comments

National Energy Marketers Association

STATE OF NEW YORK
PUBLIC SERVICE COMMISSION

ORIG - FILES

In the Matter of a Proceeding on Motion of the Commission as to the Reasonableness of the Rates Terms and Conditions for the Provision of Electric Standby Service	))))	Cases 99-E-1470

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EXTRAS - MR. L. VAN RYN

SUPPLEMENTAL COMMENTS OF THE NATIONAL ENERGY MARKETERS ASSOCIATION ON REVISED STRAW PROPOSAL

The National Energy Marketers Association (NEM) hereby submits Supplemental Comments on the revised Straw Proposal entitled, "Guidelines for the Design of Standby Service Rates," pursuant to the email notice circulated by Administrative Law Judge Harrison on September 4, 2001.

NEM recently issued, "***National Guidelines for Implementing Distributed Generation and Related Services***," (a copy of which is attached hereto and incorporated herein) recommending that utility tariffs, back-up rates, demand charges and interconnection policies and practices reflect the value of distributed generation to the reliability of distribution system and incent investments in distributed generation as an alternative to system expansion. These Policy Guidelines form the basis for NEM's supplemental comments in this proceeding.

NEM is encouraged that a number of the modifications to the revised Straw Proposal have the potential of allowing distributed generation to become a more economic investment in New York. However, NEM reiterates that the standby

rate structure must be based on operating history and adequate actual cost data, and the "bottom up" unbundled cost of service studies, as ordered in Case 00-M-0504,[1] must first be performed and the actual utility costs associated with serving the back up power needs of customers that have invested in self generation and distributed generation must be identified, each class of customer properly segregated and associated costs quantified.

NEM offers the following comments on specific modifications set forth in the revised Straw Proposal:

1) Applicability

The Straw Proposal has been modified at Section I.A.4 to provide that, "[a]dditional charges *and/or credits* may also apply to standby customers to reflect other costs and *and/or savings* that are uniquely attributable to standby customers (emphasis added)." NEM supports this modification. Tariffs must be designed to reflect the significant value that distributed generation provides to the distribution system, including enhancing the reliability of the system, reduction of distribution system losses, deferral of distribution upgrades, provision of voltage support and enhancement of power quality.

The Straw Proposal was further modified at Section I.B.2 to provide that the, "contribution to stranded costs by Standby Delivery Service customers should be established through a uniform percentage mark-up of the applicable rate components established for Standby Service." As an initial matter, NEM

[1] Case 00-M-0504, Order Directing Expedited Consideration of Rate Unbundling (March 29, 2001).

maintains that the fact that a customer invests in distributed generation does not strand costs, either for generation or distribution. Additionally, if stranded costs are deemed to exist they should be recovered from all similarly situated consumers in a competitively neutral manner.

2) General Rate Design Principles

The Straw Proposal was modified at Section II.A to provide as follows:

> The nature of standby service is sufficiently different from that of other customers appropriately to reflect the unique service needs of wholesale and on-site generators in tariffs for standby service.
>
> Sufficient data may exist to base rates for wholesale generators on this group's own load characteristics. However, because many aspects of the utilities' provision of standby service for customers with on-site generation mirror those of other customers, fully separate service classifications are not required. To the extent standby service has cost causation characteristics that differentiate it from the balance of the customers in the otherwise applicable service classification, rates reflective of those differences should be developed within each classification and applied to customers taking standby service.
>
> Pending appropriate cost of service analyses, costs now allocated to each standard service classification will serve as the basis for the design of revenue-neutral, class specific standby service delivery charges.

NEM submits that this section is an improvement from the prior version of the Straw Proposal but is still flawed. In particular, NEM is supportive of the requirement that cost causation characteristics unique to standby customers be reflected in rates, including benefits engendered by distributed generation investments.

NEM is concerned about the requirement that rates be instituted prior to the performance of fully unbundled embedded cost of service studies. It is an absolute

necessity that the utilities fully unbundle competitive services from monopoly services and provide consumers with credits equal to the historical embedded costs to shop for competitive products, services, information and technologies, including distributed generation.

