Standby Charges and Fuel Cells

NEW OPPORTUNITIES FOR STATE POLICY COORDINATION

A Report from Clean Energy Group and the Public Fuel Cell Alliance

The Public Fuel Cell Alliance is a project of the
Clean Energy States Alliance, a 501(c)(3) nonprofit organization
managed by the Clean Energy Group.

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SEPTEMBER 2005

Preface

Around the nation and internationally, states and governments are creating policies to drive the adoption of new, advanced clean energy technologies, such as fuel cells. However, what one public policy promotes, another can thwart. This is exactly the situation today with stationary fuel cells and other forms of clean, distributed energy.

In order to better understand the effects of these conflicting policies and to seek potential solutions, Clean Energy Group commissioned Peregrine Energy Group to work through the Public Fuel Cell Alliance project to investigate innovative approaches that some states have used to address one regulatory major hurdle—utility standby charges.

A standby charge is a fee charged by an electric utility to a customer with distributed generation (DG) for "standing by" to serve the customer when the DG unit is not operating. In many cases, the effect of this additional charge is to eliminate the cost-saving benefits of having the on-site, distributed power. This can stop fuel cell projects from moving forward.

This investigation shows that several states have taken aggressive and affirmative steps to ensure that the public benefits of new clean energy technologies like fuel cells are treated fairly in the regulatory regime. Right now, there is no systematic approach to how regulators consider the true costs and benefits of clean, distributed energy resources. This report explores several new approaches that states have taken to overcome these policy conflicts and could provide opportunities for other state action.

For example, in Massachusetts, a 2004 settlement with NSTAR Electric, one of the largest utilities in the state, create an exemption for fuel cells up to 2 MW per project and up to 10 MW total in the service area. California exempts all "Ultra Clean Resources" from standby charges up to 5 MW.

The findings compiled in this report give insight into the nature of the challenge and also reason to be hopeful that solutions can be crafted in a forward-looking manner.

Summary of Findings:

- Standby rates can compromise the economics of adopting distributed generation projects;
- Standby rates effectively work in conflict with state clean energy funds that actively support the deployment of DG;
- Several states, including Rhode Island, Massachusetts, New York, California and Connecticut have exempted "clean" DG from standby rates.

- FERC regulations prohibit discriminating against DG by charging rates that are different from those applied to other customers with similar load or other cost-related characteristics;
- DG customers impose less cost on the system because they contribute less to system peaks that do equivalent customers;

Based on these findings, we believe that there are strategies that the Public Fuel Cell Alliance, Clean Energy States Alliance and other organizations can pursue in order to overcome the conflicting policy mandates that, on the one hand, promote fuel cells and distributed generation while, on the other, erode the economic viability of new projects.

In order to overcome this policy conflict, we see several critical steps:

- Legislators, regulators and other policy makers should be educated about the barriers imposed on fuel cells and other clean, distributed energy technologies.
- Those states with a interest in promoting new, advanced energy solutions should work together to craft model exemption policies.
- State policy makers should consider establishing, in a proactive manner, exemptions and regulatory flexibility with regard to standby charges and other regulatory barriers.
- Based on real-time learning from projects in place, these policies should be refined and improved going forward.

Standby charges are only one of several barriers that impose additional cost on fuel cells and other advanced technologies that states otherwise favor for their environmental and energy security benefits. We believe that there are immediate opportunities to adjust regulatory structures in order to promote fuel cell and clean DG technologies. We hope that this report helps to advance a much needed debate around this topic.

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About the Clean Energy Group and Public Fuel Cell Alliance

Clean Energy Group (CEG) is a nonprofit working to provide real market solutions for clean energy technologies. In 2002, CEG was instrumental in the formation of a new alliance of US-based, public clean energy funds, the Clean Energy States Alliance (CESA). These fourteen states have clean energy funds that will invest nearly $4 billion in the next ten years to support clean energy technology markets.

The Public Fuel Cell Alliance (PFCA) was created by several CESA members as a vehicle to coordinate a coalition of state and federal agencies working together to accelerate the development and deployment of fuel cell and hydrogen infrastructure development. CEG, through PFCA, remains the only nonprofit organization in the US that directly engages public funders of fuel cells and hydrogen technologies at the state and regional level.

