

STATE OF MINNESOTA
BEFORE THE
MINNESOTA PUBLIC UTILITIES COMMISSION

Leroy Koppendrayer	Chair
Ellen Gavin	Commissioner
Marshall Johnson	Commissioner
Gregory Scott	Commissioner
Phyllis Reha	Commissioner

In the Matter of All Electric Companies
Establishing Generic Standards for
Utility Tariffs for Interconnection and
Operation of Distributed Generation
Facilities Under Chapter 212 of
Minnesota Statutes

Docket Number: E999/CI-01-1023

**REPLY COMMENTS OF THE
NORTH AMERICAN WATER OFFICE
ON THE DEPARTMENT OF COMMERCE “FINAL REPORT”
ON THE DISTRIBUTED GENERATION WORKING GROUPS**

June 27, 2003

I. HISTORICAL PERSPECTIVE

This docket, and a definitive Order from this Commission that fosters, promotes and encourages Distributed Generation (DG), is long overdue. Since at least the mid-70's, Minnesota has had laws in the books proclaiming Minnesota's "*vital interest*" in renewable energy development. For decades, Minnesota decision-makers have been exposed to the opportunity for creating jobs and enhancing local economic development by replacing even a small fraction of the approximately \$3.5 billion per year Minnesota spends to import electricity and fuels to generate electricity, with home-grown locally owned electric generation. As time passed, environmental, safety and security problems with the conventional electric utility system intensified and became more apparent.

These problems, however, are mostly met with denial. When addressed at all, marginal programs and half measures are usually applied.

Meanwhile, the past 30 years have seen remarkable advances in DG technologies and cost effectiveness. But even though DG offers real and permanent solutions to environmental, safety, security and economic problems and disparities, little more DG is on-line presently than was on-line when the legislature first recognized its value. This failure of DG technology to penetrate electric utility markets in any significant way is the direct result of barriers, existing by design and by happenstance, that prevent capital from being invested into DG technologies. Capital is not invested because, and only because, terribly flawed and prejudicial rules and regulations prevent it from earning a fair and reasonable return. So not surprisingly, DG systems owned and operated by members of the general public are few and far between.

The North American Water Office (NAWO) is therefore pleased that electric utility regulators, managers, and stakeholders in Minnesota are formally examining these barriers with an eye to overcoming them. We are hopeful that the MPUC is poised to order technical standards and a standard tariff that finally allows significant capital to form around DG technologies. Most certainly, the ability of DG projects to perform, and the contribution they are capable of making to the system, warrant such an outcome. Toward this end, NAWO submits these comments and acknowledges the work of Carl Nelson of the Minnesota Project, John Bailey of the Institute for Local Self Reliance and Adam Sokolski from the Izaak Walton League, who have helped guide and shape this docket while NAWO was tending other business.

II. GOAL OF THIS DOCKET

The goal of this docket is to streamline and standardize the interconnection process for DG technologies, thereby providing them with easy access to the grid, while providing DG projects with a fair price for the electricity they generate and the capacity they provide. This requires dramatic change from present, outrageously discriminatory practices. To be successful, the final rules promulgated by this proceeding must provide a clear, unambiguous process for DG interconnection that includes a timeline for each step along the way, with enforceable sanctions for failure to comply with timeline requirements. There must be complete disclosure of all costs associated with DG interconnection, with an appeal process for costs outside of pre-set boundaries. And the rules must set a fair price for the electricity that DG technologies provide to the electric utility system. Such a price must include its fair energy and capacity value, and the fair value of its environmental attributes, none of which are presently included.

III. THE DG TARIFF

As stated, the DG tariff must include energy, capacity, and environmental value.

A. Energy Value

The energy value should include the average avoided incremental energy cost of the interconnected utility system, which seems to be fairly well agreed upon. But the energy value should also take into account the value of avoided transmission losses. Line losses are routinely and universally considered when analyzing conventional expansion of the interconnected transmission and generation system to help determine which options are the most cost-effective. In fact, it is not possible to determine which options

are most cost effective unless line losses are accounted for. It is therefore inconsistent and patently unfair to disregard the value of avoided line losses when setting the tariff for DG projects.

