DATE: December 11, 2015

TO: Energy and Telecommunications Interim Committee

FROM: Montana Consumer Counsel

SUBJECT: ETIC's request of September 15, 2015, for follow-up questions to stakeholders regarding the costs and benefits of net metering in Montana.

The Montana Consumer Counsel is generally in agreement with the Public Service Commission Regulatory Division Staff Report in response to the ETIC request for evaluation of stakeholder responses and follow-up questions. We also generally agree with DEQ's comments. MCC has some additional observations that are presented here.

A. Summary comments additional to those in the PSC staff report

- Distributed generation is a growing phenomenon in the electricity sector. Net metering is a particular way of compensating distributed generation customers for the energy produced by this customer-owned, behind the meter generation. It could be viewed as a rough proxy for netting the costs and benefits of providing service to customer-generators in order to credit them for the energy they produce, while appropriately allocating and collecting costs of the electricity grid that they still use. The different responses ETIC received to its inquiries generally reflect whether the respondent was focusing on the value of the net generation being compensated, versus the value of the electricity grid services still being provided that may not be measured in this energy flow netting process. ETIC may find it useful to bear this difference in mind in sorting out these perspectives and may want to continue to question whether both of these values are being fairly addressed.

- There are several separable issues under consideration which ETIC may find helpful to distinguish. The first, whether customer-owned distributed generation is beneficial and should be expanded, is more easily answered if one addresses the second, which is whether the current pricing of behind-the-meter rooftop solar and other customer-owned distributed generation is fair to all electric customers. Another set of issues that need to be distinguished is the forward looking, utility planning approach to evaluating distributed generation, versus the historic cost-allocation approach that assigns responsibility for utility fixed and variable costs. These differences also contribute to the contrasting responses that ETIC has received. Distributed generation advocates focus on incremental future grid planning, while utilities focus more on establishing cost assignment for the continuing use of the existing grid and embedded fixed cost recovery in general. In evaluating comments, ETIC may find it useful to consider the tension created by the fact that forward looking approaches may properly ignore sunk costs, while utility pricing is bound by regulatory and legal frameworks that not only cannot ignore sunk costs but must generally ensure that the utility recovers them.

- Much of the information requested by ETIC and not provided by respondents is simply not available at the present time, and will be costly and time-consuming to obtain. This information is necessary to answering the question of how best to price distributed generation. Net metering should be evaluated in comparison with alternative ways of pricing customer-owned generation. A utility cost perspective via an allocated cost of service study is the standard way to functionalize, classify, and allocate costs in order to design rates to recover a utility's revenue requirement, and is how current rates were calculated. Comparing usage data of customers with distributed (behind-the-meter) generation to customers without distributed generation, as well as differences in the cost of service to them, would allow one to make a determination as to whether or not the two groups are similar enough to remain as one customer class or if they should be separated. This requires detailed data collection and utilities should be directed to gather this data.

- In the interim period until such time as it becomes possible to conduct an allocated cost of service study, regulators might be asked to review whether there are benchmarks that establish reasonable alternate ways of pricing customer-owned distributed generation, and that would better balance the values described in the first bullet and protect both customer-generators and non-participants. For example, it might be reasonable to consider valuing the generation at avoided cost (calculated in the light of NorthWestern's current resource and load situation), adjusted for avoidance of average distribution system losses and the value of renewable energy credits (RECs). While still far from perfect, such a benchline price might reduce the impacts of shifting the allocation of embedded fixed cost responsibility to other customers. Alternatively, regulators could consider other approaches that would in some way acknowledge a T&D charge, using the allocated cost rates that currently appear on every residential customer bill as a legacy of customer choice.

- There is a long history in utility rate making studies used to determine cost causation and the corresponding cost allocation among customer classes. The methodologies used in these cost allocation studies have evolved through years of contested case dockets. Customer-owned distributed generation is a new factor that has not yet been fully incorporated into these methods. Decisions on pricing distributed generation should not ignore these historic precedents. Further, the process of evaluating the data needed to establish just and reasonable rates for distributed generation should make use of these time-tested methods.

