
Informational Report Part II

To Deregulate Or Not To Deregulate Electricity? That Is The Question

Compiled by Lavinia Voss

California's Deregulation Experience

California started the deregulation process from scratch, creating a power market from the ground up, copying the British system completely. Power supplies were getting tight in California before deregulation for a simple reason: utilities there had built almost no new generating plants nor had they added much transmission capacity for nearly a decade. Utilities can usually predict what their peak demand will be for the summer, and they generally know whether they will be able to meet it. They have a reserve margin over peak demand to meet customers' needs when there is a problem, such as a generating plant out of service or prolonged hot spells that extend well beyond the heat of the region in July and August.

System planners did not foresee the economic boom that California would enjoy and had seriously underestimated the growth in power demand that the high technology field would create. The North American Electric Reliability Council (NERC) had warned California that they would not have enough power to make it through a "normal" air conditioning season, and the summer of 2000 turned out to be a scorcher, setting the stage for eventual power shortages to follow. As load grew faster than resources, the system became increasingly dependent on power purchased from outside the state on the volatile daily electricity auction (spot market).

Besides underestimating the growth in power demand and the shortage of electric suppliers within the state, the California plan required the utility companies to sell-off their generation plants. And they were not allowed to enter into any long-term power contracts with suppliers, which is the usual way that most wholesale electric markets are run. The only electric customers in the state of California that have escaped rolling blackouts are those served by the Los Angeles Department of Water and

Power. They are not connected to the state's grid and they generate their own power and send it over their own lines; they incidentally, have no plans to deregulate.

In early June 2001, Federal Energy Regulatory Commission (FERC) extended new price ceilings on California's wholesale electricity sales to ten other western states to prevent companies from sending electric power to neighboring states (where price restraints were not in effect) and then returning the higher-priced power to California. Some predict this move will cause generators to scale back, others say it will have a negative impact on long-term utility investment in the state and make the situation worse. That same month the first of four new power plants constructed in the state in nearly 13 years began operating; the rest should be up and running by the end of the summer.

What is Happening in Other States

All the new electric generating plants that are coming online in California and in other states are gas-fired. To make electricity, they are the cleanest of the fossil-based fuels and they are good for the environment. But the gas-fired electric generators could create a whole new set of problems for a lot of people once the price caps are lifted in full deregulation. In the winter of 2001 when demand was high there were fourfold leaps in the price of natural gas. Most experts see the prices of natural gas remaining volatile for the next three to five years. In the future we could be paying a lot more for our electricity generated from natural gas than we have ever paid for power generation from other sources.

Many states are so spooked by the chaos on the West Coast that they are pulling the plug on deregulation. They are going to wait for the smoke to clear before they go forward. (See following chart).

Deregulation In North America

Arkansas: The state has delayed competition until at least 2003 and possibly 2005.

Connecticut: Lawmakers are reconsidering the state's deregulation law as competition has yet to emerge after three years and fears are growing that prices could rise sharply after price caps expire in 2003.

Florida: A bill to deregulate the wholesale market failed to make it out of committee this spring.

Idaho: In a state that has decided to go slow on deregulation, Idaho Power spent \$300 per megawatt hour to buy electricity on the wholesale market this past winter compared to \$26.56 the previous year.

Illinois: An undeveloped wholesale market is seen as a threat to consumers when rate caps expire in 2005.

Kansas: Shelved deregulation activities this year.

Montana: Paper companies, mines and other large industrial companies were laying off workers in an attempt to deal with skyrocketing electricity prices. One mining company paid \$320 a megawatt hour for power in May compared to \$26 in January.

Nevada: The state repealed its deregulation plan in April and halted the sale of power plants by its utilities.

New Mexico: State Senate unanimously approved a measure that would delay opening the state's electricity market to competition from 2002 to 2007.

New York: The state has urged federal regulators to put controls on its wholesale market to curb price spikes.

North Carolina: A Legislative panel said it would put off any plans to deregulate for the time being.

Oklahoma: Competition was to begin in July 2002, but the governor signed a bill that eliminated a startup date and set up an advisory group to rethink the issue.

Oregon: In May, the state's lower legislative chamber voted 48 - 11 to delay deregulation though not to repeal it.

