

## COPING WITH PERIL

The 1980s were hard years, a period of scaling back earlier construction plans, of struggling to modify and backfit the Brunswick plant to meet new regulations and make it more reliable, of fending off opponents of the Harris plant to get it into operation, and of striving to protect the Company financially. There was new emphasis on conservation and load management, a winding down of construction activity, rise of a motto at the Roxboro plant that "we carry the load," introduction of total quality, and corporate down-sizing. The need for national energy policy persisted. Two things kept the Company in the headlines: its nuclear plants and its rate cases.

At the beginning of the decade, the fourth unit of the Roxboro plant was nearing completion. The four units of the Harris plant and two coal-burning units at Mayo remained in the construction plan. Growth in peak demand over the next 10 years was projected to average 4.5 percent. Expected construction expenditures for the first three years totaled \$2.4 billion.

Sherwood Smith was uneasy. He questioned whether the Company could afford financially to build the four units of the Harris plant, even though major components such as the reactor vessels and steam generators had been purchased and already were at the site. Inflation was in double digits. The prime lending rate reached 21.5 percent. Regulation was instable, making it impossible to project either the eventual cost or the operating date for a nuclear facility. Years later, Smith described the early 1980s as the most perilous time CP&L had faced since the depression.

The nuclear option, promoted by the federal government during the '60s and into the '70s and made attractive by its promised low fuel cost, had become a burden of unpredictable proportions for utilities like CP&L which in good faith had tried to respond to the "national interest" by utilizing a new technology that would advance energy independence.

Now the question was whether and how to back away from construction commitments in which millions of dollars had been invested, and preserve the Company's financial viability. Smith was confident every decision CP&L had made with respect to its construction program was a conscientious effort to supply energy to meet, in the most economical and environmentally acceptable way, what it and its regulators believed customers' future needs would be. In the ensuing years, the Company would be called on to demonstrate the reasonableness of its decisions.

There were other wrenching developments. One was the necessity to keep selling new issues of common stock at prices below book value in order to continue construction. Each new sale diluted the equity of earlier shareholders. Smith saw his task as preparing the Company for a "soft landing".

One of his first concerns was to convince others of his management team that he was leading in the right direction. He retained a management consulting firm to help with a study of the Company's situation and its alternatives. The investigation identified the possibility of reducing

anticipated peak demand by 1,750 megawatts by 1995 through load management and conservation strategies. That was the approximate capacity of two units of the Harris plant.

Smith appointed a steering committee for a Company conservation and load management program. Ridout, the senior vice president for customer and operating services, was chairman. Its mission was to develop specific strategies for implementation. All of the activity eventually would lead to creation of a conservation and load management (CLM) department. On the committee with Ridout were Norris Edge of rates and service practices, Bobby Montague of system planning and coordination, Earl Stephenson from customer services operations support, and Albert Morris of corporate communications.

### **Seeking Adequate Rates**

Hearings on the request for a 9.25 percent general rate increase were held in January. It was CP&L's sixth general rate case since 1970. Smith testified that a clear indication of the inadequacy of the Company's earnings was that its common stock had been selling at 75 percent or less of book value in recent months. He warned that if CP&L were not allowed to earn enough revenues to cover its operating expenses and provide a reasonable return to shareholders, customers inevitably would suffer from inadequate service and "the whole area would suffer from our inability to provide power to new and existing businesses and industry."

The CP&L area had just experienced its best year for industrial growth. Capital investments totaling \$808 million had been announced during 1979, creating an estimated 18,790 new jobs with annual payroll of \$196 million.

Smith noted in his testimony that the Company's last rate increase had become effective in July 1977 and that the consumer price index had risen 25 percent since then. "Our objective in this case," he testified, "is to seek the smallest increase which can sustain us in this economic period that is so troublesome to our customers."

The North Carolina Utilities Commission allowed an increase of 7.13 percent effective April 1, noting that it was well within federal wage and price guidelines which had been imposed to curb inflation. Graham reacted to media inquiries, saying the Company was disappointed. "Unfortunately, financial conditions have changed so much since the end of 1978, the test year on which this decision was based, that we shall have to ask for a further rate increase very soon."

In September the Commission was holding hearings again. This time the requested increase was 13.9 percent. Smith testified that 40 percent of the increase was to get \$205 million of the investment in Roxboro 4 into rate base. The unit began commercial operation on September 15. The other major factor was inflation.

Smith said the combined effect of the earlier increase and the one under

consideration would mean that between July 1977 and late 1980 CP&L rates would have increased about 22 percent while the consumer price index had risen 36 percent. The Commission allowed a 10.78 percent increase, effective December 11. In dollars, the two decisions in North Carolina awarded CP&L \$32.1 million less than it had sought in the jurisdiction where it had 63 percent of its sales. Of the Company's sales, 15 percent were in the jurisdiction of the S. C. Public Service Commission and 22 percent were under the Federal Energy Regulatory Commission.