3) Distribution Rates

The revised straw proposal sets forth changes to the provisions on Contract Demand Charges as well as As-Used Demand Charges. The Straw Proposal provides at Section II.E.3.d that, "Contract (Fixed) Demand Charges should apply to the customer's maximum *anticipated* annual metered demand (emphasis added)." The provision on As-Used Demand Charges has been changed such that standby customers' intermittent and shared use of certain distribution facilities is to be reflected as a Daily As-Used Demand Charge that, "should apply only to the customer's daily maximum metered demand that occurs during the utility's peak periods."

NEM asserts that rate designs that collect generation and distribution costs based on a continuous use model that assumes that a distributed generation unit will never be running and will always be using the utility for its peak demand create excessive demand charges. Utility rates should be based directly on the size, configuration and actual demand of a unit. Rates should be implemented that only require distributed generation investors to pay for the actual energy used and only when it is used. Furthermore, given the significant system benefits of distributed power, demand charges should be offset or eliminated to reflect these benefits.

In conclusion, NEM urges that standby rates be designed consistent with today's need to enhance competitive energy options, lower costs and enhance reliability. Utility tariffs, operating practices and procedures must reflect that distributed generation can increase energy supplies, enhance system reliability and lower energy costs to both the utility and the consumer.

Respectfully submitted,

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Dated: September 13, 2001.

cc: Secretary Deixler
ALJ Michael Harrison (via email)
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NEM NATIONAL ENERGY MARKETERS ASSOCIATION

National Guidelines for Implementing Distributed Generation and Related Services

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This document reflects the views of the National Energy Marketers Association and does not necessarily reflect the views of specific members of the Association

NEM'S NATIONAL GUIDELINES FOR THE IMPLEMENTATION OF DISTRIBUTED GENERATION TECHNOLOGY

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Executive Summary

NEM recommends the following five principles to encourage new investments in distributed generation technologies as an important part of the Competitive Restructuring of U.S. Energy Markets.

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2. Utilities Must Provide Equal, Non-Discriminatory Access to Markets for Power and Auxiliary Services.

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I
Introduction

The National Energy Marketers Association (NEM) is a national, non-profit trade association representing both wholesale and retail marketers of energy and energy-related products, services, information and technologies throughout the United States. NEM's membership includes: small regional marketers, large traditional international wholesale and retail energy suppliers (as well as wind and solar power), billing and metering firms, Internet energy providers, energy-related software developers, risk managers, energy brokerage firms, information technology providers and manufacturers and suppliers of advanced distributed generation. Membership includes both affiliated and unaffiliated companies.

This regionally diverse, broad-based coalition of energy and technology firms has come together under the NEM auspices to forge consensus and to help eliminate as many issues as possible that would delay competition. NEM is committed to working with representatives of state and federal governments, large and small consumer groups and utilities to devise fair and effective ways to implement the competitive restructuring of natural gas and electricity markets. NEM and its members appear before state Public Utility Commissions, the Federal Energy Regulatory Commission and legislative bodies throughout the nation.

NEM members urge lawmakers and regulators to implement:

- Laws and regulations that open markets for natural gas and electricity in a competitively neutral fashion;
- Rates, tariffs, taxes and operating procedures that unbundle competitive services from monopoly services and encourage true competition on the basis of price, quality of service and provision of value-added services;
- Standards of conduct that protect consumers; and
- Policies that encourage investments in new technologies, including the integration of energy, telecommunications and Internet services to lower the cost of energy and related services.

II
Distributed Generation Is Vital to The Competitive Restructuring of U.S. Energy Markets

Decades-old regulations governing the supply, generation, transmission, storage, distribution, marketing, and delivery of energy are being rethought and rewritten nationwide. After years of experience in numerous industries, lawmakers, policymakers and regulators throughout the country have recognized that price competition and customer choice can provide greater public benefits and consumer protection than traditional utility-style regulation.

