

Keeping the Lights On

By Edward W. Sheets

The most basic objective of the electricity industry is to keep the lights on – providing reliable electricity service to homes, hospitals, schools, businesses, and the myriad activities that we depend on. In general, electric utilities have done a good job providing reliable service during the last century. In recent years, there is a new movement to fundamentally change the industry through deregulation. The experiment in California caused blackouts, bankruptcies, and huge cost increases. Was California a preview of things to come?

The spring issue of OPEN SPACES featured an article on the real causes of skyrocketing electricity costs over the past two years. The article “California Schemin’” described how large energy providers withheld electricity in California to create an artificial shortage and drive up electricity prices. This manipulation of the electricity market forced California utilities to cut off electricity to millions of customers during rolling blackouts. Wholesale prices in the Western United States skyrocketed from three cents per kilowatt-hour to over three dollars per kilowatt-hour during certain peak periods. The debacle in California increased costs for consumers throughout the West. Estimates of the damage range from \$30 to \$40 billions.

In this issue we provide an update on the ongoing investigations and a preview of what may be the next electricity crisis.

California Schemin’

California adopted a flawed deregulation plan for its electricity system several years ago. It required the private utilities to sell off their power plants and purchase electricity supplies from independent power producers on a day-to-day market. This removed the obligation of the utilities to plan for and acquire resources to meet customer needs. The new structure assumed that this market, free of government regulations, would provide reliable supplies.

It did not take long for some of the largest energy suppliers in the country to figure out ways to manipulate the California system. Enron, Duke Energy, Dynegy, Mirant, Reliant, Williams Energy and AES found that they could keep some of their power plants out of service and create an artificial shortage that would drive up prices for all of the rest of the power they sold. During the height of the electricity problems in California only about half of the electricity generation controlled by these companies was offered for sale. This was enough to tip an electricity surplus into a shortage. It caused prices to increase ten-fold or more on the remaining power that these large suppliers were selling and resulted in windfall profits for them and huge increases in the cost of electricity throughout the West.

California responded by mounting a statewide energy conservation program. Those efforts reduced peak electricity use by more than 12 percent. Utilities in the Northwest also geared up conservation programs that had lagged for years. These conservation efforts helped balance the supply and demand of electricity. The Northwest and California Congressional delegations also weighed in and convinced the Federal Energy Regulatory Commission to impose limits on the wholesale price of electricity.

In the aftermath of the California electricity market disaster, the newspaper business sections have often resembled a police blotter. To date, one Enron energy trader has pleaded guilty to a felony and many companies are under investigation. One large energy supplier recently agreed to pay \$400 million to the state of California to settle a claim that they had overcharged for electricity.

While these inquiries are ongoing, we have already learned that there were a number of schemes to increase the price of electricity by withholding power production, reselling electricity, and creating artificial congestion on electricity transmission lines. These strategies, known as Deathstar, Perpetual Loop, Fat Boy, Black Widow, and Cong Catcher, were designed to increase the profits from the sale and transmission of electricity.

The details of these schemes are extremely complex. One of the more straight forward examples occurred on the Silver Peak transmission line in California on May 24, 1999. Enron submitted a schedule to transmit about 3,000 megawatts of electricity (about three times the power used by a city the size of Seattle) over the Silver Peak line. This transmission line is designed to carry only about 15 megawatts, so Enron received payments from the California system operator to relieve the artificially induced congestion. An investigation found that this single transaction had cost consumers between \$4.6 and \$7 million. Enron paid a fine of \$25,000 and promised that it would not repeat the behavior.

Protecting the Public Interest

The Federal Energy Regulatory Commission (known as FERC) is charged by law to ensure fair and reasonable electricity prices in interstate commerce. As Paul Krugman of *The New York Times* asked recently: “How could a \$30 billion robbery take place in broad daylight?” There are several potential explanations.

Complexity: The deregulated electricity market is extremely complex with a large number of transactions between hundreds of utilities and power producers. The recent investigations uncovered elaborate schemes to sell and resell electricity multiple times to increase the profits to the participants in the transactions.

Secrecy: To make things worse, the California system was not very transparent. It was often impossible to determine which companies were selling (or withholding) electricity. The California Independent System Operator has kept a great deal of information confidential to protect what it considers to be proprietary information. Even when information was available to regulators it was not always available to the public. For example, CBS news reported that FERC had copies of audio tapes that proved that electricity traders from Williams Energy had told power plant operators to turn off electricity production during the so-called crisis. Unfortunately, these tapes were sealed as part of a secret settlement.

Philosophy: The Bush Administration and its appointees at FERC are committed to creating a free market for electricity. In an interview on the PBS program Frontline, FERC Commissioner Curtis Herbert said: “The rules of competition govern that economies work, that choice works. It’s why we’re American. We inherently like choice. It’s why we left the mother country. We didn’t like the rules they were setting. We wanted to make our own rules. We want our own choices. And we believe that works.”

A free market works well for most commodities, but electricity is not like wheat or pork bellies. Electricity is essential to public health and safety and there are not currently any realistic substitutes. From a technical point of view, the generation and transmission of electricity is complex. It is not practical to have competing electricity lines serving customers. Moreover, electricity cannot be stored; the electricity system must exactly match the supply with the demand during every second of every day of the year.