Roxboro 3 and 4, both rated at 720,000 kilowatts, had dual boilers. This feature allowed the units to operate at partial capacity when only one of the boilers was available for service. With 2,477 megawatts of capacity, Roxboro easily was the largest generating station on the system. Its units 1 and 2, completed in 1966 and 1968 respectively, represented an investment of \$84 per kilowatt. Unit 3 was finished in 1973 at a cost of \$166 per kilowatt while the investment in unit 4 when it was finished in 1980 was \$314 per kilowatt. Roxboro presented a clear picture of how construction expenses had risen.

### **Shearon Harris Memorialized**

In March, North Carolina Citizens for Business and Industry honored Harris with its citation for distinguished citizenship. A former president of the organization, he was unable to attend the presentation. Mrs. Harris accepted in his behalf. In late August he died. A memorial service was held at Raleigh's Hayes Barton Baptist church where he had been chairman of the deacons and a Sunday School teacher. He had been a prominent Baptist layman, a trustee of Wake Forest University and chairman of the trustees of Meredith College. He chaired one of Meredith's major funding campaigns.

Friends recalled a commencement address at Wake Forest University where he urged graduates "to exercise your trusteeship of citizenship in order to protect your basic rights to life, liberty and property -- for yourselves and those who come after you...."

In a resolution of appreciation for his leadership of CP&L, directors of the Company noted that he championed the cause of individual responsibility and freedom. Further, they said as "chairman of the Chamber of Commerce of the United States he campaigned vigorously for fiscal responsibility in government as a first step toward controlling inflation as the greatest present threat to the national welfare."

North Carolina Magazine commented: "Perhaps the qualities of Shearon Harris which most endeared him to so many people, both prominent and obscure, were those of simple decency and moral steadfastness. He was essentially an honorable man. He was honorable not so much for the prestigious offices he held or for his national stature as for the fact that he carried and lived a code of principles from which he never deviated. One could not imagine the man practicing hypocrisy, intellectual dishonesty or deceit."

The memorial service was attended by heads of major national corporations and

organizations. Governor James B. Hunt, Jr. and Senator Jesse Helms entered together and sang from the same hymnal. Later, they would face one another in a bitter campaign for the U. S. senatorial seat.

On Harris' recommendation, CP&L directors in May had given Smith the additional responsibilities of chairman, making him president, chairman and chief executive officer.

### **Menscer Goes to Public Service Indiana as President**

Also in May, Darrell Menscer resigned his position as senior vice president for power supply to become president and chief operating officer of Public Service Indiana, a utility which was struggling to complete its first nuclear plant and license it for operation. Menscer's varied experience at CP&L fitted him well for the task. Smith termed Menscer's election a compliment to him personally and to CP&L. Subsequently, confronted with many of the same obstacles which faced CP&L, Public Service gave up on the nuclear option and discontinued construction of its Marble Hill facility.

Menscer's departure opened the door for the promotion of Lynn W. Eury to group executive for power supply. He had been vice president for system planning and coordination, a position in which he was replaced by Bobby L. Montague who had been director of project analysis at the Harris plant. The simultaneous announcement of Menscer's departure and the promotions of Eury and Montague reflected the effectiveness of planning by senior management to identify and train potential successors for management positions. The practice had been initiated in the early 1970s.

Later in the year, Eury and James M. Davis, Jr., group executive for fuel and materials management, were elected senior vice presidents. Seven others were elected vice presidents: Charles D. Barham, Jr., senior counsel and head of the legal department; Paul S. Bradshaw, controller and chief accounting officer; Norris L. Edge, manager of the rates and service practices department; Jack B. McGirt, head of the fossil operations department since its formation in 1979; R. A. Watson, manager of the fuel department; E. Charles Dyson, western division general manager; and Russell H. Lee, eastern division general manager.

An April sale of \$125 million of first mortgage bonds was the most expensive the Company had ever sold. The seven-year bonds carried an interest rate of 14.125 percent.

### **Hover System Used to Move Dome of Harris Plant**

Still striving to make up time in construction of the Harris plant, CP&L and its contractors used an innovative technique to fabricate and place the 320-ton steel dome for the containment. The dome was fabricated on the ground, moved 715 feet on a cushion of air called a

hover system, and finally lifted into place with a giant crane. It was the first time the hover system, frequently used in the construction of oil storage tanks, had been used to move the dome of a nuclear power plant. The press was invited to watch the event, scheduled to occur shortly after dawn on a summer day. The steel fabrication contractor, Chicago Bridge and Iron, had draped a huge banner across the dome emblazoned with the letters "CBI".

