

^{2.} Commission Order in Docket No. 06-035-21. page 31

- Q: What do you conclude from your summary of the positions of the parties on both the correct method for determining rate design and the proper overall considerations?
 - A: The Commission should take a long run perspective when they design rates for the collection of future revenue requirements. They should attempt to send appropriate price signals that will emphasize the long run benefits of demand reductions. Because such rate designs will dampen future rate increases, a higher priority should be placed on this criterion. Marginal costs should be used to design prices that send signals to customers informing them of the long-run trends in the marginal costs of electricity production. With the cost of producing electricity apparently increasing for the foreseeable future, reductions in demand will lead to lower rates in the future compared to rates that we would experience without the demand reductions.
 - Q: Could you comment on the parties' positions on the Company's proposal to increase the customer charge from the current \$2.00 per month to \$4.00 per month?
 - All parties that submitted testimony on this matter with the exception of the Division reject the Company's proposal to increase the customer charge; they cite a variety of reasons. The Committee raises the issue of equity and notes the regressive nature of the \$2.00 increase in the customer charge. Company data show that the lowest usage customers would suffer the biggest percentage increase in rates. This proposal also strays from cost causation as low usage customers are not the cause for new generation. Yet under the Company's proposed recommendation to increase the customer charge to \$4.00 would result in an over-collection of revenue from this class of customers. This would necessitate that energy rates for either winter or summer would have to be reduced. An

increase in a fixed charge would be ineffective in promoting energy conservation. In addition, the Committee contends that the basic calculation of the customer charge is flawed because it fails to consider the actual customer costs of multi-family homes and therefore overestimates the customer charge for these customers. For these reasons, the Committee recommends that the Company's proposal be rejected. Witness Johnson also cites equity concerns associated with the imposition of an increase in the customer charge. Citing the Company's claim that the residential large-users' loads are growing faster than low-users' loads, Johnson questions the efficacy and the equity of increasing lower users rates at a substantial higher percentage than high users rates. UCE and WRA agree with both witnesses and recommend against raising the customer charge. In fact, by our rough calculations, if the Commission were to grant the Company's proposal to raise the customer charge from \$2.00 to \$4.00 this would generate more revenue than is currently required given the Commission's latest ruling on revenue requirement. The Commission's August 21 Erratum Order granted \$36.164 million revenue requirement increase to the Company as a whole. This is Erratum Order granted an additional \$2.786 million dollar revenue increase for the Company. Under the original order, the Company submitted to the Commission on August 12 an exhibit that showed how it allocated the \$33.378 million amongst the different classes of customers. An additional \$13.563 million was allocated to residential customers based on the original order. I have not gained access to the Company's new allocation exhibit but for modeling purposes I have added an additional \$1 million in revenue requirement to the residential class for a total of \$14.563 additional revenue to be collected from the residential class. The August 12th submission also showed a forecasted 708,073 residential customers and if they each paid

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an additional \$2 per month, the increase revenues would be just under \$17 million dollars. This would require that usage rates be lower than current rates in order to prevent over collection of revenues. This would go against my recommendations that residential usage rates in the upper tiers should be increased to encourage conservation.

Q: What recommendations do parties make concerning the Minimum Bill?

The Company has proposed that in conjunction with an increase of the customer charge from \$2.00 to \$4.00 the minimum bill should be eliminated. The Division agrees with the Company that the minimum bill should be eliminated if the Commission adopts the Company's recommendation to increase the customer charge. Witness Johnson argues for an increase in the minimum bill to \$6.00 in lieu of an increase in the customer charge. He argues that there are differences between a customer charge and a minimum bill. A minimum bill will collect the fixed costs of a customer and can assure the Company that its customers are not escaping these costs. The minimum bill will only impact a small number of customers who are consuming little electricity and yet place costs on the system. A customer charge placed on all customers will lower the overall charge for This prevents the Company from sending higher energy price signals to customers which will encourage efficient utilization of electricity. The Committee did not address the issue of changing the minimum bill. UCE and WRA agree that if a higher customer charge is not authorized by the Commission, then a minimum bill should not be changed.