Recent experiences in California indicate that the transition from cost-of-service regulation to market-based competition will be difficult if policymakers do not remain focused on basic principles of competition. Each jurisdiction must identify its unique challenges and barriers and develop strategies to address them. With hindsight, we know that Californians did not pay enough attention to rapid economic and population growth, did not encourage sufficient merchant power plant construction or transmission line construction, and did not pay enough attention to the value of real price signals in an open and competitive market. System reliability declined and costs soared just as consumers were expecting enhanced reliability and price decreases.

NEM believes that system capacity needs, transmission and distribution constraints, the desire for enhanced reliability, market power concerns, and consumers' drive to exert greater influence over their energy destiny all point toward a growing need for distributed generation. Distributed generation alone cannot solve all the problems in the electricity markets, but distributed generation can contribute significantly to the solution over both the short and long term, particularly given the reliability needs of a digital economy.

Distributed generation technologies are small-scale electric generating units located close to a consumer's point of usage, such as on an industrial site or inside or near a building. Most existing distributed generation units are "standing by" as emergency backup at consumer facilities. These emergency units operate just a few hours each year. Distributed generation has a long and successful history of service to consumers who require a highly reliable source of power and are willing to pay for service that exceeds the reliability provided by traditional electric utilities. Most emergency distributed generation is not connected to the distribution grid and does not operate in parallel (synchronously) with the grid. During a system outage, most emergency generators "island" the consumer's load to serve it off grid.

Recent improvements in the efficiency and flexibility of distributed generation technologies and interface equipment have increased interest in interconnection and parallel operation. Once interconnected, distributed generation can operate in one of several generating modes: as a peak shaving device, to meet a consumer's base load or follow the load, or it can be controlled and dispatched by someone other than the consumer or utility. Small-scale distributed generation technologies include reciprocating internal combustion engines, microturbines, fuel cells and other electricity producing devices. Several renewable energy technologies also provide power on an intermittent basis and reduce the environmental impact of the system as a whole.

The installation of distributed generation is the ultimate act of consumer energy independence, and the role of government in this process should be limited to that of a facilitator. After all, numerous large industrial consumers have chosen to invest in cogeneration facilities and to sell excess power into the wholesale markets for the past 20 years. Smaller consumers must be afforded the same benefits.

This document sets forth NEM's recommendations for National Guidelines to Implement Distributed Generation Technology. NEM recommends fair and uniform business practices for interconnection, reasonable regulation of emissions, balanced planning and distributed generation valuation, fair tariffs for regulated services, and the ability to sell excess power. NEM urges the adoption of its Uniform Code of Conduct to govern commercial transactions between regulated and unregulated energy service providers at the distribution level.

Investments in Distributed Generation Technology Serve the Public Interest

- Investments in distributed generation technologies increase electric price competition by reducing the market power of central-station energy providers, particularly in transmission and distribution constrained areas where price spikes and blackouts are most likely to occur.
- New technology investments provide a greater array of consumer energy choices;
- On-site generation permits consumers that invest in distributed generation to control energy use, lower costs and enhance power quality and reliability;
- Investments in distributed generation enhance onsite efficiency and provide environmental benefits, particularly in combined heat and power applications; and
- Distributed generation technologies can enhance the efficiency, reliability, and operational benefits of the distribution system benefiting all consumers.

A Comprehensive National Energy Policy Must Encourage New Investments in Distributed Generation Technology

- Electric demand is increasing both as a result of economic expansion and the 21st Century digital revolution.
- Customers are demanding increased reliability and power from an electrical grid built to accommodate the Industrial Revolution of the 20th century.
- Advanced distributed generation technologies, such as gas turbines and fuel cells, are becoming available at higher levels of efficiency, in smaller sizes, greater reliability, and at lower costs.
- Electric industry restructuring is beginning to provide open access to essential network facilities that can increase consumer investments in distributed generation technology.
- Advances in communications, metering, and control devices are making the electric system more flexible thereby improving the economics of deployment and control of small-scale generation technologies.
- As congestion on the existing grid mounts, investments in distributed generation can provide significant relief to consumers quickly and cost effectively.