After several tries, the dome clearly was not going to lift until a balance problem was corrected. But as reporters watched the dome rise slightly only to settle back to the ground, one asked loudly what "CBI" stood for. Another reporter fired back, "Can't budge an inch."

The need to reduce capital expenditures was one factor in a decision at mid-year to delay the first Harris unit until 1985 and Mayo 1 to 1983. With other changes in the schedule, the move trimmed \$300 million from the 1980-82 construction budget. The new forecast indicated growth in peak would be only four percent over the next 10 years. Clearly, the practice in forecasting growth was to be as conservative as one reasonably could be. Economic conditions, customer attitudes and regulatory restraints made it unattractive for the Company to undertake any construction that was not absolutely essential.

In June, the Company launched a pilot energy management project in the Raleigh area. Its goal was to get 15,000 customers to participate in a water heater control program. Customers were offered a discount of \$12 per year to allow the Company to use radio-activated controls to defer operation of the water heaters to off-peak periods when more economical generating units would provide the energy. Later, the discount was increased to \$24 annually.

On a cold winter Saturday, a group of Raleigh area employees met at the Harris plant site to cut wood for delivery to an agency which would distribute it to less fortunate families. It was the beginning of a volunteer activity which quickly spread to other areas, and grew to yield as much as 600 cords annually. All of the wood was cut from Company lands.

The NRC levied an \$89,000 fine for improper handling of radioactively contaminated materials at the Brunswick plant. Some items such as discarded cleaning rags and clothing from the plant, described as low level waste, had been discovered in the Brunswick landfill. While they represented no threat to public health and safety, the radioactivity should not have gone undetected as the waste left the plant premises. Low level waste should have been packaged and sent to a licensed facility for burial. By levying larger civil penalties, it was said the agency sought to get the attention of top management. Unfortunately, the fines also undermined public confidence. The fine was just one indicator of the problems which would plague the Brunswick plant.

### **1981: Power Agency Buys Interest in Generating Plants**

For those who had lived through the years of fierce competition with government

power, the idea of selling generating capacity to cities or cooperatives may have sounded like heresy.

But times had changed. A group which called itself North Carolina Municipal Power Agency Number 3, made up of 22 cities which bought power wholesale from CP&L, had been negotiating over a period of nearly three years to acquire an interest in the Company's generating plants. During the negotiations, they were joined by Power Agency Number 2, a group of 14 cities for which Virginia Electric and Power was the supplier.

The sale could be beneficial to both parties. Cities could raise money at less cost than CP&L by issuing tax-free electric revenue bonds. An infusion of capital from the sale of capacity would enable CP&L to avoid some of the costly outside financing required for its construction program, including the issuance of more common stock at below book prices. Owning capacity would enable the cities to obtain their power at lower cost.

When a preliminary agreement was reached, it called for sale of interests ranging from 13 to 18 percent of Brunswick 1 and 2, Roxboro 4, Mayo 1 and 2, and the Harris units. It was estimated the sale would yield about \$700 million from closings in 1982 and 1983, and an additional \$350 million through 1991. For the period 1981-83, it reduced the capital the Company would have had to raise in external markets from \$1.2 billion to \$411 million. The receipts came when capital costs were highest.

CP&L would continue to staff and operate the generating plants, transmit power to the Power Agency's participating members, and provide fuel management services. The Power Agency would have a site representative at each of the plants. Local governing boards of the cities had to approve participation in the sales agreement.

Wilson Morgan was the senior CP&L manager involved in the negotiations. Raymond Talton was chief negotiator for the Company, and he led a team which included Carson Carmichael of energy services, Samantha Flynn of the legal department, Don Weisenborn from system planning, Walter Simpson from treasury, Wayne Lewis and Jerry Kirk from system operations, and Tyler Presson from rates and service practices.

The agreement was signed on July 30. Federal and state regulators gave their approval in November. Thirty-two of the cities chose to participate in what became the North Carolina Eastern Municipal Power Agency. The cities were Apex, Ayden, Belhaven, Benson, Clayton, Edenton, Elizabeth City, Farmville, Fremont, Greenville, Hamilton, Hertford, Hobgood, Hookerton, Kinston, LaGrange, Laurinburg, Louisburg, Lumberton, New Bern, Pikeville, Red Springs, Robersonville, Rocky Mount, Scotland Neck, Selma, Smithfield, Southport, Tarboro, Wake Forest, Washington and Wilson.

Carmichael became manager of joint project services, the position which was CP&L's interface with the Power Agency. He praised Talton's skills and his ability to lead through

countless hard-nosed negotiating sessions.

Smith had said earlier that three factors were vitally important to the Company's financial viability: allowance of CWIP in the rate base, sale of capacity to the Power Agency, and timely rate increases that fully covered the Company's expenses. The first two of these had been achieved.

