TELLUS INSTITUTE
Resource and Environmental Strateaies

THE PROGRESSIVE PRO-CONSUMER SOLUTION TO TODAY'S ELECTRICITY CRISIS: Just and Reasonable Rates

Preliminary Proposal Prepared by the Tellus Institute, Boston, MA[1]

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Introduction

Every state that chose to restructure its electric industry and deregulate generation did so in the hope that tangible benefits would result. The general assumption was that retail electricity prices would decline relative to what rates would have been under regulation. Yet, almost every one of these states now faces rising electricity prices. And states that did not restructure, such as Washington and Oregon, are experiencing higher prices due to spillover effects from deregulation in California. In California itself, deregulation has helped to create rolling blackouts and has caused exorbitant electricity prices, threatening the financial health of the state. In New York, Con Edison now refuses to build new generating plants even though blackouts are threatening and their legal "obligation to serve" has not been removed. In general the goals of restructuring go unfulfilled: the price of electricity is much higher than before, and the quality of service has declined dramatically. In response to these developments, FERC Commissioner Massey observed that, "We need a time-out in the dysfunctional electricity market."[2] We agree. There is no good reason to stay on the current course. The country needs to seriously reassess how it wants to restructure the electric industry.

This preliminary proposal is an attempt to stimulate a national dialogue and provides a workable approach to providing consumers with a cost-of-service based source of wholesale electricity, as an alternative to market-based contracts for power. This is necessary because the limited price cap approach that FERC has proposed for the wholesale power markets will never result in fair prices. Our proposal would re-establish "just and reasonable" wholesale rates as required under the Federal Power Act.

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[1] The Tellus Institute is a not-for-profit research organization dedicated to the public interest through the promotion of sustainable resource futures and consumer protection.
[2] *Electric Utility Week*, May 7, 2001.

Before we discuss what has gone so seriously wrong with deregulation, we will look back to not too distant days of rate regulation. We will ask if conditions at that time warranted the enormous risks associated with attempting to deregulate prices for the generation of electricity. As we will explain, the answer is "no."

Section One: A Benchmark - The Regulation of Electric Generation

In light of the power failures and shameless price gouging associated with deregulated electricity markets, a renewed respect for the accomplishments of old-fashioned rate regulation is in order. Typically, under traditional regulation, the utility was granted monopoly status and was provided a reasonable return on its investments. In exchange, the utility was obligated to provide safe and reliable electric service at reasonable rates. To do this the utility was required to plan ahead and build enough power plants and transmission and distribution lines to ensure adequate supplies of power no matter how fast demand grew. And the utility was required to do this in a cost-effective manner through least-cost or integrated resource planning. In more recent years, the social costs of environmental harm and other economic "externalities" associated with electric generation and distribution was often integrated into the decision-making process.

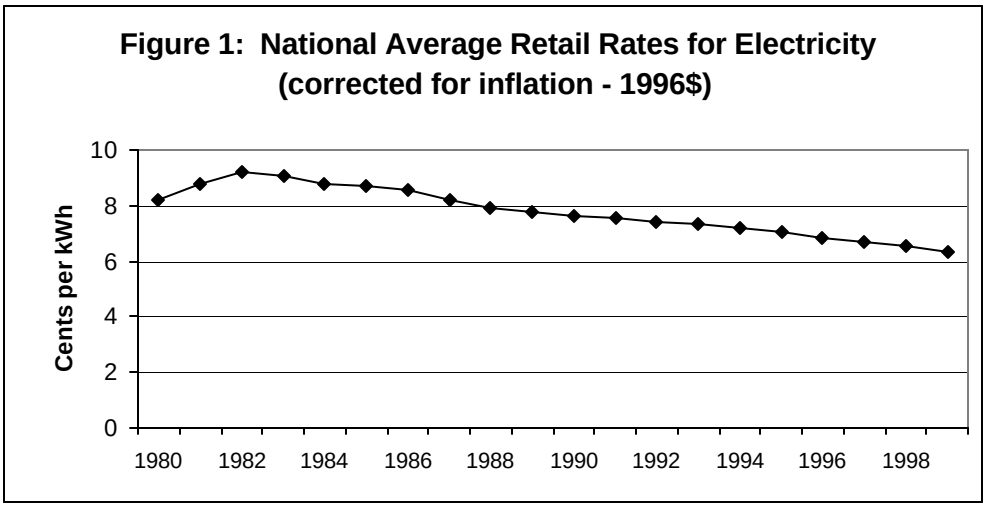
How successful was this traditional arrangement?

