PO BOX 201706
Helena, MT 59620-1706
(406) 444-3064
FAX (406) 444-3036

Energy and Telecommunications Interim Committee

64th Montana Legislature

June 12, 2015

Pat Corcoran
Vice president, government and regulatory affairs
NorthWestern Energy
40 E. Broadway
Butte, MT 59701

Mr. Corcoran,

As the 2015-2016 Energy and Telecommunications Interim Committee (ETIC) begins its work on Senate Joint Resolution No. 12 to study net metering, we would like to request that NorthWestern Energy provide the committee with information to assist members in its policy work. The ETIC believes NorthWestern Energy is in the best position to initially perform an analysis of net metering impacts to its system.

We request NWE complete an analysis before Sept. 1, 2015. To that end, the ETIC requests some specific data from NWE. The committee may request additional information in late September. When available, please use data collected from net metering systems, as opposed to modeling, and identify data sources. Because some benefits and costs may be difficult to quantify, the ETIC also recognizes that NWE may need third-party assistance with the analysis. It also may be useful to provide revenue impact and data cost calculations electronically for use by committee staff and other stakeholders.

This request may dovetail with the utility's work in preparing its 2015 supply portfolio management and resource procurement plan, expected to be filed in December. The Montana Public Service Commission addresses net metering in docket N2013.12.84 and notes, "... the Commission expects NorthWestern to perform a far more detailed analysis of existing and potential issues in the next plan, as well as a discussion of ways to remedy any concerns." The PSC goes on to note that the commission "may consider using its statutory authority to hire professional services related to net metering as a topic within the plan." By completing the analysis proposed below, perhaps the use of that statutory authority by the PSC can be avoided.

The information NWE provides will establish a clear foundation from which additional policy work can take place. We believe the goals of SJ 12 can be achieved if the ETIC and stakeholders pool their resources and agree to a rigorous and fair analysis of net metering.

ETIC Chairman
Representative Keith Regier

Keith Regier

CI0140 5159slxc.

General Costs and Costs of Integration [(2)(a)(i)--(2)(a)(iii) and (2)(b)(ii) of SJ 12]

1. Generally describe the specific costs your utility incurs to implement and administer Montana's current net metering policy. Identify issues and concerns, if any, associated with implementing and administering the current net metering policy and how those issues and concerns could be addressed.

2. What is your utility's current total annual cost of service and what amount is fixed and unresponsive to changes in your customers' electricity use in the near term?

3. What is your utility's total current annual revenue from fixed charges that are unresponsive to changes in your customers' electricity use in the near term and what amount is from variable charges?

4. What is the distribution of residential and commercial (by rate class) customers' annual energy use, average annual noncoincident peak demand, and average annual coincident peak demand? Where, within these distributions, do residential and commercial (by rate class) net metering customers fall, on average?

5. For 2014, what was the impact on your utility's revenue of the reductions in residential and commercial electricity use and demand identified in questions 9-14? Describe how the revenue impact affects the bills of other residential and commercial customers, including the magnitude of any bill impacts.

6. Is all or part of the utility revenue impact or customer bill impact a subsidy? If so, describe the basis for determining that the impact is a subsidy.

7. In your opinion, are the utility revenue and customer bill impacts from net metering distinguishable from the impacts from other activities that change customer electricity use and demand and result in potential cost-shifts, such as upgrades to building structures and equipment? If so, why?

8. Provide a distribution of net metering systems by installed capacity, by customer class on NWE's system.

Residential Operating and Fixed Plant Costs

9. Based on residential net metering systems in your utility service area, for each month of the year, what is the average electricity use (kWh) per net-metered customer before and after netting out electricity produced by the customers' generators? Separate this information for solar, wind, and other generators. If metering does not provide this, provide information based on modeling (including an explanation of assumptions) and outline steps the utility is taking to acquire actual usage information.