Politics: The executives at Enron were the biggest contributors to George W. Bush during his political career. Large energy companies also contributed heavily to congressional campaigns. Some observers speculate that the large energy suppliers assumed that they could act with impunity once Republicans took control of the Administration and Congress.

California Responds

An overzealous approach to deregulation had assumed that “the market” would supply all of the electricity that consumers needed. When the deregulation scheme failed, California mounted a major effort to conserve electricity and also formed a state power authority to purchase electricity.

This year, the California legislature and utility commission have taken actions to restore the obligation of utilities to develop plans to meet future needs. This was an important step. Over the past 25 years, utilities in California and the Northwest have led the nation in developing plans to evaluate all the alternatives for meeting future energy needs and selecting a balanced portfolio of energy efficiency, renewable resources, and gas-fired generation. These plans helped the utilities understand what they needed to buy and what the alternatives were – a critical step in wise investing.

One of the new California laws requires utility plans to acquire all conservation that is less expensive than new power plants. Another law establishes requirements for the state’s investor-owned utilities to meet 20% of their electricity needs by 2017 using renewable energy.

Federal Deregulation Continues

The problems with electricity deregulation in California have caused a number of other states to rethink or slow down utility restructuring; however, the Federal Energy Regulatory Commission continues to move forward. The FERC recently developed a proposal “to remedy remaining undue discrimination and establish a standardized transmission service and wholesale electric market design that will provide a level playing field for all entities that seek to participate in wholesale electric markets.” The complex proposal, known as “Open Access Transmission Service and Standard Electricity Market Design,” is 640 pages long. Copies are available at ferc.gov/electric/rto/Mrkt-Strct-comments/discussion_paper.htm.

The standard market design focuses on ensuring that independent power producers have non-discriminatory access to transmission lines. One of the provisions of the proposal would require the creation of independent transmission providers that would determine how much electricity is needed in an area and assign responsibility to utilities to meet their share, by either adding new power plants or improving energy efficiency. In a shortage, the transmission provider would purchase power to cover shortages caused by utilities that did not secure resources to cover their share. During blackout conditions, these utilities could have some of their power curtailed.

The proposal has generated a great deal of controversy. Some state utility commissions are concerned about a one-size-fits-all approach to an industry that differs significantly among regions. Others have seen the proposal as a threat to state regulation that protects consumers. A number of environmental and consumer groups have provided detailed comments to expand on the proposal’s provisions to promote the use of energy conservation and renewable resources.

Déjà Vu All Over Again

Figuring out who is responsible for developing additional electricity to meet growing demand is essential to keeping the lights on. The blackouts and price spikes in 2000-2001 were caused by a combination of a flawed deregulation scheme in California, growth in electricity demand, and a drought that reduced the amount of power available from the Northwest hydroelectric dams. A key problem then and now is the lack of incentive to build new electricity generation or improve energy efficiency.

Many utilities are reluctant to spend money to develop new resources or invest in conservation because they fear that they will be competing in an electricity commodities market and don’t want to increase their costs. The deregulation of the electricity market assumes that there will be a large number of non-utility companies that will be willing to build new power plants to sell electricity into the market. During the California crisis, many of these companies began to develop more power plants on the assumption that the high electricity prices would produce handsome profits.

FERC’s limits on wholesale prices took away much of the incentive to game the system. As the economy slowed, the West Coast had a surplus of electricity and market prices for electricity fell below levels that support new investments in power plants.

The Northwest hydroelectric system creates an added complication for new resource development. In a poor water year, like 2000-2001, the amount of electricity generated by the dams dropped 5,000 megawatts below the levels during the prior five years – that is enough to serve five cities the size of Seattle. The reduced supply during drought years causes electricity prices to go up. During a really wet year, hydroelectric production can go above the average by the same amount and cause prices to drop well below the costs of electricity from a new power plant. This large variation in supply and price increases the risk of developing new resources to serve the Northwest.

The Northwest Power Planning Council prepares estimates of how much new generation will be added in the Northwest. In February of 2000, the Council estimated that the region would need about 3,000 megawatts of additional power by January 2003 to meet its needs. As of March 2002, it appeared that the region was on track to meet that goal; however, the most recent estimate prepared in September of 2002 now shows that new supplies will be about 500 megawatts short of the estimated need. About a third of the power plants that were in planning or construction in 2000 have been cancelled and most of the rest of the plans are on hold until the market price of electricity increases enough to secure financing for new construction.

So the issue is still with us. Utilities and businesses will be reluctant to sign the long-term contracts needed to secure financing for new power plants or invest in saving electricity if they can buy lower-cost surplus power from the existing plants that are selling into the wholesale market. In the short term, this keeps costs down and provides benefits to consumers. However, without additional investments in energy efficiency and power plants we are headed for trouble. As economic growth, droughts, or manipulation of the market causes supplies to tighten we will find ourselves facing shortages and much higher costs that will reduce reliability and damage the economy.

State and federal regulators, utilities, businesses, and consumer and environmental groups need to develop a system that will provide reliable electricity services and protect consumers. This will require a return to utility planning to meet electricity demand, including an obligation to provide reliable service if the market doesn’t. These plans should determine how much electricity may be needed and look at all the alternatives. Utilities will need to acquire all the energy efficiency improvements that cost less than new power plants. Utilities also need incentives for signing long-term contracts for new resources and for sustained funding of energy efficiency and renewable resources. In the meantime, you may want to buy fresh batteries for your flashlight. ☺