Fairness also requires that the energy component of the tariff should include a fuel adjustment clause that could be trued up on a monthly basis. Natural gas prices are volatile, and natural gas accounts for a significant and increasing fraction of dispatched capacity. Electric utilities have routinely and for decades been protected against various manifestations of fuel price volatility with fuel cost adjustments that show up on every consumer bill every month. What is good for the goose should be good for the gander, and administrative costs can be factored in. As the value of energy from DG systems is higher when fuel costs for the utility are higher, and visa versa, it is not fair to discount that value in the DG Tariff.

B. Capacity Value

Capacity value should be included in the DG Tariff, and the time has come to dismiss the tired old utility arguments that have to date been used successfully to discredit DG capacity value. Such arguments are based on a long-standing utility management and regulatory bias toward protecting the privilege that sunken investments into central-station facilities have historically enjoyed. These fallacious utility arguments have resulted in the very inequities and failure to realize DG development that this docket is intended to correct. Even MAPP, with its conservative engineering perspective accredits wind, an intermittent resource, with a capacity factor of about 10% of nameplate capacity. This is too low in our opinion, but the fact remains that DG facilities

contribute capacity to the system at times of peak load, and failure to recognize this simple fact and reflect it appropriately in the DG Tariff is no longer acceptable.

The fact that DG facilities powered by wind will actually be distributed enhances their capacity value because while the wind is not always blowing at a single site, it is always blowing somewhere. If the goal of this docket is accomplished, the rules thereby promulgated will ensure that DG facilities are always operating somewhere where the wind is blowing.

It is not fair and grossly inconsistent to approve Integrated Resources Plans that include capacity expansions anywhere within the planning horizon, and to then turn around and discount the capacity value that DG facilities bring to the system. In fair and rational management and regulation, as opposed to present business practices that serve to entrench vested interests, DG capacity would be the *first* capacity accounted for in the planning process, rather than the last. In this same vein, the capacity value afforded to DG facilities by the DG Tariff must not only reflect the value of providing the system with power at peak times when power is most expensive. The DG Tariff must also reflect conventional capacity costs that are delayed if not avoided altogether because expensive new conventional generation facilities are not needed.

C. Net Present Value of Avoided Energy & Capacity Costs

It is also true that the value of money diminishes over time. Conservation improvements continue to save energy over time, for example, but the value of the money used to install them diminishes over the life of the conservation measure. Net present value calculations are therefore used to determine the cost-effectiveness, in terms of ¢/kWh, of conservation investments. Likewise, DG projects which have fixed-rate long-

term contracts, will provide energy into the system over time, the value of which can, and in fairness should be calculated in terms of net present value, because the value of a utility's avoided cost also reaches over time. Unfortunately, it appears that neither the Department of Commerce nor the Working Groups took the net present value of avoided costs into account while evaluating DG Tariffs.

But assume that avoided cost has a net present value of $2\text{¢} / \text{kWh}$, and that a DG project received a fixed-rate 20-year power contract. In this scenario, using the same calculation that Xcel Energy uses to determine certain front-loaded power contracts, the purchase price for energy from that DG project would have to be $4.3\text{¢} / \text{kWh}$.

In other words, presume that all other attributes of DG projects discussed in these comments, and analyzed by the working groups for the past 18 months or so, are ignored. Instead, evaluate the value of DG projects to a utility system solely on the basis of a net present value calculation, just like utility conservation and other investments are routinely evaluated. Then, if the net present value of avoided costs is $2\text{¢} / \text{kWh}$, this would *all by itself, and in all fairness,* cause the DG Tariff to jump into the neighborhood $4.3\text{¢} / \text{kWh}$.

D. Environmental Value

In addition to the energy and capacity value of DG technologies, the DG Tariff should include the value of DG environmental attributes. Presently in Minnesota, utilities charge consumers a premium for the privilege of purchasing “green power” from designated (presumably not those built as a result of mandates) renewable generation facilities. At a minimum, therefore, the value of DG environmental attributes included in the tariff must equal the premium consumers pay for “green power.” Anything less is

pure hypocrisy on top of consumer fraud. There are, however, at least two additional environmental attributes that should be valued in the DG Tariff.

First, all Minnesota utilities are now required to produce 10% of their energy from renewable energy resources by 2015, or show why not and what they are doing to overcome the barriers that prevent them from doing so. As energy from DG facilities will help utilities meet this renewable energy portfolio standard, it has value that must be reflected in the DG Tariff. Second, the market for “green tags” is sufficiently developed for utilities to presently want to secure them if they are available. If the renewable energy credit offered by a utility is lower than a DG facility owner can get in another market, the DG owner must have the option of selling green tags to the highest bidder.