10. How does average use per residential net-metered customer before and after netting out electricity produced by customers' generators compare to average electricity use by residential customers that do not net meter?

Commercial Operating and Fixed Plant Costs

11. Based on the commercial net metering systems in your utility service area, for each month of the year, what is the average electricity use per net-metered customer before and after netting out electricity produced by the customers' generators? Separate this information for solar, wind, and other generators and by specific commercial customer rate classes. If metering does not provide this, provide information based on modeling (including an explanation of assumptions) and outline steps the utility is taking to acquire actual usage information.

12. How does average use per commercial net-metered customer before and after netting out electricity produced by customers' generators compare to average electricity use by commercial customers in the same rate class that do not net meter?

13. Based on the commercial net metering systems in your utility service area, for each month of the year, what is the average electricity demand (KW) per net-metered customer before and after netting out electricity produced by the customers' generators? Separate this information for solar, wind, and other generators and by specific commercial customer rate classes. If metering does not provide this, provide information based on modeling (including an explanation of assumptions) and outline steps the utility is taking to acquire actual usage information.

14. How does average demand per net-metered commercial customer before and after netting out electricity produced by customers' generators compare to average electricity demand by commercial customers in the same rate class that do not net meter?

Prospective Balancing Test [(2)(a)(iv) of SJ 12]

15. Describe how increasing the current 50 kilowatt (KW) net metering cap to 100 KW, 1,000 KW, and 5,000 KW would likely impact residential net metering trends in your utility service area and associated utility revenue and customer bill impacts.

16. Describe how increasing the current 50 KW net metering cap to 100 KW, 1,000 KW, and 5,000 KW would likely impact commercial net metering in your utility service area, by customer class, and associated utility revenue and customer bill impacts.

17. Identify issues and concerns, if any, associated with increasing the current 50 KW net metering cap to 100 KW, 1,000 KW, and 5,000 KW and how those issues and concerns could be addressed.

18. Identify potential operational issues associated with expanding net metering and provide suggestions for how the utility could address those issues.

Benefits [(2)(f)(i) – (2)(f)(v) and (2)(i) of SJ 12]

19. Identify one or more methods for quantifying the benefits of net metering. In your opinion, what are the advantages and disadvantages of each method?

20a. Identify the benefits of net metering that are shared between net metering customers and customers that do not net meter. Identify the avoided:

- cost for supply-related energy and capacity, accounting for the timing of energy and capacity produced by net-metered generators;
- cost for transmission and distribution line losses;
- cost for transmission and distribution capacity and operation and maintenance;
- cost for load following, regulation, and frequency response;
- pollution control costs;
- power plant operations and maintenance costs;
- fuel price hedging costs;
- generation capacity investments or purchases; and
- renewable energy standard compliance costs.

20b. Identify the benefits of net metering that are shared between net metering customers and customers that do not net meter. Identify the value of:

- excess net metering credits sacrificed to the utility by net metering customers at the end of billing periods; and
- unclaimed Bonneville Power Administration (BPA) residential exchange credits.

21. Describe methods used to determine each of the avoided cost categories in question 20.

22. Describe how increasing the current 50 KW net metering cap to 100 KW, 1,000 KW, and 5,000 KW would likely impact each of the avoided cost categories in question 20.

23. What are the pros and cons of extending Montana's net metering policy to apply to rural electric cooperatives and all regulated utilities? Is it appropriate to treat rural electric cooperatives and certain regulated utilities differently in relation to net metering requirements under specific circumstances in Montana? If yes, explain.

<u>Safety and Maintenance</u> [(2)(c)(i) - (2)(d)(i) of SJ 12]

24. Do the retail inverters in rooftop systems have adequate EMF (voltage) protection from induced seasonal electrical storms? Is there a risk for any level of loss of phase synchronicity?