Q: What are the parties' positions regarding the Customer Load Charge (CLC)?

22 **A:** The parties generally oppose this policy. Committee witness Chernick provides strong testimony on the inadequacies of this proposal, arguing that the Company has not

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provided any studies or reports to support their contention that the CLC will provide a signal to large customers about the costs of their above-average usage, or that it is an effective price signal which is strong and persistent, and understandable. UCE and WRA strongly support efforts to provide price signals that discourage high use, and summer use. Nevertheless, after examining the non-Company party testimony, we conclude that the CLC does not appear to be an appropriate mechanism to accomplish this goal. The CLC is likely difficult to understand, does not appear to be cost-based and, once incurred, it provides no incentive to conserve. WRA and UCE believe that significantly increasing inverted block rates provide a better mechanism for encouraging customer conservation and efficiency, and that is the rate design mechanism we support.

Q: What are parties' positions regarding the summer winter differential.

The Company has proposed to increase the differential between summer and winter rates by keeping winter rates constant and increasing the rate for the summer blocks. Witness Johnson advocates that the current differential be maintained as a way to reinforce energy conservation on a year round basis. The Committee also recommends maintaining the current differential between winter and summer rates until evidence is submitted by the Company that supports a wider differential. The Division agrees with the Company that the differential between summer and winter rates should be increased. However, the Division argues that the winter and first summer block should increase by the same percentage but higher blocks should receive greater rate increases than proposed by the Company. UCE and WRA support a widening differential between summer and winter rates. We agree with the Division that the differential between the summer and winter should be increased and the increase should be placed on the higher block rates. The

current Company spreadsheet model used to set rates on residential customers is designed in such a way that the summer's first energy block as the residual calculation. That is, a revenue target is set for the residential class and then it is broken into winter and summer rates with the latter broken into two, three or four blocks. A rate is set for the winter rate and a rate differential is specified for the summer blocks in terms of a percentage increase over the first summer block. The model then solves for the first summer energy block given all the other constraints in the model. While the Company has proposed some increase to the lower blocks of the residential class which UCE and WRA prefer not to have, given the modeling complications of setting rates for residential customers some increase might be expedient in this Case. The most critical issue is to increase the summer's higher blocks by a higher percentage than the lower blocks, to send the price signal to curb energy usage at the higher levels.

Q: Could you summarize the parties' positions regarding the number of summer blocks and the price differential between blocks.

All parties are opposed to the Company's proposal to reduce the number of summer block from three to two. The general consensus is that this will encourage the consumption of electricity for high use customers because after the initial block the price of electricity is constant. The Company interpretation of its consumer survey provides its rationale for eliminating the third block. But, as pointed out by the intervening parties, the Company has done a poor job of educating its customers about the block system and the logic behind it. Witness Johnson points out that the elimination of the third block will cause some real inequities when the Company's proposed rate increase is applied to different usage customers. Johnson testifies that if the increase in the customer charge is

denied, users in the 1000 kWh range would actually incur a decrease in their bills. This is precisely the group that the Company targets for usage reductions via their proposed CLC. The Committee also points to possible intra-class inequities that will result from the Company's proposal. They testify that this elimination of the third block will cause intra-class rate increases that are not cost-causative and in effect will punish the lower usage customers for their conservation in direct contradistinction from the message the Commission should be sending to ratepayers. They recommend that the three block tier structure be maintained with rate increases applied progressively over the three blocks meaning that the higher blocks should get the higher rate increases. testifies that the energy conservation objective would be more efficiently achieved through the three block tiered system that is currently in place with more of the rate increase collected in the last tail block rate. UCE and WRA disagree with the other intervening parties because they have not gone far enough in their reasoning. UCE and WRA recommend that not only should the Commission reject the elimination of the third block, the Commission should expand the number of blocks from three to four and place most of the rate increase on the last two blocks. The logic behind this recommendation is to send a strong price signal that greater consumption of energy places more cost burdens on the system as a whole and cost causality indicates that higher usage customers should pay progressively more. Again, the reason to add a fourth block is that the top 5.5 percent of the high-use customers are consuming over 18 percent of the energy used by residential customers during the summer months. A price message must be sent to these customers in order to create the incentive for them to lower their usage. The fourth block will further delineate these high use customers and will send the clear message that high

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use of energy in the summer months will result in high bills, a potent motivation to change behavior.

