

# **ASSURING ELECTRICITY SERVICE FOR ALL RESIDENTIAL CUSTOMERS AFTER ELECTRICITY INDUSTRY RESTRUCTURING**

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## **I. Introduction and Executive Summary**

The terms Standard Offer, Price To Beat, Shopping Credit, Default Service, Provider of Last Resort, and similar terms for regulated electricity service prices in restructuring states have taken on different meanings in different states. The Price To

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Beat in Texas is similar to the Shopping Credit in Pennsylvania. Standard Offer in Maine is similar to Default Service in Massachusetts, although Massachusetts does also have a Standard Offer, which is similar in some ways to the Price To Beat in Texas.

The focus of this paper is on states that have begun implementation of the restructuring of their electricity industries. The purpose of this paper is to describe, from the residential customer point of view, the regulated generation services that remain necessary in a restructured electricity marketplace in order to make sure all residential customers retain electricity service at all times. Many refer to this idea as Provider of Last Resort (POLR) service. For analytical clarity, however, this paper uses neither the term POLR nor any of the other names in common, if confusing, use.<sup>2</sup> Rather, this paper simply distinguishes among the three separate residential needs for regulated electricity service in a restructured environment, and their different risk characteristics from the viewpoint of suppliers.

Residential consumers need three distinct services – one to make the transition to the new marketplace and the other two to serve those customers who are temporarily or permanently not served by that marketplace.<sup>3</sup>

- During the transition to competition, consumers need a reasonably priced service service, much like current integrated utility service.
- After the transition, consumers will need a short-term service option<sup>4</sup> to fill the gap (typically on the order of a month) when a competitive supplier terminates service due to insolvency, change in business strategy, or any other reason, or the consumer's change in suppliers requires a gap.
- Similarly, consumers need a predictable long-term service<sup>5</sup> for those whom competitive suppliers do not serve, including low-income customers (who have a particular need for reasonable and stable rates) and customers with poor credit histories.<sup>6</sup>

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<sup>2</sup> Individual state terms are retained in describing particular state examples.

<sup>3</sup> Analytically, the latter two are post-transition services. In practice, however, transition and post-transition services are mixed in time: customers who leave transition service for a specified period are typically not allowed to return, while others are allowed to remain on transition service. (Some states, on the other hand, such as Pennsylvania and Maine, adopted one service so there is no issue about switching among regulated services.) This is usually the result of a political balance between the need for a transition service and the desire to end it.

<sup>4</sup> Some call this Emergency Service.

<sup>5</sup> Some call this Standard Service.

<sup>6</sup> An oft-cited distinction made is between “won’t pay” and “can’t pay,” low-income customers almost always falling into the latter category. Existing programs of assistance, bill management, and energy efficiency, financed by a combination of taxes and system benefit charges, are aimed at reducing such income gaps and need to be increased to address the need.

Thus there must be a guaranteed electricity provider for every residential consumer. Perhaps, in time, the marketplace will be seen to provide reasonable residential service for all, but the evidence does not support that perception to date. The evidence is sufficiently strong, and electricity so important, that provision should be made to assure reasonable rates to customers in the event that they are not served by the new marketplace.

It is useful analytically to think in terms of three separate services. In practice, however, they should be offered as one class of service, albeit with different rates (perhaps with a transition service offered separately). In some respects, Pennsylvania and Maine, for example, do not distinguish transition from long-term service. In Pennsylvania, all residential customers are eligible for the price cap; in Maine, all residential customers benefit from the availability of a multi-year rate obtained by a bidding procedure. Short-term customers are difficult to identify in advance so, for example, in Massachusetts a Default Service customer that turns out to be a less-than-full-term customer (*i.e.*, there, less than six months) is back-billed (or credited) at the short-term (monthly) rate.

Low-income customers are particularly vulnerable to price disruptions and are thus least able to accept the risk that the marketplace may not offer affordably priced service. Indeed, many low-income consumers cannot afford electricity at pre-restructuring rates and therefore receive tax- and system-financed benefits including payment assistance,<sup>7</sup> bill management, and electricity efficiency measures.

The risks that these three services present to suppliers vary considerably. Transition service risks may approximate in many ways the risks of regulated utility service, including a constitutional protection against confiscation.<sup>8</sup> At the other risk extreme, short-term service meets loads of unpredictable quantity, time and duration. Long-term service, by contrast, meets reasonably predictable loads and load patterns. In the short-term, instant termination from a supplier is both physically and economically impractical. More important, instant termination is socially unacceptable because electricity is regarded as an essential service.

Extreme price volatility can make electricity unavailable to residential customers as a practical matter; this result would be equally socially unacceptable. Volatility can result not just because electricity service is essential, but also because there are no adequate substitutes for it. Furthermore electricity cannot be stored on shop shelves -- it can only be manufactured on demand. In addition, barriers to entry are substantial, so alternative suppliers can be hard to find, especially in a tight market, because it takes at least two years and, in a competitive marketplace, a strong stomach for

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<sup>7</sup> The leading example is the federal Low Income Home Energy Assistance Program (LIHEAP).

<sup>8</sup> The risks are similar but not identical. For example, there may be some risk that customers will leave for competitors (less likely to the extent that transition service rates are set below market price). Transition suppliers without locked-in supply take on price risk.

risking millions of investor dollars, to build a power plant. The result is price volatility that, experience has already shown, can be extreme. Not only is such volatility, by itself, difficult for residential customers, but at wholesale it also creates a hostile environment for retail competitive marketers.

The goal of a reliable residential electricity supply at stable and reasonable prices may be seen as a political one rather than one demanded by any science of economics. There are probably few political goals in the country (if not the world) that enjoy a broader consensus than reliable electricity service at reasonable, predictable prices. One assumption underlying this paper is that economic solutions should be crafted by political consensus rather than the other way around.<sup>9</sup> However, it is also true that disruptions in the supply or ability to afford residential electricity would be extremely disruptive to the economy.

In a classic market, of course, there are no back-up retailers. Shirts are essential, but there is no shirt POLR.<sup>10</sup> Provision must be made for electricity service no-matter-what because electricity is unique. There is no comparable regulated shirt service – essential though shirts are – because:

- there are potential substitutes, such as shirts from other manufacturers, T-shirts, and turtlenecks; kerosene lamps and hand fans are not comparable substitutes for electricity;
- shirts can be stored on a warehouse shelf for years to even out price swings; electricity can only be stored in a battery at a cost of \$3000 per kWh;
- a cottage industry of shirt stitchers can be set up overnight at negligible cost; a small (100 MW) electricity plant would cost about \$40 M<sup>11</sup> and take at least two years to build.

These factors keep shirt prices reasonably stable. It may be, as some speculate, that robust retail electricity competition will some day give birth to hedging services that stabilize residential prices. However, it has not happened so far. Consumers have thus far seen price volatility in some states and very little choice in any state. In this author's view, residential electricity price stability is a sufficiently vital and immediate concern as to warrant specific protections.. With such protections in place, it will be less dangerous to residential customers to wait to see if a competitive marketplace will develop for residential customers.

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<sup>9</sup> See e.g., George Brockway, The End of Economic Man: An Introduction to Humanistic Economics (New York: W.W. Norton, 4<sup>th</sup> ed. 2001).

<sup>10</sup> Back-up supply in the event of market failure for an essential is certainly not unprecedented in the American marketplace. There is, for example, a Strategic Petroleum Reserve (SPR) for oil supply emergencies. And there are provisions for food, medical care, and housing at below market prices (even free) when the marketplace fails to deliver such essentials to particular individuals.

<sup>11</sup> Interlaboratory Working Group on Energy-Efficient and Clean Energy Technologies, Scenarios for a Clean Energy Future at Appendix C-4 (Oak Ridge National Laboratory, Lawrence Berkeley National Laboratory, National Renewable Energy Laboratory, 2000) (1997 data).

From a consumer point of view, these are the key principles:

- a. Rates and bills that are reasonable,<sup>12</sup> i.e., the lowest possible price that remains fair to providers, such that both utilities and their customers remain economically healthy;<sup>13</sup>
- b. Rates that are stable;<sup>14</sup>
- c. Rates that are affordable;
- d. A set of rules that work robustly, whether residential competition develops or not;
- e. Existing non-price protections and service standards that remain at least as strong and universal as before restructuring;<sup>15</sup> and
- f. While details may vary over time, permanent compliance with these principles.

A long-term hedged rate option is needed in order to assure reasonably priced electricity service for all residential customers. This should be a fully compensatory rate similar in many ways to the former integrated utility rate: the price would be relatively stable and based on a mix of resource commitments over various durations. There should be no restriction on the ability of competitive suppliers to beat this basic offering. Indeed, that is what restructuring advocates promised consumers would happen.

The premise of industry restructuring, from the consumer point of view, is that it would improve upon the former integrated utility rate – that is, lower prices. However, consumers see competition as merely one possible tool of many that are available to lower electricity prices and improve reliability. It is thus up to competitive suppliers to compete for residential consumers' business by offering something sufficiently valuable -- greater efficiency (lower prices) and/or better service -- to justify switching.

Some object that the existence of a regulated long-term alternative to protect residential consumers may retard the development of retail residential competition. This may well be a risk, but the policy issue on behalf of residential consumers involves a balancing of risks. It may well be that many environmental and economic efficiency benefits of electricity industry restructuring can, for the most part, be met

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<sup>12</sup> NASUCA Resolution 97-03. See generally, J. Bonbright, Principles of Public Utility Rates (Columbia Univ. Press 1961).

<sup>13</sup> Federal Power Commission v. Hope Natural Gas Co., 320 U.S. 591 (1944); Bluefield Waterworks v. Public Service Commission, 262 U.S. 679 (1923). A considerable body of regulatory guidance has developed around this principle. See generally, J. Bonbright, Principles of Public Utility Rates (Columbia Univ. Press 1961).

<sup>14</sup> NASUCA Resolution 97-03.

<sup>15</sup> NASUCA Resolution 96-03.

without residential competition.<sup>16</sup> However, for residential prices, the policy options are:

- (1) choice of competitive suppliers with the accompanying risk of extreme price volatility,<sup>17</sup> and
- (2) regulated stable prices (perhaps higher on average), at the risk precluding choice of competitive suppliers.