25. Are there national standards for the inverters established by IEEE or other such institutions?

26. At what level of loss of synchronization is there an electrical risk (due to wire heating) or efficiency loss?

27. If an inverter's lockout fails and there is a backflip of power on a "downed" line, for what distance does a shock risk remain for linemen engaged in repairing the distribution line?

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Helena, MT 59620-1706
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FAX (406) 444-3036

Energy and Telecommunications Interim Committee

64th Montana Legislature

June 12, 2015

Michael Green
MDU Resources Group, Inc.
Crowley Fleck
100 North Park #300
Helena, MT 59601

Mr. Green,

As the 2015-2016 Energy and Telecommunications Interim Committee (ETIC) begins its work on Senate Joint Resolution No. 12 to study net metering, we would like to request that Montana-Dakota Utilities provide the committee with information to assist members in its policy work. The ETIC believes MDU is in the best position to initially perform an analysis of net metering impacts to its system.

We are requesting that MDU complete an analysis before September 1, 2015. To that end, the ETIC requests some specific data from MDU. The committee may request additional information in late September. When appropriate, please use data collected from net metering systems, as opposed to modeling. Because MDU has only four net metering units on its Montana system, we recognize that all questions may not be applicable and ask that MDU focus on the prospective questions.

The information MDU provides will establish a clear foundation from which additional policy work can take place in the Legislature. We believe the goals of SJ 12 can be achieved if the ETIC and stakeholders pool their resources and agree to a rigorous and fair analysis of the subject of net metering.

ETIC Chairman
Representative Keith Regier

Keith Regier

CI0140 5159slxb.

General Costs and Costs of Integration [(2)(a)(i)--(2)(a)(iii) and (2)(b)(ii) of SJ 12]

1. Generally describe the specific costs your utility incurs to implement and administer net metering in accordance with the current Public Service Commission tariff. Identify issues and concerns, if any, associated with implementing and administering the current tariff and how those issues and concerns could be addressed.

2. What is your utility's current total annual cost of service and what amount is fixed and unresponsive to changes in your customers' electricity use in the near term?

3. What is your utility's total current annual revenue from fixed charges that are unresponsive to changes in your customers' electricity use in the near term and what amount is from variable charges?

4. What is the distribution of residential and commercial (by rate class) customers' annual energy use, average annual noncoincident peak demand, and average annual coincident peak demand? Where, within these distributions, do residential and commercial (by rate class) net metering customers fall, on average?

5. For 2014, what was the impact on your utility's revenue of the reductions in residential and commercial electricity use and demand identified in questions 10-15? Describe how the revenue impact affects the bills of other residential and commercial customers, including the magnitude of any bill impacts.

6. Is all or part of the utility revenue impact or customer bill impact a subsidy? If so, describe the basis for determining that the impact is a subsidy.

7. In your opinion, are the utility revenue and customer bill impacts from net metering distinguishable from the impacts from other activities that change customer electricity use and demand and result in potential cost shifts, such as upgrades to building structures and equipment, and if so, why?

8. What are the pros and cons of extending Montana's net metering policy to apply to MDU? Is it appropriate to treat MDU differently from other regulated utilities in terms of net metering requirements, and if so, why?

9. Provide a distribution of net metering systems by installed capacity, by customer class on MDU's system.

Residential Operating and Fixed Plant Costs

10. Based on residential net metering systems in your utility service area, for each month of the year, what is the average electricity use (kWh) per net-metered customer before and after netting out electricity produced by the customers' generators? Separate this information for solar, wind, and other generators. If net metering does not provide this, provide information based on modeling (including an explanation of assumptions) and outline steps the utility is taking to acquire actual usage information.

11. How does average use per residential net-metered customer before and after netting out electricity produced by customers' generators compare to average electricity use by residential customers that do not net meter?

Commercial Operating and Fixed Plant Costs

12. Based on the commercial net metering systems in your utility service area, for each month of the year, what is the average electricity use per net-metered customer before and after netting out electricity produced by the customers' generators? Separate this information for solar, wind, and other generators and by specific commercial customer rate classes. If net metering does not provide this, provide information based on modeling (including an explanation of assumptions) and outline steps the utility is taking to acquire actual usage information.