III

Regulators Should Unbundle and Redesign Distribution Rates, Eliminate Penalties, Redundant Charges, Barriers to Entry, and Implement Tariffs that Encourage Investments

Currently, consumers pay utilities rates that reflect monopoly prices for a bundle of services that include many products, services, information and technologies that can and should be provided by competitive suppliers at competitive prices. As currently designed, utility tariffs represent significant economic barriers to consumers who wish to invest in distributed generation and related technologies.

As a public policy matter, rates should encourage, not penalize, self-generation or distributed generation, and power produced by a distributed generator for its own use should never be treated as a stranded cost but rather a benefit to the utility system. Some jurisdictions place "exit fees" (payments for electric services that a consumer no longer wishes to buy from the utility) on investors who decide to generate their own power. Charges that directly or indirectly operate as an "exit fee" or penalty are contrary to the public interest, unjust and unreasonable and should not be included in standby rates. Consumers that invest in and install distributed generation should not be penalized, forced to pay for services they do not require or charged fees that typical, electricity-consuming customers do not pay.

These practices and rate designs are inconsistent with today's need to enhance competitive energy options, lower costs and improve reliability. Utility tariffs, operating practices and procedures must be rewritten to recognize that distributed generation can increase energy supplies, enhance system reliability and lower energy costs to both the utility and the consumer.

A. Unbundling Distribution Rates and Services Will Facilitate Lower Energy Prices

Current utility rate structures charge customers bundled prices that include charges for products and services that may be unwanted or unneeded and could be procured elsewhere at lower competitive prices. All consumers, including those who invest in distributed generation, will benefit if regulated products and services are unbundled to the greatest possible extent, thus allowing them to choose products that are differentiated with respect to time (time-of-use pricing), location (geographically-based incentives), and quality/reliability (interruptible/curtailable service options). Increasing these options will increase the differentiation of service, and will allow the market to provide more services to customers at lower prices. Consumers who desire increased reliability can invest in backup onsite power. The complete unbundling of distribution rates and services is critical to facilitate these investments.

At the same time, regulators should adopt utility tariffs that provide appropriate price signals to customers who are considering distributed generation investments. Utility distribution costs should be fully unbundled from the costs associated with generation, transmission, retail and customer care functions. All consumers and particularly consumers who wish to make investments in distributed generation should have the opportunity to respond to efficient price signals for services that can only be provided by a utility.

B. Utilities Must Eliminate Punitive Rates, Tariffs and Interconnection Practices and Tariffs Should be Redesigned to Encourage Distributed Generation Investments

Distributed generation provides significant value to the distribution system, even without exporting power from the distributed generation facility, and that value is normally not recognized by the utility. Distributed generation can enhance the reliability of service, reduce distribution system losses, defer distribution upgrades, provide voltage support and enhance power quality. Maintaining the status quo with existing rate designs favors large, central power plants and penalizes investments in smaller, distributed generation resources that should be an important part of this country's future energy supply.

Traditional utility rate design relies on theories of average, embedded cost-of-service pricing, and often, utilities back up rates and/or demand charges assume that at any one time all distributed generation units on the system will go off line and impose peak demand on the system. Additionally, utilities charge all incremental system costs to the distributed generation customer, but do not acknowledge any incremental system benefits. These tariff designs and assumptions represent significant barriers to the ability of consumers to make the investments needed to increase distributed generation resources and often over-price utility systems and services that are needed to implement competition.

Utility tariffs, back-up rate, demand charges as well as interconnection policies and practices should be updated and changed to reflect the value of distributed generation to the reliability of the distribution system and incent utilities to consider distributed generation as an alternative to system expansion. Regulators should encourage utilities to issue requests for proposals so that competitive suppliers can respond to distribution system needs by investing in distributed generation. Regulators should also incent utilities to contract for the generating capacity benefits from the running of the distributed generators and to purchase ancillary services from distributed generators in order to enhance system-wide reliability in a competitive, cost-effective manner.

Distribution system planning practices[1] should also acknowledge that distributed generation may function as a demand-side management resource to reduce customer impact on the distribution system or to enhance the reliability of the system. When forecasting the impact of distributed generation on future load requirements, the distribution utility often assumes that many small generating units will simultaneously trip off (due to an under-voltage situation), and that the distribution system must be over-sized to serve customer load absent any distributed generation. However, improved controls are now available to reduce the likelihood that these customers' loads will suddenly be added to the system.