The evidence thus far is that residential retail choice is, at best, very slow to develop in any event and that volatile prices are also, on average, higher. However, even in the absence of that evidence, the policy option *from the point of view of most consumer advocates is that the certainty of price stability is more valuable than the chance of choice.*<sup>18</sup>

Based on the foregoing, as described more fully below, my recommendations are:

- a. three residential services for transition, short-term emergency, and long-term standard requirements, the latter two (or all three) integrated into one offering<sup>19</sup>;
- b. long-term service rates that are hedged and overseen by regulators to be as low and stable as possible, consistent with the financial health of the provider;
- c. enhanced provisions to make electricity affordable for low-income customers, including efficiency and assistance measures as well as bill management; and
- d. maintenance of customer protections and policy goals.

## **II. The problem: permanent and reasonably priced service for all residential electricity customers after restructuring**

In states where competition for retail residential customers is allowed, it is inevitable that, at best, some customers at some times will not be served by the competitive marketplace. Since customers cannot practically store the electricity they need, and

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<sup>16</sup> E.g., Mass. Div. of Energy Resources, 1999 Energy Efficiency Activities in Massachusetts (Appendix F: “Energy Market Clearing Price Impact Analysis”); E. Hirst, “Retail-Load Participation in Competitive Wholesale Electricity Markets” (Edison Electric Institute and Project for Sustainable FERC Energy Policy, January 2001). The suggestion is that market response by a relatively small number of very large customers can be beneficial to the greater society by reducing demand (in response to market incentives), thereby causing a reduction in emissions and a reduction in demand-driven price spikes.

<sup>17</sup> Unless the residential competitive marketplace develops a reasonably priced hedged rate.

<sup>18</sup> This is not to say that wholesale competition for residential load may not be beneficial for residential customers.

<sup>19</sup> This does not mean at a single uniform rate, however, as described in sec. II.b. below.

electricity is essential to daily life, there is a need to establish a mechanism to serve customers who are not served by the marketplace.

In the residential sector, there are at least three categories of customers likely to need service outside the marketplace. Each category has different characteristics and should therefore be treated differently. The three categories are:

- (1) while the marketplace is developing, customers who may or may not ultimately participate in a marketplace but who, in any event, need a transition service for a period;
- (2) customers who are out of the marketplace for brief, unpredictable periods while they change suppliers; and
- (3) customers who are likely to remain unserved by the marketplace for long and predictable periods.

The purpose of this section is to describe these three different categories, with emphasis on the need for a post-transition long-term option to assure residential service at reasonable prices. The following section discusses the long-term service in greater detail.

#### **a. Transition service**

Nearly every state that has restructured its electricity industry has provided a transition service at or below then-current prices to allow residential customers to become familiar with and accustomed to the competitive marketplace.<sup>20</sup> For example, Pennsylvania restructuring legislation mandates a rate cap at then-current (January 1, 1997) prices for Default Service for nine years or until the utility's stranded costs are paid off and all customers have a choice of suppliers, whichever is shorter. This rate cap sets a ceiling on generation prices except for new services or if a utility demonstrates to the commission that its financial viability is at stake. Default Service in Pennsylvania also serves as POLR service and is available to all classes of customers.<sup>21</sup> Thus there is one non-competitive residential rate in Pennsylvania, which will remain in effect until as long as 2010. Analytically, the rate serves the objectives of transition service – it is a regulated rate that expires – as well as of long-term and short-term service (see below). Presumably, the price cap will be replaced in 2010 with a regulated, market-based rate.<sup>22</sup>

In Connecticut, the incumbent utilities must go out for bid to provide POLR Service at a price that reflects the retail price to provide energy; i.e., the wholesale price plus

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<sup>20</sup> Maine is an exception. A good survey of many of these transition services may be found in Barbara Alexander, "Default Service: Can Residential and Low Income Customers Be Protected When the Experiment Goes Awry?" (Winthrop, Maine 2001).

<sup>21</sup> Id. at 13-16.

<sup>22</sup> Personal communication, Pennsylvania Consumer Advocate Sonny Popowsky (Nov. 2, 2001).

marketing, personnel, overhead, taxes, and profit. The Commission in Connecticut estimated this latter group of costs to be \$0.005 to \$0.01 per kWh; thus, prices were set at \$0.05 per kWh (\$0.043 for residential electric heating customers) for one utility and \$0.055 per kWh for the other. These prices are fixed through 2003 and, as in Pennsylvania, apply to all customer classes.<sup>23</sup>

Massachusetts adopted a regulated seven-year Standard Offer, as well as a market-based Default Service. The Standard Offer is available to all low-income customers and, unless they leave the service for 120 days, all other customers at their service location on the day of restructuring (March 1, 1998).<sup>24</sup> As this is written, the Standard Offer at, for example, Massachusetts Electric Co. is 6.631 cents per kWh, 28 per cent less than the market-based Default Service price of 9.213 cents.<sup>25</sup> However, rates are set at six-month intervals and at least one utility has announced Default Services prices that will be lower than its Standard Offer.<sup>26</sup> Thus Massachusetts Standard Offer prices have been more stable, if not always less than, Default Service prices.

In Massachusetts, bills including the Standard Offer started at a price ten percent, then 15 per cent, lower than the utility bills they replaced. Regulated increases have been permitted, based on inflation (particularly in fuel prices).<sup>27</sup> Similarly, in Texas the Price to Beat will be set on January 1, 2002, so bills are six percent below (in most cases) the utility rates they replace (as of January 1, 1999), with regulated inflation-based increases permitted.<sup>28</sup>

By definition, transition rates come to an end, leaving customers to the marketplace or in need of a short-term or long-term substitute for the marketplace. The transition rate is designed as a bridge between the outgoing traditional integrated utility service and the new marketplace. Generally, it is adopted as part of a political arrangement to secure the agreement of consumer advocates (including low-income consumer advocates). The distribution of risks is part of this series of trade-offs and generally includes traditional constitutional protections against confiscation. The rationale from the residential point of view is usually that restructuring is more likely to benefit industrial customers and utilities that are proposing it, so a rate decrease (or, at

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<sup>23</sup> Alexander at 22-23.

<sup>24</sup> G.L. c. 164, secs. 1B(b), 1F(4)(iii); DTE 99-60-A and B. New customers in a service territory take Default Service.

<sup>25</sup> [www.state.ma.us/doer/pub\\_info/pub\\_info.htm#elec](http://www.state.ma.us/doer/pub_info/pub_info.htm#elec). Standard Offer generation rates were first conceived to encourage competition, at least over time. However, market prices rose higher than anticipated at the time of the development of the Standard Offer.

<sup>26</sup> Letter from D.T.E. to Fitchburg G&E Light Co. re Default Service Tariff Filing MDTE No. 72 (Dec. 2001-May 2002) (Oct. 11, 2001). Low-income customers will be automatically switched to the lower rate.

<sup>27</sup> G.L. c. 164, sec. 1B(b). The questions about implementation of this provision are outside the scope of this paper.

<sup>28</sup> Public Utility Regulatory Act (PURA), Acts 1999, c. 1579.



minimum, a rate freeze) of some duration is appropriate for residential customers. In some cases, transition rates are established without regard to their impact on residential competition – for example, as it turned out, Massachusetts Standard Offer and Default Service rates started below market prices. (Default Service rose to market prices, but wholesale price volatility appears to have caused the few small competitors there to leave.) In other cases, transition rates were designed to encourage competition – for example, Pennsylvania’s shopping credit was set well above many initial market prices.<sup>29</sup> (The Texas Price To Beat appears to have a similar objective.)

Nevertheless, whatever the transition rate design, restructuring experience to date, described in more detail below, has brought little other benefit for residential consumers. In some places the design of transition service, as part of a political trade-off, may have retarded the development of residential retail competition. On the other hand, in states such as Pennsylvania where transition service was designed to encourage residential retail competition, little such competition has developed so far.

#### **b. Short-term service**

Even in a smoothly functioning marketplace, change is constant. Customers wish to switch suppliers but face a delay in completing the transfer. Companies become insolvent or go out of business for other reasons. Companies change their business strategies<sup>30</sup> and depart from a geographic area or other customer segment. Suppliers merge with, are sold to, or are taken over by alternative businesses that are objectionable to some customers. These events are relatively random and are thus not predictable. However, by assumption, customer need for service after such events is short-term since they will obtain alternative supply in a short time.

From a supplier’s point of view, such short-term loads present relatively large risks unless served from the spot market. Short-term loads may, for example, occur at times of peak demand when spot prices are at seasonal peaks. Indeed, short-term loads may result from marketer gaming, seeking to avoid short-term wholesale price spikes.<sup>31</sup>

Generally speaking, electricity suppliers will need to set their retail prices to reflect wholesale price levels at the time of load, as well the duration and certainty of the load. Prices for short-term service should reflect these factors. Thus, as demonstrated below, short-term prices can be relatively volatile and, at some times, very high relative to the average.

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<sup>29</sup> The relationship between market price and shopping credit varied by service territory.

<sup>30</sup> For example, Shell recently decided to leave the retail electricity business altogether, abandoning customers in Ohio and Texas. Its press release is Attachment DJ-1 to the Rebuttal Testimony of D. Jaussaud in Texas PUC Docket 24190, filed Oct. 10, 2001.

<sup>31</sup> This is not to condone such gaming which may, at least in the residential marketplace, constitute an unfair and deceptive trade practice for which there may be legal relief.

As a practical rate offering, however, it is usually not possible to identify in advance the particular customers who will not stay long. Customers (or, more likely, their suppliers, as in Pennsylvania) may wish to rely on back-up service in seasons of high market prices as a sort of short-term arbitrage. (The combination of market prices off-peak and year-round-average prices on-peak yields lower-than-market prices by shifting risk to the on-peak back-up supplier.) Short-term “in-and-out” customers thus impose costs on longer-term customers. Therefore, for example, Pennsylvania utilities may require 12-month commitments of customers who return to Default Service from competitive suppliers. Connecticut utilities can impose a 12-month stay requirement on customers who return to POLR service from the competitive market, but they may not impose a switching fee or higher rates on such customers. Massachusetts customers may subscribe to Default Service on a monthly basis or for a uniform price set for six months; six-month customers who depart mid-period are re-billed at monthly rates.

In such ways, short-term residential customers can be served alongside long-term customers without burdening the latter. A customer, for example, may choose the long-term rate. If that customer’s stay turns out to be for a shorter period because, for example, the customer reenters the competitive marketplace, then the customer’s bills should be restated at the short-term rate. In this way, long-term customer prices do not reflect short-term costs. The possibility of short-term arbitrage among rates is removed. And there is no requirement that a customer stay out of the marketplace for a period of time.