- ETIC may want to consider the desirability of separating the question of incentives from the question of how to price distributed generation. Appropriate incentive levels could then be transparently set based upon a decision on whether and how much the rate of implementation should be speeded up and how much additional incentive would be required to achieve that. It would also then be easier when examining incentives for and costs of DG to be mindful of items outside of utility rates. For example, there are tax credits at the federal and state level, and the USB program. Appropriate pricing of the costs imposed on the utility by DG customers, and the cost to serve their loads and to provide backup service as needed, should be examined.

B. Further discussion

Many of the questions and stakeholder responses fail to distinguish between two separate issues: the benefits and costs of customer-owned distributed generation, and the benefits and costs of the use of net metering, in comparison with alternatives, to incentivize and to compensate customers for the energy produced by their rooftop PV or wind systems. Two of the tests that have been discussed, the total resource test and the societal test, address the desirability of distributed generation. Attributes of distributed generation such as carbon reduction and certain other asserted benefits such as avoidance of the need for distribution system enhancements or the potential capability to provide regulation and other ancillary services (via potentially costly advanced inverters and advanced meters) are relevant to the overall desirability of investment in distributed generation, including wind and rooftop solar. A benefit exceeds costs approach to valuing distributed generation compares a state of the world with distributed generation to a state of the world without distributed generation. By contrast, the net metering approach to pricing and cost recovery is most usefully evaluated not in comparison with a world without net metering but in comparison to alternative ways of compensating and, if necessary, providing appropriate incentives to customers with generation equipment on the customer side of the meter. Externalities shared by alternative pricing methods are unhelpful in distinguishing among them.

The question of a fair pricing method is at least as pressing an issue as the question of the overall benefits and costs of distributed generation. Fairness should be seen in terms of whether customers are paying the costs of the services they require as well as whether benefits are shared equitably, or whether, as pointed out by the Commission staff paper, the benefits are disproportionally received by customers with behind-the-meter generation and costs disproportionally shifted to other non-participating customers. If a pricing method can be found that is fair, then the question of the overall merits of distributed generation becomes mainly a matter of determining the appropriate level of incentives and how to provide them. ETIC's questions addressing the advisability of the net-metering approach to DG are extremely important and it is clear that the information requested was not fully provided or was provided in a less than useful format.

The issue of alternate pricing methods to compensate owners of distributed generation systems is important because fixed costs comprise a high proportion of NorthWestern Energy's (or any vertically integrated utility's) revenue requirement. These costs are associated in part with the transmission and distribution infrastructure and also in part with the generation assets that NorthWestern has acquired as it has reintegrated its utility system. They include capital cost depreciation and recovery, other operating costs that do not vary with the level of generation or sales, and federal, state and local taxes including those collected through the tax tracker. Fixed costs have been an issue of great concern to regulators and to the legislature throughout the tumultuous evolution from Montana Power's transition to restructuring and the subsequent elimination of choice and the transition back to a vertically integrated utility. In the initial restructuring, Montana Power's stranded generation costs were explicitly acknowledged and directly assigned to both choice and non-choice customers. The disaggregated rate structure that separately identifies T&D rates remains on NorthWestern's bills to this day. When the legislature set the stage for reintegration of the utility, it did two things to promote success: it eliminated smaller customer choice and it granted preapproval authority, which together sought to remove the risk that customers might flee to alternative sources of power and that NorthWestern might be forced to write down its new generation assets. NorthWestern's success at reintegration contributed to, among other things, a very significant increase in its fixed cost assets, from $1.65 billion at the end of 2004 to $3.86 billion at the end of 2014. Net metering, in essence, encourages a measure of customer choice that has otherwise been closed off by the legislature.