Utilities should be encouraged to consider that deferral of system upgrades may be feasible when distributed generation is appropriately sized, sited and dispatched. Distributed generation that is appropriately planned into the utility system may be counted to stay on-line during system disturbances. During other periods, appropriately placed distributed generation may support the voltage, improve the power quality, lower the line losses, and enhance the reliability of the system. These system benefits should be reflected in utility rate design, tariffs and interconnection policies.

1. **Interconnection Time and Costs Must be Reasonable.** Untimely delays and excessive charges associated with interconnecting distributed generation are significant barriers to deployment of this important resource. As noted, utilities often charge all incremental system costs to the distributed generation customer, but do not acknowledge any incremental system benefits. Fees and charges for interconnection that act as penalties for new investments in distributed generation should be eliminated. Only reasonable interconnection charges should be recovered and only if performed in a timely fashion. Conversely, penalties should apply for a utility's failure to provide timely interconnections.

2. **Excessive Standby Rates and Demand Charges Can Render Distributed Generation Uneconomic.** Investors in distributed generation who rely on on-site power may only require power from a utility for emergency uses or scheduled maintenance but are currently forced to acquire standby service only from a utility and are often forced to pay standby rates that also include uneconomically high demand charges.

Regulators should implement standby rates that only require investors with distributed generation resources to pay for the actual energy used and only when it is used. Distributed generation customers should also be able to secure standby generation service from other sources where retail choice has been enacted.

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[1] NEM supports a streamlined approach that allows the value of installed DG to be recognized by utilities in distribution planning, that should not be interpreted to subject an investor in DG to any requirements for involvement in traditional integrated resource planning efforts unless the investor in DG voluntarily agrees to participate and is appropriately compensated for their involvement.

NEM urges all regulators to design demand charges and back up standby rates in accordance with Section 292.305 (c)(1) of the PURPA regulations that states:

> The rate for sales of back-up power or maintenance power: (1) Shall not be based upon the assumption (unless supported by factual data) that forced outages or other reductions in electric output by all qualifying facilities on an electric utility's system will occur simultaneously, or during the system peak, or both.[2]

Currently, demand charges are excessive because traditional rate design collects generation and distribution costs based on a continuous-use model that assumes that a distributed generation unit will never be running and will always be using the utility for its peak demand. Given the significant system benefits of distributed power, demand charges should be offset or eliminated to reflect these benefits.

3. **Distributed Generation Does Not Increase Stranded Costs.** The country is sorely in need of as much capacity as is possible to drive energy prices lower. The fact that a customer invests in distributed generation technology does not strand costs, either for generation or distribution. However, in several jurisdictions, distributed generation investors have been required to pay utilities for the above-market costs of generating units and contracts with qualifying facilities simply because they choose to invest in their own power generation. Investments in distributed generation should not be treated as a stranded cost. Stranded costs, if they exist, should be recovered from all similarly situated consumers in a competitively neutral fashion.

IV
Utilities Must Provide Equal, Non-Discriminatory Access to Markets for Power and Auxiliary Services

Utility distribution services must be unbundled so that investors in distributed generation technologies are provided with equal and non-discriminatory access to both wholesale and retail markets. Interconnection of distributed generation, in and of itself, does not provide distributed generation investors with equal and open access to either wholesale or retail markets. Even in jurisdictions that permit interconnection with the utility, the ability of distributed generators to sell power or auxiliary services is often restricted or barred.

A. Distributed Generation Must Have Access to Wholesale Markets

Currently, utilities and independent power producers have a monopoly on the provision of energy and related services. In order for consumers to invest in and

[2] Arrangements Between Electric Utilities and Qualifying Cogeneration and Small Power Production Facilities Under Section 210 of the Public Utilities Regulatory Policies Act of 1978, 18 CFR 292.305 (c)(1).

deploy needed capacity additions quickly and cost-effectively, they must have the ability to sell the services derived from distributed generation technologies. Distributed generation must also have access to needed utility services at non-discriminatory rates and terms. Access to markets for the sale of generation and capacity as well as ancillary services is critical to the economics of investments in distributed generation technologies. Regulators must implement and encourage this access within utility rate structures at the earliest possible time.