### **c. Long-term service**

There is considerable evidence that many residential customers will not be served by the marketplace. Indeed, empirical evidence to date suggests that, under a variety of market structures, nearly all residential customers will not be served by competitive suppliers. It is not the purpose of this paper to explore the reasons for the lack of residential competition under a variety of conditions or its likely duration; rather this paper is addressed to the fact of the lack of such competition and policies needed to address that fact.<sup>32</sup>

Customers of particular concern are low-income customers and customers with poor credit, both of which represent predictable long-term loads. Competitive suppliers may also elect to not serve other segments of residential customers, on the basis of geography or otherwise. After all, rural electric coops were organized because the utility industry did not serve all rural areas; even so, many parts of America were not

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<sup>32</sup> Reasons for this lack that have been put forward include high customer acquisition costs and inherently low margins.

electrified until the 1950s.<sup>33</sup> By the same token, there is likely to be some number of residential customers who just do not want to choose a supplier. Thus, whether competition develops or not, it is probable that there will be a significant and predictable level of residential load unserved by competitive suppliers. Obviously, if there is little or no residential competition, then all (or nearly all) residential load will require regulated service. If, on the other hand, competition does develop, there will nevertheless be loads predictably left behind by the marketplace that will require regulated service.

At one pole, many argue that it is too soon to predict that residential retail competition will not develop. Others argue that it is theoretically impossible. The point of this paper is that electricity service is so important that universal service at reasonable and stable rates must be an objective no matter how the experience with competition turns out. If competition achieves this universal goal, then the contingency plan remains just that. If it takes time to reach this goal, or if some customers are not served by the new system, then the contingency plan is needed to see to it that consumers do not lose their ability to afford electricity.

Obviously, residential load is most predictable in the Oregon model, where residential competition among services is minimal and there remains a clear obligation to serve. It is this author's submission that, particularly after a transition period, the level of competitively unserved residential load will be nearly as predictable in states that have more fully restructured. At a minimum, the load of poor credit customers will be about the same as before restructuring. The long term and predictable size of the residential load not served by the marketplace minimizes risks to suppliers as long as steps are taken to prevent short-term arbitrage by other suppliers or short-term "in-and-out" customers, as described above with respect to short-term service.

The empirical record to date suggests that, at best, there must at least be a contingent system of electricity supply and pricing that will provide reliable and fairly priced service to all residential consumers in the event that residential competition does not occur, does not produce promised lower prices, or does so only for certain segments of the residential sector. Residential segments that may be left out may include low-income customers, consumers with poor credit, non-urban customers, and consumers living in certain states.

The Oregon Legislature made the assumption that residential customers would never be an attractive segment for competitive suppliers. The Legislature therefore adopted a permanent regulated rate for residential customers, while providing competition for larger customers.<sup>34</sup> Presumably, Oregon determined that any price benefits of

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<sup>33</sup> Richard Hirsh, "Emergence of Electrical Utilities in America," at 9, in Richard Hirsh, ed., Powering the Past: A Look Back (Smithsonian Institution, 1998, <http://americanhistory.si.edu/csr/powering/thepast.htm>).

<sup>34</sup> SB 1149 (1999); Ron Eachus, then chairman, Oregon Public Utilities Commission, "Oregon Electric Restructuring" (Testimony to House Smart Growth and Commerce Committee, Feb. 5, 2001). Serious questions have been raised, however, about the ratemaking method.

residential competition are smaller than the cost increases imposed by uncertain loads and the need to market.

Predictable long-term loads can, of course, be hedged by suppliers to reduce price volatility to retail customers. This is discussed further in the next section (sec. III) and is presumably the way providers were able to bid three-year Standard Offer rates in Maine. What is proposed here is a service to fill gaps in retail electricity service. Consideration of measures at retail to meet a failure of the wholesale marketplace is beyond the scope of this analysis.<sup>35</sup>

## **i. There has been little residential competition to date**

### **1. Electricity industry experience to date**

The experience so far from the perspective of residential electricity customers is that electricity industry restructuring, by itself, does little or nothing to lower prices or expand retail choice. In fact, despite a variety of market structures, restructuring has often increased both price levels<sup>36</sup> and price volatility. This conclusion is based on about four years of actual data, but the Oregon Legislature concluded that it is inevitable that competition will come late – or not at all – to the residential sector.

The smaller customers have smaller volumes and use patterns that make it difficult for a marketer to make much profit on these customers. It costs a lot to market to these customers and there is not much profit margin so it takes a lot of customers to make it worthwhile. That is why [Oregon] SB 1149 did not require these customers to get direct access. There was not much expectation that marketers would view them as attractive customers.<sup>37</sup>

Experience to date supports Oregon's prediction. For example, almost four years after restructuring in Massachusetts, only 0.05 per cent (979 out of more than two million) of residential customers are served by competitive suppliers<sup>38</sup> even though about 30

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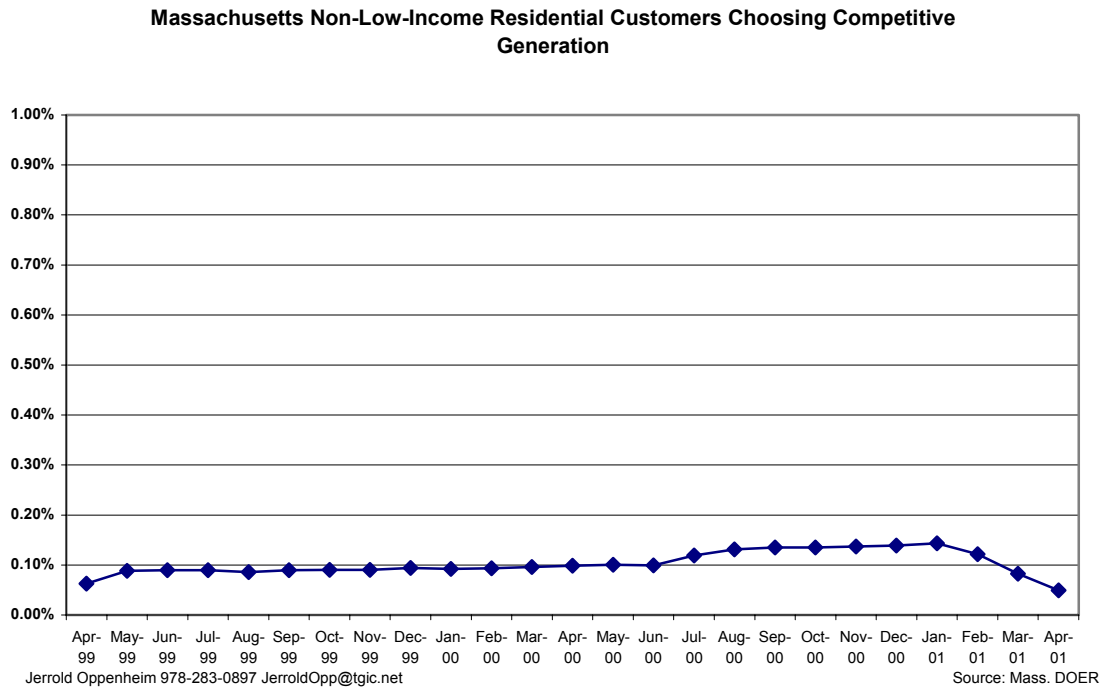
<sup>35</sup> The existence of a very large buyer (such as for a long-term residential service) may have some impact on wholesale supplier market power, but it is not the purpose of this analysis to address responses to wholesale market failure.

<sup>36</sup> There is some dispute about what the level of prices would have been in the absence of restructuring, which it is not the purpose of this paper to explore. The more relevant point to this paper, and on which there is more consensus, is that restructuring has increased price volatility. There is a view that this is beneficial from the standpoint of economic efficiency, but in the day-to-day life of American consumers electricity price volatility introduces a hardship.

<sup>37</sup> Ron Eachus, then chairman, Oregon Public Utilities Commission, "Oregon Electric Restructuring" (Testimony to House Smart Growth and Commerce Committee, Feb. 5, 2001).

<sup>38</sup> [www.state.ma.us/doer/pub\\_info/migrate.htm](http://www.state.ma.us/doer/pub_info/migrate.htm)

per cent of Massachusetts residential customers are served on the market-based Default Service rate.<sup>39</sup> Default Service has reflected wholesale market prices for more than a year, during which time Massachusetts residential competition has declined to nearly zero. The history of Massachusetts residential competition is displayed in this chart, which is drawn from Massachusetts Division Of Energy Resources data. (Note that, in order to make any change distinguishable, the top of the scale is only one per cent of residential customers.)