CEG and the founding members of the PFCA are actively pursuing individual and joint opportunities to expand fuel cell and hydrogen infrastructure through:

- Increased public collaboration and PFCA participation;
- Increased state and regional funding commitments;
- Development of regional strategies to accelerate adoption of fuel cells;
- More effective programs that target specific fuel cell applications; and,
- Engagement with leading strategists on new approaches to technology innovation.

The PFCA was established in 2003 by a core group of founding members that includes:

Federal Agencies:
Department of Defense (US Army Corps of Engineers, Construction Engineering Research Laboratory)
Department of Energy (National Energy Technology Laboratory)
Bonneville Power Administration

State Organizations:
Connecticut Clean Energy Fund
Delaware Economic Development Office
Massachusetts Technology Collaborative Renewable Energy Trust
New Jersey Board of Public Utilities
Ohio Fuel Cell Initiative
Sustainable Development Fund; Sustainable Energy Fund of Central Eastern Pennsylvania; Community Foundation for the Alleghenies; Sustainable Energy Fund of the Berks County Community Foundation (Pennsylvania)

Rhode Island Renewable Energy Fund

Supporting Members:
Fuel Cell Energy

The activities of the PFCA are supported by a grant from the New York Community Trust. The Clean Energy Group (CEG) serves as the nonprofit manager of both CESA and PFCA. The opinions expressed in this report are those of CEG and do not necessarily constitute endorsement by individual members.

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INTRODUCTION

Utility "standby rates" pose a significant threat to fuel cells and other distributed generation (DG) technologies. Standby rates can and do kill DG projects by eliminating much of the savings that DG creates for the customer. Unfortunately for DG, more and more utilities are adopting standby rates in order to prevent what they see as "revenue erosion" from DG.

Boston University (BU) learned about the effect of standby rates on potential DG projects when it planned a fuel cell as part of a $300 million campus renovation.[1] Upon learning of the project, NSTAR Electric sent a letter to the Chancellor of BU explaining that NSTAR intended to impose a standby rate and that, as a result, the fuel cell would not produce any savings on BU's utility distribution bill. NSTAR suggested that "[t]his may have significant implications for BU's financial analysis of the fuel cell option." BU quickly canceled the fuel cell project. When queried by the *Boston Globe*, BU's spokesman would not comment on the letter from NSTAR, but did say that, "We're not going to be doing the fuel cell. It wasn't feasible at this time, and the timing wasn't right."

The debate over standby rates is playing out before public utility commissions across the country. DG advocates argue that standby rates unfairly penalize DG. Utilities argue that standby rates are needed to ensure that customers with DG pay their fair share of distribution system costs. It is clear to all that standby rates will prevent many DG projects from going forward.

This paper describes standby rates and summarizes the major arguments for and against them. It then describes exemptions from standby rates that have been adopted for clean DG in Rhode Island, Massachusetts, New York, and California. It concludes with recommendations.

WHAT ARE STANDBY RATES

Standby rates are rates that an electric utility charges a customer with distributed generation (DG) for "standing by" to serve the customer when the DG unit is not operating. Unlike traditional service, where the utility charges for service provided, with standby rates the utility charges for service that it was ready to provide, but was not called upon to provide. Standby rates are typically based on the rates the utility charges to customers that do not have DG. These rates are known as the "otherwise applicable rate" or "OAR".

In simplest form, standby rates charge the customer for distribution service[2] as if the customer did not have DG. The utility charges the standby rate (based on the OAR) on the portion of the customer's load that is served with DG. If the customer has load over and above what is served by the DG, the utility charges the OAR on that as well.

The simplified[3] example below shows the effect of standby rates. It shows a customer with a monthly demand of 500 kW that installs a 250 kW DG unit. After the DG installation, the customer's total

demand remains at 500 kW, but one-half (250 kW) is served by DG and one-half (250 kW) is supplied by the utility. Without a standby rate, the customer would realize a 50% savings on its distribution charges. With a standby rate, the customer would realize no savings at all.

	Distribution Service		DG		Total Utility Charges
	kW	Charge	kW	Standby Charge	
Pre-DG	500	$2,500			$2,500
With DG Without Standby Rate	250	$1,250	250	$0	$1,250
With DG With Standby Rate	250	$1,250	250	$1,250	$2,500

Standby rates discourage the installation of DG by reducing the savings that a customer realizes and thus damaging the project economics. Several DG developers and customers explained these effects in testimony before the Massachusetts Department of Telecommunications and Energy regarding a standby service rate proposed by NSTAR Electric.

