Q. Have you previously filed testimony in this docket?

A. Yes. I filed direct and rebuttal testimony.

Q. After reviewing parties' rebuttal testimony, what are the primary issues in this proceeding?

A. In its September 21, 2015 Prehearing Notice in this docket, the Commission requested the Parties' witnesses come to the hearing prepared to provide their recommendations on three main issues. After reviewing the testimony of the parties, I agree that those three issues are the primary areas of focus. These main issues are best described in the form of three questions:

1. What time period is appropriate for use in the evaluation of the costs and benefits of the net energy metered ("NEM") program?
2. What cost and benefit metrics should be considered and included in the evaluation?[1]
3. What model or method should be used to calculate the value for each metric included in the evaluation?

The answers to these three questions will form the framework to fulfill the first requirement of Utah Code Ann §54-15-105.1 ("NEM statute") to determine "whether costs that the electrical corporation or other customers will incur from a net metering program will exceed the benefits of the net metering program, or whether the benefits of the net metering program will exceed the costs." The parties have submitted proposed frameworks from which their suggested answers to these

[1] I differentiate between "considered" and "included" because some metrics were considered by parties but then purposely excluded after analysis and, in some instances, certain metrics were not considered at all by some parties.

three questions can be derived.

To assist the Commission in evaluating the Company's recommended framework relative to other parties' positions, I have developed a matrix included as Exhibit RMP___(PHC-1SR) in which I provide an overview of each party's position as it relates to: 1) the time frame to be used for the analysis, 2) the cost and benefit metrics to include in the analysis, and 3) the model or method to be used to determine the value of each metric. The matrix summarizes the Company's recommendation and compares it to the Company's understanding of other parties' proposals.

QUESTION 1: PROPOSED TIME PERIOD

Q. Please summarize the Company's <u>proposed time period</u> for use in the cost-benefit analysis and how it compares to the other parties' proposals.

A. The Company recommends using a short-term time period in order to align the evaluation of the costs and benefits required in part one of the NEM statute with the ratemaking process required in part two of the NEM statute. The DPU's proposal also uses a short-term study period. When the objective is to determine the short-term ratemaking cost and benefit impacts on the utility *and* the non-net metering customers, the Office of Consumer Services ("OCS") also recommends a short-term study period aligned with a cost of service analysis.[2]

The Joint Parties recommend using a long-term study period.[3] The OCS suggests a long-term study period could be used only to determine the cost and

[2] Rebuttal Testimony of Philip Hayet, page 2 lines 36 through 38.
[3] Rebuttal Testimony of Tim Woolf, page 7 lines 132 through 133.

benefit impacts on the utility, but a short-term time period is appropriate to use in a framework to develop rates.[4]

Q. After reviewing the other parties' rebuttal arguments, do you continue to recommend the use of a short-term study period?

A. Yes. A short-term study period is necessary to properly fulfill both components of the NEM statute: the evaluation of costs and benefits in step one and then the determination of a just and reasonable charge, credit or ratemaking structure in step two. The Joint Parties argue that one cannot conflate the two issues of cost-effectiveness and rate design and that the Company's proposal conflicts with the NEM statute and Commission orders in this docket.[5] I strongly disagree. The Joint Parties' argument contradicts the plain language in the July 1, 2015 Order in this docket. The Commission determined that step two will determine a just and reasonable ratemaking structure "in light of the results of the analysis performed in the first step."[6] The results of the evaluation in step one must guide and contribute to the ratemaking determination to be made in step two. Steps one and two cannot be considered in isolation. The NEM statute confirms this conclusion with the plain language stating the charge, credit or ratemaking structure required in step two be determined in light of the costs and benefits evaluated in step one.[7] If step one does not produce results that guide and can be incorporated in step two, then step one is a useless exercise. The Company's proposal to use a short-term study period meets

[4] Rebuttal Testimony of Philip Hayet, page 6 lines 118 through 121.
[5] Rebuttal Testimony of Tim Woolf, page 5 lines 92 through 97.
[6] July 1, 2015 Docket No. 14-035-114 Order re: Conclusions of Law on Statutory Interpretation and Order Denying Motion to Strike.
[7] Utah Code Ann. § 54-15-105 (emphasis added).

the requirements of the cost and benefit analysis required in step one and seamlessly provides results that can be utilized in step two. The Joint Parties' proposal does not.