### **New Conservation and Load Management Program Announced**

While the sale of capacity was being negotiated, the Company's energy management activities picked up speed with announcement of a major new conservation and load management program.

"We are redoubling our efforts to slow the growth in peak demand because of the tremendous cost of new power plants," Smith declared. "Finding ways to make more efficient use of every kilowatt of capacity is to the advantage of us and our customers."

He said the new program would include low-interest customer loans up to \$600 for home insulation, automated control of water heaters and air conditioners, time of use rates, co-generation by industrial customers, and promotion of renewable energy resources.

It was expected that the new programs would combine with those already underway to reduce peak demand by 1,750 megawatts from what it otherwise would be in 1995. By far the bigger block of demand reduction was expected to come from the industrial sector.

The conservation and load management department was established effective March 1, 1982, to commit the resources that were considered essential to conduct an expanded and successful CLM program. John Monroe, Wilmington district manager and formerly administrative assistant to Shearon Harris, was called on to lead the department. He would remember it as one of the more difficult assignments he ever had. "There was cultural resistance, particularly in the field," he recalled. It was a dramatic change for many. Part of the difficulty stemmed from the staffing of a new corporate department without an accompanying increase in field personnel to implement its programs. Nevertheless, through the end of the '80s, progress toward the goal remained on schedule as 1.1 million kilowatts of system load was avoided by energy management.

In May the directors elected Jones vice chairman and Graham and Lilly executive vice presidents. At the same time the customer and operating services group headed by Ridout was assigned to Graham who already had responsibility for the communications, legal, regulatory and public affairs functions. Grouping these functions was expected to produce a more cohesive effort to gain customer understanding and public support which the Company sorely needed. Two new vice presidents were elected: Bobby L. Montague for system planning and coordination, and E. S. Noell for transmission and communication planning, engineering and coordination.

Later, Mendall Long was elected vice president for special projects. For 35 years he had been a key player in expanding the generating system. Jones had great respect for his abilities, and assigned him to consult with fossil and nuclear plant managements to help improve plant performance.

### **Smith Calls for National Waste Management Policy**

In Washington, Smith focused on the need for federal legislation to establish a consistent and stable policy of nuclear waste management. He was chairman of the American Nuclear Energy Council and of the EEI policy committee on governmental affairs. In testimony before a House committee, he reminded that only the federal government had the ability to assure away-from-reactor jurisdiction. He pointed out that the public had lost confidence in the ability of government to meet its responsibility for waste management. Policy changes and agency reorganizations had come with every change of administration.

"If the federal government fails to act and should the lights go out in the Carolinas, we and the people who we serve will remember that the problem and the failure of its resolution both were caused by actions and inactions of federal government," he warned. But movement on Capitol Hill came slowly and CP&L customers continued to pay for legislative inaction.

Several months later, Smith led a group of industry leaders who met with President Reagan at the White House to discuss nuclear problems. He had been pleased with the President's earlier statement on nuclear power.

The President had called on the NRC to improve the regulatory and licensing process to shorten the time required for planning, licensing and constructing nuclear facilities to only six to eight years as was typical in other countries. In the United States, the process had stretched to 10 to 14 years. The President had said he was asking government agencies to proceed with demonstration of the breeder reactor technology; he was lifting the ban on commercial reprocessing activities; and he was instructing the Secretary of Energy to proceed swiftly to provide for storing and disposing of commercial high-level radioactive waste.

It was late 1982 before Congress passed legislation to establish a comprehensive national program for the storage and disposal of nuclear waste, renewing hope that the nuclear fuel cycle would be closed. In spite of the President's position, there was little other progress toward making nuclear power plants a viable option.

### **Emergency Plans for Nuclear Plants**

Out of the TMI experience had come an NRC requirement that emergency plans be developed for all nuclear plants. For CP&L the plans were joint undertakings with the emergency preparedness functions of state and county governments. The plans had to provide for evacuation of residents within a 10-mile radius of the plant. Effective communication was a major emphasis.

Further, the plans had to be tested periodically and evaluated to assure that they were workable.

Mac Harris who was CP&L's manager of news services recalled that prior to TMI, each plant had an emergency plan, but coordination with local, state and federal officials was not clearly defined. He remembered that within weeks after the TMI accident, North Carolina Governor Jim Hunt arranged to visit a nuclear plant to evaluate the response capabilities of the Company and state and local officials. The Governor chose Brunswick, and he traveled on a state-owned helicopter to be briefed on a mock-accident scenario.