All investors in distributed generation should have the opportunity to sell output of their generation on the wholesale market. This should include the ability to participate in bilateral and spot energy and capacity markets. In most areas of the country, if the generation installed by investors is of sufficient size, they already have the ability to petition FERC for the right to interconnect to the transmission grid and sell the output to the local utility or on the grid as a Qualifying Facility.[3] However, this option is limited to only the largest distributed generation units.

Recently the three Northeast ISOs and the California ISO have introduced the idea of a "negawatt"[4] market where investors in distributed generation can qualify to sell the output of their distribution level generation on the wholesale market. The marketplace will benefit from the uniform development of negawatt programs that treat all participants fairly and reward investors in distributed generation that can make commitments and meet obligations that allow their output to be traded as a commodity on the wholesale market. The implementation of FERC Order 2000 which will establish Regional Transmission Organizations across the country offers a platform to use the lessons from these early efforts in the ISOs to establish a broader, uniform program that can benefit those qualified to participate.

B. Uniform, Reasonable Retail Wheeling Rates Must Be Implemented

Uniform, reasonable retail wheeling rates must be developed in order to maximize customer choice and permit a market for the local sale of power. Despite the move toward retail access in numerous jurisdictions, retail wheeling is still prohibited in most states. In jurisdictions that have established a power pool and exchanges, distributed generators often are forced to sell into the pool in order to sell power to a "next-door" retail customer (that is, a customer on the same distribution feeder).

Investors in distributed generation technologies must have open non-discriminatory access to the distribution wires and must be allowed to sell excess power or ancillary services to the grid. Distribution utilities must be required and encouraged to offer services that permit distributed generation to compete and lower energy prices. Once an investor in distributed generation owns the power or the rights to the power, either through purchase or production, that investor should

[3] Public Utilities Regulatory Practices Act (PURPA), 16 U.S.C. § 2601 et. seq.
[4] Negawatt market - the ability to trade demand or energy reduction as replacements for generation.

be able to sell the power to the market or to another market participant. Only then can meaningful price competition occur.

V

The Federal and State Governments Must Adopt Uniform Technical Requirements and Procedures for Interconnection of Distributed Generation Technology

A major impediment to new investments in distributed generation technology has been the lack of national technical standards and uniform business practices for interconnection to the grid. Interconnection experience with utilities is often time consuming and expensive because each utility has a unique process for the interconnection of qualifying facilities. Regulators should eliminate regulatory disincentives that discourage competitive investments to serve native load.

State regulatory commissions must adopt uniform interconnection standards policies and practices in order to reduce the cost to install distributed generation. Experience shows that when interconnected properly on-site power can be deployed without compromising public safety, the safety of utility employees, or the integrity of the existing distribution system.

National, or at a minimum, statewide technical safety and reliability requirements, application procedures, forms, standard agreements, related testing and certification requirements plus the elimination of existing penalties can reduce the costs and risks of investments by consumers in competitive new distributed generation technology. A few states, notably California, New York, Ohio and Texas, have adopted interconnection standards and uniform business practices, but these vary significantly even among these states. The Institute of Electrical and Electronics Engineers (IEEE) is developing a technical interconnection standard. If these processes and requirements are applied uniformly across the country, the "transaction cost barrier" will be reduced, and the economic benefit can be significant.

A. The Application Process and Installation Process Must Be Shortened

A standard application form and process will reduce administrative costs for investors in distributed generation as well as utilities. In many cases, the electric utility treats each distributed generation application as unique. This approach is time consuming and anti-competitive. Regulatory commissions must take a lead in adopting a standard application process, including a timeline for utility response to an application to install distributed generation with penalties for non-performance.