Q. Under what scenario is a long-term study period generally utilized?

A. Long-term study periods are typically utilized for resource planning and acquisition. In that process, the long-term analysis determines: 1) what resource type is needed, 2) when the resource is needed, 3) how much of the resource is needed, and 4) the cost at which the resource should be acquired. For example, the Company's 2015 Integrated Resource Plan ("IRP") identifies the need for Class 2 Demand Side Management ("DSM") resources. The IRP identifies how much DSM is needed, when it should be acquired, how much should be acquired, and the cost at which it should be acquired. The Company then implements DSM programs accordingly. For example, the Company may develop a program to provide rebates on certain energy efficient appliances or rebates on LED light bulbs. A customer purchases an appliance, receives the one-time rebate, and the utility incurs the one-time cost of the rebate.

Another example is a major resource acquisition, such as a combined cycle combustion turbine ("CCCT"). The IRP may identify a need for a CCCT and will establish the timing, size, and cost for that acquisition. The Company then acquires that CCCT accordingly.

Q. How is NEM generation different than a resource acquisition like those you have described?

A. NEM is a billing scheme that lies entirely in the control of the retail customer. The

Company does not typically utilize rate design or rate schemes like NEM to acquire resources because the Company cannot control how much NEM generation is installed, when it is installed, or the cost at which it is installed. And the Company may not even need NEM generation as a resource type. If the Company's long-term planning or long-term analysis results in the need for distributed generation, such as rooftop solar, the analysis would also determine the amount, timing, and cost associated with that rooftop solar acquisition. Such a scenario actually occurred in Utah and resulted in the implementation of the Utah Solar Incentive Program. Under that program, a specified amount of rebates per kW are offered for solar installations over a specified time period. Customers stay on their regular rate schedules and receive the one-time incentive. The Company acquires only the amount designated by the program. No such controls exist with the NEM program because it is a billing scheme. The NEM program is not similar to long-term resource acquisitions and therefore should not be evaluated using a long-term analysis.

Q. In the case of the NEM program, is there a scenario in which a long-term study period can be useful or appropriate?

A. If the objective of the analysis is to determine only the cost impact to the utility and it is acceptable to ignore the impact to other customers, a long-term study period may be informative provided the analysis is performed with appropriate inputs and assumptions. If utility impact is the sole objective of the analysis, I generally agree with OCS witness Mr. Hayet's approach set forth in his direct testimony and with Mr. Hayet's suggested modifications to the Joint Parties' long-term analysis set

forth in his rebuttal testimony. Mr. Hayet's long-term study period framework[8] is a reasonable one-time evaluation of whether the costs exceed the benefits or the benefits exceed the costs from the utility perspective. However, I also strongly agree with Mr. Hayet's caveat related to a long-term study period in which he deems it inappropriate for use if the purpose of the analysis is to determine the costs and benefits of NEM on the non-net metering customers (instead of just analyzing the impact to the utility) or if the analysis is to be used as a framework to develop rates.[9] Step two of the NEM statute requires the development of rates and requires the incorporation of the cost-benefit analysis performed in step one. Therefore, a long-term study period, while potentially informative, is not useful in completing step two and therefore should not be considered as the time period for the final framework.

QUESTION 2: PROPOSED COST-BENEFIT METRICS

Q. Please summarize the Company's proposed <u>cost-benefit metrics</u> to be included in the analysis and how they compare to the other parties' proposals.