The briefing was held in the small auditorium of the Brunswick plant visitors center. News reporters were present. In preparing for the briefing, one of the Company's participants noticed that no space had been reserved for the Governor and his party. Fearful that the auditorium would fill and there would be no room for state officials, a frantic search was begun to find some type of ribbon or tape to mark off two rows of chairs as a "VIP" area.

The only material found was a yellow plastic marking tape with black symbols. It was used to designate the VIP area. Minutes later, as the Governor and his party were taking their reserved seats, a plant official noted that the tape so conveniently found was the tape used to designate radioactively contaminated areas.

The tape, of course, was clean and new, and no one in the audience knew its significance. But the CP&L news team lost no time removing it as the Governor left the auditorium.

A short time later, a larger exercise was conducted at Brunswick. The first test of the emergency plan for the Robinson plant came in March 1981. Both NRC and the Federal Emergency Management Agency (FEMA) observed and critiqued the emergency drills.

As a consequence of developing and practicing emergency plans to support nuclear plants, local communities found themselves better prepared to respond to other types of emergencies such as major accidents and storms.

### **Brunswick Problems Lead to Independent Audit**

In a summer when power supplies in the region already were tight, the news from Brunswick was bad. Valve failures first reduced the output of Brunswick 2 and then forced it out of service. Brunswick 1 was being returned to service following an outage for major modifications and maintenance when bearings in the turbine-generator were damaged. It was mid-July. The Company appealed to customers to curb usage. Voltage was reduced. Replacement energy was more expensive because it came from burning oil or coal. Consumers were warned that bills would be higher. Predictably, there was a public reaction that spurred regulators and the Public Staff.

The North Carolina Utilities Commission called for an explanation of what was

happening at Brunswick. Graham and Eury responded. Graham acknowledged that Brunswick had not performed as expected since 1978, and that there would be major outages over the next three years for NRC-mandated modifications and for improvements initiated by the Company. Addressing the more immediate problem, Eury said bearings in the turbine generator, a non-nuclear part of Brunswick 1, had been damaged.

Citing the problems at Brunswick, the Commission ordered its second independent management audit of CP&L, specifying that it should focus on plant performance and power production at all of the Company's facilities.

### **Double Digit Inflation for Three Years**

It was an unusual period. For three consecutive years, the rate of inflation had been in double digits, peaking at 13.5 percent in 1980. CP&L was playing a bigger game of catch up. Its prices were based on an historic test period. Even when it got an increase the new price was out of date. Continued rapid inflation necessitated frequent price adjustments.

The Company launched a plan to encourage stock ownership by its customers. Lilly saw this as an opportunity to attract needed capital and to provide an opportunity for more people in the service area to learn about the financial situation of their utility.

In October the North Carolina Utilities Commission held hearings for another general rate case. This time the Company asked for 16.4 percent. It would be the third price increase of the 1980s. Smith testified: "While our rates have increased in the past year, we have never been able to earn consistently the return on stockholder's money which the Commission has found to be fair.... As a result of this continuing under-recovery of the cost of capital and other costs of service, CP&L shareholders have in effect been subsidizing customers for the past several years and have been absorbing a significant share of every cost increase."

Earlier, the director of the Public Staff, Dr. Robert Fischbach, charged the Company with attempting to create a stacked deck by swamping the Commission with requests for higher rates. He declared the Company was "totally insensitive" to its customers.

In December the Commission authorized a 13.09 percent increase, penalizing the Company for poor performance of the Brunswick plant. The return on common equity which it allowed was at the lower end of the reasonable range.

Continuing problems at Brunswick had two adverse side effects. Morale of plant employees suffered. In the customer and operating services group, the continuing volley of complaints from customers caused the frequent exclamation, "If they would just do something at Brunswick..." Fossil plants kept rolling along, turning out a steady flow of kilowatts without fanfare or media attention.

### **Units 3 and 4 of Harris Plant Cancelled**

With its conservation and load management (CLM) program underway, the Company chose to cancel Harris units 3 and 4. Smith warned that while there would be costs associated with implementing the CLM program, they would be only a small fraction of the cost of completing the two generating units. He said regulatory commissions would be requested to allow CP&L to amortize the \$187 million investment in the cancelled units over a 10-year period and collect the money through rates.

The rationale for asking customers to pay for expenses incurred for the cancelled units was explained by Smith. "When the decision was reached to build these units all conditions indicated, and the regulatory commissions concurred, that the construction of the four Harris units was in the public interest and should be pursued. Subsequent events, especially inflation and slower growth, have changed matters so that it is more in the customers' interest to cancel two of the units. Since the investment was made for the benefit of customers, and the decision to cancel has been made for the benefit of customers, collecting the cost of this investment through rates is fair and reasonable," he said.

The Public Staff discouraged cancellation of Harris units 3 and 4, contending that they would be required to support economic growth in the state.