Under traditional rate regulation, the operating reliability of electric service was generally beyond reproach. There were few blackouts. And those that occurred were isolated events, not the almost daily occurrences that now plague California. Reliability under traditional regulation was excellent because the system was designed to meet explicit reliability criteria. The general rule followed was that the probability of a generation-caused outage should not be greater than one day in ten years. Using this framework, regulators established specific reserve capacity requirements for the utilities, specifying the need for new power plants to meet anticipated peak demand, plus some extra capacity to cover planned and unanticipated outages and other system emergencies. The utilities would then build power plants and sufficient transmission lines to meet the reliability requirements the regulators set. This constituted the utilities' "obligation to serve."

Real electricity prices declined for the last two decades because the actual average cost of generation was declining. Average cost (not market prices) is what determined electric rates under traditional regulation. Since generation plants depreciated over time, and the cost of marginal new generation was not particularly high (largely because of declining fuel prices), the average costs tended to decline, and so did electric rates in most parts of the country. (See Figure 1.)

At the dawn of the push towards electric industry restructuring in the mid-1990s, conditions in the electric industry were quite good, and improving rapidly. Real prices were declining and reliability was excellent. Moreover, the economic efficiency of the industry was also improving due to the growing implementation of cost-effective energy conservation programs. All of this was taking place because regulators were beginning to insist that utilities consider all resource options and cost factors in their planning

processes. There was still much room for improvement, but the regulatory and planning framework was certainly not a failure by any means. Unfortunately, the onset of electric utility restructuring destroyed much of this progressive planning framework, and much of this stability and progress.



Source: Energy Information Administration, 2001.

Why the push to deregulate electric generation?

The short answer is that the proponents of deregulation believed that cheaper power would be available, if only they could establish deregulated electricity markets. In particular, large industrial consumers of electricity wanted to bypass the high price of nuclear power, as natural gas prices declined. If they could contract directly and individually for power from new gas-fired combined cycle units, and leave the higher-priced power for other consumers to buy (primarily residential customers and small businesses), they naively thought they would be better off. The possibility for industrials to get cheaper rates by contracting directly for gas-fired power would, of course, depend on fuel prices staying low. The industrial consumers also needed a fair power market, but that requires the absence of market power in both the wholesale and retail power markets. However, by the year 2000, the combination of rising fuel prices and market power had removed any potential cost savings due to deregulation, even for large industrial customers.

In summary, then, traditional cost-of-service regulation of vertically integrated utilities was generally characterized by declining and stable retail prices, excellent system reliability, increased attention to environmental impacts, and improved long term planning.

Section Two: The Consequences of Deregulation

As described above, the consequences of the deregulation of electric generation have been shocking to most independent observers. Unbelievably high wholesale electric prices throughout the West, deteriorating system reliability, little construction of new transmission lines, too little construction of generating units in some parts of the country, threatened roll-backs to air quality standards, and higher retail prices for many customers with additional increases looming quite soon, have all resulted from deregulation. Even on the most superficial level, the establishment of retail competition by many states has failed.

Little retail competition exists in any state. Even Pennsylvania, which initially was able to jump-start a retail market for the high-priced utilities by levelizing stranded cost recovery and setting high "shopping credits," is now losing any real degree of retail competition. Thus far, it is difficult to point to any positive accomplishment of the deregulation of electricity. As yet, there are no electricity markets, retail or wholesale, that are competitive.