Alberta, Canada: The province, which produces two-thirds of its electricity with coal, deregulated in January and by April prices were twice as high as a year earlier.

Alone among the states, Texas operates its own electricity grid, which makes it less vulnerable to the various bottlenecks in the national system; it imports less than 1% of its power. Like Pennsylvania, Texas didn't require utilities to sell off their plants, and it didn't outlaw long-term contracts. More important, the Lone Star State has encouraged power plant construction. Its environmental regulations are minimal and its approval process streamlined. Since 1995, 22 new plants have come online, and an additional 15 should be up and running in a couple of years. With that much capacity, it's no wonder state officials are guaranteeing a 6% rate cut from the start when retail deregulation takes effect next year.

Pennsylvania, which took the deregulation leap around the same time as California is often cited as the model of well-designed deregulation. They started out with a clear advantage over California: there was more than enough electricity to go around. Before completely freeing the prices, the state spent a year learning the ins and outs and ensuring there were enough players to make it a truly competitive market. They had 200 buyers and sellers when they started: 550,000 customers, or some 10% of the state's total, had switched to one of these many suppliers. They were not immune to the volatility of the prices. Two-thirds of the competitive electric suppliers have left the market, unable to compete with incumbent electric utilities because of rising wholesale prices.

Consumers are limited in how much they can cut back their need for electricity in response to higher prices. Wholesale power increases offer few shopping opportunities for customers. "People can save more money now in Pennsylvania by buying energy-efficient appliances than by switching power suppliers," contends Lou Meyer, President of the Pennsylvania Citizens Consumer Council. "Competition has been non-existent in parts of Pennsylvania served by rural electric cooperatives," he said. Pennsylvania is part of a whole integrated, five-state trading market covering the upper Mid-Atlantic region.

The Puget Sound Energy in Seattle, Washington and Baltimore Power in Maryland are the

first electric companies to use the same principle as the telephone companies. They are offering time-of-use meters that register not only usage but the time of day it was used. If customers will wash and dry their clothes, dishes, and perform the many other household tasks that require extra electricity after peak demand (9:00p.m), they will save money. To some this would be a minor change in their lifestyle. Those in Seattle that have made the change have seen their electric bills drop by approximately 4%.

The Mid-Atlantic Region

In 1997, at the beginning of the deregulation process, PJM Interconnection, L.L.C. (limited liability company) was formed. It runs the transmission system once operated piecemeal by eight utility companies, and is headquartered in Norristown, PA. It serves the bulk of the 22 million people who live in Delaware, New Jersey, Pennsylvania, Maryland, the District of Columbia, and Virginia. This region's power grid has essentially been run as an integrated pool for 70 years and has generating capacity to reasonably meet the needs of its customers. It already performs many functions that a central power clearinghouse would do in a deregulated system.

Mid-Atlantic Power Grid Generating Capacity:

1990 - 52,000 megawatts, 2000 - 58,000 megawatts, 2010 - 68,000 megawatts or more expected.

At least 2,500 of the new capacity is scheduled to be on line by the end of 2001, with 80 megawatts of that located in the D.C. area.

One megawatt is enough power to supply 140 all-electric houses for an average winter or 200 all-electric houses for an average summer.

Sources: The Mid-Atlantic Area Council of the North American Electrical Reliability Council; Allegheny Power

PJM Interconnection also operates a daily electricity auction (spot market) that sorts the hourly bids of 540 generating plants. The lowest bidding plants are called on first, but when the weather is hot and demand is acute, higher offers are taken as well. To attract as many bidders as possible, the **highest bid each hour** sets the price for the entire market for

that hour. On hot summer days, when there's little or no surplus electricity in the nation's most populous regions, generators can charge prices far in excess of their production costs and be confident they'll get tapped for service by grid operators who must keep the lights on at any cost.

The Mid-Atlantic area is not immune to possible outages. On May 8, 1999, an unusual springtime heat-wave coincided with several generators in the region being shut down for routine seasonal maintenance. "Outside power" had to be brought in from as far south as Florida and as far west as the Rockies. This area is also not immune to the price manipulations felt in California. On July 28, 1999, completely legal bids by two Pennsylvania power companies bounced the wholesale price paid by PJM to \$935 per megawatt hour—about 30 times the sellers' costs. We didn't see any change in our bills then because regulations are in place that don't allow the power companies to pass on the costs of wildly fluctuating prices. But look out. When the price caps are lifted, we will be at the mercy of the PJM Interconnection pool.

