

Our office has recently pre-filed legislation to require utilities statewide to offer the option of net metering to utility customers that generate electricity on-site through the use of alternative power sources (our particular legislation puts a cap on home generation at 25 kilowatts, and credits the customer-generator for their generation by applying a kilowatt hour credit against their following months bill). Below I have listed some of the concerns that our office has heard on the issue of net-metering in general. I would like to get some feedback from other states or cities that have implemented net-metering rules, code or legislation so that we can address the issues as the bill moves forward in the Alaska Legislature.

If you have a moment, please take a look at the concerns listed below, and let me know if your state has heard such complaints and if they have been borne out.

Thank you.

Louie Flora, Staff

Rep. Paul Seaton

Net Metering:

- **Dangerous to Linemen and the public**
 - no back-feed protection
 - no phasing protection
 - no fault protection
 - **devastating to small utilities with a low customer density**
 - **forces a utility to buy higher cost power**
 - No margin for revenue generation allowed if we must purchase it at the same cost as we sell it for.
 - Increases cost to all customers
 - **Would force some Utilities to violate existing power purchase agreements**
-

IOWA

Regarding your net metering issue list below:

1. Dangerous to linemen and the public: a) no back-feed protection; b) no phasing protection; c) no fault protection.

These issues would be addressed in the context of Iowa's interconnection standards (Rule 15.10 -- see: <http://www.legis.state.ia.us/Rules/Current/iac/199iac/19915/19915.pdf>), rather than the net metering rule (Rule 15.11(5)).

2. Devastating to small utilities with a low customer density.

This issue has not arisen in Iowa, perhaps because Iowa's net metering rule applies only to rate-regulated utilities, only one of which is a small utility. All other small electric utilities in Iowa are non-rate-regulated (i.e., municipal utilities and electric cooperatives).

3. Forces a utility to buy higher cost power: a) no margin for revenue generation allowed if we must purchase it at the same cost as we sell it for; b) increases cost to all customers.

This issue was generally resolved by allowing the rate-regulated utilities to limit net metering to 500 kW of capacity for each individual system. Again, Iowa's net metering rule applies only to rate-regulated utilities.

4. Would force some utilities to violate existing power purchase agreements.

This issue has not arisen in Iowa, probably because the Iowa rule describes net metering as a metering arrangement, rather than a purchase and sale arrangement (Rule 15.11(5) -- see: <http://www.legis.state.ia.us/Rules/Current/iac/199iac/19915/19915.pdf>).

John Pearce
Utility Specialist
Iowa Utilities Board
350 Maple Street
Des Moines, IA 50319
(515)281-5679
John.Pearce@iowa.gov

Virginia

Virginia went through the same issues back in 1999 when we were going through our net metering proceedings. I have attached two documents that may be helpful in answering some or all of the issues you addressed below. One issue that probably won't be addressed is the issue of how "devastating" net metering will be to small utilities. Obviously this was an unknown at the time - but I can safely say that 7 years later - none of our utilities have gone bankrupt, and our rules have slowly evolved. Originally only solar, wind and small hydro were allowed. Now ALL renewable technologies (ocean/tidal, biomass, etc) are allowed. Originally non-residential systems were capped at 25 kilowatts. This limit has been raised to 500 kW. Third-party ownership of systems is now allowed, and the total system-wide capacity has been increased from 1/10% up to 1% of peak load.

Bottom line (in my opinion) is that the utilities scream and complain and put up roadblocks - because that's what they're supposed to do to maintain status quo. The reality is, however (again - my opinion) that once they get used to it - they grudgingly admit it was and is not that big a deal - especially with limits like 25 kW. This has proven to be the case in Virginia where with a residential limit of 10 kW and non-residential of 500 kW - we have to date less than 250 **KILOWATTS** total statewide net metered generation compared to a total utility generating capacity of around **23,000 megawatts**.

I hope this somewhat dated info is helpful. Please feel free to contact me if you would like additional information.