The Company was not alone in canceling nuclear plants. Similar announcements were heard all over the nation. Nearby, Duke Power cancelled five nuclear units during 1982. Nationally, 87 nuclear plant cancellations occurred between 1975 and March 1984.

For the first time, surveys indicated that more CP&L residential customers were using electric heating than were using oil heat. But energy sales for the year rose less than one percent, underscoring the conservation being practiced by customers.

This was a year reminiscent of 1975. Angry consumers again demanded that something be done about high utility bills. The media reported salary increases for top CP&L officers that were viewed by the average person on the street as unreasonable. No matter that officers had assumed new responsibilities or that salaries were low as compared to those paid executives of other major Carolina corporations. No matter that elimination of the salaries of top executives would have no noticeable impact on consumer bills. It was an emotional issue fanned by the media. Politicians and the public debated it.

Almost as if it had made a conscious decision to try to bring pressure on the State Utilities Commission, the Raleigh News and Observer headlined a front page story, "To Wall Street, N. C. panel is utilities' buddy". Reporter Doug McInnis began his story, "Merrill Lynch is bullish on the N. C. Utilities Commission. The nation's largest brokerage house ranks the commission second in the nation in how well it treats utilities seeking rate increases.

"North Carolina generally ranks among the top 10 states in looking out for the needs of utilities and their investors," he wrote. "The Commission gives utilities a higher percentage of the amounts they request than commissions nationally. North Carolina utilities get higher rates of return on their stockholders' investment than the average return for utilities nationally."

McInnis noted that the state's laws allowed inclusion of Construction Work in Progress (CWIP) in rate base, and provided for expedited hearings so that higher rates became effective more quickly than in other states. The article added fuel to already growing fires of discontent.

In North Carolina the General Assembly, responding to consumer unrest, passed a law allowing the Commission to reject all or part of a fuel cost request if it determined higher fuel expenses were the result of shutdowns caused by poor operation or mismanagement. Similarly, legislation was enacted which left to the discretion of the Commission the amount of CWIP to allow in rate base.

The Company requested rates which would have increased revenues in the North Carolina retail jurisdiction by \$173.7 million. When the Commission issued its decision in September, it allowed only \$8.8 million, or less than one percent increase. One response was at the New York Stock Exchange where on the next market day CP&L was the most actively traded common stock and lost six percent of its value.

Night hearings had been held by the Commission in Asheville, Wilmington, Goldsboro and Raleigh. In all of the locations, consumers lined up to describe their personal hardships. Some managers spoke of branch manufacturing operations being placed at a disadvantage and jobs lost because energy prices from CP&L were higher than at locations served by other utilities. The largest crowd was in Asheville where the hearing attracted so many it had to be moved to a high school auditorium.

In its order the Commission criticized management in the nuclear area, penalizing the Company by allowing a lower than normal rate of return. It refused to increase the amount of CWIP in rate base to recognize additional construction expenditures. It specified that ratepayers should pay officer salaries at 1980 levels only and that 50 percent of the salaries of four officers who constituted the executive committee should be paid by shareholders.

Graham expressed disappointment at the Commission action. "Electricity rates are not based on production costs at one plant, but on the operation of the entire system," he explained. "Even with increased downtime at our nuclear facilities, our total operating and maintenance expenses last year were the second lowest in the group of eight major Southeastern utilities. More importantly, look at what CP&L customers pay for electricity in comparison with rates up and down the east coast from Boston to Miami. CP&L's rates are low in comparison."

In South Carolina the Public Service Commission allowed \$25 million of a requested

\$40.3 million.

Duff and Phelps, a Chicago-based investment research company which rated corporate securities, downgraded the Company's rating from 7 to 5, roughly equivalent to going from A-plus to A-minus.

### **Ratemaking Had Long Term Implications**

Months before the rate decision, Smith had spoken to a national meeting of engineers in Chicago. He told them "regulators must begin viewing the long term implications of current ratemaking trends. That regulators take a short-term view is due to the weight of public opinion pressed against them.... We must seek to build a stronger foundation of public understanding about why rates must increase and why an adequate supply of electricity is so essential to economic growth, productivity and national security.... CP&L and the industry in general is on the horns of a dilemma trying both to preserve their financial health and to assure future power supplies. It seems more and more like buying time until the final reckoning. Avoiding capacity expansion at the expense of an adequate future power supply masks the underlying problems of a regulatory system out of tune with the times."

Speaking to employees, Smith said "electricity consumers and utility shareholders should not be pitted against each other by governmental agencies. CP&L and the public we have served for so many years share a fundamental common interest in our being a financially sound, efficiently operated utility. Rather than drawing battle lines, we need mutual support."