A. All parties generally agree on the primary metrics to be considered for inclusion, but, after performing their individual assessments of those metrics, the parties disagree on whether to include certain metrics in their final frameworks. The matrix included in Exhibit RMP___(PHC-1SR) sets forth the primary cost and benefit categories and an overview of the Company's understanding of the parties' positions relative to each metric. The primary area of disagreement between the

[8] Subject to the refinements discussed by Joelle Steward in her surrebuttal testimony.
[9] Rebuttal Testimony of Philip Hayet, page 6 lines 118 through 124.

Company and the Joint Parties is the inclusion by the Joint Parties of avoided future compliance costs and value due to reduced risk. In my rebuttal testimony, I provided evidence supporting the Company's position that avoided future compliance costs are not currently quantifiable and verifiable and are speculative in nature, thus disqualifying them from inclusion in the framework consistent with the criteria set forth by the Commission.[10] I also demonstrated that the Commission has already made a determination relative to the value of fuel price hedging, fuel price volatility or environmental risk and established that no measurable or avoidable value exists from those metrics.[11] After considering those metrics, I continue to recommend they be excluded from the framework.

QUESTION 3: PROPOSED MODELS OR METHODS

Q. Please summarize the Company's <u>proposed models or methods</u> to be used in the calculation of the cost-benefit metrics and how they compare to the other parties' proposals.

A. The Company proposes a two-part framework. A class cost of service study is used to evaluate the costs and benefits related to the service that the Company provides NEM customers when their NEM generation does not exceed their load. Excess NEM generation is evaluated using the Commission-approved avoided cost models. The methods and calculations used in both of these tools have been rigorously reviewed and vetted over multiple proceedings before the Commission. To perform the Company's proposed analysis requires no new studies or analysis,

[10] Rebuttal Testimony of Paul Clements, page 12 line 262 through page 14 line 304.
[11] Rebuttal Testimony of Paul Clements, page 14 line 305 through page 15 line 322.

except for the load research study which is currently underway.

Both the DPU and the OCS advocate cost of service based approaches. The DPU's proposed framework involves examining the difference between two cost of service studies – one that includes the generation output from NEM customers and one that does not. The OCS's proposal includes a short-term analysis which examines program administration, integration, increased distribution, and lost revenues as costs; and avoided energy, avoided capacity, avoided transmission, avoided distribution, and avoided losses as benefits. The Company's proposed framework includes all of the same cost and benefit categories as the DPU's and OCS's proposals, but distinguishes between the cost of serving NEM customers for their own energy requirements and the value of their excess generation.

The proposal from the Joint Parties offers two long-term analyses – one called a "cost-impact analysis" and another called a "rate-impact analysis." Their proposed cost-impact analysis would examine the long-term revenue requirement impact of the generation output from NEM customers, but ignores the potential change in revenue requirement or rates to non-participating customers. Their rate-impact analysis would estimate the long-term impact to the rates of non-participating customers. Both analyses generally incorporate some form of an avoided cost analysis but do not utilize existing Commission-approved avoided cost methods and models.

In summary, all parties utilize some form of an avoided cost or cost of service model of method but utilize different values (and methods for determining those values) for their assumptions and inputs in those models. I continue to

recommend the Company's proposed framework because it meets the requirements to perform step one of the NEM statute and is best suited for use to seamlessly and effectively fulfill the second requirement of the statute to "determine a just and reasonable charge, credit or ratemaking structure, including new or existing tariffs, in light of the costs and benefits."

Q. How does the Company's proposed framework meet the requirement of step one of the NEM statute that an evaluation of costs and benefits be performed?