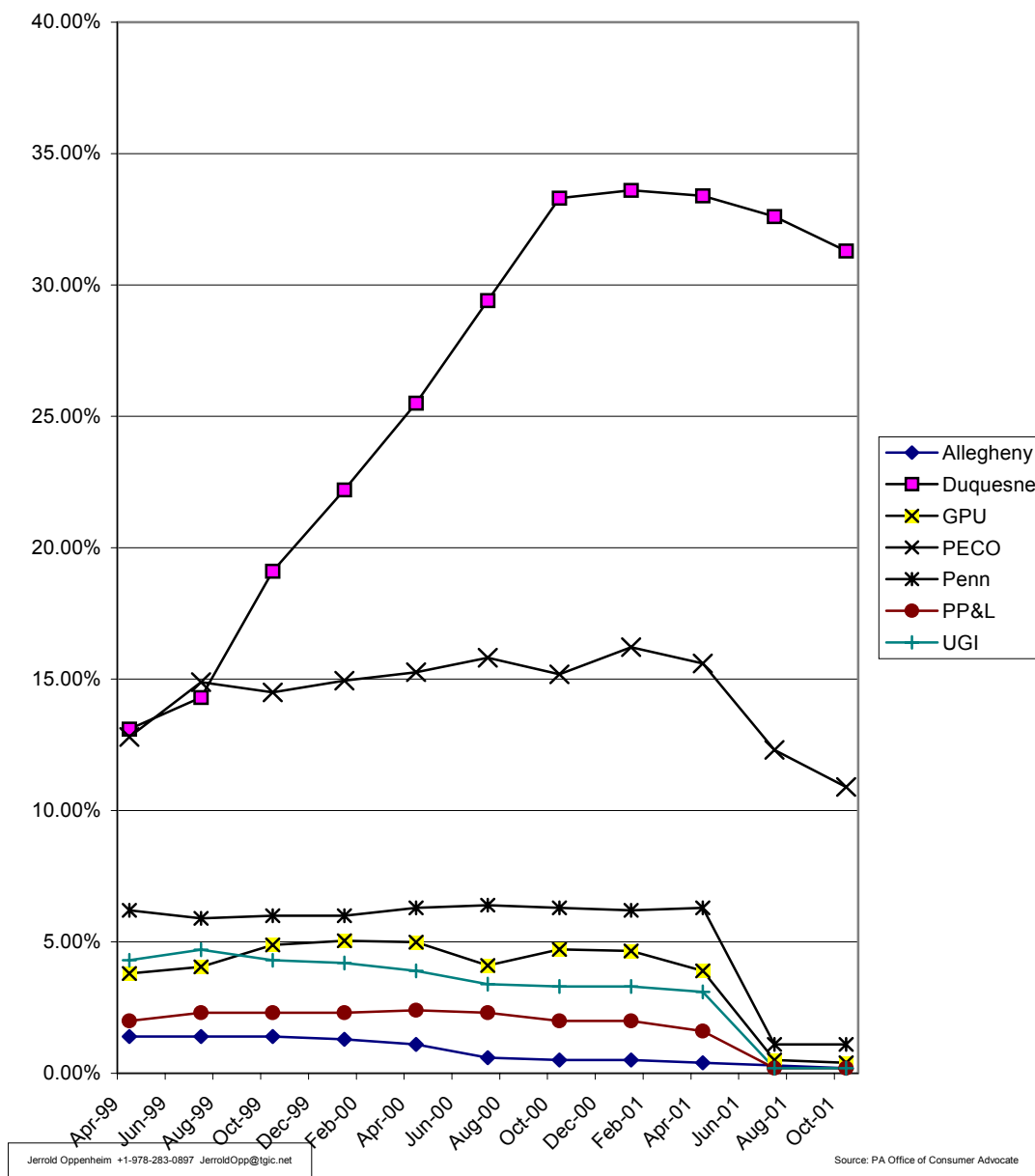


There may be particular circumstances that caused this result in Massachusetts. However, the lack of competition for residential customers is true of all states that have restructured to date, each with its own set of particular circumstances, even in the so-called success story of Pennsylvania, as is shown in this chart, which is drawn from data from the Pennsylvania Office of Consumer Advocate.<sup>40</sup> (The top of this chart is still only 40 per cent of residential customers.) As noted earlier, the Pennsylvania shopping credit was structured with the intent of encouraging residential competition, although its success in doing so varied considerably by service territory. Shopping credits were set in separate agreements with each utility. Generally speaking, the higher the shopping credit, the more shopping, though the fraction of consumers shopping has not exceeded a third and today there is no price advantage to shopping.

<sup>39</sup> Id.

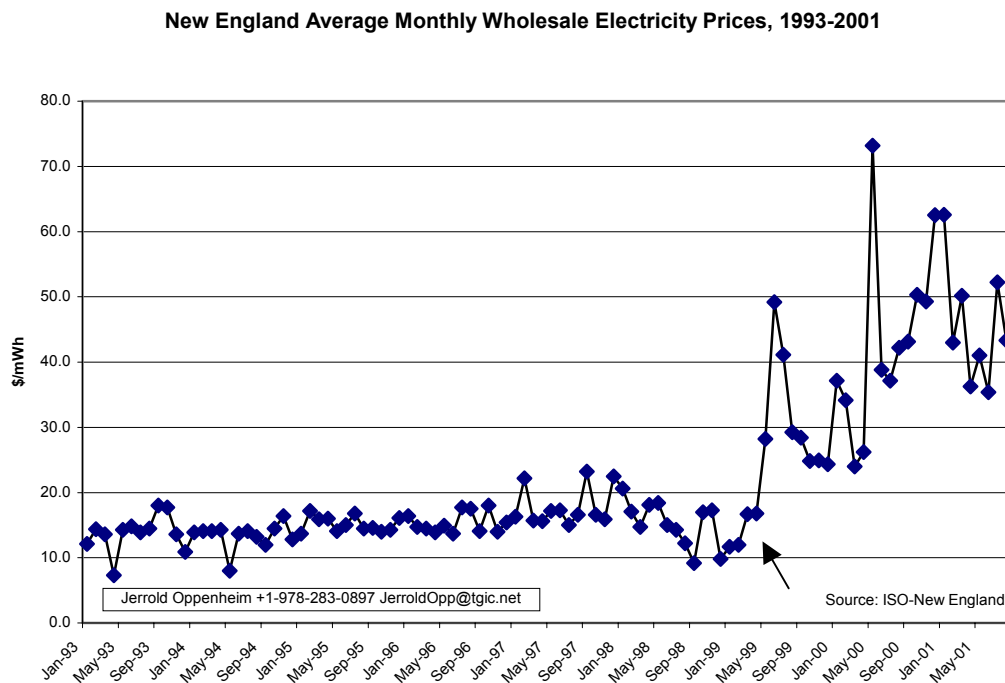
<sup>40</sup> "Pennsylvania Electric Shopping Statistics," [www.oca.state.pa/us](http://www.oca.state.pa/us).

### Pennsylvania Residential Customers Choosing Alternative Suppliers



From a consumer point of view, these data represent a warning. One should conclude from these facts that there is a need to have a permanent system of reasonable prices in place for all residential customers *in case* little or no competition develops for residential customers. A one-third market penetration may be a great success from the standpoint of marketers, but the remaining majority of consumers also need electricity service at reasonable and stable prices.

The price volatility of competitive electricity service is most visible at wholesale. California is, of course, infamous, but wholesale price volatility has also increased in other restructured states. For example, in New England (passed through to many retail rates) volatility increased more than 50 percent. In the six years before the market opened, high average monthly prices averaged 1.9 times the lows, reflecting cost differentials among plants responding to various demand levels. This differential increased to 3.0 times. The chart below is drawn from data of the Independent System Operator in New England. (The arrow denotes the opening of the market.)



Circumstances in every state are unique. Nevertheless, one should not ignore the fact that – at least so far -- retail competition has often added considerable volatility to residential electricity prices without adding much choice:

- New York City residential customers suffered a 43 per cent rate increase in June 2000. The New York ISO predicted summer wholesale prices would rise another 46 per cent by 2005<sup>41</sup> until the World Trade Center catastrophe

<sup>41</sup> A. Sullivan and N. Hegedus, "Con Ed Customers Get Tough Lesson on Deregulation," Wall St. Journal at B6 (Aug. 23, 2000); J. Covert, "Mismanagement of NY Power Market Costs Millions – Utilities," Dow Jones Newswire (Oct. 5, 2000); A. Caffrey, "New York Energy Prices May Rise Sharply by '05," Wall St. Journal at A10 (April 18, 2001).

overtook this prediction by shrinking New York City load, which caused prices to drop in half.<sup>42</sup>

- Instead of adopting immediate 15 per cent price reductions, as California and Massachusetts did, Pennsylvania capped its prices higher than some thought regulation might have set them, while also abolishing the fuel clause. Rates were frozen at the last embedded cost of service determination, with the nonbypassable portion devoted to paying for stranded costs stretched out over a sufficient period of time such that the remaining avoidable price for retail generation (the shopping credit) would exceed the then-current price for energy. For a while this brought competition, as intended. But as wholesale prices have risen, low-priced competitors have fled every service territory except the one around Philadelphia.<sup>43</sup> An important lesson is that retail price caps have maintained residential price stability. It is possible that price caps maintained price stability at the cost of lost competition; if so, most consumer advocates would say the trade-off was warranted.
- According to FERC data, wholesale prices since 1997 more than doubled in Chicago, the Upper Midwest, New York, and New England; almost tripled in some parts of the South and more than tripled in other parts; and quadrupled in Texas.<sup>44</sup> Wholesale prices in the Midwest, usually around two or three cents per kWh, skyrocketed to \$7.50 on June 25, 1998<sup>45</sup> and to \$9.00 in July 1999.<sup>46</sup>

Although rising and volatile electricity prices coupled with reduced reliability are especially difficult for low-income families, they are unacceptable for all sectors of the society. Alfred E. Kahn, an economist at Cornell University and Chair of the New York State Public Service Commission in the mid-1970's, helped oversee the creation of free markets in the rail, trucking and airline industries as well as the electricity industry. He now says: "I am worried about the uniqueness of the electricity markets. I've always been uncertain about eliminating vertical integration.... It may be one industry in which it works reasonably well." He also said that although he thinks free markets do a better job managing rail, phone and airline prices, they have yet to match regulators' ability to juggle the complexities of electricity.<sup>47</sup>

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<sup>42</sup> According to the New York ISO, energy prices in the New York City zone fell from 8.5 cents on the Friday before September 11, 2001 (i.e., Sept. 7) to 4.1 cents the following Friday.

<sup>43</sup> E.g., Christian Berg, "Only discount power supplier for much of state pulls out," Lehigh Valley Morning Call at A1 (Jan. 23, 2001).

<sup>44</sup> R. Smith and J. Fialka, "Electricity Firms Play Many Power Games That Jolt Consumers," Wall St. Journal at A1 (Aug. 4, 2000).

<sup>45</sup> Staff Report to the Federal Energy Regulatory Commission on the Causes of Wholesale Electricity Pricing Abnormalities in the Midwest During June 1998 at Fig. 3-5 (Sept. 22, 1998).

<sup>46</sup> R. Smith et al., "Electricity Firms Play Many Power Games That Jolt Consumers," Wall St Journal at A1 (Aug. 4, 2000).

<sup>47</sup> J. Kahn, "Economic View: Utility Deregulation: Square Peg, Round Hole?" New York Times (March 4, 2001).



The Regulatory Assistance Project recently summarized the last few years' experience this way:

Perhaps the most important reality is that the existing markets have effectively forced residential and small commercial consumers to buy all of their electricity in the short term market, with short term defined as one year or less. ... [E]ven in well-functioning markets, the year-to-year price volatility – and in particular the price volatility that results in large price increases – will be unacceptable to most customers. ... It is not that the market lacks long-term portfolio management. ... The problem is that the price stability benefits of their long-term portfolio management efforts do not flow to small retail consumers.<sup>48</sup>

Whatever else one may conclude from a review of the various state experiences with restructuring, it seems clear that there is a substantial risk to residential customers that electricity industry restructuring, by itself, will bring them increased and more volatile prices. Some argue that competition will someday benefit residential customers by lowering their average prices. Others point to places where this has occurred for a short time. Until competitors are able to fulfill this promise universally, however, residential customers need a long-term alternative that at least leaves them no worse off than before restructuring.