Sean Casten, president of Turbosteam, a manufacturer and installer of cogeneration systems, explained that:

> ***the standby rate proposed by NSTAR would reduce the actual savings realized by a "typical" customer by 15–50% per year, depending on rate classification and operating profile. For most projects, such a reduction in savings will effectively kill the project, taking it beyond the realm that we can finance and reducing the returns to levels that are not acceptable to our customers.*** [4]

Thomas Smith, Vice President—Energy Operations for Equity Office Properties Trust, an owner and operator of commercial real estate, testified that:

> ***After analyzing the proposed rates, we have concluded that if adopted, the proposed NSTAR rates will likely preclude EOP from installing CHP facilities within its Boston properties. Simply put, these proposed rates will reduce or eliminate much of the energy savings that we could hope to realize.*** [5]

Spiro Vardakas, CEO of Aegis Energy Services, Inc., a developer of small, modular, combined heat and power systems, testified that the complexity of the standby rates would also discourage customers from installing DG:

> ***Between the additional charges and the complexities of the rate, we believe our prospective customers will be deterred from purchasing a combined heat and power system. The typical mid-size customer does not understand their current billing. . . . The customer pays the monthly invoices, often blindly, with some hope that the invoice, which is beyond their control, is correct. These Customers and their accounts payable departments will never be able to understand this standby process. They are not in the power business. Thus, the lack of assurance for invoice accuracy that this DG investment now depends upon, will discourage participation in this business.*** [6]

David Hannus, president of Co-Energy America, a developer of on-site generation projects, described the effect that NSTAR's proposed standby rate would have had on three projects that the company was developing for the Boston Schools.[7]

Charlestown H.S., 24/7 operation, 500 kW plate rating	
Estimated Saving	$366,203
Estimated Standby Charge	$96,000
Saving after Standby Charge	$270,203
Lee School, load following operation, 300 kW plate rating	
Estimated Saving	$143,467
Estimated Standby Charge	$57,600
Saving after Standby Charge	$85,867
Hennigan School, peak shaving operation, 250 kW plate rating	
Estimated Saving	$66,185
Estimated Standby Charge	$48,000
Saving after Standby Charge	$18,185

ARGUMENTS IN FAVOR OF STANDBY RATES

Utilities are the primary advocates of standby rates. They argue that the rates are necessary to ensure that customers with DG pay their fair share of distribution system costs.

Utilities have an obligation to serve—an obligation to provide as much electric service as a customer requires, at a moment's notice. Since DG does not always operate, the installation of DG at a customer facility does not reduce the level of service that the utility must be prepared to provide.[8] The utility must "standby" with the full distribution infrastructure that it would need if the DG system were not there. Accordingly, the utility incurs the same costs to serve a customer with DG as a customer without DG (an "all-requirements" customer).

Without standby charges, the utility will not recover these costs. Utility costs are primarily fixed (wires, poles, transformers, substations, etc.). However, they are recovered primarily through usage-based charges: energy charges (per kilowatt-hour) and demand charges (per kilowatt). Since a customer with DG will use the full utility service only occasionally (when the DG is not operating), it will pay less in usage charges than an all-requirements customer. Thus, although the cost to serve the two customers is the same, the DG customer would pay less, perhaps substantially less.

The proponents of standby rates further argue that, since DG customers would be paying less than their fair share, other customers would be required to pay more than their fair share to make up the difference. As a result, without standby rates all-requirements customers would be forced to "subsidize" DG customers.

Although utilities have had some success with this last argument, the reality is that all-requirements customers do not in fact pay more because of DG customers, at least in the short term. Until the utility files a general rate case, the rates for all-requirements customers do not change. When DG is installed without standby rates, the utility simply collects less. This creates the "revenue erosion" problem that so concerns utilities. Eventually, however, if DG became very prevalent, the utility would likely file a rate case and seek a rate increase.