A. The Company's framework creates a new NEM customer class. The framework then utilizes the existing cost of service model, using the usage characteristics of the NEM customer class to allocate costs to that class and the current NEM rate scheme to determine revenues from that class.[12] The framework then compares the allocated costs to the projected revenues for that class (taking into account the credit for excess NEM generation). The required increase or decrease in revenues to reach full cost of service is the "result" or "conclusion" of the cost-benefit evaluation. It represents the amount by which the costs exceed the benefits or the benefits exceed the costs for the NEM customer class. The OCS and DPU perform a similar evaluation using the cost of service model, but their proposals require a "with" and a "without" calculation to perform the evaluation, where the NEM customers are included in the residential class in one run and then removed for the second run. The Company's proposal, wherein NEM customers are separated into their own

[12] Under the Company's framework, excess NEM generation would be valued at avoided costs and would be counted as a credit to the NEM customer class when performing this calculation. This provides a value to the NEM customer class equal to the value of their excess generation.

class, eliminates the need for the two model runs and accomplishes materially the same result with a single cost of service study.

RESPONSE TO THE REBUTTAL TESTIMONY OF OCS WITNESS MR. PHILIP HAYET

Q. What is your general response after reviewing Mr. Hayet's rebuttal testimony?

A. Mr. Hayet described how the OCS, DPU and Company methods are most similar and are focused on the objective of evaluating the cost and benefit impacts on the utility *and* the non-net metering customers.[13] I generally agree with his assessment that those parties propose similar methods that will produce similar results. He also states that even the Joint Parties' proposal is similar to the OCS, DPU and Company proposals in that it compares the costs and benefits of two modeled cases, one with and one without distributed generation. However, he points out that there are material and important differences in the length of the study analysis and the types and magnitude of the costs and benefits that are included.[14]

Q. Do you agree with Mr. Hayet's assessment of the Joint Parties' proposal?

A. I generally agree with his assessment of the Joint Parties' proposal and the flaws associated with their proposal, namely:

- The Joint Parties utilize a long-term study period that is not consistent with the Commission's direction to utilize verifiable and quantifiable costs and benefits that accrue to the utility *and* its customers. A long-term study

[13] Rebuttal Testimony of Philip Hayet, page 14 line 294 through page 15 line 297.
[14] Rebuttal Testimony of Philip Hayet, page 15 lines 307 through 316.

period analysis cannot be used as a framework to develop rates. I agree with Mr. Hayet that a short-term study period (1-2 years) using inputs derived from a cost of service study is more appropriate.[15]

- The Joint Parties include several benefit metrics that are not quantifiable and verifiable: avoided environmental compliance costs, including EPA 111(d); a risk reduction cost component, which includes fuel price risk; reduced grid costs as a result of PV power production; and reduced revenue requirements at the end of the year that provide assistance to low-income customers.[16] I agree with Mr. Hayet that these benefits should not be included in the evaluation and agree with his conclusion that the Joint Parties have not met the burden of demonstrating these costs are quantifiable and verifiable.
- The Joint Parties use a method for calculating avoided costs (capacity and energy) that is inconsistent with Commission-approved avoided costs models and produces inaccurate avoided capacity and energy values. I agree with Mr. Hayet that the Joint Parties' use of peaking resources to derive avoided energy costs overstates the benefits of solar energy.[17]
- The Joint Parties include speculative benefits such as the uncertainty in the price of commodities such as steel, uncertainty in future environmental compliance requirements, and other uncertainties, that are more appropriately addressed in the IRP process. I agree with Mr. Hayet that the

[15] Rebuttal Testimony of Philip Hayet, page 7 lines 148 through 150.
[16] Rebuttal Testimony of Philip Hayet, page 8 lines 160 through 164.
[17] Rebuttal Testimony of Philip Hayet, page 10 lines 197 through 204.

types of uncertainties included in the Joint Parties' proposal are already addressed in the IRP (and thus flow through the avoided cost model which relies on the IRP) and there is no reason to provide an additional benefit. I further agree with his conclusion that the Joint Parties have not provided evidence that those uncertainties will affect PacifiCorp's cost of service.[18]

- The Joint Parties' argue that the rate impacts to non-net metering customers will always be small and perhaps even negative. I disagree with the Joint Parties and agree and support the analysis performed by Mr. Hayet on pages 12 through 16 of his rebuttal testimony where he demonstrates that the rate impact can be significant if proper assumptions are used in the analysis. I further agree with his conclusion that the rate impact should not be ignored.