After the decision which Smith described as devastating, he and Graham embarked on a personal campaign to talk individually with state officials and political leaders to help them understand better the consequence of denying CP&L revenues it sorely needed. Force the Company to forego construction and it was the customer who ultimately faced the prospect of energy shortages. Increase the Company's cost for capital by denying a fair return, and the higher expense inevitably would fall on customers. The Company was in a goldfish bowl. Treatment of it in response to public and political pressure had far-reaching implications.

The Goldsboro News Argus editorialized that something significant and sobering, but largely unseen, had happened after the State Utilities Commission issued its rate decision. Shareholders sold almost a million shares and the bond rating was downgraded.

"These were developments of little or no immediate concern to the average customer who was accepting the Commission ruling with mixed emotions: deploring another increase in rates but rejoicing that the jump will not be as high as requested by the power company. Utility companies do not win any popularity contests these days, the victims of necessary rate hikes and some public relations bobbles. They have an important story to tell. But they speak to a hostile audience that has difficulty seeing beyond the increasing magnitude of its monthly utility bill....

"Today, CP&L is forced to plan on meeting future demands not with more capacity but by consumer conservation. This places the economic well-being and certainly the future industrial development of the area served in a precarious position that consumers should not accept, much less demand, without full recognition of the potential consequences."

Rather than appealing the rate decision to the courts, the Company elected to file a new case. Graham said the move did not concede any of the issues decided against the Company. Instead, it recognized the time required for the appeal process would be long, and filing a new case was the more expeditious way to gain needed revenue.

### **Brunswick Improvement Program**

The Brunswick plant was a nagging problem. An outage for refueling and maintenance of unit 2 stretched deep into summer, weeks longer than expected. Unit 1 had valve problems which took it out of service for several weeks, again leaving the Company without Brunswick's nuclear generation during months of high consumer usage. Customers were paying a high fuel charge attributable in large part to unavailability of nuclear capacity during the preceding summer. The Commission had authorized recovery of the fuel expense over a period of 12 months. Now it appeared history was repeating itself. Management capability became a bigger issue.

Inability to keep outages on schedule led to a Company decision not to announce anticipated dates for returning nuclear units to service. Repeated delays, no matter how legitimate, were difficult to explain and drained the Company's credibility.

Charles Dietz had been employed in 1981 to follow Fred Tollison as manager at Brunswick. Before coming to CP&L he was manager of a General Electric Company nuclear operations training center and had 17 years of experience in nuclear plant work, including start-up and testing at Brunswick. Senior management decided to locate a corporate officer at the site and give him authority to make decisions which previously had been made in Raleigh. Patrick W. Howe, vice president of technical services, was chosen for the assignment. He answered to Utley. Reporting to him were Dietz and Tom Wyllie, site manager of engineering and construction. It was a move which pleased the NRC.

Utley said Howe would have total responsibility for plant operations, as well as all site engineering and construction. The move would shorten decision time and increase flexibility, providing the organizational responsiveness required to take quick and decisive steps where necessary.

There was agreement that some of the problems at Brunswick could be traced to its design and construction, to the materials used, and to an all-out push to get it into operation on schedule. Some unfinished tasks were given low priority after the plant started, creating a backlog of work. Much of the difficulty was attributed to the salt water environment which caused extensive corrosion even before the plant began operating. Its impact had been underestimated. The

sophistication of management required for a nuclear facility and the level of staffing proved to be greater than had been anticipated. This was true throughout the industry. Many of the changes for which long outages were required resulted from new regulations imposed by the NRC.

So Howe and Utley launched the Brunswick improvement program (BIP). It addressed the key points of an action order from NRC. It had seven major objectives and 119 individual tasks in 32 different areas. One aspect was reviewing and rewriting 3,000 procedures. Joe Holder was assigned to manage the program. Howe said BIP gave a tangible focus for work activity, provided a plan for the NRC to look at and check the plant against, and became a useful tool for reporting progress to employees.

He also worked to improve communications. He undertook a personal campaign to listen to employees, to visit different areas of the plant "just to talk", and to become acquainted with plant workers. He concentrated on understanding his managers well enough to assure they were positioned properly.

It was the end of 1983 before the Brunswick improvement program was completed. While other major modifications remained to be done during the next two years, the plant had been brought into compliance with NRC standards. Howe considered the experience noteworthy for the openness and candor it produced in dealing with regulators. By 1988, when Howe retired and was succeeded by Russell Starkey, he said the Company had spent for modification and improvements dollars equal to about 93 percent of the original cost of constructing Brunswick.

### **Cresap Audit Was Good News**

For eight months during 1982 a team of auditors from Cresap, McCormick and Paget performed the Commission-ordered audit of CP&L's operations. Its report came in December. For a company and a management which had been under attack, it was a refreshing change. The audit firm had been selected because of its strong reputation in assessing construction management, nuclear and fossil plant operations and maintenance, and complex management systems.