## **2. Lessons from other sectors**

Nothing in the history of deregulation suggests early benefits for residential customers. Competitive long distance telephone carriers incur customer acquisition (marketing) costs of \$75 and up per customer. Such costs would overwhelm any potential generation efficiencies available from competition – the entire average residential electricity generation bill is only about \$300 per year so it is difficult to produce sufficient efficiencies to even cover marketing costs. In fact, in most states currently, electricity marketer margins are negative. Thus almost no competitors in any state are willing to bear the costs and risks of selling electricity to residential consumers. Indeed, competitive supplier Duke Energy warned that retail competition would be limited by costly barriers to entry, including the need for state-of-the-art billing systems, and margins that will be "very low."<sup>49</sup> Another supplier, Enron, warned the Massachusetts Department of Public Utilities<sup>50</sup> not to expect a lot of competition for the residential

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<sup>48</sup> "Electrical Realities: Volatile Markets and Customer Desire for Stability" (October 2001).

<sup>49</sup> "Duke Energy planning on retail margin that are [sic]very low'," Restructuring Today, p. 1 (Oct. 10, 1997).

<sup>50</sup> Now the Department of Telecommunications and Energy. Docket 96-100 (1997).

sector: "safety net responsibility lies with the distribution company. . . it's a very difficult market." Supplier New Energy Ventures made a similar prediction of competitors steering away from certain markets, explaining that "[I]n the competitive marketplace there's choice on both sides."<sup>51</sup>

Thus, once he left the presidency of the California Public Utilities Commission, Daniel Fessler expressed his opinion that it was dishonest to promise electricity price reductions from restructuring: industry has no obligation, he said, to "shield small customers from reality."<sup>52</sup>

The economics of the electricity industry made the current volatility easy to predict, too. Electricity cannot be stored, but supply and demand must be kept in instantaneous balance to physically protect the grid. Electricity must therefore be produced on demand from large and costly generation plants. Plant additions cannot be finely tuned to meet demand, either. Economics dictate relatively large investments. Any investor risking a large sum of capital wants some assurance of its return. Thus the incentive is to not invest until a shortage makes it almost certain that the output from a new investment will be purchased. Such a shortage also increases prices – the price signal to build new plant that some economists find hopeful about the California disaster. Eventually, enough plant is built to fill the demand, a surplus may develop, and prices drop – until the next cycle of shortage and investment attracted by skyrocketing prices. In this way, especially given the lumpiness of generation investment, price volatility is an inevitable component of a market system. "[R]apid deregulation of the . . . power sectors have also reduced the incentives for specific businesses to invest in . . . excess capacity that can help smooth markets during times of disruption or unexpected volatility in demand growth."<sup>53</sup>

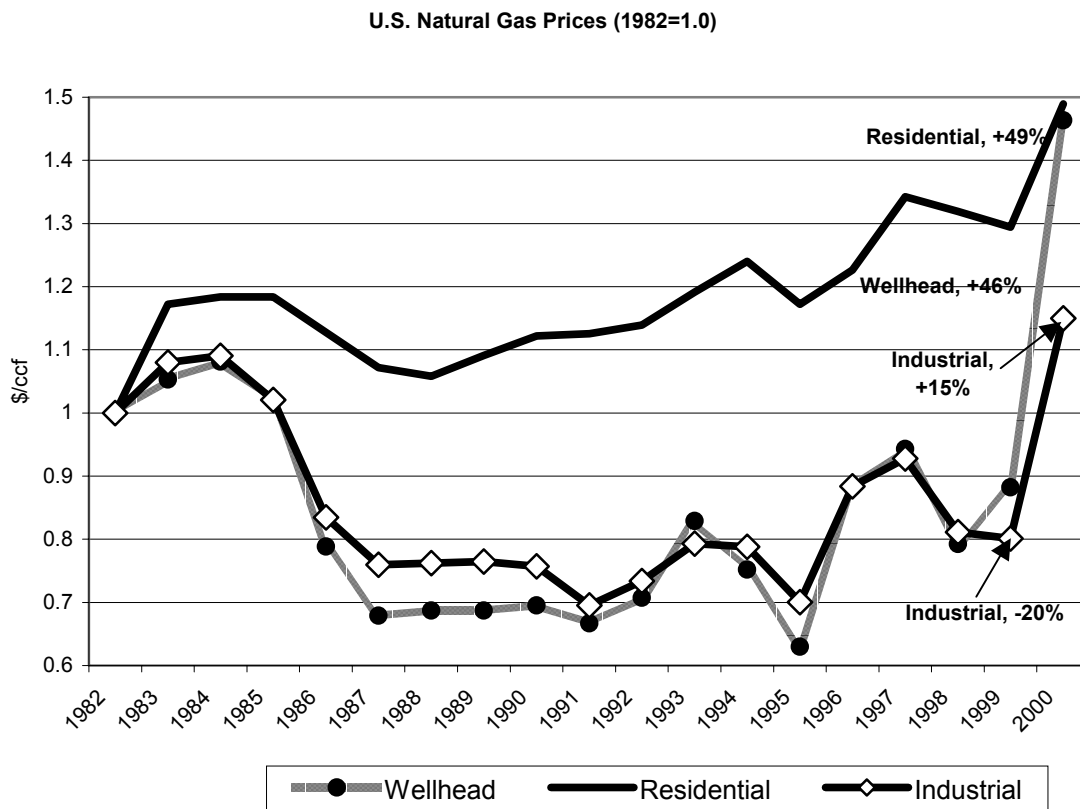
In addition, the history of other deregulated industries demonstrates the risks of market segmentation that raises prices for those with the least power in the marketplace. Most of the benefits of natural gas deregulation, for example, have gone to industrial customers. Residential customer price increases tracked the wellhead price spikes of 2000, but earlier wellhead price decreases went to industrials:

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<sup>51</sup> Id.

<sup>52</sup> "Former CPUC president doubts lower prices to come from choice," Restructuring Today, p. 1 (Apr. 7, 1997), quoting Daniel Fessler at a conference sponsored by The Electricity Journal.

<sup>53</sup> Edward Morse, Chair of Independent Task Force, et al., "Strategic Energy Policy Challenges for the 21<sup>st</sup> Century" (Council on Foreign Relations, 2001). While these this author does not agree with CFR's overall support for retail competition, CFR makes the key point that an unregulated market has no incentive to build adequate supply (inventory, in CFR's terms) to assure reliability and minimize price volatility. An option, under discussion in Texas, is a mandatory reserve margin.



Source: U.S. Energy Information Administration

Some states (including Arkansas, California, Montana, Nevada, New Hampshire, New Mexico, Oklahoma, Oregon, and West Virginia), having seen the price volatility in market-based prices in places like California and New York, have pulled back or delayed the move to retail competition rather than put the vast majority of customers at risk for higher and volatile prices for electric service as the price for moving to retail competition.<sup>54</sup> In states that stick with restructuring, residential customers need a long-term service alternative.

**ii. Low-income customers are least likely to be served by the competitive marketplace and are least able to bear the risk of high or volatile prices<sup>55</sup>**

<sup>54</sup> E.g., Alexander at 7-8. J.D. Oller and D.A. Murray, "Cascading Caution: California Crisis Delays Deregulation," Public Utilities Fortnightly at 52 (Sept. 1, 2001); US Department of Energy, Energy Information Administration, "Status of Electric Industry Restructuring Activity as of September 2001" (updated monthly and [www.eia.doe.gov](http://www.eia.doe.gov)).

<sup>55</sup> While the focus of this discussion is low-income customers, the majority of customers with poor credit are not low-income customers. E.g., Ron Grosse, "Win-Win Alternatives to Credit & Collections", Wisconsin Public Service Co., 1997. Just as low-income customers do, non-low-income poor credit customers represent a stable and predictable load. Many of these customers are working poor families just a whisker above the necessarily arbitrary low-income cut-off. They are as vulnerable in the rough-and-tumble marketplace as low-income families are.

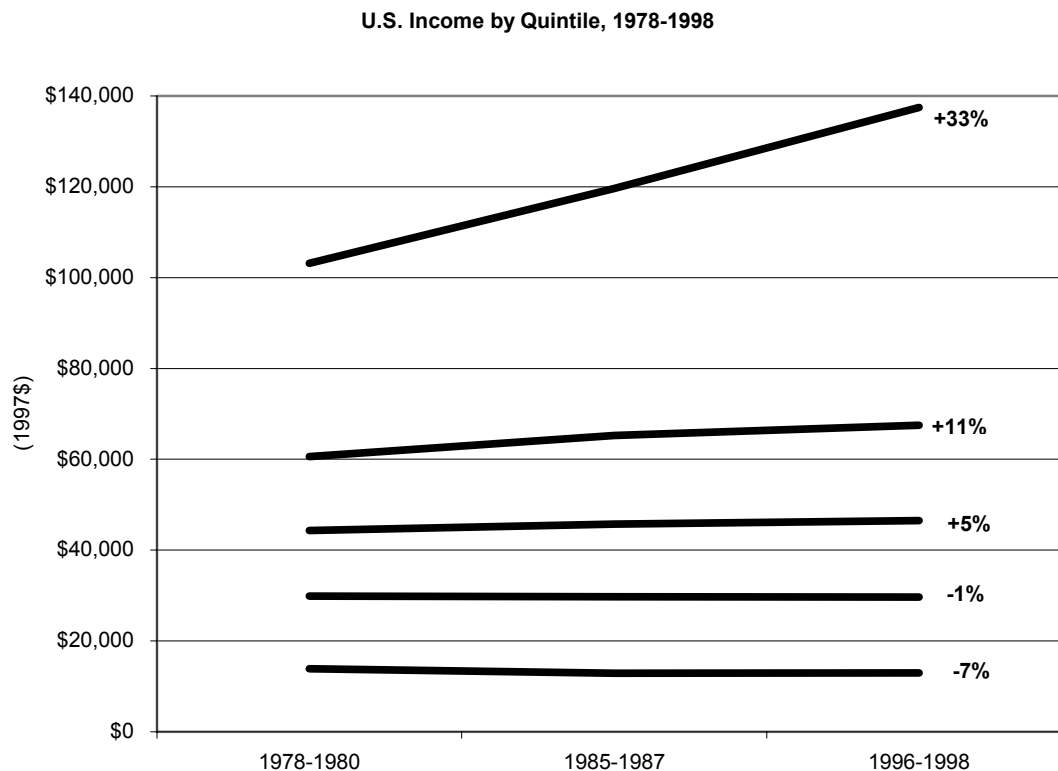
Whatever may happen to residential customers at large, the reality of economic redlining in the competitive sectors of the U.S. economy must be recognized. There is a general recognition that low-income customers need particular protection. This is because electricity is essential and marketplaces for many other goods and services have not treated low-income customers fairly. Among other things, this calls for a structure that treats low-income customers as it treats other customers and does not separate them into a distinct rate category. Indeed, as the development of “Phone Shark” pre-paid telephone service, described below, illustrates, the poor-credit segment is sufficiently vulnerable and predictable to attract predator businesses unless corrective action is taken. It is appropriate to take such action because economic policy should not dictate that a known group of vulnerable customers be exploited by an effective monopoly provider of a service they literally cannot live without.