13. How does average use per commercial net-metered customer before and after netting out electricity produced by customers' generators compare to average electricity use by commercial customers in the same rate class that do not net meter?

14. Based on the commercial net metering systems in your utility service area, for each month of the year, what is the average electricity demand (KW) per net-metered customer before and after netting out electricity produced by the customers' generators? Separate this information for solar, wind, and other generators and by specific commercial customer rate classes. If net metering does not provide this, provide information based on modeling (including an explanation of assumptions) and outline steps the utility is taking to acquire actual usage information.

15. How does average demand per net-metered commercial customer before and after netting out electricity produced by customers' generators compare to average electricity demand by commercial customers in the same rate class that do not net meter?

Prospective Balancing Test [(2)(a)(iv) of SJ 12]

16. Describe how increasing the current 50 kilowatt (KW) net metering cap to 100 KW, 1,000 KW, and 5,000 KW would likely impact residential net metering trends in your utility service area and associated utility revenue and customer bill impacts.

17. Describe how increasing the current 50 KW net metering cap to 100 KW, 1,000 KW, and 5,000 KW would likely impact commercial net metering in your utility service area, by customer class, and associated utility revenue and customer bill impacts.

18. Identify issues and concerns, if any, associated with increasing the current 50 KW net metering cap to 100 KW, 1,000 KW, and 5,000 KW and how those issues and concerns could be addressed.

19. Identify potential operational issues associated with expanding net metering and provide suggestions for how the utility could address those issues.

Benefits [(2)(f)(i) – (2)(f)(v) and (2)(i) of SJ 12]

20. Identify one or more methods for quantifying the benefits of net metering. In your opinion, what are the advantages and disadvantages of each method?

21a. Identify the benefits of net metering that are shared between net metering customers and customers that do not net meter. Identify the avoided:

- cost for supply-related energy and capacity, accounting for the timing of energy and capacity produced by net-metered generators;
- cost for transmission and distribution line losses;
- cost for transmission and distribution capacity and operation and maintenance;
- cost for load following, regulation, and frequency response;
- pollution control costs;
- power plant operations and maintenance costs;
- fuel price hedging costs;
- generation capacity investments or purchases; and
- renewable energy standard compliance costs.

21b. Identify the benefits of net metering that are shared between net metering customers and customers that do not net meter. Identify the value of:

- excess net metering credits sacrificed to the utility by net metering customers at the end of billing periods; and
- unclaimed Bonneville Power Administration (BPA) residential exchange credits.

22. Describe methods used to determine each of the avoided cost categories in question 21.

23. Describe how increasing the current 50 KW net metering cap to 100 KW, 1,000 KW, and 5,000 KW would likely impact each of the avoided cost categories in question 21.

Safety and Maintenance [(2)(c)(i) - (2)(d)(i) of SJ 12]

24. Do the retail inverters in rooftop systems have adequate EMF (voltage) protection from induced seasonal electrical storms? Is there a risk for any level of loss of phase synchronicity?

25. Are there national standards for the inverters established by IEEE or other such institutions?

26. At what level of loss of synchronization is there an electrical risk (due to wire heating) or efficiency loss?

27. If an inverter's lockout fails and there is a backflip of power on a "downed" line, for what distance does a shock risk remain for linemen engaged in repairing the distribution line?

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FAX (406) 444-3036

Energy and Telecommunications Interim Committee
64th Montana Legislature

June 12, 2015

Gary Wiens
Asst. General Manager
Montana Electric Cooperatives' Association
P.O. Box 1306
Great Falls, MT 59403

Mr. Wiens,

As the 2015-2016 Energy and Telecommunications Interim Committee (ETIC) begins its work on Senate Joint Resolution No. 12 to study net metering, we would like to request that Montana rural electric cooperatives provide the committee with information to assist members in its policy work. The ETIC believes the cooperatives are in the best position to initially perform an analysis of net metering impacts to their systems.