Q. Mr. Hayet states the Company's proposal is similar to the OCS's proposal and will produce similar results, but he suggests it does not account for certain benefit metrics. What is his suggestion?

A. Mr. Hayet suggests the Company's proposal should be modified to account for line losses and to recognize avoided SO_2 and NO_x allowance costs.

Q. Does the Company's proposed framework account for line losses?

A. Yes, the class cost of service study includes line losses. Inasmuch as NEM customers reduce their energy and peak load requirements, benefits related to line losses will be ascribed to them under the Company's proposed approach utilizing a single cost of service model. Adding value on top of the cost of service model results would be duplicative.

[18] Rebuttal Testimony of Philip Hayet, page 11 lines 224 through 233.

For excess NEM energy, no additional line loss benefit should be automatically applied since that excess generation must be transmitted to other customers and will incur some losses prior to being consumed. As I discussed in my direct and rebuttal testimonies,[19] the excess generation from NEM customers should not be valued differently than energy from a QF. Under current avoided cost methodology for Utah QFs, including those interconnected at distribution voltage levels, a line loss credit is not provided unless the QF can clearly demonstrate and measure that it is reducing line losses on the system. I recommend no line loss benefit be applied to excess NEM generation unless it can be clearly demonstrated and measured that actual losses are avoided.

Contrary to Mr. Hayet's suggestion, the Company's proposed framework considered and accounts for avoided line losses and does not require modification.

Q. Should avoided SO_2 and NO_x allowance costs be considered a benefit of NEM?

A. No. The Company currently does not incur costs related to the purchase of SO_2 or NO_x allowances. To comply with rules relating to these pollutants, the Company has installed pollution control equipment. The cost of these environmental compliance investments is already included in the cost of service study and could be avoided (i.e. a benefit provided in the form of lower allocated costs) under the Company's framework inasmuch as allocation factors are reduced by the NEM customer class.

For excess NEM energy valued using the avoided cost method under the Company's framework, the current avoided cost method does not provide

[19] Direct Testimony of Paul Clements, page 17. Rebuttal Testimony of Paul Clements, page 5.

additional value related to SO_2 or NO_x emissions because there are no projected purchases to avoid. Therefore, no incremental value or benefit related to SO_2 or NO_x emission allowances should be allocated to NEM customers for their excess energy.

Contrary to Mr. Hayet's suggestion, the Company's proposed framework considered and accounts for SO_2 or NO_x emission allowance costs and does not require modification.

Q. How do you respond to Mr. Hayet's recommendation that the "Company provide an illustrative example containing additional details explaining how its analysis would be performed?" [20]

A. Please refer to Exhibit RMP___(PHC-2SR) for a diagram which illustrates the Company's proposed framework. This diagram demonstrates how the various inputs and calculations would be combined under the Company's framework to produce results that would be responsive to the first requirement of the NEM statute. This diagram is intended to supplement the Commission, Mr. Hayet and other parties' understanding of the various details of the framework that Company witness Ms. Joelle Steward and I presented in our direct and rebuttal testimonies.

RESPONSE TO THE REBUTTAL TESTIMONY OF JOINT PARTIES WITNESS MR. BENJAMIN NORRIS

[20] Rebuttal Testimony of Philip Hayet, page 15.

Q. On page 4 of Mr. Norris' rebuttal testimony, he claims that the DPU's proposed framework is "silent on the treatment of loss savings." Do you agree?

A. No. The DPU's proposed approach uses the class cost of service study which incorporates both energy- and demand-related losses.

Q. On page 5 and 6 of his rebuttal testimony, Mr. Norris describes analysis that he performed which indicated solar capacity contributions of 66 percent and 87 percent. Should either of these values be used for determining capacity-related benefits for NEM?