Ken Jurman
Virginia Department of Mines,
Minerals and Energy
(804) 692-3222
(804) 692-3238 (fax)
www.dmme.virginia.gov

Pennsylvania

In Pennsylvania we heard relatively the same arguments against Net Metering and Interconnection standards that were required by legislation referred to as the Alternative Energy Portfolio Standards. You may view our regulations at:
http://www.puc.state.pa.us/electric/electric_alt_energy.aspx. If you have further questions, please contact me. Good luck!

Cal Birge
cbirge@state.pa.us

West Virginia

I am with the West Virginia PSC. Our Commission adopted net metering tariffs last year after considering the issue pursuant to the provisions of the Federal Energy Policy Act of 2005. During the course of that proceeding, all parties reached a consensus not only regarding net metering provisions but also on rules for the interconnection of distributed generation. Two of the largest electric utilities in the nation - American Electric Power and Allegheny Energy were parties to the case.

Regarding the concerns you identify, my comments would be as follows:

Safety issues, danger to linemen, etc. - This is basically a non-issue provided that the state adopts industry standards like IEEE 1547 and the National Electric Code. Some utilities continue to play the safety card because they still resist distributed resource interconnections. Safety issues have been covered in excruciating detail in the provisions of industry standards like IEEE 1547 and the NEC. Further, when it comes to renewable generators less than 25kW in capacity it is even less of an issue because most if not all of those types of generators utilize UL-certified static inverters to interconnect to the utility's distribution system. For single-phase generators (like residential applications) phasing protection is not an issue.

Financial Impact on Distribution Utilities - This will depend largely on the level of customer participation in net metering in your state. Utilities must be able to recover costs necessary to properly operate their distribution systems and I feel that net metering customers should help pay for that system because they use it. One mechanism is a fixed "customer charge" that allows the utility to recover non-variable fixed costs associated with distribution expenses. On the other hand, there are benefits that distributed resources provides to the utility which can be quantified in terms of "avoided costs".

Energy Rate - I think the level of participation and customer eligibility has to be considered. For example, if you limit participation to residential customers with renewable sources then the financial impact will be much less than if larger users participate. It also must be weighed against how long the customer can bank the credits and whether or not the state allows customers to go above a net-zero balance (i.e., make money by selling power back to the utility). In West Virginia we hold the customers to a "zero balance limit" on energy charges, but they still pay a customer charge for the utility fixed costs.

Alleged Violation of Existing Purchased Power Agreements - I think this is a legal issue that will depend on how the state laws or regulations governing net metering are constructed.

Increased Cost to all Customers - For programs that are geared toward small residential applications, I do not see how this can be the case, provided that the state commission has rules in place that fairly allocate costs to those who should pay them. There are several models for interconnection and net metering rules that provide reasonable solutions. Examples are the NARUC Model and the IREC Model. I recommend that you take a look at these model standards, I used them in developing the rules for West Virginia.

Hope this helps! Good Luck!!

Jim

James W. Ellars, P.E.
Chief Utilities Manager
Engineering Division
Public Service Commission of West Virginia
PO Box 812
Charleston, WV 25323
(304) 340-0331

Connecticut

We have had net metering for twenty years. It is a subsidy to promote renewables. But the impact to date is minimal. There have not been and technical or safety problems. 25kW is very small. I wouldn't worry about it.

Mark Quinlan
Ct. DPUC
860-827-2691

North Carolina

Keith McAllister and Joan Ward manage the Interstate Renewable Energy Council's "Connecting to the Grid" project, which collects and analyzes information -- especially state-level information -- related to interconnection standards and net metering. I'll provide you with some thoughts regarding your questions below (see embedded comments). For additional information, follow up with Keith and Joan, who are copied on this message.

Rusty

>
> Net Metering:
>
> * Dangerous to Linemen and the public
>
> * no back-feed protection
> * no phasing protection
> * no fault protection

*** Net metering is not dangerous. It is an economic and legal arrangement, not an engineering arrangement. Interconnection is not hazardous if the procedure and equipment meet IEEE 1547 and UL 1741 standards. This study should help dispel concerns about the safety of interconnected PV systems: www.e3energy.com/Extdisc.doc. More significantly, the National Renewable Energy Laboratory (NREL) is about to publish a similar study with similar conclusions. Notably, there are no known safety incidents related to the tens of thousands of interconnected, customer-sited renewables currently installed in the United States. It might be useful to contact the California Public Utilities Commission about this. There are more than 20,000 customer-sited, interconnected renewable-energy systems currently operating in CA.