The idea behind electric industry deregulation was to create separate prices and, where possible, separate markets for each component of electricity service (e.g. generation, transmission, distribution), instead of having one single price for all services provided. The assumption was that this was a reasonable and desirable goal because markets exist for most goods and services in society, and it was generally believed that markets promote economic efficiency better than regulation. Why would this not be true for electricity, as well? As a consequence, then, of setting up markets for electric generation and for some transmission services existing utilities were often either formally or informally relieved of their obligation to serve, in other words their obligation to ensure that the supply of power would keep up with the demand for power. Effectively, the electricity markets were now entrusted with this responsibility.

Electricity is a unique product

As demonstrated by our disastrous experience with electric industry deregulation, the reason that markets for electricity do not promote economic efficiency is that electricity is a unique product. Electricity service is really a set of unique and complex services, and is not a simple commodity. The special characteristics of electricity make it extremely difficult to create a viable, competitive market in any one or all of the many services required to deliver electricity in adequate quantities, with a high degree of reliability, at reasonable prices as required by law, and with sufficient environmental protection. These special characteristics of electricity include, a lack of a comparable substitute for most end-uses, an instantaneous need to match supply and demand with little or no supply storage and large changes in demand during the course of every day, and significant bottlenecks for delivering electricity, especially in the transmission grid. Another important characteristic of electric systems is that they require a lot of lead-time for planning, in part because they are very capital intensive. Thus, market entry for new

generation usually takes several years, and the construction of new transmission lines usually takes almost a decade. Markets are often not good at handling capital intensive technologies that require long planning lead-times so that supply and demand can remain well-balanced at all times.

Market power

One of the worst consequences of electric industry deregulation has been the extra and new cost due to the development of market power that has been imposed on customers in many parts of the U.S. One type of market power is caused by capacity withholding, which results from reducing the amount of available generating capacity in order to raise market prices so much that the higher priced energy sold from all the other generating units owned by the same generator would have more than made up for the lost output from the units withheld. It has been documented that the availability of power plants has suddenly decreased significantly both in California and New England since deregulation took effect.

Another way to exercise market power is for generators to strategically raise their market bids consistently so that all the power they sell in all hours of the year fetches prices above what the competitive price would have been, without triggering a bidding war. It does not require actual collusion for generators to find a bidding pattern that allows this to occur. The existence of strategic bidding has also been clearly demonstrated to be true in California, and elsewhere. The most notable study of market power in electric generation markets was done by the California ISO, which revealed $6.8 billion in over-charges. The existence of market power in the electricity market of California is, then, no longer a matter for debate. Even FERC has concluded that the wholesale prices in California are not "just and reasonable," and that the market is "dysfunctional."

Section Three: Why the Administration's Response to Deregulation is Inadequate

The Administration is wrong about the reasons for the price increases in the ailing Western and Northeastern electricity markets. The problem is not due primarily to an inadequate supply of generation capacity and fuel. The Administration's response is, therefore, completely inadequate to the seriousness of the problem. They have just assumed that increasing the supply of generating capacity and fuel is the best response. In addition, the Administration's strong opposition to the imposition of price caps, or any other mechanism for enforcing the "just and reasonable" pricing standard of the Federal Power Act, is wrongheaded. Of course, increasing generation capacity and solving fuel supply problems is important, and will, probably, help to mitigate the present level of market power somewhat over the long term. However, the current exorbitant prices in the electricity markets must be dealt with directly, and quickly. The Administration is unwilling to acknowledge that it is the deregulated electric industry structure in California (with some help from the deregulated natural gas industry) which has created much of the supply problem in the first place, and deregulation has created the

opportunity to manipulate prices. Simply adding generating capacity at this time would be like taking aspirin which subdues the fever, but which only hides the raging infection.