ARGUMENTS AGAINST STANDBY RATE

DG advocates, including manufacturers, developers, environmental groups, and customers that have or are planning DG systems, generally oppose standby rates.[9] They argue that standby rates will prevent the deployment of DG and thus prevent the state from realizing the many benefits that DG provides. They also argue that standby rates unfairly discriminate against customers with DG and require DG customers to pay more than they should. Further, some suggest that if standby rates are put into effect, clean DG should be exempt from those rates because of the many state policies favoring the development of clean DG and the many benefits such resources provide.

Benefits

DG advocates point to the many benefits that DG provides. These benefits include:

- Reducing congestion on the distribution and transmission system, leading to reduced line losses and potential deferrals of distribution and transmission investments;
- Increasing competition in load pockets, leading to lower electricity prices;
- Improving energy efficiency due to use of waste heat;
- Reducing air emissions;
- Increasing energy security due to increased use of scattered, small-scale generators; and
- Encouraging the use of cleaner energy technologies.

Broadly speaking, DG advocates argue that states should adopt rate designs that ***encourage*** the installation of systems that create these benefits, rather than adopting standby rates that ***discourage*** installation.

In addition, DG advocates argue that DG creates benefits for the utility and other customers, e.g., by reducing congestion on the distribution system, and that a DG customer should receive a financial payment for these benefits before any standby charge is assessed. Put simply, if a DG customer is going to be charged for the costs DG imposes on the system, he should also be paid for the benefits that DG creates.

Conflict with State Policy

Advocates of clean DG argue that, at least as applied to clean DG technologies, standby rates conflict with other state policies. Clean DG provides many benefits—superior environmental performance, fuel diversity, etc—that are supported by state policy. Advocates argue that standby rates should not be allowed to discourage the deployment of technology that the state is encouraging through other policies.

These arguments are particularly strong in states with clean energy funds. Those states are actively supporting the deployment of clean DG with financial and other incentives. Standby rates could cancel out the effect of these incentives, thus undermining the work of the clean energy fund.

Because of these arguments, some states have exempted clean DG from standby rates. The exemptions adopted by Rhode Island, Massachusetts, Connecticut, and New York are described below.

Some utilities have even been willing to agree to at least temporary exemptions for clean DG because

they see clean DG as less of a threat than traditional DG. Utilities fear that traditional DG systems could rapidly be installed in large numbers, having a large impact on utility revenues. However, they do not anticipate a similar impact from clean DG, at least in the near term.

Discrimination

DG advocates also argue that standby rates discriminate against DG customers because they apply only to DG customers even though other customers have similar load characteristics.

The rationale for applying standby rates is not the DG system *per se*, but rather the nature of the load that a DG customer places on the utility system. Because DG operates sometimes but not always, the DG customer's load is intermittent. As a result, DG customers do not pay enough under normal, usage based charges to cover the costs of serving their load.

DG advocates concede that some DG customers have intermittent loads. However, they point out that not all customers with DG have intermittent loads, and that many customers without DG do have intermittent loads. For example, non-DG customers with temperature sensitive loads or highly seasonal loads also impose very intermittent loads on the utility system. In fact, an analysis of customers at two Massachusetts utilities found that DG customers as a group exhibited no more load intermittency than other customers in the same rate class, concluding that "[t]here are plenty of other customers on the system with similar load characteristics at every level."[10]

Given that many customers without DG have intermittent loads, it would be discriminatory to impose standby rates only on DG customers. Indeed, the regulations of the Federal Energy Regulatory Commission specifically prohibit discriminating against DG by charging rates that are different from those applied to other customers "with similar load or other cost-related characteristics."[11] In 1986, the Massachusetts Department of Public Utilities (MA DPU) used this rationale to reject a proposed standby rate for customers with DG, noting that "to treat customers who have similar loads differently is discriminatory." Boston Edison Company, D.P.U. 85-271-A, p. 275 (June 26, 1986).

A non-discriminatory approach would be to create a rate that focuses on the customer's load characteristics rather than on whether the customer has DG. In 1992, the MA DPU approved a rate for "sporadic loads" that applied to any customer with sporadic or intermittent loads of significant magnitude.[12] In approving the rate, the MA DPU noted that it "applies to any customer with unusual load characteristics and does not single out [DG]." Boston Edison Company, D.P.U. 92-82, p. 63 (October 30, 1992).[13]

Costs

Opponents of standby rates also argue that DG customers impose fewer costs on the system than do all-requirements customers. Therefore, even if standby rates are appropriate, it is inappropriate to use the "otherwise applicable rates" as the basis for standby rates.