B. Technical Interface Standards are Required

Standardization of technical interface requirements will insure system safety and reliability. Interconnection devices must meet minimum standards with regard to performance, operation, testing, safety considerations, and maintenance of the interconnection. IEEE has created Working Group 1547[5] to address a "Standard for Distributed Resources Interconnected with Electric Power Systems." It is expected that this standard will be approved by the fall of 2001. When approved, this standard should be adopted uniformly across the country at the earliest possible date. At a minimum, state commissions should initiate procedures to adopt IEEE's standards when they are complete.

C. Pre-Certification Will Ensure Quality and Reliability

Small factory-built generating units can be pre-certified to assure consistency in the interface and protection equipment. Pre-certified equipment has been tested and proven to satisfy all applicable aspects of pre-defined requirements or standards. Whenever possible, industry standards such as those prepared by Underwriters Laboratories (UL) or IEEE should be used to define the required criteria. Pre-certification is designed to cover typical installations. Specific interconnection locations and conditions may lead to an exception that requires additional review and equipment for an installation to be approved for operation. With pre-certification, manufacturers will be able to provide documented test results and certified statements that systems meet all requirements and verify that no significant changes or modifications have been made to the systems. Incorporating these standards can assure regulators and consumers that uniform, factory-tested distributed generation packages will perform as expected.

D. Metering and Power Control Technologies are Vitally Needed

The requirements of the distribution utility and the transmission operator (independent system operator) need to be coordinated to lower costs relating to metering, power control, and telemetry. Requirements vary with respect to net or gross metering of customer loads and generation, real-time measurement, and central dispatch. Investors in distributed generation must have the option to invest in real-time communications and control devices for distributed generation technologies so they can manage load demands and lower both usage and energy costs.

E. Standardized Contractual Terms are Needed Immediately

Standardized contractual terms reduce the time necessary for a distributed generation investment to be installed and interconnected properly. In many cases,

[5] See IEEE website at www.ieee.org.

utilities now require investors in distributed generation to enter into special agreements dictating their rights and responsibilities. Requiring small investors in distributed generation to negotiate complex contracts with specialized terms and conditions is time-consuming, cost-prohibitive and anti-competitive. At a minimum, regulators should adopt fair and expedited dispute resolution processes for distributed generation projects to reduce the cost of resolving disputes.

VI
Reasonable Environmental Regulations and Wide-Scale Education Are Critical

Emissions regulations must recognize the benefits of distributed generation including the contribution of generating with waste gas and the contribution of combined heat and power applications. Local and state officials are over-regulating the emissions of small-scale generating units. New distributed generation technology is being forced to comply with old central plant emission standards. The comparison of small-scale distributed generation to large, central power plants is inappropriate and fails to consider the significant benefits of small-scale distributed generation investments. Because distributed generation is new to many local officials, it is important for them to become aware of the role that distributed generation can play in a restructured competitive electric system and how application of these old standards increases costs, undermines the economics of distributed generation investments and delays the reliability and environmental benefits the country needs.

Several states are establishing regulations for distributed generation emissions that require distributed generation manufacturers to meet the "best available control technology" (BACT) requirements of a large, central power plant. These regulations address oxides of nitrogen (NO_x), carbon monoxide (CO), oxides of sulfur (SO_x), volatile organic compounds (VOCs), and particulate matter (PM). These requirements significantly alter the economic decision that investors face when considering generating units that connect to the grid as compared to stand alone units or end-uses that do not require electricity (direct use of the drive power from an engine, for example). Separate emissions standards for emergency generating equipment are inappropriate when applied generically to all distributed generation investments.

Consistent siting requirements and reasonable environmental permitting of distributed generation will reduce the cost and uncertainty associated with compliance for all parties. Similarly, local siting and environmental permitting requirements must allow investors in distributed generation technologies to comply in a realistic and timely fashion. At a minimum, emissions requirements should be phased in to provide manufacturers time to meet unrealistic or overly stringent emissions targets.