A. No. As I explained on pages 8 and 9 of my rebuttal testimony, a 34.1 percent capacity contribution was recently approved by the Commission for calculating capacity payments to fixed tilt solar QFs. The Commission established this number after a fully litigated proceeding with substantial evidence. The evidence has not changed in the short time since that proceeding, and the capacity contribution percentages established in that docket remain in place in the current avoided cost methods. Therefore, those values should be used for calculating the capacity-related benefit of an NEM customer's excess generation.

Q. Mr. Norris suggests the full retail rate credits that NEM customers receive should not be characterized as a cost to the utility.[21] Do you agree?

A. Mr. Norris incorrectly asserts that I characterize the retail rate credits as a cost to the *utility*. In my testimony, I explain how the retail rate credit is a cost to the *utility's customers*. There is a significant difference between these characterizations. While the NEM generation may not increase overall revenue

[21] Rebuttal Testimony of Benjamin Norris, page 13 line 240 through page 14 line 263.

requirement because the utility does not "purchase" the energy, the NEM generation does impact the cost to the utility's non-NEM customers. The full retail rate credit results in a reduction in revenues collected from NEM customers. The energy generated by NEM customers provides value to the utility which in turn may reduce total utility costs. If the reduction in revenues collected from NEM customers does not equal the reduction in total utility costs, a cost shift occurs.[22]

In my direct testimony, I provide an illustrative comparison of this cost shift by using current avoided costs to value NEM generation and current residential retail rates for the NEM credit. In that comparison, the value of NEM generation using an avoided cost method such as Schedule 37 is currently equal to approximately five cents per kilowatt-hour ("kWh") while the credit paid to NEM customers is equal to between approximately eight and 14 cents per kWh. In that illustration, the difference between the generation value and the NEM credit demonstrates the "cost" that is borne by non-NEM customers of the utility.

Q. Should the full retail rate credits that NEM customers receive for their generation be considered a "cost" in whichever cost-benefit framework the Commission adopts?

A. Absolutely. Those costs are real and accrue to the utility's non-NEM customers. The NEM statute explicitly states that the framework will determine "whether costs that the electrical corporation or *other customers*[23] will incur from a net metering program will exceed the benefits of the net metering program, or whether the

[22] In between general rate cases, if the NEM program is growing and costs do not equal benefits, the utility is impacted instead of the utility's customers. Once a general rate case occurs, the utility's customers are impacted.
[23] Emphasis added.

benefits of the net metering program will exceed the costs." The costs that other (non-participating) customers must bear are relevant and should be included in any framework in order to perform a comprehensive cost-benefit analysis from the viewpoint of other customers. Mr. Norris argues that the *overall* level of revenue requirements that the Company needs to serve its customers is unaffected by credits that NEM customers receive for their excess generation. He then says that the credits result in reduced revenue which can then be "handled through the normal ratemaking process." Dismissing the cost of the excess generation credits that NEM customers receive, because they will just be "handled through the normal ratemaking process" will not result in a framework that complies with the NEM statute, because the impact to other non-net metering residential customers is ignored.

Q. Please summarize what Mr. Norris claims are the differences between distributed generation resources and other generation resources.

A. On page 16 and 17 of his rebuttal testimony, Mr. Norris claims there are four differences: 1) Energy losses; 2) Peak load losses; 3) Reduced reserve requirements because of reduced loads; and 4) Reduced distribution peak load.

Q. Do you agree with the differences that he lists?

A. I do not agree that these differences exist for the excess energy that NEM customers deliver to the grid. Fundamentally there is no difference between the value of excess energy from NEM customers and energy from a solar QF. As I described earlier in my testimony, excess generation from NEM must be transmitted through the Company's system to be consumed elsewhere and therefore will experience losses.

Also as described in Mr. Douglas Marx's rebuttal testimony,[24] the Company expects that greater penetration of distribution generation will likely result in greater, not lower, overall distribution costs. Solar generation is intermittent, and requires the Company to hold more, not less, operating reserves.