Market power, not the scarcity of resources, is the primary driver of high prices

The scarcity of generating capacity and natural gas are catalysts for rising prices, but most of the economic damage is simply the product of market power. The California ISO has shown that most of the price increases seen in the state between April of 2000 and February of 2001 occurred when there was *no shortage* of capacity at all. The ISO showed that market power had been exercised in 98 percent of the time periods studied. The result is that ratepayers will have to pay $6.8 billion in overcharges, even after adjusting for any "scarcity rents" when supplies were short, which also is a form of market power. In other words, the scarcity of generation capacity may have been a catalyst for market participants to exercise market power, but scarcity alone did not justify nearly this level of overcharges.

The same is true for the shortages in natural gas supply. When hydropower supplies literally began to dry up, and additional gas-fired generation was required to compensate for the loss, the sudden increase in demand for natural gas created a supply bottleneck in California. Much like the tight supply of generation capacity, this created an opportunity for market power in the electricity market, just as a tight supply of natural gas creates the same opportunity to exercise market power among natural gas producers and pipeline owners.

Nuclear energy can not yield an effective response to the crisis

It is bewildering that the Administration would imply that new nuclear power plants may be a viable option for solving the current electricity crisis, or that more nuclear power is even a viable option to consider for the long run. More nuclear power is not a solution because no long-term solution exists for the storage of radioactive spent fuel. In addition, is the persistent occurrence of "minor" accidents and procedural violations at nuclear power plants that constantly remind us of the potential danger of nuclear power. Even more importantly, nuclear power can not help with the problems created by deregulating the electric industry because it has always been very expensive itself, and it would tend to drive market prices for electricity up further. Indeed, the high price of nuclear power in the past helped to motivate the movement for deregulation in the first place.

Cheap, sustainable alternatives are ignored by the Administration

Fortunately, generating technologies that are neither dangerous nor polluting, as are nuclear- and fossil fuel-based generation, do exist. For example, wind energy is a viable alternative that was economically competitive with any other type of new generation, even before the recent increase in natural gas prices occurred. The capital cost of wind power is less than one-half of the capital cost of building a nuclear power plant. Furthermore, there is no fuel cost, and operation and maintenance costs are much lower for wind power. Finally, there is no cost for processing or disposing of spent fuel.

Developers of wind energy are currently signing contracts at about 2.5 to 6 cents per kilowatt-hour, depending on the location. Despite all these advantages of wind energy, the Administration has ignored promoting wind power altogether. To make its spiteful attitude toward all clean energy sources absolutely clear, the Administration has proposed a budget that reduces funding for renewable energy technologies like wind power. Ironically, the Administration has touted nuclear energy's value in curbing global climate change, but have downplayed the even greater potential benefits of wind power in this regard.

FERC has misused price caps in wholesale electricity markets

As an immediate, emergency measure to control the price impacts of current market conditions throughout the West, hard price caps on wholesale energy market prices might have limited usefulness. However, the Federal Energy Regulatory Commission has recently implemented wholesale price caps in California only under very limited conditions when reserve margins are perilously low. As a result these price caps are too narrowly applicable in time, and they are not yet applicable on a consistent geographical basis throughout the West. FERC has also proposed to investigate price caps for the remainder of the Western power markets on an even more limited basis than those applied in California.

The Administration's action to implement price caps is only likely to make matters in the West worse. In general, market power mitigation measures need to be comprehensive in order to ensure that all market participants in an interconnected region are playing by the same set of market rules. Caps must also apply at every moment, so that market power can never escape scrutiny and mitigation. FERC's version of price caps violate these basic principles. In summary, we agree with those critics who say that FERC is just refusing to do its job to ensure "just and reasonable" prices in the wholesale power markets. If generators exercise market power 98 percent of the time, as the California ISO report shows, and if they collect most of their overcharges when no scarcity of capacity exists at all, the new FERC price cap policy will only make a grave situation worse. The same is true in New York and New England, as well.