Additional related resources are available here:
www.solarabcs.org/interconnection/panels/interconnect_net_metering_resources.htm

>
> * devastating to small utilities with a low customer density

*** This is not proven to be true. If this is a legitimate concern, cap the aggregate capacity of all net-metered systems operating in a utilities' service territory. And then require utilities to prove that net metering has clearly adversely affected revenue. If they can't, then raise the aggregate limit. Note that CA has a 2.5% aggregate limit, and NJ has no aggregate limit.

> * forces a utility to buy higher cost power

*** There are countless public policy trade-offs involved. Significantly, more than 40 states clearly believe that the collective benefits of promoting net metering outweigh the argument that utilities are "forced to buy power at a higher cost." (For that matter, several utilities offer net metering voluntarily.) Utilities are regulated monopolies in most states, after all. This does not mean they hold a monopoly on making decisions that involve the public's best interest.

>
> * No margin for revenue generation allowed if we must purchase it at the
> same cost as we sell it for.

*** See above comment.

> * Increases cost to all customers

*** This is not proven to be true. One could easily argue that net metering increases benefits to all customers in the form of reduced air pollution and GHG emissions, increased peak power generation (in the case of PV), and a host of other benefits.

>

> * Would force some Utilities to violate existing power purchase agreements

*** Offhand, I don't believe that utilities would be "forced" to violate contracts. I'm not sure how other states have addressed this. This might be another good question for the CA PUC.

Rusty Haynes
N.C. Solar Center
N.C. State University
Raleigh, NC 27695
(919) 513-0445
www.dsireusa.org

Oregon

The Oregon Public Utility Commission issued rules in 2007 for the state's two largest investor-owned utilities (Portland General Electric and Pacific Power, accounting for about three-quarters of the state's load) that I believe addresses these concerns. The 2005 Oregon Legislature gave the Commission authority to raise the net metering facility size limit for these two utilities, from the mandatory level of 25 kilowatts for all Oregon utilities since 1999 (ORS 757.300).

Among other provisions, the Commission's new rules:

- * Provide for net metering up to 2 megawatts for non-residential customers (residential customers remain at 25 kilowatts)

- * Provide uniform, streamlined interconnection standards for net metering facilities, while maintaining safety and reliability protections through specified requirements

- * Provide for netting of a customer's generation against consumption for all kilowatt-hour related charges on the bill over an annual billing cycle. Any "excess" credit remaining at the end of the annual cycle goes toward Commission-approved, low-income energy assistance programs pursuant to statutory intent that net metering is primarily to offset customer load. Thus, systems are not significantly oversized relative to load, helping to mitigate concerns about cost shifting from non-participants to cover fixed utility costs.

We had the utilities' full support for the 2005 legislation, as well as the proposed rules, with minor exceptions in the case of one utility.

The Commission's order summarizes the arguments and the Commission's rationale and includes the final adopted rules (last section): <http://apps.puc.state.or.us/orders/2007ords/07-319.pdf>

Lisa Schwartz

Senior Analyst
Oregon Public Utility Commission
503-378-8718
lisa.c.schwartz@state.or.us
www.puc.state.or.us

New Jersey

If you have not done so already, I recommend you review the report titled "Freeing the Grid", issued by NNEC and IREC (Interstate Renewable Energy Council) et al. Here is a link to the report,
<http://www.newenergychoices.org/index.php?page=publications&sd=no>

Your first concern listed under "net metering issues" below is more an interconnection issue. But NJ does deal with net metering and interconnection in the same set of rules, N.J.A.C. 14:8-4 and since the larger set of rules are undergoing re-adoption, they are currently available at
<http://www.bpu.state.nj.us/bpu/pdf/rules/20071018energychapters4and8.pdf>

Your subsequent concerns are also dealt with pretty effectively in the report described above. And I believe the final bullet pertaining to PURPA contracts could be dealt with in your rules.