E. Reliability, Security & Local Economic Development Value

Finally, DG technologies provide a number of additional benefits to the utility system that, in all fairness, should be accounted for in the DG Tariff. By producing energy closer to loads, the cost of certain transmission upgrades will be avoided. Also, the reliability of the system is enhanced when it is powered by multiple smaller generators rather than by just a few very large generators. This is why trees do not have just 2 or 3 very big leaves. System reliability is enhanced by DG technologies by reducing the potential for transmission and generation operator error, component failure, Acts of God, and terrorist activity to adversely impact the system. All these DG attributes most certainly add value to energy DG projects provide to the interconnected grid, but in an ugly and glaring display of unfair business practices, none of this value is reflected in the price DG projects can presently get for their product.

By placing a monetary value on all of the above positive attributes of DG facilities in the DG Tariff, society will reap an enormous additional benefit: local economic development. As the MPUC decides how to set and manage the DG Tariff, it must remember that the “cheapest” electricity is not necessarily the lowest cost or the most cost-effective from a societal perspective. To illustrate, as Commissioners (and others) prudently manage their private lives, they do not just go out and purchase the cheapest vehicle on the market, because such a vehicle will most certainly not satisfactorily perform all required transportation functions. Likewise with the DG Tariff: Commissioners must be mindful of all the functions it should be designed to perform. The value of job creation, local circulation of capital, and tax revenues generated by DG development, in addition to the energy, capacity and environmental value of DG projects, will therefore also be included in the calculation that determines the appropriate DG Tariff.

IV. INTERCONNECTION STANDARDS

Even with a well-balanced and appropriate DG Tariff, the goal of this docket will be thwarted unless Interconnection Standards eliminate several major barriers to DG development. Interconnection standards are needed to eliminate arbitrary behavior on the part of monopoly interconnecting utilities, ambiguous and burdensome costs for engineering studies, and onerous insurance requirements. Unfair business practices are routinely employed by monopoly utilities during the interconnection process with the specific intent of discouraging development of DG systems, and it is time for this disgusting behavior to come to a screeching halt.

Each step in the interconnection process should be specifically identified.

Maximum time limits for each step, including engineering studies, should be set, and the time limits should be enforceable through specified sanctions for violations.

The cost-range of each step in the process, particularly the cost of interconnection studies, should be stated up-front, with the maximum cost to the DG owner specified and standardized for particular sizes and types of installations. For small projects, the cost of interconnection studies should be eliminated. At the request of a DG developer, the PUC should require a review of any utility-required interconnection costs that are outside standardized cost-ranges.

DG insurance costs should be standardized, and based on a documented and properly examined record.

V. CONCLUSION

The objective of this Docket is to ensure that investment capital will actually flow into DG systems and technologies. Otherwise, why bother? In order to achieve this objective, however, the DG installation process must be fair and easily understood by members of the general public, and DG investments must be able to realize an equitable rate of return. To accomplish this objective, historical treatment of DG projects must be stood on its head. Dramatic change is required.

The objective of this Docket is **not** to reach some “happy balance” between vested utility interests and DG proponents. Maintaining happy vested utility interests in the balance is precisely what produced and maintains a dysfunctional DG program. Utility interests are already amply accounted for by a myriad of subsidies that keeps power from conventional central-station generators artificially low, and extremely low at

that. But just because conventional central-station energy prices are maintained at extremely low and artificial levels doesn't mean that the real, fair value of energy from DG projects should continue to be arbitrarily and with deliberate prejudice, discounted by a factor that is easily over 50%. The time has come to fundamentally change the equation because such change, the critical elements of which are described above, is the only way to realize the long-recognized vital public interest in developing renewable distributed electrical generation capacity.

NAWO appreciates this opportunity to participate in this very important proceeding, and fervently hopes for an Order that enables the stated objective to be accomplished. Thank you for your attention to our perspective.

Respectfully submitted,

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RE: Docket No. E 999/CI-01-1023

Dear Dr. Haar:

Please find enclosed the original and 15 copies of the Reply Comments of the North American Water Office in the above captioned docket.

A copy of these comments has been sent to each address on the attached Service List via the U.S. Postal Service.

Thank you kindly for your attention to this matter.

Sincerely,

George Crocker
Executive Director