There are many things that FERC could and should do now to deal with market power in the West, and elsewhere, this summer, if our overall proposal is not adopted by then. Instead of imposing price caps, FERC should take the following two actions:

- Address Withholding of Capacity. Generators who take units out of service must be subject to inspection by state or federal authorities. And where inspection shows withholding, they must be subject to serious penalties. For at least the next 18 months, refusal to cooperate with such requests for inspection, or a finding by FERC that withholding occurred, should result in loss of market-based rates for a generator in bilateral contract markets, and additional fines.

- Force Markets to Behave as if They Were Competitive. The operation of competitive generation markets should result in sellers pricing electric power at or near their variable cost of production. For at least the next 18 months FERC should require generators selling under market-based rates in spot markets to behave like "price takers" not "price makers" by limiting their bids to variable cost plus 10%. A finding by FERC that a generator's bids were above this level should result in a substantial fine.

Finally, of course, we must recognize that market power is being and has been exercised in many other wholesale electricity markets throughout the U.S., including New England, and in the southern New York State region. Even in the Mid-west, wholesale power prices exhibit a high degree of volatility which is unlikely to be cost-based. Clearly, something must be done soon to allow citizens throughout this country to be assured that FERC will carry out Section 206 of the Federal Power Act by ensuring that wholesale electric rates will be "just and reasonable" everywhere. Achieving that goal would be the progressive pro-consumer solution to the current problems in our electricity markets. But how can we achieve that goal permanently?

Section Four – The Progressive Pro-Consumer Solution to the Current Crisis

The deregulation of the wholesale electricity markets nationally, and the retail electricity markets in certain states, has proceeded with little comprehensive and consistent effort to ensure that the rates charged by generation owners (and transmission owners) will be just and reasonable. All the market power monitoring and mitigation methodologies that FERC has approved are extremely weak. As noted earlier, in California, FERC found that wholesale electric rates were not just and reasonable some time ago. However, to date, FERC has not taken effective action to ensure that market prices in California, or elsewhere, will be just and reasonable. Congress must act now to rectify this situation, since Congress is the only institution that can do so.

Charges for electricity are just and reasonable if they have as their point of reference the underlying costs of generating the power. Providing that linkage will ensure that generators do not earn unreasonable or excess profits. The linkage between "cost-based" prices and "just and reasonable" prices is the bedrock upon which regulated rate-setting has always been based. Market-oriented schemes need to produce outcomes that are consistent with the underlying cost basis of the industry, including a fair profit. In light of the continuing problems in California, the high electricity prices elsewhere in the West, the difficulty in maintaining adequate service levels in transmission constrained areas such as New York City and Delaware, and a myriad of related problems, it is now time to abandon unfettered electricity markets, and to re-establish just and reasonable rates for generation and transmission everywhere, as the Federal Power Act requires. If just and reasonable rates are re-established at the wholesale level, then it is quite likely that state public utility commissions will be able to ensure that just and reasonable rates will exist at the retail level, as well.

However, there is an even more fundamental issue that the U.S. needs to address. The issue that needs to be thoroughly addressed, state-by-state, and region-by-region, is whether or not establishing deregulated electricity markets will ever lead to greater levels of economic efficiency. The country needs to consider whether restructuring the electric industry will likely lead to higher or to lower electric rates, before any decision is made to continue with deregulation. In our rush to restructure the industry over the last few years, it is quite surprising these key questions have not been fully addressed, but they have not. Now is the time to do so, before further damage is done to the American economy. We believe that careful analysis has shown and will show that deregulation almost certainly will cause electric rates to be higher than they would be under cost-based regulation.

The progressive solution to the present crisis that was created by rushing to restructure and deregulate the electric industry is for the U.S. Congress to require a return to just and reasonable rates for all consumers. The electric utility and electric generation industry is too big and too important to the American economy for us to continue to careen from crisis to crisis, trying to patch up a poorly thought out piecemeal set of market structures in various parts of the U.S. before the next problem occurs. Congress needs to act while more than half the country has chosen not to restructure at all, and while many other states are waiting to see the outcome of the present crisis before continuing with their plans to restructure. We believe that establishing a cost-based generation alternative as described below, without eliminating market-based alternatives, will also represent a better balancing of regulatory and market-based approaches to enhancing economic efficiency.

