Electricity shortages will cripple industry in the Midwest

by Marsha Freeman

A study released on July 6 by the U.S. Council for Energy Awareness sounds the alarm on upcoming electricity shortages in the industrial Midwest. The study, which examines the generating capacity planned to be added in Illinois, Indiana, and Ohio between now and the year 2000 compared to expected growth rates, indicates severe shortages as early as the mid 1990s.

Unfortunately, this is not a unique situation, but rather a national danger. As we brace for another hot summer, voltage reductions or brownouts have already been instituted in a number of regions, during the month of June. In the Washington, D.C. area, 5% voltage reductions had to be implemented twice last month, as Potomac Electric Power announced that demand outstripped available supply. In the power-strapped New York and New England regions, utilities began warning customers there could be service interruptions before the summer even started.

The industrial heartland has been in somewhat better shape, due to the 1970s and early 1980s economic slowdown, and an aggressive nuclear power construction program by Commonwealth Edison in Illinois. But last summer, parts of the Midwest saw increases in electricity consumption 10% higher than 1987, and "excess" capacity has become a thing of the past.

The new report is entitled "Economic Growth and the Requirements for Electric Power during the 1990s in Illinois, Indiana, and Ohio," and was done by the Washington-based Management Information Services, Inc. and the Management Analysis Company of San Diego, California. Their conclusion is that billions of dollars of manufacturing business will be lost by the year 2000, along with over 1 million jobs, if an aggressive power plant building program is not implemented.

Disappearing reliability

At the current time, utilities in the three states examined, plan to build less than 5,000 MW (megawatts) of new capacity between now and the turn of the century (**Figure 1**). According to a report released by the Utility Data Institute, Inc. (UDI) on June 28, this slowdown in bringing capacity on line is a national phenomenon (**Figure 2**).

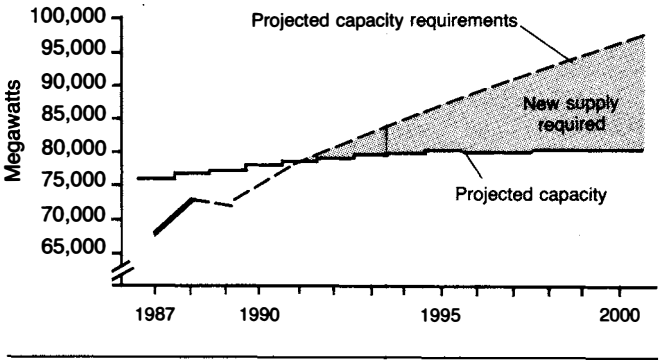
The UDI figures indicate that whereas utilities had been adding an average of 20,000 MW per year to the grid in the late 1960s, this year only 6,500 MW of new capacity are planned. Current UDI projections are that through 1995, less than 5,000 MW per year will be added nationwide.

In the Midwest, the "Economic Growth Requirements" report estimates that even at modest electric growth rates of 2.9% per year, there will be a shortfall of 15,000 MW in the three industrial states by the end of the century. Their report was completed before President George Bush had announced his proposed amendments to the Clean Air Act, which could force the shutdown of an additional 10,000 MW, made up of aging coal capacity in the industrial heartland.

The report estimates that this gap of 15,000 MW of capacity will result in capacity margins falling near to a dangerous 10% by 1995, to near *zero* in Ohio and Illinois. A minimally safe reserve margin is considered to be 17%. No utility or region would allow capacity margins to actually reach zero. Before that point, scheduled brownouts and rolling blackouts would be implemented, to preserve the integrity of the system as a whole.

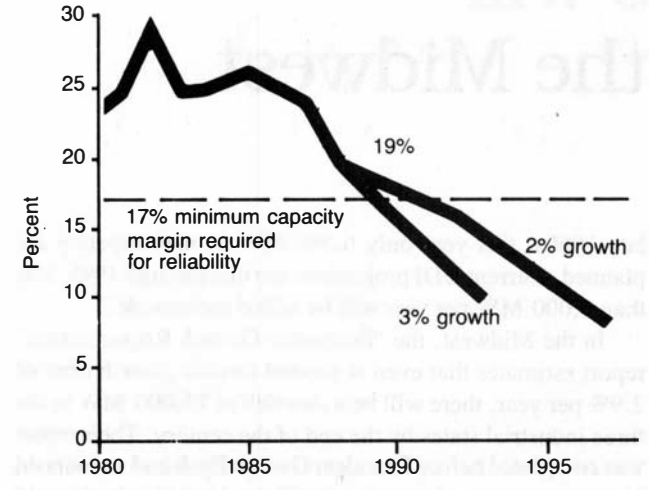
This disappearance of reliable electric power will have devastating economic consequences in what's left of the U.S. industrial region. It is estimated that Illinois could suffer the loss of $38 billion in gross state product and 700,000 jobs. For Indiana, the figures are $11 billion, and 220,000 jobs;

FIGURE 1
Illinois, Indiana, Ohio electricity demand and supply comparison



Source: Management Analysis Company, 1988.