When determining the costs that a group of customers imposes on the distribution system, the key issue is the level of contribution to the system peak. It is usage at peak that drives the need for distribution system investment and thus drives costs. Important factors in determining the level of contribution to peak include 1) the extent to which the customers' peak demands occur at the same time as the system peak; and 2) the extent to which the customers' peak demands occur at the same time as

the peak demands of the other customers in the group. On both counts, DG customers contribute less to system peaks than do equivalent all-requirements customers. First, DG customers are less likely than all-requirements customers to impose their maximum demand on the system at times of system peak. DG customers impose their maximum demands on the utility system when their DG units go down. This is unlikely to coincide with the system peak because it is unrelated to the factors that cause utility system peaks. System peaks are driven by extreme weather conditions; DG unit outages are driven by operating factors, maintenance needs, etc. Indeed, where the DG outage is planned, e.g., for maintenance, it can be scheduled for an off-peak period. By contrast, all-requirements customers tend to impose their peak demands on the system at times of system peak because their individual peaks are driven by the same factors that cause system peaks, e.g., extreme hot weather. Thus, the peak demands of all-requirements customers drive system peaks and thus costs, whereas the peak demands of DG customers do not.

Moreover, there is diversity among DG customers. Looking at DG customers as a group, it is unlikely that all of the DG units will go offline at the same time. Again, this is because the events that cause any one system to go down (operating conditions, maintenance needs, etc.) are independent of the events that cause other systems to go down. For example, there is no reason to expect that two separate DG systems will fail on the same day. Accordingly, as a rate class, the likely contribution of DG customers to the system peak is less than the sum of the maximum contribution of all of the customers individually. This class diversity benefit should be taken into account when calculating a standby rate to be applied to the class.[14,15]

Standby rate proponents acknowledge this potential diversity effect, but respond that there are not yet enough DG units on the utility's system to create the diversity.[16] This creates an interesting chicken and egg problem: we need a high standby rate until we have a lot of DG on the system, but we'll never get a lot of DG on the system if we have a high standby rate.

STATE APPROACHES TO STANDBY CHARGES

The states of Rhode Island, Massachusetts, New York, and California have grappled recently with the question of whether and how to apply standby charges to DG. All four states have created an exemption of some kind for clean DG. The approach taken by each state is described below.

Rhode Island

Narragansett Electric, Rhode Island's largest electric utility, adopted standby rates (which they term "backup rates") effective January 1, 2005 pursuant to a settlement agreement approved by the Rhode Island Public Utilities Commission.[17]

The rate exempts:

- DG with a nameplate rating of 30 kW and under;
- DG powered by "Eligible Renewable Resources," as defined by the Rhode Island Renewable Portfolio Standard

This exemption is limited to a total of 3 MW of eligible DG installed on the Narragansett system. (3 MW is approximately 0.2% of Narragansett's peak load.) Renewable systems of 25 kVA and below, which are eligible for net metering, do not count towards the 3 MW.

Fuel cells burning natural gas do not qualify as an "eligible renewable resource"[18] and thus do not qualify for the exemption.

Massachusetts

One of the largest Massachusetts utilities, NSTAR Electric, adopted standby rates effective August 1, 2004, pursuant to a settlement agreement approved by the Massachusetts Department of Telecommunications and Energy.[19]

The rate exempts:

- On-site generation of 250 kW or less;
- Onsite generation between 250 kW and 1,000 kW that normally satisfies less than 30% of the customer's load.
- Renewable energy technologies eligible for support from the Massachusetts Renewable Energy Trust, including PV, wind, fuel cells, landfill gas, hydro, and low emission, advanced biomass.
    - Fuel cells fueled by natural gas are only exempt

      —Up to 2 MW per project; and

      —Up to 10MW total in the NSTAR service territory

These exemptions will be in place at least through August 1, 2008. Any generation that is exempt from standby rates when it is installed will be grandfathered, i.e., it will remain exempt even if the exemption is removed for new installations.