What is Happening in Virginia

The General Assembly schedule for deregulation in Virginia is a five-year-phased plan, which follows the same plan used in England (see Part I), but is different from the one that got California into trouble, so the promoters say.

Phase I (1998 to 2001), a study period with rate experiments, pilot programs, and ISO (independent system operator or organization) and RPXs (regional power exchanges which operate the bidding process of buying and selling power), has already been completed.

Phase II (2000 to 2002), calls for a decision-making period where both regulatory and legislative reviews of the results of Phase I would determine whether to proceed.

Phase III (2002 to 2005), restructuring would commence, to be concluded by 2005 with price caps in place until mid-2007.

According to the *Richmond Times-Dispatch*, ("Virginia undeterred by deregulation woes," June 24, 2001.) "Unlike some other states, we have not been in a chaotic rush to start competition in Virginia before a proper foundation has been prepared," said State Senator Thomas K. Noment Jr., R-James City. He sponsored Virginia's deregulation law and chairs the legislative panel overseeing its implementation. During the General Assembly 2001 session, Noment claimed that Virginia must move forward with speed toward deregulation. His committee ignored questions raised by the State Corporation Commission (SCC) and the Virginia Citizens Consumers Council (VCCC) about going forward. They urged a slow down in the process. The chair said that *if* it appears that Virginia should maintain its ability to regulate its electricity generation, the General Assembly can **change** the schedule.

The General Assembly convenes for the new session on **January 9, 2002** and the schedule calls for the separation of generation and transmission functions to begin eight days earlier on **January 1, 2002**. Once the separation of generation and transmission is completed, it cannot be undone because power generation then will be under federal, not state, control. One does wonder at the reason for speed toward electric deregulation in Virginia since we currently enjoy electricity rates well below the national average. The Virginia Public Access Project (VPAP), a non-profit, non-partisan web site, provides an extremely interesting list of high campaign contributions given to the members of the Transition Task Force committee by many of the utility companies.

The Northern Virginia Electric Cooperative (NOVEC), which serves roughly 100,000 customers in several Northern Virginia counties, is being hit by higher wholesale power prices that they must pass on to their members. Their Board of Directors wrote state lawmakers and the SCC on June 14, 2001 asking that they either slow deregulation or leave the current system in place for now. Earlier in the year, Virginia's biggest electric utilities struck a deal with large industrial customers on legislation to protect them from California-style rate shocks after price caps are lifted, July 1, 2007. But this proposed legislation also would block state

regulators from putting price caps back *if* Virginia's effort to deregulate the industry fails and prices soar. Instead, the proposal would require the SCC to look outside Virginia for competitive markets on which to base prices.

The move toward deregulation in the state has already led to rapid consolidation among utilities which could lead to diminished competition and subsequent higher prices. However, new building applications have been filed in some counties. In still others, permits have been issued and work already begun on building power plants. It seems that some of these new power plants are not intended to serve Virginia nor will they be required to provide one megawatt of power to a local consumer. It appears that tax incentives and lenient pollution requirements are reasons for building within this state to generate and serve electricity needs elsewhere.

Dominion Virginia Power and other utilities serving 11 states from Virginia to Michigan have formed a Regional Transmission Organization, called Alliance RTO for short. In December 2000, FERC offered incentives to utility companies to cooperate in this manner and plans to eventually penalize those who won't. An RTO manages and controls electric transmission systems over a large area covering several states. Alliance RTO owns 57,100 miles of transmission lines, serving 41 million households within 178,800 square miles. It is the first publicly traded RTO in the nation and one of the largest in the world. Virginia's SCC hearings on American Electric Power (AEP) of Columbus, Ohio and Dominion's applications to join the RTO were unresolved at print time. Both AEP (the nation's largest electricity generator) and Dominion are service providers in Virginia.

Many hope that Alliance RTO will promote fair and effective competition and offer equal non-discriminatory access to the electric power grid for all electric suppliers. An RTO can provide an open highway for electrons to move no matter where they are generated. In theory, RTO's have the potential to change the industry, indirectly bringing benefits to consumers. But keeping electric bills down is not the only reason why joining the RTO might be a good idea.