Rising and volatile prices pose a particular burden for low-income consumers, who are already at or beyond the limit of what they can pay for energy. The average low-income consumer devotes 19 per cent of household income to energy – almost four times the burden on the median-income American family and 36 per cent more than before the spikes in 2000 of oil and natural gas prices.<sup>56</sup> For the poorest of these families, most of whom are elderly or single-parent households, the burden is a quarter of their income or more. An increase in electricity bills on top of other increased energy bills is simply not manageable without cutting back on food expenditures, falling into arrears on rent, or going without needed medicines. This is made even more difficult by dropping incomes and decreased predictability due to price volatility.

Despite the recent economic boom, low-income family incomes are falling. The inflation-adjusted incomes of the poorest 20 per cent of the American population dropped seven per cent over the last two decades while the richest 20 per cent have become 33 per cent richer:

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<sup>56</sup> Meg Power, The Winter Energy Outlook for the Poor: Low-Income Consumers’ Energy Bills in the Winter of 2000-2002 (Economic Opportunity Studies, December 2000).



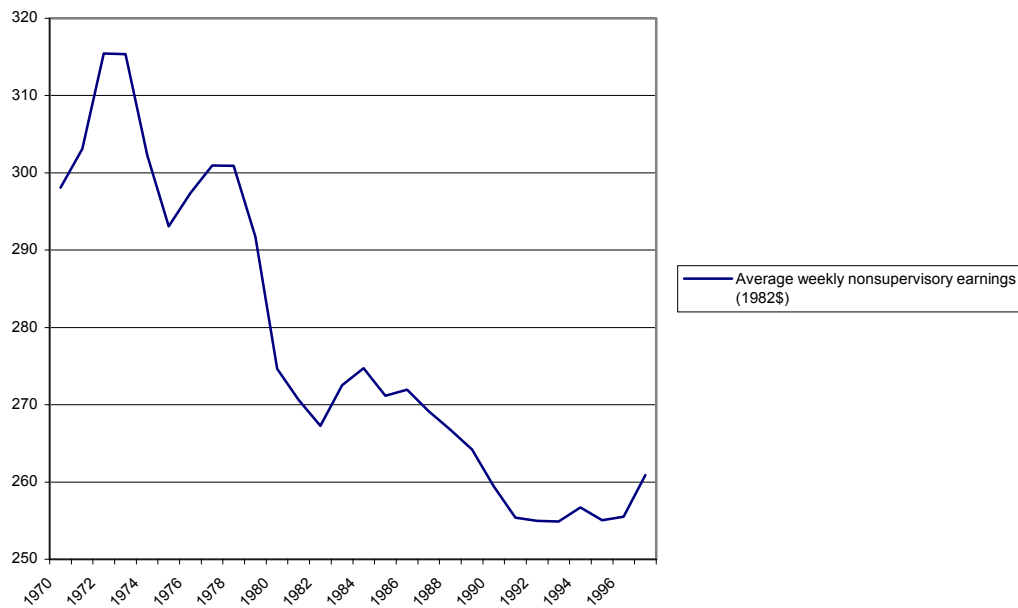
Source: Center on Budget and Policy Priorities from US Census data

Low-income customers must struggle to pay their utility bills irrespective of any restructuring of the electricity industry; high rates will exacerbate the difficulty. Families on the bottom rungs of the income ladder do not have adequate income for the basic necessities of life. (For this reason, low-income customers cannot respond to price signals, so it is pointless or worse to be concerned about whether low-income prices are “economically efficient.”)

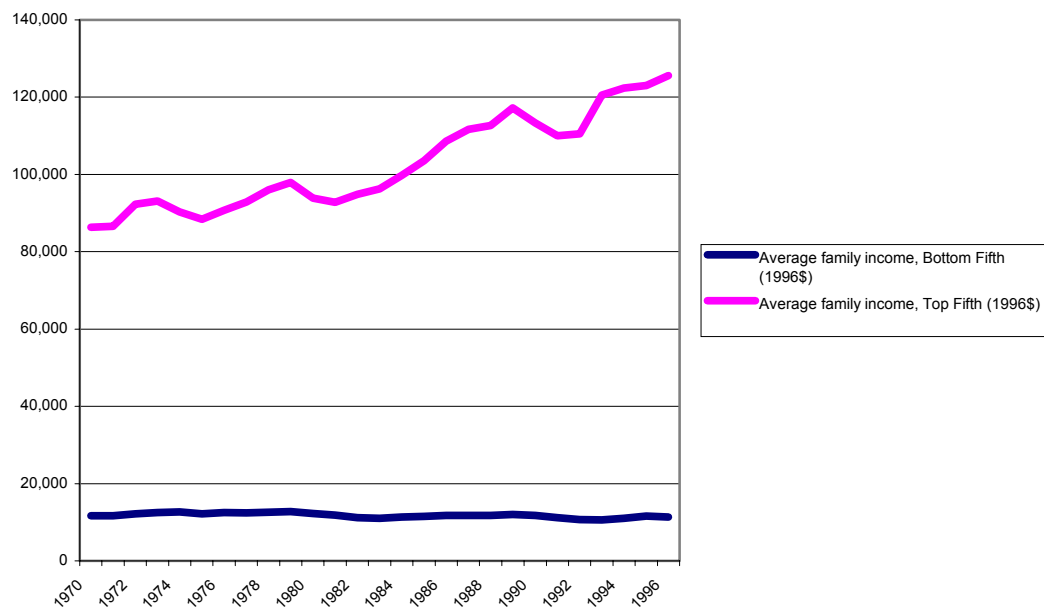
Low-income families’ ability to handle rising utility bills has deteriorated in the last three decades as wages have declined in real terms and average income of the poorest quintile has stayed no better than flat compared to the soaring incomes of wealthier families.<sup>57</sup>

<sup>57</sup> Economic Report of the President, in Miringoff, *The Social Health of the Nation* (Oxford 1999); U.S. Census Bureau, in *id.* See I. Shapiro et al., *The Widening Income Gulf* (Center on Budget and Policy Priorities 1999). In the 1950s, a family with two minimum wage workers received ten percent more income than needed to afford a minimum standard of living. Today such a family would be well above the official poverty line, as described above but would fall 30 percent short of a minimum standard of living. J. Schwarz, “The Hidden Side of the Clinton Economy,” *The Atlantic Monthly* at 18, 21 (October 1998).

**Average U.S. Weekly Wage Earnings, 1970-1997**



**Growth of U.S. Income Variance, 1970-1996**



- Indeed, a greater fraction of full-time workers subsists below the official poverty line now, after a unique decade of economic expansion, than since

1973.<sup>58</sup> Furthermore, the official federal poverty line is itself now a measure of destitution rather than poverty. When first developed, the poverty line was calculated as three times a minimally adequate food budget since food then represented a third of the average family budget. Food now represents about a sixth of the average family budget, but the poverty line is still calculated as three times a minimally adequate food budget. Thus the poverty line has sunk from 59 percent of median income of married-couple families to 33 percent. Adjusting the poverty line for this one item (fraction of budget devoted to food) would raise the family-of-four poverty line (in 1994) from \$15,100 to \$26,000.<sup>59</sup> Even so, the official fraction of Americans in poverty has barely changed since 1970 – and child poverty has markedly increased.<sup>60</sup> The actual fraction of Americans in poverty, as would be computed recognizing that food is only one-sixth of a typical budget, has risen 50 percent, from 17 percent to 25 percent.<sup>61</sup> Well over 50 percent of families below the official poverty level pay more than half their income for housing.<sup>62</sup>

As one would expect from these data, the burden of energy payments on low incomes is crushing.<sup>63</sup> Although low-income consumers are thrifty – they spend 15 percent less on electricity than average consumers<sup>64</sup> – the burden on their incomes is much higher than average. The median income family spends about 13 per cent of its income on energy, while the family dependent on a full-time minimum wage earner spends almost quadruple – 3.5 per cent -- even though they use 20 percent less electricity.<sup>65</sup>

Electricity price increases are thus particularly threatening to the most vulnerable residential consumers. Other economic pressures, including welfare reform and increases in the inequality of incomes, are making low-income customers more vulnerable to such economic disruptions as increases in the price of a necessity.

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<sup>58</sup> The Conference Board, “Does A Rising Tide Lift All Boats?” (2000).

<sup>59</sup> J. Schwarz, “The Hidden Side of the Clinton Economy,” The Atlantic Monthly at 18, 20 (October 1998). See also “K. Porter, “Proposed Changes in The Official Measure of Poverty” (Center on Budget and Policy Priorities 1999).

<sup>60</sup> A. Hacker, Money: Who Has How Much and Why at 63 (Scribner 1997); “Low Unemployment, Rising Wages Fuel Poverty Decline” (Center on Budget and Policy Priorities 1999); “Poverty Rate Hits Lowest Level Since 1979 as Unemployment Reaches a 30-Year Low” (Center on Budget and Policy Priorities 2000).

<sup>61</sup> J. Schwarz, id.

<sup>62</sup> Center on Budget and Policy Priorities, “In Search of Shelter” at 16 (1998, 1995 data).

<sup>63</sup> See National Consumer Law Center, Energy and The Poor: The Crisis Continues (1995, 1992 data).

<sup>64</sup> Computed from U.S. Department of Energy, Energy Information Administration, 1997 Residential Energy Consumption Survey (RECS).

<sup>65</sup> Burden calculations based on data from U.S. Census, U.S. Department of Energy, U.S. Dept. of Labor. Burdens were substantially higher during the cold and expensive winter of 2000-2001.