Scott

B. Scott Hunter
Renewable Energy Program Administrator
Office of Clean Energy
New Jersey Board of Public Utilities
Two Gateway Center
Newark, NJ 07102
www.njcep.com

Michigan

Michigan has a voluntary net metering program that was established in 2005. As of June 2007, there are 23 customers of regulated utilities participating. (The MPSC regulates investor owned utilities and cooperative utilities. It is possible that some municipal utilities have net metering programs.)

Over the last year we have had a net metering investigation proceeding. We have heard comments from net metering advocates and utilities. Basically the issues you mentioned below were discussed at some time during the proceeding. Staff issued a report on October 1 and the first 32 pages cover net metering issues.

Here is a link to report webpage: http://www.michigan.gov/mpsc/0,1607,7-159-16377_47107_47112---,00.html

(The report is the top link in the Documents box in the middle of the page.)

Julie Baldwin, Staff Engineer
Electric Operations Section
Operations & Wholesale Markets Division
Michigan Public Service Commission
(517) 241-6115

North Dakota

ND has had a rule since the early 1990's requiring jurisdictional electric utilities (IOUs) to offer net energy billing for PURPA QFs with 100 kW or less of generating capability. There has been only limited usage as the jurisdictional IOU's mostly serve towns where most wind generators are not allowed under local zoning, etc. ND rural electric cooperatives are not PSC jurisdictional so the rule does not apply to them.

Therefore, we have not substantially addressed any of the drawbacks you have listed. Please let me know if you want to discuss further. Thanks.

Jerry Lein
Public Utility Analyst
701 328-1035

Minnesota

Wow—as the state with the oldest net metering law, I can say that we haven't had safety issues that resulted from net metering. Interconnection is a simple process. We have a standard state net metering contract.

I am on another project, but if you don't get the help you need, I could refer you to our largest utility, Xcel Energy. They have established a replicable model for interconnection among utilities here in Minnesota.

Good luck,

Stacy A. Miller
State Programs Administrator
Renewable Energy and Advanced Technologies
State Energy Office
85 7th Place East, Suite 500
Saint Paul, MN 55101
651-282-5091
stacy.miller@state.mn.us

Maine

Maine has had net billing rules since the early 1980s. Although I was not around when the rules were first adopted, over the last 15 -20 years, utilities in Maine have not made the "danger" argument and there have no reports of any damage or injury resulting from net billing. We have heard some concerns recently from very small utilities (e.g. municipal utilities/Co-ops) that a revenue loss from net billing might be a problem—but to date, the number of net billing customers have been relatively small and have not caused any revenue loss problem. We have not heard that arguments that net billing forces utilities to buy higher cost power or that it might require the violations of existing power purchase agreements. Maine's utilities do not like net billing and they correctly argue that its transfer cost responsibility to other customers. However, in Maine the number of net billing customers has always been very small—so it has never been a real issue. However, to address the utilities revenue loss concerns, Maine's net billing rule states that the PUC will review whether net billing should continue if the cumulative capacity of net billing generation facilities reaches 0.5% of the utility's peak load.

Please let me know if I can be of further assistance.

Mitch Tannenbaum
Deputy General Counsel
Maine Public Utilities Commission
(207) 287-1391

Illinois

Use of UL 1741 listed inverters addresses concerns of utilities regarding back feed issues and power quality. A grid-connected photovoltaic or wind power system will need an inverter to convert the direct current power to alternating current and sync with utility power. An inverter that meets UL 1741 will shut down when utility power is lost, thus preventing any back feed. UL 1741 inverters are also designed to shut down if the voltage or frequency of the power is outside a set range, thus protecting power quality.

Our utility requires small wind and photovoltaic customers to use UL 1741 listed inverters and install an accessible disconnect on the AC side. This satisfies our safety requirements.

