

# Back From The Grave

by Michael I. Wheatley

Berlin, Md., Mayor Ron Bireley enjoys wandering through cemeteries, looking at 200-year-old tombstones and pondering the lives of former residents. The mayor wants to make sure the town's Municipal Electric Department (1,500 customers, \$2.3 million revenues) does not pass the way of those fishermen, sea captains, farmers and merchants who settled in this small town on Maryland's Eastern Shore over the past 250 years. Bireley knows that, once relinquished, local control of the Municipal Electric Department would be nearly impossible to regain. He also knows that Berlin residents are better off if local elected officials—not a large and distant investor-owned utility—set their electric rates.

Less than two years ago, Berlin's Municipal Electric Department had one foot in the grave. With a lost generator and systemwide deterioration of distribution lines, the situation looked bleak in June 1988. But a new approach to planning changed the outlook.

Berlin's Municipal Electric Department is not unlike other small municipal systems that purchase most of their power at wholesale but own and operate generators for peak-shaving. For years the department ran on a shoestring budget and spent nothing on capital improvements. The primary goal of city officials was to keep electric rates low. Since the mid-1970s the town had no formal long-term capital improvement plan. Residents felt that if rates were not going up, then all was well. Throughout the 1980s Berlin's residential rates were consistently 10 to 15 percent below the neighboring investor-owned utility's rates.

In 1987 Berlin's main substation was more than 50 years old. The distribution voltage was too low in some areas, there were rotten poles and capacity problems were growing. The south side of town was growing rapidly. A new housing project and strip shopping center would have been impossible to serve since the lines did not have the capacity to carry the



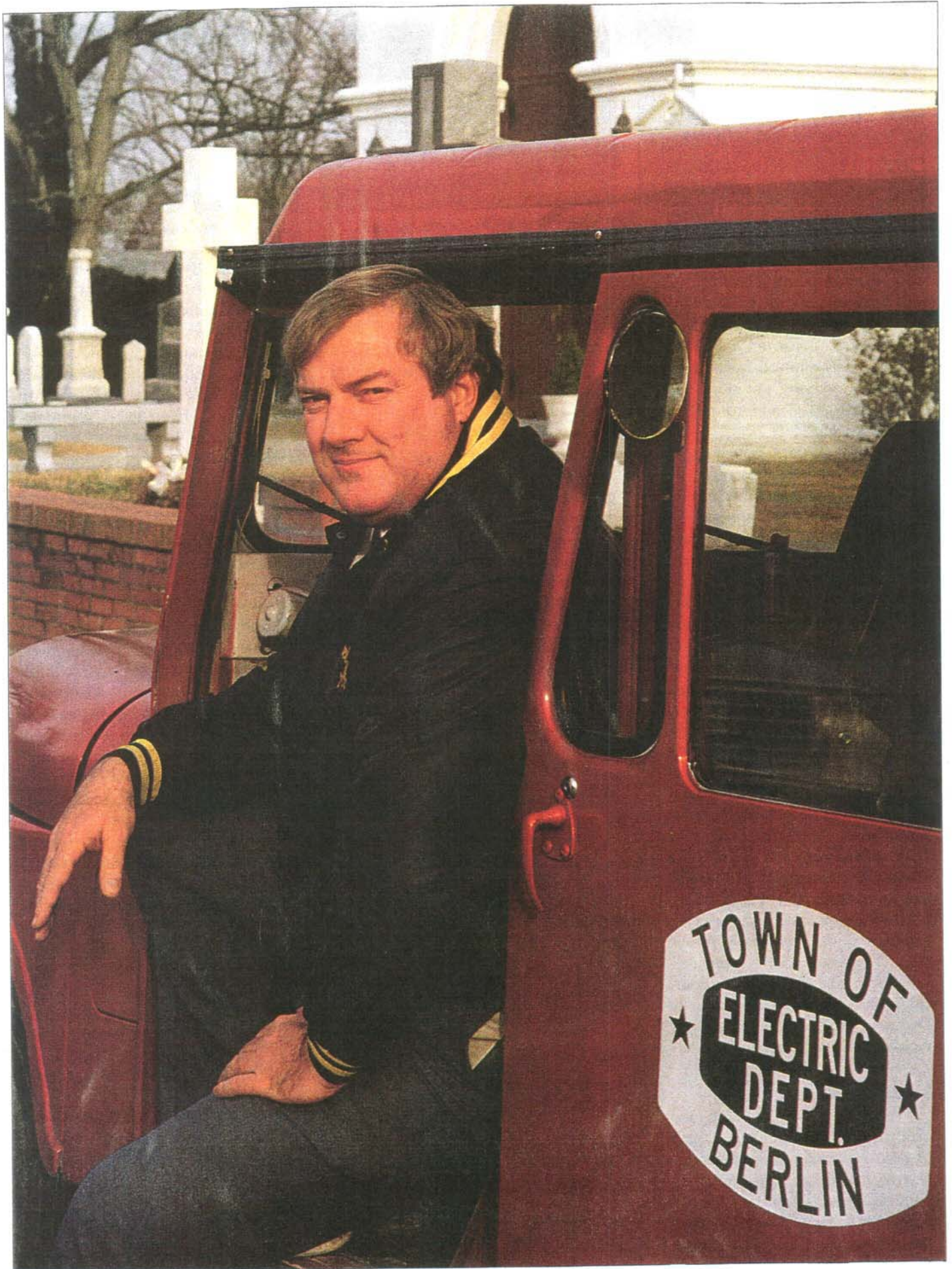
Photos by Robert Bunka.

load. A planned expansion by the largest industrial customer in town could not have been met by the 2,000-kVa transformer at the substation. The town's projected load, which reached 6,880 kW in August 1989, could not have been handled by a substation configured for a 6,000-kW maximum. Reliability had become a major problem; deterioration of the distribution system was so severe that 80 percent of it needed to be replaced. Peaking generators at the power plant ranged in age from 38 to 51 years. The electric department shared office space with the water department in a shed. There was no place to store inventory and no air conditioning in the meter test area. On top of all this, the electric department had lost money for nine out of the preceding 14 years.