New York

Several New York utilities adopted standby rates in 2004 pursuant to an order from the New York Public Service Commission.[20]

The rates exempt:

- DG with a nameplate rating no greater than 15% of the customer's maximum demand.
- "Designated Technology Customers" with generators that are ***operational by May 31, 2006***. Designated Technology Customers are customers using either: (a) fuel cells, wind, solar thermal, PV, sustainable managed biomass, tidal, geothermal, or methane waste; or (b) small, efficient combined heat and power of less than 1 MW.
    - Fuel cells qualify whether or not they use renewable fuel.
- Designated Technology Customers with generators that become ***operational after May 31, 2006*** are subject to standby rates according to the following phase-in schedule.
    - Feb. 1, 2006–Jan. 31, 2007
      Otherwise applicable rates
    - Feb. 1, 2007–Jan. 31, 2008
      Otherwise applicable rates
    - Feb. 1, 2008–Jan. 31, 2009
      Otherwise applicable rates plus 25% of bill differential
    - Feb. 1, 2009–Jan. 31, 2010
      Otherwise applicable rates plus 50% of bill differential
    - Feb. 1, 2010–Jan. 31, 2011
      Otherwise applicable rates plus 75% of bill differential
    - Feb. 1, 2011–Ongoing
      Standby service rates

California

California exempts from standby rates "Ultra Clean Resources" installed between January 1, 2003 and December 31, 2005. "Ultra Clean Resources" includes both renewables and fuel cells fueled by natural gas.[21] The exemption is limited to generators no greater than 5MW. Importantly, this exemption expires June 1, 2011.

California also allows net metering for fuel cells up to 1 MW that meet the definition of "ultra-clean resources.[22] There is a cap of 45 MW for each of the major investor-owned utilities and a statewide cap of 112.5 MW. This provision expires January 1, 2006.

RECOMMENDATIONS

The Public Fuel Cell Alliance is discussing many strategies to protect clean DG from standby rates.

Process

Standby rates are adopted as part of utility rate proceedings, often as part of a settlement agreement between the utility and other interested parties. Options under consideration include:

- Intervening and participating in public utility commission (PUC) proceedings regarding standby rates.
- Providing or helping to secure funding for other DG advocates to participate. Participating in PUC proceedings is costly and requires specialized legal and technical expertise. Utilities and other standby rate advocates have the necessary resources and expertise, whereas DG advocates typically do not. Funding support can help to level the playing field.
- Proposing legislation that exempts fuel cells and other clean DG from standby rates.

Exemption for Clean DG

As discussed above, some clean DG advocates have had success with a strategy, not of blocking standby rates altogether, but of exempting clean DG from those rates. The Public Fuel Cell Alliance will consider supporting such an exemption wherever standby rates are proposed. Important elements of an exemption include:

- **Eligible technologies:** All generation using renewable fuels and all fuel cells.
- **Duration:** Ideally, the exemption would be perpetual. At a minimum, it must be available long enough to enable customers and developers to plan and install projects. Five-to-ten years is a reasonable, minimum duration.
- **Grandfathering:** Grandfathering is essential. DG systems installed during the exemption period must retain their exemption even after the exemption expires for new systems.
- **Cap:** Ideally, there would be no cap on the total MW of DG systems eligible for the exemption. However, a cap can make it easier for a utility to agree to an exemption because the cap bounds the utility's exposure. The appropriate size of a cap depends on a number of factors, including the size of the utility's service territory and the total size of clean DG projects that are likely to be installed during the exemption period. In the end, the size of the cap is often a political calculation.

- **Size:** DG systems below a certain size should be exempt from standby charges because they have a *de minimus* effect on the distribution system. Massachusetts set this threshold at 250 kW.

- **Percentage of customer demand:** DG systems below a certain percentage of the customer's maximum demand should be exempt because any variation in demand the DG system creates is within the range of normal demand variation for all-requirements customers. Massachusetts set this threshold at 30% of the customer's maximum demand.

ENDNOTES

1 *NSTAR Hit for Waving BU off Plan for Fuel Cell*, The Boston Globe, March 10, 2004, p. C1.

2 This paper discusses the application of standby rates in states that have implemented electric restructuring. In those states, charges for distribution services are separated from charges for supply services, and standby rates typically apply only to distribution services.

3 Among the simplifying assumptions is that the distribution charge takes the form of a demand charge only. In practice, distribution charges are often a combination of demand charges (kW) and kWh charges. Standby rates typically include demand charges only. Where the OAR includes both demand and kWh charges, the standby rate is created by converting the kWh component of the OAR into a demand charge and then adding that to the demand charge in the OAR.