Maryl Freestone
Wind and Photovoltaic Programs
ComEd Energy Delivery
3 Lincoln Center
Oakbrook Terrace, IL 60181
1-800-825-5436
(630) 576-6353 fax

North Carolina Public Utilities Commission

- • **Dangerous to Linemen and the public**
 - ○ **no back-feed protection**
 - ○ **no phasing protection**
 - no fault protection**

- devastating to small utilities with a low customer density

- • forces a utility to buy higher cost power
 - ○ No margin for revenue generation allowed if we must purchase it at the same cost as we sell it for.
 - ○ Increases cost to all customers

- **Would force some Utilities to violate existing power purchase agreements**

As a result of the proposed rule, utilities will be forced to violate existing power purchase agreements. This is because the rule requires utilities to purchase power from distributed generation at a rate that is higher than the rate that the utility would otherwise pay for power. This is a violation of existing power purchase agreements, which typically require utilities to purchase power at a fixed rate.

The proposed rule also requires utilities to purchase power from distributed generation at a rate that is higher than the rate that the utility would otherwise pay for power. This is a violation of existing power purchase agreements, which typically require utilities to purchase power at a fixed rate.

Thank you.

Scott A. L. L.
 Executive Director
 North Carolina Electric Cooperative
 (919) 333-1111

Utah

Please feel free to contact me if you have further questions. My comments are below.

Dangerous to Linemen and the public

- **no back-feed protection**
- **no phasing protection**
- **no fault protection**

Regarding the point on line protection. Dangers of line feedback are a misnomer. Most distributed generation (DG) systems like solar, wind, and micro-hydro require inverters to tie in to the grid. Grid-tied inverters now have safety features built in, so they will not back-feed or send any type of feed into the system that could damage equipment or injure linemen. Larger systems that do not have indenters, i.e. co-gen systems, should require safety equipment to prevent issues like this. Utah's net metering law or the Utah's utility net-metering rules cover these issues.

• **devastating to small utilities with a low customer density**

I have not heard of a net-metering law that is devastating to a utility. Currently, due to the high cost of DG systems, a utility will not have a large percentage of DG on its system. In addition, the DG customers may be generating at a time that the utility pays a high cost for power, thus it may save the utility money. A few of the Co-Ops in Utah charge an additional fee to make up for the lost revenue, but I do not think this is should be required. Even in California, a place Net-Metering is considered very successful, DG only equates to 3% of the states generating capacity.

Our munis and Co-Ops are not concerned with this issue.

- **forces a utility to buy higher cost power**

This is only true if you craft a law or rule to require that the utility credit the customer at a set rate that is higher. Many DG systems produce power when energy costs are above what the customers purchase it for. I assume that hydro may be a big DG producer for your state. If so, I would consider time of use rates or one lower flat rate.

- **No margin for revenue generation allowed if we must purchase it at the same cost as we sell it for.**

Net metering is more of an economic incentive for the DG owner, not the utility. Although it can benefit the utility by reducing demand on their system. It can save the utility money, but it may not.

- **Increases cost to all customers**

Again Net-Metering is such a small portion of most systems, (0.5%-3% are often the aggregate limits for utilities) that it doesn't affect a utilities to the point to where they have to raise costs. That is why a net metering law or a PSC rule or utility rule will have an aggregate limit on net-metering capacity. Utah's aggregate limit is about 3,000kw for our major IOU utility.

Would force some Utilities to violate existing power purchase agreements

Again, net-metering is not significant enough to affect this point.

I would say that it would be important to have a solid interconnection law/rule for your state to protect the utilities from DG systems as well as making it easier for DG owner to tie-in to the grid. Utah is currently working on creating rules for interconnection.

"Our office has recently prefiled legislation to require utilities statewide to offer the option of net metering to utility customers that generate electricity on-site through the use of alternative power sources (our particular legislation puts a cap on home generation at 25 kilowatts, and credits the customer-generator for their generation by applying a kilowatt hour credit against their following months bill). "

25kW is more than enough for residential net-metering, but will suggest that a larger amount be considered for commercial systems. Many states are now going to much larger caps for net metering due to the fact that it is more common for DG systems to be larger. For example the city of Logan, Utah just increased their net metering to 250kW for commercial systems. This will allow more companies with larger energy loads to net-meter.

I hope this helps.

You may want to read through a report from a couple of organization too. The links are below.

<http://www.raonline.org/>

freeing the Grid is also a good review of what other states are doing regarding net-metering. It also debunks the myths about DG.

Thanks,

Jason

RAP is a great organization that can help you on issue dealing with net-metering.