For distributed generation that offsets a customer's load at their site, the Company's framework utilizes the cost of service model. For items 1, 2, and 4 in Mr. Norris' list of differences, the Company's approach would ascribe benefits in the cost of service study if the distributed generation reduces allocated costs (the allocated costs include losses, distribution costs, and reserve costs).

Q. Are there differences between <u>NEM</u> distributed generation resources and other generation resources that Mr. Norris does not address?

A. Yes. The primary difference is the concept of "storage" that results from the NEM rate scheme. This concept is not a function of the NEM solar panel itself—it contains no storage capabilities—but instead is a result of the net metering program rate design. An NEM solar panel and other generation resources both produce energy that must be instantaneously consumed or stored. No utility scale storage assets currently exist on PacifiCorp's system, and utility scale storage options are generally considered uneconomic for deployment with current technologies. Therefore, PacifiCorp's system is managed such that generation matches load at any given moment.

However, the current net metering program allows NEM customers to virtually store their energy if they over-produce in any given time period. From a

[24] Rebuttal Testimony of Douglas Marx, page 2.

billing perspective, the over-produced energy is virtually stored and then given back at a time when the customer would otherwise buy from the utility (because their generation at that time does not cover their load). This virtual storage is provided for free to NEM customers.

RESPONSE TO THE REBUTTAL TESTIMONY OF VIVINT SOLAR'S WITNESS MR. DAN BLACK

Q. Mr. Black states on page 5 of his rebuttal testimony that no one argues that distributed generation does not confer environmental and other external benefits. Do you agree?

A. No. I continue to support the Company's position in this proceeding that inclusion of any forecasts or estimates of environmental compliance costs is highly speculative, not quantifiable, not currently accruable to customers, and not consistent with the Commission's criteria for inclusion in the cost-benefit evaluation of the NEM program.

One additional consideration is the issue of renewable energy credit ("REC") or green tag ownership as it relates to the current NEM program. Under the current NEM program design, the Company does not receive the REC or green tag from the NEM generation. The RECs stay with the NEM customer. This is a critical fact that must be considered when evaluating whether any environmental attributes are actually "conferred" to the Company from NEM generation.

Q. Please summarize your surrebuttal testimony.

A. I continue to recommend the Company's proposed framework because it best meets the requirements to perform step one of the NEM statute by providing a result

which clearly demonstrates whether the costs exceed the benefits or the benefits exceed the costs for the NEM program. Furthermore, the Company's framework is best suited for use to seamlessly and effectively fulfill the second requirement of the statute to "determine a just and reasonable charge, credit or ratemaking structure, including new or existing tariffs, in light of the costs and benefits."

The OCS, DPU and Company methods are most similar and are focused on the objective of evaluating the cost and benefit impacts on the utility *and* the non-net metering customers. The Joint Parties' proposal focuses primarily on the impact to the utility only and compares the costs and benefits of two modeled cases, one with and one without distributed generation. However, there are material and important flaws in the length of the study analysis and the types and magnitude of the costs and benefits that are included in their framework.

The Joint Parties include several benefit metrics that should not be included in the evaluation because the Joint Parties have not met the burden of demonstrating these costs are quantifiable and verifiable.

The Joint Parties use a method for calculating avoided costs that is inconsistent with Commission-approved avoided costs models and produces inaccurate avoided capacity and energy values.

The Company's proposal to use a short-term study period is supported by the DPU and OCS, meets the requirements of the cost and benefit evaluation required in step one of the NEM statute, and seamlessly provides results that can be utilized in step two. A long-term study period is inappropriate for use if the purpose of the analysis is to determine the costs and benefits of NEM on both the

utility *and* on non-net metering customers; or if the analysis is ultimately to be used as a framework to develop rates.

Lastly, the potential rate impact to non-NEM customers may be significant and cannot be ignored in the cost-benefit evaluation.

Q. Does this conclude your surrebuttal testimony?

A. Yes.