We are requesting that rural electric cooperatives complete an analysis before September 1, 2015. To that end, the ETIC requests some specific data from the cooperatives. The committee may request additional information in late September. When appropriate, please use data collected from net metering systems, as opposed to modeling. Because there are multiple rural electric cooperatives with net-metered units on their systems, it is appropriate to provide examples from specific cooperatives.

The information the cooperatives provide will establish a clear foundation from which additional policy work can take place in the Legislature. We believe the goals of SJ 12 can be achieved if the ETIC and stakeholders pool their resources and agree to a rigorous and fair analysis of the subject of net metering.

ETIC Chairman
Representative Keith Regier

Keith Regier

Cl0140 5159slxd.

General Costs and Costs of Integration [(2)(a)(i)--(2)(a)(iii) and (2)(b)(ii) of SJ 12]

1. Generally describe the specific costs rural electric cooperatives incur when implementing and administering net metering policy. Identify issues and concerns, if any, associated with implementing and administering the current level of net metering and how those issues and concerns could be addressed.

2. What is your cooperative's current total annual cost of service and what amount is fixed and unresponsive to changes in your customers' electricity use in the near term?

3. What is your cooperative's total current annual revenue from fixed charges that are unresponsive to changes in your customers' electricity use in the near term and what amount is from variable charges?

4. What is the distribution of residential and commercial (by rate class) customers' annual energy use, average annual noncoincident peak demand, and average annual coincident peak demand? Where, within these distributions, do residential and commercial (by rate class) net metering customers fall, on average?

5. For 2014, what was the impact on cooperative revenue of the reductions in residential and commercial electricity use and demand identified in questions 10-15? Describe how the revenue impact affects the bills of other residential and commercial customers, including the magnitude of any bill impacts.

6. Is all or part of a cooperative's revenue impact or customer bill impact a subsidy? If so, describe the basis for determining that the impact is a subsidy.

7. In your opinion, are cooperative revenue and customer bill impacts from net metering distinguishable from the impacts from other activities that change customer electricity use and demand and result in potential cost shifts, such as upgrades to building structures and equipment, and if so, why?

8. What are the pros and cons of extending Montana's net metering policy to apply to rural electric cooperatives? If it is appropriate to treat rural electric cooperatives differently from regulated utilities, is it appropriate to treat all rural electric cooperatives the same in terms of net metering requirements?

9. Provide a distribution of net metering systems by installed capacity, by customer class on cooperatives' systems.

Residential Operating and Fixed Plant Costs (May use up to 5 cooperative examples)

10. Based on residential net metering systems in a rural electric cooperative's service area, for each month of the year, what is the average electricity use (kWh) per net-metered customer before and after netting out electricity produced by the customers' generators? Separate this information for solar, wind, and other generators. If net metering does not provide this, provide information based on modeling (including an explanation of assumptions) and outline steps cooperatives are taking to acquire actual usage information.

11. How does average use per residential net-metered customer before and after netting out electricity produced by customers' generators compare to average electricity use by residential customers that do not net meter?

Commercial Operating and Fixed Plant Costs (May use up to 5 cooperative examples)

12. Based on the commercial net metering systems in a cooperative's service area, for each month of the year, what is the average electricity use per net-metered customer before and after netting out electricity produced by the customers' generators? Separate this information for solar, wind, and other generators and by specific commercial customer rate classes. If net metering does not provide this, provide information based on modeling (including an explanation of assumptions) and outline steps the cooperative is taking to acquire actual usage information.

13. How does average use per commercial net-metered customer before and after netting out electricity produced by customers' generators compare to average electricity use by commercial customers in the same rate class that do not net meter?