Jason Berry
Renewable Energy Coordinator
State Energy Program
Utah Geological Survey
801-538-5413
Fax:801-538-4795

jasonberry@utah.gov
geology.utah.gov/sep

New Hampshire

NH has had net metering in place since the 1980s. It's part of our rules, see Puc 900 rules on our website (<http://www.puc.nh.gov/Regulatory/Rules/puc900.pdf>) for details although they are getting updated to incorporate some changes in legislation passed in 2007. The primary change increases the eligible installed generation from 25 kW to 100 kW as well as increasing the utility's overall amount of net metering load from 0.05% to 1%. We have never come close to meeting that amount. Excess generation can be carried over.

As far as safety is concerned, NH hasn't experienced any problems that I'm aware of. It is important that anyone installing on-site generation notify their utility and follow the applicable interconnection process.

We have no evidence that small utilities have been harmed by net metering though, as I said, it has not been widely adopted in NH.

Under a restructured environment, the distribution company purchases "default" power for its customers on an all requirements basis based on competitive bid process. There is no "profit" margin built into default power for the distribution company. Whether the competitive power supplier takes the load of net metering into account as part of its bid strategy is unknown, but I doubt ranks too high in the list of risks it does take into account. At least, not until the level of net metering shows some significant growth. Does it increase cost to other customers? It would depend on the load characteristics of the classes as well as the type of regulatory environment (i.e., is the distribution company operating under traditional COS or some alt reg variety?). In general though, you are offsetting all costs of service with the value of generation produced on-site. The effect will usually be to shift costs to others, but that effect is very small.

We're not aware of any existing power purchase contracts that were violated. Certainly, that wouldn't be a problem for new contracts entered into after a net metering law or rule went into effect.

Tom Frantz
Director - Electric Division
New Hampshire Public Utilities Commission
21 S. Fruit Street
Concord, NH 03301
603.271.2431

Idaho

Idaho does not have a net metering law. However, all three of the investor-owned utilities serving in our state (Idaho Power, Avista, PacifiCorp) have had net metering tariffs for many years, some since the early 80s. The net metering tariffs for each of these three utilities can be found on their websites. There are also several coops and municipal utilities in Idaho, but because the Idaho PUC does not regulate them, what they do with regard to net metering is completely up to them. Over 80 percent of customers in Idaho are served by regulated utilities; however.

Despite net metering being available to customers in Idaho for many years, extremely few have chosen to participate. There are a couple dozen net metering installations, with a collective capacity of about 200 kW. The total amounts paid by utilities to purchase from net metering projects is only about \$30,000 per year. The impact on the utilities and on non-participating customers is almost negligible. Nevertheless, nothing seems to generate as much controversy and debate as net metering. We've argued over most of the usual issues, but in the end, the arguments have always been far bigger than the issues we've had to resolve. The claims made by both sides have always been greatly exaggerated.

Regarding the issues you list:

Dangerous to Linemen and the public: We allow each utility to prescribe whatever interconnection and protection equipment they believe is necessary for safety. The PUC has not received complaints from any participants that the utility requirements are onerous, but some net metering advocates who are not participants sometimes still like to claim that they are.

devastating to small utilities with a low customer density: We've never heard this contention before, but none of the three utilities we deal with are considered "small." Given the extremely low participation rate, however, it seems unlikely that net metering could be devastating to a utility of any size.

forces a utility to buy higher cost power: We believe this is definitely true, however, because there are so few kWh under net metering, the cost impact on the utility is negligible. If there was far more participation, this is an issue we would probably have tried to resolve.

Would force some utilities to violate existing power purchase agreements: We have never heard this argument before.

Rick Sterling, Idaho PUC

Oregon

Net metering has no more impact on revenue than people choosing to turn off . . . fill in the blank. We limited net metering to 0.5% of the connected load. This is smaller than the actual meter bases are accurate.

Safety concerns have been addressed, with the exception of how to deal with urban spot and area networks.

Long term revenue impact will be addressed as the amount of solar energy applications rise beyond 0.5%.

Oregon has a 2MW net metering law, a 50% tax credit and a 25% by 2025 RPS (above the 44% hydro already in place).