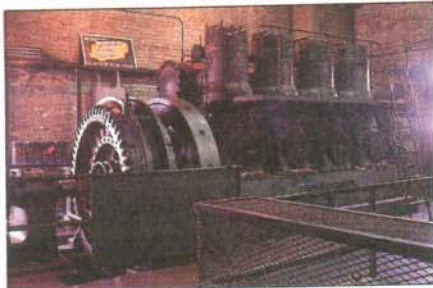
"It was time to change our whole philosophy or sell out," said Town Administrator Donald Giancoli. For a full decade, Berlin had a standing offer from Delmarva Power Co. to purchase the Municipal Electric Department. But Berlin was not ready to sell.

Bireley—elected to the Berlin Town Council in January 1987 and elected mayor in October 1988—and Giancoli—who became town administrator in mid-1987—teamed up as the driving force behind dramatic changes that are reviving the utility. In 1987 Bireley and Giancoli convinced the then-mayor and council to act on a recommendation by the town's engineers, Downes Associates, Inc., to build a new substation and utility building. The engineering analysis showed that the \$2 million substation and utility building would pay for itself in 10 years through savings it would produce on the wholesale power bill. The project required a rate increase of only 2 percent.

Berlin was purchasing power at 25 kV for \$12.75 per kW and 2.8 cents per kWh. The new substation allowed the town to purchase power at the 69-kV transmission voltage rate of \$11.31 per kW and 2.6 cents per on-peak kWh and 2.1 cents



*Berlin Mayor Ron Bireley*



*Berlin's old 300-kw generator.*

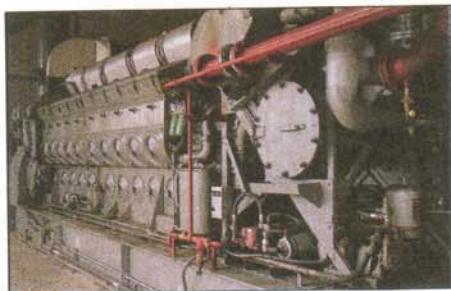
per off-peak kWh. The annual savings was projected to be \$196,000. The savings were so great that the town also acted on a recommendation by Downes Associates to construct a new utility building. This allowed Berlin to house a modern metering test area, increase its inventory, and add to office and storage space.

Once the Town Council approved construction of the substation, Berlin officials had to obtain Maryland Public Service Commission approval. Maryland is one of seven states in the nation that regulates municipal utility rates. A fuel adjustment clause in Berlin's rates meant the savings in wholesale power costs brought by the new substation would have to be passed through to customers. Berlin obtained permission to block the pass-through so it could repay the capital investment.

Berlin's second major investment was spurred by a catastrophe. In 1988, as construction on the substation/utility building neared completion, one of the generators at the power plant failed. An analysis by Downes showed that Berlin's \$1 million investment in a 2,500-kW engine peaking unit would be recovered in less than five years by further reducing wholesale power costs. The town's peaking units allowed it to take advantage of a coincident peak billing option offered by Delmarva Power. The investment required no rate increase.

### **Success Breeds Planning**

With the success of these two major investments, the Town Council demonstrated a greater willingness to participate in utility planning. Electric department employees revamped operations at the peaking plant. For years, the



*Berlin's new 2,500-kw generator.*

units had been run to reduce Berlin's wholesale purchase load. This practice reduced load, but not costs. Now the generators are used to shave system peak and optimize power costs.

"We used to run the plant almost every weekday of the year, up to 13 hours a day," said Plant Manager Gary Bennett. "Now we run it sometimes only two days out of the entire month. We also are sure of having maximum generation at peak, whereas before we were not as efficient at predicting the system peak."

Berlin's next capital improvement, under way now, is replacement of the



*Meters in the new metering test room.*

entire distribution system. Work began last fall and the town expects to have about half of the system rebuilt by early 1991. This \$1.8 million investment came last because it will produce no offsetting savings and could bring a slight rate increase (probably less than five percent). The town also has implemented time-of-use metering for some of its industrial customers. And it is looking into other improvements in its power generating facilities.

The combination of favorable economic forces and planning with a long-term focus has enabled Berlin to increase its electric system assets fourfold over the last two and a half years, with a less than 2 percent net rate increase to electric customers. Berlin's long-term plan is to finish rebuilding the entire distribution system by 1993. After settling some territorial boundary disputes and making administrative refinements, the town will investigate and implement an extensive load management system. The rate structure also will be modified as data from new load survey metering is analyzed. Rates may be increased in 1991 to cover the distribution rebuild. However, thereafter Berlin ratepayers should enjoy a period of rate stability for years. Barring any dramatic increase in wholesale power costs, residential rates will be 10-15 percent lower than the neighboring 10U in 1995 and the entire system will have been modernized.

Mayor Bireley will not have to order a tombstone for the Municipal Electric Department. □



*Town Administrator Don Giancoli at power plant on Williams Street.*

*Mike Wheatley is a rate analyst with Downes Associates, Inc.*