14. Based on the commercial net metering systems in a cooperative's service area, for each month of the year, what is the average electricity demand (KW) per net-metered customer before and after netting out electricity produced by the customers' generators? Separate this information for solar, wind, and other generators and by specific commercial customer rate classes. If net metering does not provide this, provide information based on modeling (including an explanation of assumptions) and outline steps the cooperative is taking to acquire actual usage information.

15. How does average demand per net-metered commercial customer before and after netting out electricity produced by customers' generators compare to average electricity demand by commercial customers in the same rate class that do not net meter?

<u>Prospective Balancing Test</u> [(2)(a)(iv) of SJ 12]

16. Describe how increasing a net metering cap to 100 KW, 1,000 KW, and 5,000 KW would likely impact residential net metering trends in a cooperative's service area and associated cooperative revenue and customer bill impacts.

17. Describe how increasing a net metering cap to 100 KW, 1,000 KW, and 5,000 KW would likely impact commercial net metering in a cooperatives service area, by customer class, and associated cooperative revenue and customer bill impacts.

18. Identify issues and concerns, if any, associated with increasing a net metering cap to 100 KW, 1,000 KW, and 5,000 KW and how those issues and concerns could be addressed.

19. Identify potential operational issues associated with expanding net metering and provide suggestions for how cooperatives could address those issues.

Benefits [(2)(f)(i) – (2)(f)(v) and (2)(i) of SJ 12]

20. Identify one or more methods for quantifying the benefits of net metering. In your opinion, what are the advantages and disadvantages of each method?

21a. Identify the benefits of net metering that are shared between net metering customers and customers that do not net meter. Identify the avoided:

- cost for supply-related energy and capacity, accounting for the timing of energy and capacity produced by net-metered generators;
- cost for transmission and distribution line losses;
- cost for transmission and distribution capacity and operation and maintenance;
- cost for load following, regulation, and frequency response;
- pollution control costs;
- power plant operations and maintenance costs;
- fuel price hedging costs;
- generation capacity investments or purchases; and
- renewable energy standard compliance costs.

21b. Identify the benefits of net metering that are shared between net metering customers and customers that do not net meter. Identify the value of:

- excess net metering credits sacrificed to the utility by net metering customers at the end of billing periods; and
- unclaimed Bonneville Power Administration (BPA) residential exchange credits.

22. Describe methods used to determine each of the avoided cost categories in question 21.

23. Describe how increasing a net metering cap to 100 KW, 1,000 KW, and 5,000 KW would likely impact each of the avoided cost categories in question 21.

Safety and Maintenance [(2)(c)(i) - (2)(d)(i) of SJ 12]

24. Do the retail inverters in rooftop systems have adequate EMF (voltage) protection from induced seasonal electrical storms? Is there a risk for any level of loss of phase synchronicity?

25. Are there national standards for the inverters established by IEEE or other such institutions?

26. At what level of loss of synchronization is there an electrical risk (due to wire heating) or efficiency loss?

27. If an inverter's lockout fails and there is a backflip of power on a "downed" line, for what distance does a shock risk remain for linemen engaged in repairing the distribution line?

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FAX (406) 444-3036

Energy and Telecommunications Interim Committee

64th Montana Legislature

June 12, 2015

Ben Brouwer
Policy Director
Montana Renewable Energy Association
P.O. Box 673
Missoula, MT 59806

Mr. Brouwer,

As the 2015-2016 Energy and Telecommunications Interim Committee (ETIC) begins its work on Senate Joint Resolution No. 12 to study net metering, we would like to request that Montana's renewable energy industry provide the committee with information to assist members in its policy work. The committee finds that the industry and its representatives may be best qualified to respond to some issues raised in SJ 12.

We are requesting the industry complete an analysis before September 1, 2015. To that end, the ETIC requests some specific data. The committee may request additional information in late September. When appropriate, please use data collected from net metering systems, as opposed to using modeling.