It should provide a little extra insurance that the current power debacle in California doesn't happen here in Virginia.

The Commonwealth's largest utility states that 545 miles of new transmission lines have been added and that they are spending more than \$100 million a year on infrastructure improvements. Dominion Virginia Power says they have made deliberate planned efforts to keep pace with their service area's strong economic and population growth. Four new gas-fired Remington combustion turbines went on-line in July, 2000 in Fauquier County, raising generating capacity by 600 megawatts. Peak demand was estimated to hit 15,700 megawatts the summer of 2000, far short of the utility's 17,600 megawatt generating capacity, thus providing a comfortable cushion for the Commonwealth's two million electricity customers.

It would seem that Virginians can count on having electric power 99.8 percent of the time. The last time Northern Virginia endured a rolling blackout was during a massive winter ice storm in January 1994 and the service interruptions lasted only about four hours. During the summers of 1998 and 1999, Virginia Power had reduced-voltage "brownouts" so it could send extra juice to overextended New York and New England. The SCC staff has repeatedly urged legislators to focus on the overall reliability of the Commonwealth's electricity delivery system in a competitive market, including its capacity to ensure sufficient generation reserves over the long run.

Future Growth

Electricity is becoming ever more central to our economy as computers, totally dependent upon electricity, slurp up about 13% of the nation's total power supply. About 80% of all global on-line traffic is routed through the United States, further taxing our power resources. Internet "server farms" reportedly consume ten times as much power as traditional office buildings. Besides computers, other electronic gizmos in modern households such as television sets, CD players, and VCRs increase the demand for power by 2-3% a year. Since the demand for electricity contin-

ues to grow, all areas of the United States will ultimately reach a point when the existing transmission system simply won't be able to handle the load.

So, new lines will have to be built if consumers want reliable power, and that is where the social and political costs of deregulation intersect. The construction of new high-voltage transmission lines is almost always vehemently opposed by the public. Most people are not enchanted with the idea of new power plants being constructed in their neighborhoods, but experience has shown that the most stable, efficient, and reliable power systems have generators near the areas they serve. It has been said that transmitting electricity is a lot like carrying sand in a burlap sack--over short distances, not much sand sifts out--over long distances, so much sand is lost, it is hardly worth making the haul.

To Deregulate

A reliable system costs money--to ensure that the existing system works well, to replace equipment as it reaches the end of its useful life, and to build new transmission lines and generation plants. The challenge will be to find a way to pay for all of these needs if we choose to stay the course of deregulation and make the industry truly competitive. Consumers need incentives to use less power during peak demand, and without such measures, deregulation may not lower prices significantly--in which case, the reason for deregulating the electric industry will be less clear-cut.

Or Not To Deregulate

Those who profit from deregulation have fostered the presumption that the process is irreversible. It appears that pulling out of the deregulation morass is not a technical problem but a political one. An economic ideology--not to mention several trillion dollars of infrastructure--are at stake. Even the states that had successfully deregulated their power plants are now experiencing problems. The "solution" to the deregulation debacle may be a swift, honorable, and complete withdrawal from the idea, and a massive attempt to "stuff the genie" back in the bottle as fast as we can.

Office Power-Saving Tips

PCs use 50 to 150 watts of electricity, plus 50 to 100 watts for a color monitor. Laser printers can use as much as 200 watts while printing and some can consume as much as 150 watts on standby.

If you're paying 8 cents a kilowatt-hour for electricity, even a simple system running 24 hours a day can inflate your bills by \$200 a year. Turn off your computer monitor if you won't be using it for 10 minutes or longer. Screen savers waste money. Turn off the entire computer if you're leaving for an hour or more.

If your copier doesn't switch to standby automatically, hit the standby switch as you leave the machine. Buy equipment that sports the government's "Energy Star" label. It uses less energy than equipment with similar features.

Be aware that, even when turned off, answering machines, cordless phones, and printers typically use 3 to 4 watts of power to track the time and sense remote controls. PCs use about half that. That's not a lot, but collectively power users pay \$3 billion annually to power "turned off" equipment.

Source: The Cosco Connection

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