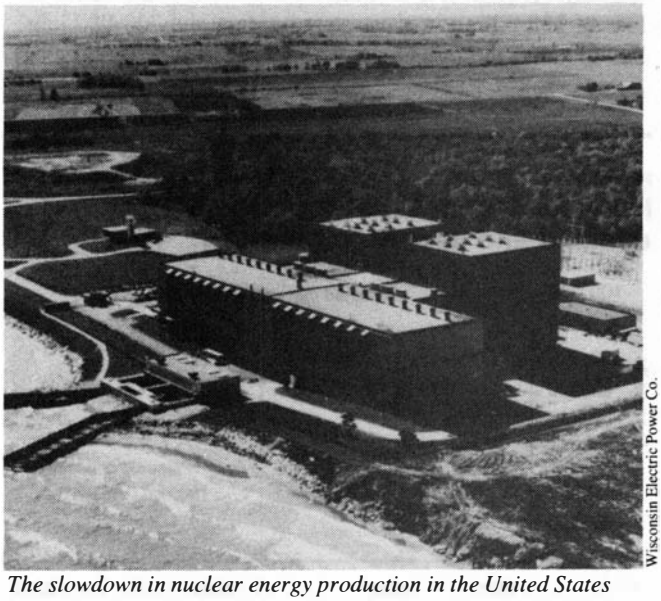
FIGURE 2
Decline in national capacity margin



and for Ohio, $35 billion and 650,000 jobs.

Another effect of this shortfall will be more global, since this region is now a net power exporter. Surrounding regions, such as the PJM (Pennsylvania, New Jersey, Maryland) power pool, which are critically short of power right now, will not be able to count on the Midwest for exports.

These dire predictions are actually based on some assumptions which can be considered quite *optimistic*. The authors assume that the financial conditions facing utilities interested in building new capacity will improve; that voluntary conservation measures promoted by utilities (read: austerity) will be implemented by consumers; and that growth in electricity demand will be declining througout the 1990s. As mentioned above, their estimate of the gap between demand and capacity does not include the forced shutdowns of currently operating coal-burning plants.


Wisconsin Electric Power Co.

The slowdown in nuclear energy production in the United States has aggravated the dangerous shortage of electrical power. Shown here: the Point Beach nuclear plant in Two Creeks, Wisconsin.

Not only will there be no possibility for real economic growth in this region if a large-scale power plant construction program is not begun, there will be little hope of continuing to deliver reliable electric power to the people, businesses, and industries that already live in these states.

The national picture is even somewhat worse than the Midwest. The U.S. Council for Energy Awareness (formerly the Atomic Industrial Forum) released a brief report in June, demonstrating that the *national* picture for capacity margins is also declining below the safety point.

The report points out that, because reserve margins have fallen to "critical levels" on the East Coast, economic impacts have already been felt. Last summer, according to the Greater Boston Chamber of Commerce, $86.8 million of industry revenues were lost due to power supply problems. For those who think no one would let the situation get so bad that Americans would not have electricity, it is time to think again.

Approaching Third World levels

For a foretaste of what the United States will look like if we do not start building power plants, an editorial commentary by Robert M. Bleiberg in the Feb. 27 issue of *Barron's* magazine is instructive. Titled "Cry for Argentina," it excerpts a report by David Rusk of Public Service of New Mexico, from an on-the-scene account in Buenos Aires.

Rusk describes how a modern industrial city and population is turned back to a more primitive condition, because the electric utility in the city has had to institute rolling blackouts since mid-December. For at least six hours a day, sections of this city of 8 million have no electric power. Rusk states an estimated $42
production and commercial activity.

How do people live under these conditions? While Rusk was in Buenos Aires, "the city settled into three-hour blackouts twice a day. . . . The elevators stop working. The infirm and elderly are pinned down in their apartments, waiting to go out on errands when the elevators are running.

"Household appliances are off. Electric clocks are useless. . . . Washing and vacuuming must be rescheduled to fit the blackout schedule.

"Refrigerators defrost, and food can spoil. . . . No more shopping for a week's groceries. Buy only for the day. Sales of dairy products and fish plummet in stores and restaurants."

Americans suffering from the "it can't happen here" syndrome, who have been accustomed to turning on the light switch and having electricity, are in for a rude awakening in the dark—if not this summer, in the very near future.