Without disrupting the economy any further, we can continue to have an electric supply market operating in which buyers and sellers of electricity are free to strike mutually acceptable deals and, at the same time, ensure that electricity is available at just and reasonable rates. The key to accomplishing this goal is to create "markets" at the regional level into which generators not selling some or all of their output under contracts priced at market rates must sell this residual output at cost-based rates. This would allow entities that wish to purchase electricity for their own use, or for resale, to be able purchase at cost-based prices, as a last resort. With such markets in place, buyers will not be dependent upon either bilateral contract markets, or de-regulated "spot markets", in which generators can exercise market power. Instead, all wholesale buyers will have a **cost-based alternative**. This will also be true for retail buyers in states where such direct retail purchases are permitted. The recommendations presented here are designed to create such an alternative. We also believe that the current pricing rules and market structures that FERC has established for transmission services need to be reconsidered to determine a market structure that protects consumers, by resulting in just and reasonable rates for those services, as well.

Most, if not all, existing state PUC regulations and laws governing electric utilities will be unaffected by these recommendations. This includes existing retail rate caps and "standard offer" rates that have been established in states that have chosen to restructure,

as well as current rate structures in states that have not restructured. All existing retail and wholesale power contracts will also remain in force. Where state law or regulations allow retail customers to contract directly with suppliers for power, they may continue to do so.

Specific recommendations are presented below on a preliminary basis:

1. Generating units must report all fixed and variable costs to FERC, planned and unplanned outages, and total generation produced, on a monthly basis.

2. Generators with output not required for contract sales, and not prevented by planned or forced outages, must offer that output into a FERC-assigned **RTO Market.** (An RTO is a regional transmission organization.) The RTO Market will pay each unit's actual costs, as reported by the generator, and as reviewed by the FERC. In addition, depreciation rates, the return on common equity (profit), and any other costs which require administrative determination will be paid based on FERC-approved pricing formulas. These formulas will be structured using the same ratemaking principles as FERC has applied to utility-owned power plants in the past. The RTO will recover these costs through sales to local electric distribution companies, load serving entities, or directly to retail electricity consumers, where allowed. These sales will be based on the average cost-of-service of all the generating units providing electricity to each RTO Market in any given month.

3. Each RTO shall establish a generation reserve margin for its region based on generally accepted reliability criteria as established by The National Electric Reliability Council. If the amount of generation available is projected to fall below the required reserve margin, then the RTO shall be required to contract for or build new generation supplies. To ensure an adequate supply of least-cost electric generation, each RTO shall be required to set up an **RTO Supply Agency** which will, as a last resort, invest in, construct, and supply any required incremental generation into the RTO Markets on a least-cost basis. RTOs will also perform transmission planning, and other functions consistent with this proposal, as specified in FERC Order 2000.

4. The Congress should also implement a national Resource Portfolio Standard that mandates increased use of renewable electric generation technologies throughout the U.S. These renewable resources, as with any generation unit, could sell into the RTO Market on a cost basis, or may contract to sell at market rates on a bilateral basis.

5. The RTO Market should incorporate demand-side management options for all customers. This could include demand-side bidding at or below the cost of generation that will permit customers to deliver timely, cost-effective, and price-responsive load reductions to the wholesale power markets. The RTO

must permit demand-side resources to participate on a fair and competitive basis with supply-side resources.

This proposal is a first attempt to address the extremely complex issues raised by the current crisis is a timely way. Clearly, many important related issues and details need to be worked out to bring electricity prices under a reasonable degree of control, prior to determining to what extent, if any, any greater degree of the deregulation of electricity markets than that outlined above is in the best interest of U.S. consumers. The Tellus Institute welcomes the necessary dialogue that will be required before draft legislation to achieve these goals can be written.