Please feel free to share the included questions with other appropriate entities as well. Additional information or analysis, based on the questions posed to the industry or to the utilities, is also welcome. The questions are all posted on the ETIC website at www.leg.mt.gov/etic.

The information provided will establish a clear foundation from which additional policy work can take place in the Legislature. We believe the goals of SJ 12 can be achieved if the ETIC and stakeholders pool their resources and agree to a rigorous and fair analysis of the subject of net metering.

ETIC Chairman
Representative Keith Regier

Keith Regier

Cl0140 5159slxe.

1. Currently, what are the installed costs for typical net-metered solar PV systems of 5 KW, 10 KW, 50 KW, 100 KW, 500 KW, 1,000 KW, and 5,000 KW?

2. If the net-metered systems in question 1 were required to have separate production meters, what would be the incremental installed cost for each project size?

3. Nationally, what percentage of total net metered systems fall into the size ranges in question 1 (0-5 KW, 5-10 KW, 10-50 KW, etc.)?

4. Is there a reasonable generator size threshold above which production meters should be required and payments made based on utility avoided costs? If so, identify a reasonable size threshold and describe the basis for determining it.

5. Is there a reasonable threshold or saturation point for requiring the use of smart inverters?

6. Is there a reasonable generator size threshold above which distributed generators should be subject to the same resource planning and procurement processes a regulated utility uses to procure other resources? If so, identify a reasonable size threshold and describe the basis for determining it.

7. Identify the benefits of net metering that are shared between net metering customers and customers that do not net meter.

8. Identify additional net metering benefits (employment, taxes, societal, environmental, etc.) and explain, in the industry's opinion, how best to account for those benefits.

9. Identify one or more methods for quantifying the benefits of net metering. In your opinion, what are the advantages and disadvantages of each method?

10. In your opinion, is all or part of the utility or cooperative revenue impact or customer bill impact of net metering a subsidy? If so, describe the basis for determining that the impact is a subsidy.

11. What are the pros and cons of extending Montana's net metering policy to apply to rural electric cooperatives and all regulated utilities? Is it appropriate to treat rural electric cooperatives and certain regulated utilities differently in relation to net metering requirements under specific circumstances in Montana? If yes, explain.

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FAX (406) 444-3036

Energy and Telecommunications Interim Committee

64th Montana Legislature

June 12, 2015

Keith Allen
Asst. General Manager
International Brotherhood of Electrical Workers 233
P.O. Box 131
Helena, MT 59624

Mr. Allen,

As the 2015-2016 Energy and Telecommunications Interim Committee (ETIC) begins its work on Senate Joint Resolution No. 12 to study net metering, we would like to request that the electrical workers provide the committee with information to assist members in its policy work.

We are requesting the information be provided before September 1, 2015. The committee may request additional information in late September. Please feel free to share the included questions with other appropriate entities as well. Additional information or analysis, based on the questions posed to the industry or to the utilities, is also welcome. The questions are all posted on the ETIC website at www.leg.mt.gov/etic.

The information provided can assist in establishing a clear foundation from which additional policy work can take place in the Legislature. We believe the goals of SJ 12 can be achieved if the ETIC and stakeholders pool their resources and agree to a rigorous and fair analysis of the subject of net metering.

ETIC Chairman
Representative Keith Regier

Keith Regier

Safety and Maintenance [(2)(c)(i) - (2)(d)(i) of SJ 12]

1. Do the retail inverters in rooftop systems have adequate EMF (voltage) protection from induced seasonal electrical storms? Is there a risk for any level of loss of phase synchronicity?

2. Are there national standards for the inverters established by IEEE or other such institutions?

3. At what level of loss of synchronization is there an electrical risk (due to wire heating) or efficiency loss?

4. If an inverter's lockout fails and there is a backflip of power on a "downed" line, for what distance does a shock risk remain for linemen engaged in repairing the distribution line? cl0140 5159slxa