Low-income families face a daunting array of economic obstacles, including:

- inadequate educations, often in reading but even in the basic shopping skills needed to participate as consumers in our increasingly complicated economy;
- little or no vocational training, particularly in the skills required by modern technologies;
- discrimination (often racially-based) in housing, credit, and even the ability to establish a checking account; and
- racial discrimination in employment that persists even in a prosperous economy.<sup>66</sup>

Market segmentation and economic redlining are normal attributes of American markets. Although disfavored in theory as unfair and inefficient,<sup>67</sup> reality in many industries is that prices are set for different customer groups on a what-the-market-will-bear basis; that is, on the basis of each customer group's differing sensitivity to price. (Because price sensitivity is called elasticity, this pricing principle is sometimes called the inverse elasticity rule. Economists also refer to it as discrimination or Ramsey pricing.)

Low-income families are the most vulnerable to segmentation and see examples of price discrimination daily:

- Supermarkets (when they locate in low-income neighborhoods at all) charge 36 percent more for produce of a quality that would never sell in a middle-class suburb.<sup>68</sup>
- "Industrial life insurance" is sold door-to-door for weekly payments that amass very little cash value.
- Vocational schools pay more attention to student loan paperwork than education.
- Banks finance predatory lenders to make high-interest loans that the banks themselves would never underwrite.
- Indeed, some industries seem to exist only for the purpose of exploiting low-income consumers, such as with short-term payday loans at 531 percent interest; rent-to-own stores that in effect charge similar credit fees; check cashing agencies that (at two to six percent of the face value of a check) charge more than it would cost to operate a bank account; and used car dealers with warranties such as "five minutes or fifty feet."

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<sup>66</sup> K. L. Bradbury, "Rising Tide in the Labor Market: To What Degree Do Expansions Benefit the Disadvantaged?," New England Economic Review at 3, 6, 32 (Federal Reserve Bank of Boston, May/June 2000); K. Bradbury, "How Much Do Expansions Reduce the Black-White Unemployment Gap?," Regional Review at 5 (Federal Reserve Bank of Boston, Third Quarter 2000).

<sup>67</sup> J. Bonbright et al., Principles of Public Utility Rates at 533 (2d ed., Public Utilities Reports 1988); A. Kahn, The Economics of Regulation: Principles and Institutions at 1123 (Wiley & Sons 1970).

<sup>68</sup> D. Caplovitz, The Poor Pay More (The Free Press 1967); D. D. Troutt, "The Thin Red Line/How the Poor Still Pay More" (Consumers Union 1993).



The experience to date in deregulated utility markets has been that market segmentation has operated to increase low-income rates. Pre-paid local telephone service providers, for example, offer to re-sell a diluted version of the incumbent's local phone service for triple the price. In Ohio, the commission rejected pre-paid providers' offer of service for \$50 a month after a \$50 installation fee; the degraded service would have included no directory assistance, no operator service, no long distance, and no other service for which payment could only be collected after the service was rendered. The current telephone company in Ohio offers full service to low-income customers for \$15 a month and no installation charge.<sup>69</sup>

Therefore, for example, Massachusetts protects low-income electricity customers by the regulated "Standard Offer" rate to which low-income customers can always return,<sup>70</sup> low-income discounts of about 25 per cent-35 per cent from total bills, an arrearage management program in one service territory that combines arrearage forgiveness with budget counseling,<sup>71</sup> and a low-income efficiency program financed by a charge of 0.25 mills on all kWh sold to all classes of customers.<sup>72</sup> (Massachusetts has not yet addressed the question of low-income protections if, when Standard Offer expires, there is still no competitive service for low-income customers and the Default Service remains as relatively high-priced and volatile as it has been to date.)

Because low-income customers represent a stable, predictable load, and because they need the protection of stable, affordable pricing, low-income affordability protections in other states should be expanded along these lines to counter the particular adverse impacts of restructuring on low-income customers.<sup>73</sup>

#### **d. Provider risks vary with the character of the service**

A key factor that distinguishes the three services described above is risk.

Transition service is provided at no appreciable long-term risk to the provider due to traditional constitutional guarantees against confiscation. In Texas and Massachusetts, for example, providers can apply for price increases due to fuel cost increases. Pennsylvania will consider a price increase to protect financial viability. In Massachusetts, where the

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<sup>69</sup> NOW Communications, Inc. et al., Public Utilities Commission of Ohio docket 98-1466-TP-ACE et al. (decided Nov. 2, 2000).

<sup>70</sup> Low-income customers are automatically assigned to the least expensive service, Standard Offer or Default Service.

<sup>71</sup> "Enhanced Outreach Program Settlement" in Commonwealth Electric Co., Mass. DPU 90-3C/DPU 91-80, filed by Mass. Atty. Genl. Aug. 17, 2001, approved Aug. 31, 2001.

<sup>72</sup> G.L. c. 25, sec. 19.

<sup>73</sup> Details of these programs have been described elsewhere. J. Oppenheim and T. Macgregor, Low Income Consumer Utility Issues: A National Perspective (2000), --, Protecting Low-Income Consumers: Building On Two Decades Of Lessons Learned (Entergy Corp. 2000).

transition price was initially set deliberately below the market price, losses are deferred on the books to be collected later with interest. In Pennsylvania, with two exceptions, power supply was retained (by ownership or purchase) to hedge the price.

While temporary rate decreases, repaid later with interest, may be better than nothing, the best solution in the transition is for the commission to take one last long hard look at rates and, if appropriate (as many legislatures determined in a less rigorous way), cut them. The baseline for competitive service should be as close to utility cost of service as possible in order to assure that competitive prices truly represent efficiencies rather than merely monopoly rents or regulatory lag previously enjoyed by the utility. New England seems to have led the way in this direction, New Hampshire cutting Public Service of New Hampshire rates by about 18 per cent as a condition of restructuring<sup>74</sup> and Maine cutting Central Maine Power residential transmission and distribution (T&D) rates by ten percent to reflect the lower risk of a T&D company.<sup>75</sup>

Short-term service is at the other end of the risk spectrum. Abandonment of customers by competitive suppliers is likely to be random and thus unpredictable. It is also likely to affect large groups of customers at a time. Further, abandonment by suppliers may come at times of particularly high wholesale prices. So the back-up provider of short-term service must stand ready to serve lumpy, random groups of customers who will stay for short but unpredictable periods, possibly limited to periods of relatively high wholesale prices. Beyond a certain base, the least risky means of supply is likely to be the spot market which, as the graph above from New England attests, is likely to be volatile and expensive.

Long-term customers, however, are more like traditional (or transitional) customers. The load and load pattern of low-income and poor credit customers is well known and predictable. Since competitors are not seeking the load that is left to the back-up provider, it is reasonably permanent. Plans for serving this load can be made along traditional regulated utility lines, with long-term capital investment horizons.

The importance of separating long-term and short-term risks is well-demonstrated by the efforts to develop a POLR rate in Texas. By a combination of statute and rule, the arrangement for serving residential customers not served by competitive suppliers is to separate good-credit customers not in the marketplace from all others. Thus a utility customer who takes no action receives the Price To Beat, as part of a bundled rate that represents a six per cent discount from pre-restructuring rates (after fuel price changes are factored out). Short-term customers dumped by a competitive supplier are served together with long-term poor-credit customers (which includes many low-income customers). The POLR service to serve this combination of short-term and long-term customers was priced in an unusual bid-and-negotiation process that resulted in bids that were apparently focused mostly on the high risk of the short-term unpredictable customer load. The prices

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<sup>74</sup> Public Service Co. of New Hampshire, Order No. 23,443 Approving Settlement Agreement with Modifications in NH PUC Docket No. DE 99-099 (April 19, 2000).

<sup>75</sup> Personal communication, consumer Advocate Stephen Ward (Oct. 29, 2001).

ranged as high as 87 per cent above the Price To Beat with new fees such as \$10 for a telephonic disconnection reminder notice.<sup>76</sup>

Many would consider long-term service loads of non-low-income sectors of the residential class to be more uncertain from a provider's point of view. The proposition is that competitive suppliers will ultimately woo these customers away. As demonstrated above, however, there is no empirical evidence for this proposition after four years of electricity competition with a wide variety of market rules, so the possibility of no non-low-income residential competition must at least be considered. At a minimum, a hedged option over a medium term should be offered to prevent further price catastrophes of the sort described above. The objective should be a "plain vanilla" service approximating the formerly regulated service – a regulated reasonable and stable price.

This, after all, would merely replicate the gold-plated price dragon that consumers were promised competition would slay. If competition turns out to be the superior tool to slay this dragon, customers will flock to it. Competition may thus be considered a potentially useful tool to obtain such good results as lower prices. But using a hammer to turn a screw does not produce a secure fastening. If the tool does not work, a different tool more suited to the task should be used.

#### **e. Consumer principles**

Based on the foregoing, some basic consumer principles can be abstracted. Many have been codified in resolutions of the National Association of Utility Consumer Advocates (NASUCA). Consumers should be no worse off than under the regime competition is offered to replace,<sup>77</sup> so these principles reflect a continuation of the minimum ideals of regulation:

1. Rates and bills that are reasonable,<sup>78</sup> *i.e.*, the lowest possible price that remains fair to providers. Bills should be lowered with cost-effective efficiency measures. Bills should be no higher than before restructuring.<sup>79</sup> Consumers understand the benefits of balancing their interests with those of service providers to the benefit of

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<sup>76</sup> Staff response to TLSC RFI 1-10 in Docket No. 24190. The Commission has thus far elected to not address the mixing together of long-term and short-term POLR customer risks. Open Meeting decision in Docket 24190 (Nov. 10, 2001).

<sup>77</sup> NASUCA Resolutions 96-03, 97-03, 98-02.

<sup>78</sup> NASUCA Resolution 97-03.

<sup>79</sup> Excluding the effects of non-restructuring-related exogenous factors. Note, however, that a certain portion of the increase in the price of natural gas is arguably due to incremental demands for gas by restructuring-inspired construction of natural gas plants without the (prior) regulatory constraint of fuel diversity.

both,<sup>80</sup> such that both utilities and their customers remain economically healthy. But consumers also understand that it is not a good deal for them to trade regulated utility rates with a promise of reasonableness and a reality of eight to 12 cents per kWh for unregulated rates that can spike to \$10 per kWh.

2. Rates that are stable.<sup>81</sup> Volatility can be more difficult for consumers to manage than consistently high prices. Predictability is as important to consumer budgets as it is to business risk assessment. A virtue of the old regime is that long-term investments fixed many elements of cost, on which prices were based, for decades at a time. Whatever one's view of the entire system, this relative price stability had value to consumers. Indeed, as a trade group of generation owners has (perhaps inadvertently) shown, pre-restructuring prices were on average declining in real terms.<sup>82</sup>

3. Existing non-price protections and service standards that remain at least as strong as before restructuring,<sup>83</sup> including shut-off restrictions and other consumer protections, reliability, service quality, and policy goals regarding efficiency, renewables, and the environment.