Fixed costs are collected from residential customers almost entirely through the volumetric per kWh charge. However, as energy use rises or falls or as excess DG production is fed into the utility grid, we can only be sure that the variable costs of operation of the generating plants or the cost of spot market purchases or sales change. Under the net-metering arrangement, participants are compensated at the full retail rate and fixed cost responsibility is proportionally shed. As noted by the PSC Regulatory Staff Report, fixed costs not collected from net-metered customers will be addressed in the next rate case by a compensating price increase for all residential customers. This will be paid almost entirely by non-participants, because participants are few in number and because only their consumption net of DG production will be charged. This is a persistent effect that will be repeated in every rate case and impact all non-net-metered customers.

Another potentially important issue that needs to be addressed by regulators, and that would be addressed by a full allocated cost of service study with detailed information on customer-owned distributed generation, is the cost of providing backup service. If a new large industrial customer approached the utility with a plan to provide all of its own generation but wanted to be connected to the utility grid for emergency backup service, no one would argue that the costs of such backup service would be adequately compensated by simply charging for the energy provided during backup times. Rather, the cost of providing backup service would be addressed directly.

One approach to creating an alternate pricing method to compare with net metering would be to create a separate billing category for customers with distributed generation on the customer side of the meter and to conduct an allocated cost of service study including that new customer class. It has been argued that net-metered customers are no different than Demand Side Management (DSM) customers, who also may shed responsibility for some fixed costs and should not be singled out for special treatment. This analogy appears to be misplaced for several reasons: first, the magnitude of load loss is generally limited in most cases to a modest percentage of load for DSM customers but can be up to 100 percent in net-metered customers; second, the load reduction in DSM customers is spread widely across the clock and calendar and tends to reduce peak load as well, while the load reduction in DG customers fluctuates with the sun (and the wind) and may be uncorrelated or inconsistent with either customer peak loads or system peak loads; and third, there is no equivalent provision of standby or backup service for DSM customers. An allocated cost of service study focusing on the cost of serving customer-owned DG customers vs non-DG customers is a crucial first step in devising a fair pricing mechanism. The value of distributed generation associated with carbon-free renewable generation is an important attribute that must be considered in the overall evaluation of DG and whether and how to promote its installation. Regulators should address whether this is an appropriate concern in the comparison of alternative methods for pricing the output of on-site distributed generation systems. One should not assume that net-metering is the only pricing and compensation method available and that it should be judged only by whether it should be expanded. These two questions should be evaluated separately.

ETIC may want to consider another aspect of carbon values with respect to distributed generation. Recent studies have argued that utility scale solar generation is significantly cheaper than distributed rooftop PV systems. In other words, utility scale renewable energy can provide the same carbon benefits as customer-owned distributed generation at lower costs, and would be consistent with the utility mandate to provide power at the lowest cost.

C. Additional questions that should be posed to stakeholders

1. NorthWestern should provide a year by year list of behind-the-meter DG installations since the inception of the program. To the extent NorthWestern has or can estimate the following information, for each installation NorthWestern should provide the type (wind or solar), size and date of the installation; the amount, if any, of USB assistance committed to each installation; the federal, state and other tax incentives contributing to reducing the net cost to the customer; the connected load of the customer; and any information that NorthWestern has on the gross and net production of the installation.

2. NorthWestern should provide examples of planned improvements on the distribution system that would be delayed by the installation of DG systems. In each case each example should indicate the amount and location of DG that would be required to defer the planned improvement for one year, for five years, and for 10 years, and should estimate the value of the deferral benefit for each deferral term.

3. NorthWestern should provide estimates of the amount and value of regulation or other specific ancillary services that could be provided by DG, along with a description of the advanced inverter, control, and/or metering equipment necessary to provide the services and the cost of the equipment, installation and operation.

4. NorthWestern should also provide an explanation, with a clear and transparent methodology, of how it arrived at a requirement of 1 MW of regulation capacity to accommodate 6 MW of net-metered generation, in response to ETIC question 20-a.4. If NorthWestern simply applied the standard 18 percent ratio it used for wind before the Genivar study, it should explain how the fluctuations in PV solar installations requiring regulation service compare with those experienced by wind farms.