4 Testimony of Sean Casten, MA DTE 03-121.

5 Testimony of Thomas W. Smith, MA DTE 03-121.

6 Testimony of Spiro Vardakas, MA DTE 03-121.

7 Testimony of David Hannus, MA DTE 03-121.

8 There is an exception where the load served by the DG is physically isolated from the rest of the customer's facility. Standby rates are not applied in this circumstance.

9 For example, in Massachusetts the following groups opposed NSTAR's efforts to impose standby rates: Conservation Law Foundation, Solar Energy Business Association of New England, the NE DG Coalition (a group of DG project developers), and The Energy Consortium (an association of large energy users). The state Division of Energy Resources also opposed elements of NSTAR's proposal.

10 Testimony of Elaine Saunders on behalf of the Energy Consortium, MA DTE 03-121; Initial Brief of the Energy Consortium and the NE DG Coalition, MA DTE 03-121, June 4, 2004.

11 18 C.F.R. §292.305(a)(2)

12 The rate applied where (a) the annual maximum billing demand exceeds the average of the eleven billing demands by 500 KW or more; and (b) the seasonal maximum demand in both the summer and the winter billing periods is more than twice as high as the average of the other billing demands in each season

13 The Reservation Charge for Sporadic Loads was eliminated along with many other rates when Massachusetts implemented electric restructuring. As is discussed below, the MA DPU, renamed the Department of Telecommunications and Energy, went on to approve a standby rate in 2004.

14 The staff of the New Hampshire Public Utilities Commission discussed both of these points in a recent white paper. "Given the random nature of generator outages, few [DG] customers would be off-line simultaneously and even fewer of those customers would be off-line during the summer peak." NHPUC Staff, Standby Service Rate Design Issues, p. 10–11.

15 The FERC regulations also take these factors into account. "The rate for sales of back-up power or maintenance power: (1) Shall not be based upon an 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; and (2) Shall take into account the extent to which scheduled outages of the qualifying facilities can be usefully coordinated with scheduled outages of the utility's facilities." 18 C.F.R. §292.305(a)(2)

16 To create a diversity benefit with regard to distribution system peaks, there need to be multiple DG systems on the same feeder. Having multiple DG units in the same utility territory but on different feeders is not sufficient to create the benefit.

17 The Narragansett Electric Company, C&I Backup Service Rate (B-32) and 3,000 kW Demand Backup Service Rate (B-62), available on the web at http://www.nationalgridus.com/narragansett/non_html/rates_tariff.pdf. The Rhode Island Public Utilities Commission order approving the rates, Narragansett Electric Co., Docket 3617, Order No. 18037 (November 9, 2004) is available on the web at http://www.ripuc.org/eventsactions/orders/3617-NECOrd18037(11.9.04).pdf.

18 RI Gen. Laws 39-26-5.

19 NSTAR Electric Standby Rates, MA DTE 03-121 (July 23, 2004), available on the web at http://www.mass.gov/dte/electric/03-121/723order.pdf. NSTAR's standby rates are available on the web at http://db.state.ma.us/dpu/qorders/frmDocketList.asp

20 Proceeding on Motion of the Commission as to Electric Tariff Filings to Establish New Standby Services, NY PSC Dockets 02-E-0551, 02-E-0779, 02-E-0780, 02-E-0781, CASE 02-E-1108 (January 23, 2004), available on the web at http://www3.dps.state.ny.us/pscweb/WebFileRoom.nsf/ArticlesByCategory/B6EBBFCB3732B19285256E35006C9B77/$File/doc14323.pdf?OpenElement. Consolidated Edison's standby rates are available on the web at SC No. 14-RA Standby Service, is available on the web at http://www.coned.com/documents/ra/ra-sc14.pdf.

21 "Ultra Clean Resources" is defined in Cal. Pub. Util. Code § 353.2 as "any electric generation technology that meets both of the following criteria: (1) Commences initial operation between January 1, 2003, and December 31, 2008. (2) Produces zero emissions during its operation or produces emissions during its operation that are equal to or less than the 2007 State Air Resources Board emission limits for distributed generation, except that technologies operating by combustion must operate in a combined heat and power application with a 60-percent system efficiency on a higher heating value."

22 Cal. Pub. Util. Code § 2827.10.