4. Rates that are affordable. Many low-income families must choose to pay their utility bills instead of providing adequate nutrition or clothing for their children. When restructuring results in more expensive, and/or less predictable, utility bills, such families are least able to cope with the additional burden. This risk of restructuring should be met with additional protections for those least able to bear the risk. Protections include funds for energy efficiency to provide permanent control over utility bills as well as direct assistance in the form of arrearage management, budget counseling, and low-income rate discounts. Examples of the latter include the federal Low Income Home Energy Assistance Program (LIHEAP) grants and ratepayer-financed<sup>84</sup> low-income discounts.

5. A set of rules that work robustly, whether residential competition develops or not. If residential competition develops in the manner which some predict, then there will be less need for the back-up services described in this paper. The essential nature of electricity, however, demands that provision of reasonably priced electricity be assured whether or not the competition optimists prove to be correct.

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<sup>80</sup> Federal Power Commission v. Hope Natural Gas Co., 320 U.S. 591 (1944); Bluefield Waterworks v. Public Service Commission, 262 U.S. 679 (1923).

<sup>81</sup> NASUCA Resolution 97-03.

<sup>82</sup> Boston Pacific Co., Inc. "Assessing The 'Gold Old Days' of Cost-Plus Regulation" (Electric Power Supply Assn. 2001

<sup>83</sup> NASUCA Resolution 96-03.

<sup>84</sup> By a competitively-neutral non-bypassable system benefit charge typically administered by the distribution utility.

6. While details may vary over time, permanent compliance with these principles.

### **III. The long-term hedged rate**

Several states require utilities to manage their portfolios in a manner that reduces price and price volatility, such as by hedging and long-term contracts. For example, New York State Electricity & Gas Co. (NYSEG) hedged more than 90 per cent of its expected demands for the summers of 2001 and 2002.<sup>85</sup> Niagara Mohawk Power Corp. has proposed a ten-year rate plan under which residential electricity rates will be 95 per cent (declining to 90, then 85, per cent) hedged.<sup>86</sup> New York State regulatory policy requires gas utilities to take such actions:

Local [gas] distribution companies have many ways to meet their loads; they should consider all available options ... [which] may include short and longer term fixed price purchases, spot acquisitions, the use of financial hedges ... While we are not directing any particular mix of portfolio options, volatility of customer bills is one of the criteria, along with other factors such as cost and reliability, that LDCs should consider ... Any utility without a diversified pricing strategy will have to meet a heavy burden to demonstrate that its approach is reasonable.<sup>87</sup>

In Maine, the state took over the function of generation procurement, insisting on multi-year bids in order to achieve price stability. After receiving no suitable bids, the state has currently locked in three-year prices for its three largest investor-owned utilities. In the case of the largest utility, Central Maine Power, the rate is lower than before restructuring despite New England wholesale price volatility.<sup>88</sup>

Similar actions to stabilize prices have been ordered or authorized in, for example, Arkansas,<sup>89</sup> Kentucky,<sup>90</sup> Georgia,<sup>91</sup> Colorado,<sup>92</sup> Iowa,<sup>93</sup> Oklahoma, Kansas, Missouri,

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<sup>85</sup> Form 8-K at 2 (Sept. 18, 2000).

<sup>86</sup> Joint Proposal in NYPSC Case No. 01-M-0075 (October 11, 2001).

<sup>87</sup> Statement of Policy Concerning Gas Purchasing Practices at 4-5, Case 97-G-0600 (April 28, 1998).

<sup>88</sup> Personal communications, Consumer Advocate Stephen Ward (Oct. 29, 2001), consumer consultant Barbara Alexander (Oct. 30, 2001).

<sup>89</sup> Arkansas Gas Utilities, 210 PUR4th 325 (Ark. PSC 2001).

<sup>90</sup> Western Kentucky Gas Co., 210 PUR4th 331 (Ky. PSC 2001).

<sup>91</sup> Savannah Electric Power Co., 210 PUR4th 335 (Ga. PSC 2001).

<sup>92</sup> Dec. No. C01-207 in Colo. PUC Docket No. OIR-0835 (March 27, 2001).

Mississippi, and California.<sup>94</sup> While most recent regulatory attention has focused on spiking gas prices, the same principles apply to the potential for spiking electricity prices.

As noted above, energy efficiency, utility-funded under many state restructuring statutes, also dampens demand and thus price volatility.

The ability to hedge, of course, is related to the certainty, known size, known duration, and known shape of load. Since long-term loads are considerably more predictable than short-term loads, as discussed above, it is the long-term loads for which hedging is most appropriate. This ability to hedge predictable long-term loads also provides the most important reason to separate short-term from long-term loads for pricing purposes: long-term loads present opportunities for price stability that are not presented by short-term loads.

For a hedging system to work economically, it must not add to the seller's uncompensated risk. Rules of resource procurement must be clear in advance so a supplier does not face retrospective retribution for a hedge that appeared reasonable at the time it was made. Of course, hedging should be used to prudently manage risk and not as speculation. Thus suppliers should be able to expect recovery of their hedging costs in a manner that is clear, timely, stable, and certain. Suppliers undertaking hedging will want procurement guidelines defined as carefully as possible in advance, perhaps through a pre-approval review process. By the same token, consumers need to be able to rely on a system of regulatory oversight of resource procurement to assure that reasonable procedures are employed and that rates are based on costs. Among other things, a minimum requirement for such oversight is review in the regulatory process by a funded consumer advocate.<sup>95</sup>

The protection against future price spikes outlined here is fraught with political perils, which is why it is often avoided. No one wants to be on the wrong side of a hedged bet or to be in a position to be blamed for a price increase. Indeed, in many respects, it is the failure to predict the diseconomies of nuclear generation technology that has put the entire electricity industry regulatory system at risk in so many states. For any democratic system to work, regulation included, there must be an underlying agreement on all sides to accept its results. This requires that all sides must view the process as fair and likely to treat their views fairly. The likelihood of such an agreement to persist is materially increased if all stakeholders are an integral part of each decision, which is one reason that funded consumer participation is essential.

#### **IV. Conclusion and recommendations**

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<sup>93</sup> Docket No. RMU-00-6 (Iowa Utils. Bd. June 21, 2000).

<sup>94</sup> R. Linden, "Gas Price Prudence: From Hedge-and-Hope to Best Practice," Public Utilities Fortnightly at 34 (Oct. 1, 2001).

<sup>95</sup> It should be noted that while states, such as those cited, are increasingly recognizing the importance of price stability, not all are adopting the prescriptions set out in this paragraph.

Residential consumer protection requires these elements in order to provide reasonable residential rates after a state's electricity industry is restructured:

1. Three residential services for transition, short-term emergency, and long-term standard requirements for those not served by competition, the latter two (or all three) integrated into one offering.
2. Long-term service offered at reasonable and stable rates. This should be a regulated "plain vanilla" hedged service with rates as low as possible consistent with balanced fairness to the supplier.
3. Additional protections in the form of energy efficiency and direct assistance provided for low-income customers, whose risks are increased by restructuring..
4. Current customer protections, service levels, and policy goals.

If the shift to competition provides value to some stakeholders in the electricity industry, it should not be at the expense of residential or low-income consumers.

## About the Author

**Jerrold Oppenheim** is an independent consultant and attorney who has represented consumer interests for 30 years, specializing in cases involving public utilities. A graduate of Harvard College and Boston College Law School, he has held prominent positions in the Attorneys General offices in New York and Massachusetts. Earlier, he directed consumer and utility legal assistance programs in New York and Chicago and was the founding Director of Renewable Energy Technology Analysis at Pace University Law School. Most recently, he directed the energy and telecommunications program at the National Consumer Law Center in Boston, working as attorney, analyst, policy advisor, and expert witness.

Mr. Oppenheim successfully lobbied for nation-leading protections for consumers and low-income families in the Massachusetts and Connecticut electricity restructuring statutes, including a \$11 million fund for low-income efficiency programs (Massachusetts), approximately \$30 million in increased availability of low-income discount rates (Massachusetts), limits on industrial discounts at the expense of consumers (Connecticut), and maintenance of utility consumer protections on all electricity suppliers. Mr. Oppenheim's advocacy also contributed to enactment by the Texas Legislature of the first statutory low-income electricity discount in the South, adoption by the Utah Public Service Commission of that state's first low-income electricity discount, and adoption by the New York Public Service Commission of that state's first broad-based low-income electricity discount.

Mr. Oppenheim led pioneering negotiations of conservation agreements with all electric utilities in Massachusetts. In the state's first case reviewing a utility conservation proposal, he persuaded the commission to require utilities to devote resources to residential conservation programs comparable to those devoted to programs for other customer classes.

As an expert witness, Mr. Oppenheim persuaded the Baltimore City Court to roll back cable television late charges by 95 per cent, retroactively for five years. The resulting refund was about \$7 million. Mr. Oppenheim's expert testimony also persuaded the Public Utility Commission of Ohio to preclude high-priced, diluted-service pre-paid telephone service operators from the state. Mr. Oppenheim persuaded regulators in two states to save the ten-cent pay phone, and persuaded the Massachusetts regulatory commission to assert jurisdiction over non-Bell pay phones, adopt consumer protection rules for pay phones, and revoke the operating authority of a pay phone owner that was overcharging. As a result of Mr. Oppenheim's litigation, the Massachusetts commission found that "the [Telephone] Company has directed investment toward modernization of the network and away from maintenance of existing plant" and ordered restoration of service quality in low-income neighborhoods. The Commission adopted Mr. Oppenheim's service quality measurement system and the company agreed to limit its efforts to sell extra-cost optional services to low-income consumers. Mr. Oppenheim persuaded the Illinois Commerce Commission to outlaw most telephone deposits because the telephone company was "unfairly exercising discretion in determining credit status without a reasonable basis."

Mr. Oppenheim has spoken and published widely on public utility and consumer law topics, including recent papers on electric utility service quality measurement for the National Association of Regulatory Utility Commissioners (NARUC), on recommended electricity labeling disclosures for the National Council on Competition and the Electric Industry, on low-income discount and efficiency programs for the Entergy Corp., and on US utility regulation for the United Nation's International Labor Organization (ILO).