VII
Utilities Should Only Perform Natural Monopoly Functions

States should not grant utilities a monopoly or competitive advantage to provide competitive products, services, information or technology. Utilities should perform solely natural monopoly functions. Essentially, regulated utilities should sell regulated distribution services on a "no frills" cost of service basis. Regulations, tariff structures, interconnection rules, back-up rates and operational protocols should be designed to permit competitive, non-utility suppliers to provide each of the products, services, information and technologies that are not natural monopoly functions. The provision of distributed generation technology can and should be opened immediately to competition.

In a competitively restructured market, the utilities' historical obligation to serve should be converted into an obligation to connect and deliver. That is, while the utility should and will continue to provide and receive compensation for transportation services for all consumers, it is not in the public interest for the state to continue to grant franchise monopolies or competitive advantages to monopolies to supply products, services, information and technologies that are in fact competitive businesses.

VIII
Conclusion

Our country is urgently in need of new generation investments, and it is in the public interest that customers be incented to make these investments as soon as practicable. Toward that end, competitive barriers to entry must be removed to create a hospitable market for distributed generation investments including the adoption of uniform technical requirements and interconnection procedures as well as the elimination of redundant fees and charges. Furthermore, reasonable emissions standards and environmental permitting and siting requirements for distributed generation should be adopted.

At the wholesale level, distributed generation investors must have equal and open access to the markets for power and ancillary services. At the retail level, utilities' tariffs must be fully unbundled, and the utilities' role in the market should be defined as that of a no-frills, wires-only distribution company. All other competitive functions and products, including the installation and supply of distributed generation, should be provided by the competitive marketplace.

NEM's National Guidelines for Implementation of Distributed Generation Technology

Regulators Should Unbundle and Redesign Distribution Rates, Eliminate Penalties, Redundant Charges, Barriers to Entry, and Implement Tariffs that Encourage Investment

- Regulated services must be fully unbundled to increase consumer options.
- Standby rates and demand charges should be eliminated or at a minimum such rates must be structured to give credit to investments in distributed generation with the capacity reduction and environmental benefits provided to the entire distribution system
- Exit fees, penalties and economic barriers to new investments in distributed generation must be eliminated.
- Adopt distribution and transmission pricing policies that reflect the location-specific value of investments in distributed generation.
- Encourage distribution utilities and Independent System Operators to acquire capacity and ancillary services from investors in distributed generation.
- Adopt distribution-planning principles that serve all customer classes, not just electricity-consuming customers.
- Distributed generation investors must be permitted to choose among products that are differentiated with respect to time (time-of-use and real-time pricing), location (geographically based incentives), and quality/reliability (interruptible/curtailable service options).

Utilities Must Provide Equal, Non-Discriminatory Access to Markets for Power and Auxiliary Services

- Consumers must have access to the full range of regulated distribution services and unregulated ancillary services at non-discriminatory rates and terms.
- Distributed generation investors must have access to wholesale markets for ancillary services.
- Local utilities must be required to facilitate local retail markets for the sale of power from distributed generation resources.

Federal and State Governments Must Adopt Uniform Technical Requirements and Procedures for Interconnection of Distributed Generation Technology

- Adopt expedited uniform practices and policies for the review, study and approval of investor requests for interconnection.
- Adopt the IEEE's standard technical interface requirements for interconnection.
- Adopt a uniform distributed generation technology certification (type-testing) process.
- Adopt uniform metering, power control and telemetry requirements.
- Adopt a uniform contract setting forth the rights and responsibilities of utilities and distributed generation investors.
- Adopt an expedited dispute resolution process.

Reasonable Environmental Regulations and Wide-Scale Education Are Critical

- Encourage the adoption of emissions standards for distributed generation based on the best available control technology (BACT) for distributed generation, not the BACT for a central power plant.
- BACT should not be applied to distributed generation located in "attainment" areas.
- Provide wide-scale education to make local air district officials aware of the BACT for distributed generation technologies.

Utilities Should Only Perform Natural Monopoly Functions

- The utilities' role in the competitive marketplace should be defined as no-frills, wires only distribution companies.
- As utilities fully unbundle competitive services from monopoly services and provide consumers credits equal to historical embedded costs to shop for competitive products, services, information and technology, the utilities obligation to serve should be converted into an obligation to timely and reliably connect new customers and new energy supplies.