Q: While we are on the three block summer rate schedule, what are the parties' recommendations on the appropriate price differential between blocks?

The parties are unanimous in their basic recommendation to increase the price differentials between the different tiers placing a higher rate increase on the third or last tail block. Witness Johnson recommends that the Commission apply a greater than average increase to the third or tail block and a less than average increase to the first block. The Committee recommends an increase from the first to the second block of 1 cent to 1.1 cents or an increase of 10 percent in terms of the differential. recommend an increase from second to the third block from a 1.5 to 1.96 cent or a 30 percent increase in the differential. The Division recommends a similar 10 percent increase in the differential for the second block, but a much bigger increase of 2.6 cents for the third block or 73 percent increase in the differential. While UCE and WRA agree that the differentials between blocks are necessary to send the price signal to customers to utilize energy more efficiently, we believe the differentials should be greater, and reflected in four, rather than three, blocks. In the past, the differential between the block was small and insignificant. This is part of the reason that energy usage has grown so rapidly in the higher use categories. The Commission should correct this past error and increase the differentials significantly in order to send a stronger price signal. UCE and WRA's prefiled testimony recommended a 13 percent increase from the first to the second block, a 50 percent increase from second to the third and an additional 17 percent increase from the third to the fourth tier. This translates into a 13 percent, 70 percent and

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100 percent increase for the second, third and fourth blocks in comparison to the first block. Substantial increases between blocks are necessary to get the consumer's attention and change behavior. We also advocate the lowering of the initial block in order to maintain the higher rate increases between the upper tiers.

Have you readjusted your estimates on block pricing given the newly determined revenue requirement?

I have made some calculations of the rates required to meet the estimated \$14.563 million revenue requirement allocated to the residential class by the Commission's \$36.164 revenue requirement for the Company as a whole. I adapted the Company's spreadsheet model that was provided to the Committee under data request CCS 38.4. I provide an electronic copy to the Commission with this testimony. This model will calculate the prices for the residential class in different summer time blocks given assumptions about the increase in revenue requirement for this class, the percentage increase in the winter rate, the differentials between the summer blocks in percentage terms. Given these inputs, the model will calculate the initial summertime block. The Commission can of course change the inputs or assumptions in this model to fine tune the results they desire. Given the current revenue requirement and in keeping with our basic recommendations to send strong price signals to the high users, I adjusted the inputs to get the desired results. A number of different rate structures are possible under the present conditions. I recommend two different options for the Commission to consider.

The first option we reviewed is to keep the winter rate the same. This causes the first block of the summer rate for the first 400 kWh to decrease by 8.7 percent to 6.88 cents per kWh. The second block is priced 25 percent above the first block and yields 8.6

Q:

cents per kWh, the third block priced 50 percent above the first block yields a rate of 10.32 cents per kWh over 1000kWh and the fourth or tail block is priced at 100% higher than the first block and yields 13.76 cents per kWh for energy above 2000 kWh. This produces some difficult results, however. Because the first block decreases by such a large extent, summer bills will decline for ratepayers who use less than 2000 kWh per month. This sends a wrong overall price signal to most customers - that energy prices are decreasing. The strength of this proposal, however, is that the rate structure sends a strong message that increases in usage will increase bills.

A second option for consideration is for the Commission to lower both the winter rate and the summer's first block. If winter rates were decreased by five percent or 7.16 cents per kWh, then the first summer block rate would decrease by 4.5 percent. Keeping the same pricing differential as before, the 25, 50, and 100 percent between the blocks, would produce prices of 7.2 cents, 9 cents, 10.8 cents and 14.4 cents for the four blocks. This produces a better price signal for the summer months. People below the average summer usage level would see a rate decrease or a slight increase and consumers above the average summer usage would see a larger price increase.

Q: Given the two options, which one do you recommend for adoption?