My recommendation is to start small and start soon. One of my favorite examples for solar is that there are many locations in Alaska where it is more cost effective than in Phoenix. That's because the cost for remote generation (non-hydro) is more than 2x times the cost of Power in Phoenix, whereas the amount of sunlight (annually) in Alaska is only half that of Phoenix.

Alaska has many places where solar offers quicker payback than Phoenix.

That is if you had net metering.

Christopher Dymond
Senior Energy Analyst
Oregon Department of Energy
625 Marion St NE Salem OR 97301-3742
(503) 378-8325
www.energy.state.or.us

Kentucky

There have been several replies to your request, most of which I could easily repeat, but I'll try not to be redundant. The concern about net metering being dangerous to linemen is not a valid argument. Being a lineman is a hazardous occupation which requires an individual doing the job to have proper training and experience and to follow the appropriate safety codes, procedures and practices. When properly approached a net metering installation should not present any greater safety concern than what might be encountered on the job anyway. Just because there are laws and regulations allowing net metering interconnections, does not require the utilities to make dangerous and unsafe interconnections and they don't. Most of this equipment is supplied commercially with interface controllers that make these installations safer than having portable individual backup generators connected and used during power outages; how many times does that situation exist with nobody's approval or knowledge except the owner.

The other complaints are economic and are not as valid as they would seem, since as others have stated, there are usually limits on the number and impact of these connections compared to the size of the servicing utility. These utilities typically don't really want net metering, so they will think up any and every excuse they can to keep from facing the issue. And as the previous responses have indicated, the participation of customers in net metering installations is very limited. I believe it would be a rare instance for net metering installations to truly be economically justified in most locations; at least, I've never come across one in Kentucky. Individuals tend to pursue an interest in net metering for reasons other than economic.

John Shupp
Electric Branch Manager, Engineering Division
Kentucky Public Service Commission
(502) 564-3940 Ext. 421

New Mexico

I have added comments in italics to the questions you posed:

Net Metering:

- **Dangerous to Linemen and the public**
 - no back-feed protection
 - no phasing protection
 - no fault protection

It is my understanding that systems currently on the market have addressed these issues in their designs.

- **devastating to small utilities with a low customer density**

As Texas has deregulated generation and energy sales, utilities have become transmission/distribution companies. Their revenue comes from fees for transmission/distribution rather than from energy sales directly. In formulating the new rules for net metering and distributed renewable generation, we will be mindful of the potential for erosion of revenues for T&D companies.

- **forces a utility to buy higher cost power**
 - No margin for revenue generation allowed if we must purchase it at the same cost as we sell it for.
 - Increases cost to all customers

The statute (HB 3693) in Texas provides for the sale of excess energy to be at a rate negotiated between the generation system owner and his/her Retail Electric Provider.

- **Would force some Utilities to violate existing power purchase agreements**

In Texas, these agreements are between wholesale generators and Retail Electric Providers. The REP would need to balance purchases from customer and wholesalers to meet total customer load.

I hope this is helpful. Please call with any further questions.

I must apologize that I had not responded to your request for information. In a short answer the NMPRC has two rules which relate to net metering. One is specific to GOVERNING COGENERATION AND SMALL POWER PRODUCTION, and the second is NET METERING OF CUSTOMER-OWNED ENERGY RESOURCES.

Links to those rules are:

<http://www.nmcpr.state.nm.us/nmac/parts/title17/17.009.0570.htm>

<http://www.nmcpr.state.nm.us/nmac/parts/title17/17.009.0571.htm>

I believe all of the concern that you listed are valid and the responses for the other commission have addressed those concerns. The NMPRC is applied these two rule to help stream-line customers ability to net meter. The purpose of rule 571 is to simplify the interconnection requirements for Qualifying Facilities of 10kW or smaller and encourage the use of small-scale customer-owned renewable or alternative energy resources in recognition of the beneficial effects the development of such resources will have on the environment of New Mexico.

This information is getting to you late but I hope it might help in some way.

Jim Brack, Economics Bureau Chief
Utility Division, New Mexico Public Regulation Commission
224 E. Palace Avenue
Santa Fe, NM 87501

505-827-6982

Jim.Brack@state.nm.us