The second option of decreasing the winter rate is more appealing to me for a number of reasons. First, it results in a lower decrease for the summer's first block and results in a better overall price signal to ratepayers that summer usage is placing a significant strain on the system. Second, it rewards the consumer who is using less than the average and places the cost burden of this rate case on consumers who use more than the average. This has a great intuitive appeal and can be used as to help explain the rate design to

ratepayers. I chose the differentials between blocks for ease of education. It is fairly simple to explain to customer if you use more than bare minimum of electricity you pay 25 percent more, above the approximate average usage you pay 50 percent more and for excessive usage you pay 100 percent more.

Q: Do any of the parties provide evidence or support for such high prices in the upper

blocks?

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A:

Yes, the Committee recommends that the tail block or highest tier approach marginal Witness Chernick cites June 2008 forward prices for Palo Verde and Mid Columbia that are 11 cents on peak and 7 cent off peak for an average of 9 cents. To meet a real residential load shape he uses the costs of peaking capacity from a simple cycle combustion turbine along with a 12 % reserve requirement and marginal losses to come to an estimate between 11 and 12 cents. Marginal load-related T&D costs add another couple of cents which puts us in the 13 to 14 cent range. These estimates are based on 2007 IRP capital costs data for generation. On May 22, 2008 during a recent IRP update, Jim Lacy of Rocky Mountain Power reassessed the costs of new generation. He projected that capital costs of new generation are going to increase dramatically. Capital costs for new coal generation would increase by 50 to 60 percent. Capital cost for SCCT would increase by 40 percent and CCCT projected increase is 70 percent. Energy from renewable resources is expected to increase by up to 40 percent. Given these new projections, energy costs are only going to increase in the future. Witness Chernick's estimates adjusted for projected costs increases may be well below my proposed highest blocks. In addition, the proposed tail block rate of 14.4 cents is below the top 30 percent of the nation's average energy costs for residential customers. Some

Western Resource Advocates and Utah Clean Energy Rebuttal Testimony of Richard Collins UPSC Dockets 07-035-93

- residential customers in Hawaii are paying as high as 32 cents per kWh on average and California ratepayers as high as 22 cents per kWh on average. These are average prices and do not take into account any tiered rate structure³
- 4 Q: Are there any more recommendations of the other parties that you would care to comment on?
 - A: Yes, all parties have recommended that the Company do a better job of informing their customers about their tariffs and the rationale for the rate design. The Commission has an opportunity in this case to set public policy that will benefit ratepayers in the long run. A progressive rate design schedule for residential customers will send a price signal to customers that it is in their financial interests to find ways to utilize electricity for efficiently. The Commission should require the Company to undertake a public service promotion of its residential rate structure and the logic and rationale behind it. In addition, this would provide the perfect opportunity for the Company to advertise its DSM programs to help customers reduce their usage. The parties also recommend further study of cost of service and further attention to rate design. The Commission should convene a working group to advise the Company and the Commission on marginal cost methods for cost of service and estimates of long term marginal costs that can be used for future rate designs.
 - Q: Why is it so important for the Commission to restructure residential rates to encourage the more efficient utilization of electricity at this time?
- **A:** The nation's focus is currently on energy, the rapid increase in the price of gasoline has 22 prompted a national debate on energy. This is precisely the time that consumers need to

^{3.} Data is taken from FERC Form 1 data provided by _____

- be educated on how their current use of energy will affect the future of energy development and cost. The public is coming to grips with this reality and will more likely support such measures in the electric industry.
- 4 Q: Could you summarize your rebuttal testimony.
 - I strongly recommend that the Commission prioritize its criteria for rate design such that energy efficiency and conservation take precedence over most all other criteria. I recommend that the Commission postpone increasing the customer charge at this time and adopt my four block summer tier rate structure that includes larger differentials between blocks in order to send appropriate price signals to ratepayers to encourage them to use energy more efficiently.
- 11 Q. Does this conclude your rebuttal testimony?
- 12 A. Yes, it does.

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CERTIFICATE OF SERVICE

I hereby certify that a true and correct copy of the foregoing was sent by United States mail, postage prepaid, or by email this 3rd day of September 2008, to the following:

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