For one time, it was good to be in the news. The Raleigh News and Observer headlined its story, "Audit praises CP&L management." The Raleigh Times said editorially, "The audit itself, with its overall praise for CP&L's management, goes far to remove those blemishes.... We congratulate CP&L on its good and promising report card." The Fayetteville Times commented, "After a long dry spell, some good news about the electricity business! CP&L ... is on the whole very well run."

The Cresap team found some opportunities for improvement. But its bottom line was that CP&L was well-managed and operated efficiently. "In many respects CP&L is one of the best-managed utilities that we have audited in the past several years," the report said.

It cited 53 specific strengths, including as more notable ones that the Company had

well-organized, participative management with a commitment to excellence; good operation of fossil plants and the Robinson nuclear unit which had produced significant cost benefits for ratepayers; commendable cost and schedule performance in construction of Mayo 1; a sound management approach at the Harris nuclear project; a consistently superior safety record; a solid and innovative finance and accounting organization; and extensive and innovative formal management systems that compared very favorably with those of other utilities.

The report identified two areas as offering greater opportunity for improvement. The first was operation of the Brunswick plant. The second was enhanced public understanding of the Company's operations, an opportunity which was suggested to the audit team during a preliminary report to the State Utilities Commission. It reflected the Commission's sensitivity to political and public reaction during the rate hearings.

About Brunswick the auditors observed that the situation was complex and in their opinion traced back several years. The report said Brunswick "required, as all nuclear plants do, design modifications or enhancements soon after commercial operation. Superimposed upon this workload was a flood of design changes generated by TMI and mandated by the NRC." While commending the Company's plan for improving performance at Brunswick, the report stressed the importance of recognizing "that while the programs and structure set forth by CP&L are sound, the improvement process cannot be compressed in time and is likely to take two to three years to complete."

One of the recommendations in the audit was that an outside director with nuclear expertise be added to the Company's board. This was achieved in December 1984 with the election of Gordon C. Hurlbert, former president of Westinghouse Power Systems which manufactured the nuclear steam supply systems for Robinson 2 and the Harris plant.

Jim Davis and Thomas Dwyer, manager of performance review and audit services, coordinated the Company's interface with the auditors who conducted over 500 interviews. Auditors also examined over 1,500 documents, many of them from external sources such as the NRC, the Utilities Commission, intervenors and the media.

No one relished more the upturn in the tone of the news which the Cresap report brought than Mac Harris, director of CP&L's news services. For several years he appeared to survive on the telephone, either seeking information from within the Company or responding to media inquiries -- days, nights and weekends. Media calls to his home were frequent and lengthy. A former college professor, he approached his job as being more than just to give bare facts. He sought to assure that reporters understood the information and knew how to put it in perspective.

### **Customer Questions, Comments Invited**

To give customers opportunity to ask questions, offer suggestions and discuss issues affecting their electric service, public meetings were held in Company offices across the system,

some of them attended by Graham and Smith. The numbers of customers who came was small by any measure. It was a procedure whose greatest value was the perception that the door was open for consumer input.

The Wilmington Star-News commented editorially following one of the meetings. "You have to wonder about people who squeal like stuck hogs every time Carolina Power and Light Company announces a rate increase and then, when CP&L bares its breast and says, 'Have at me,' are nowhere to be found.... When CP&L offers consumers a good chance to work off their hostilities and aggressions right out there in public, as the company does frequently, hardly a word is heard, discouraging or otherwise.... If any deep meaning can be drawn from this particular public apathy and inertia, it is probably that a meeting with CP&L executives is not an appropriate setting for a howl of pain. You do that when the light bill comes."

What was happening in the larger energy picture was summarized in a report from the Oak Ridge Institute for Energy Analysis. Since 1960 industry had reduced total energy usage per unit of output by 41 percent, but the electricity used per unit of output had risen 10 percent. Electricity had been substituted for other forms of energy.

### **Ott Jones, Jim Ridout Retire**

The year was marked by the retirements of Ott Jones, vice chairman, and Jim Ridout, senior vice president for the customer and operating services group. Utley succeeded Jones as chief operating officer. Russell H. Lee who had been vice president for the eastern division replaced Ridout and was elevated to senior vice president. Charles Barham was elected senior vice president for the legal and regulatory group. Richard E. Jones followed Barham as head of the legal department and was elected vice president.

Utley, a native of Moncure, N.C., had literally worked his way up from the bottom at CP&L. His career began as an electrician in a steam generating plant. Subsequently, he was manager of the Weatherspoon, Lee and Roxboro plants before coming into the general office with responsibility for fossil and hydro generation. He was popular with employees, a man who understood the nuts and bolts of plant operations and who was a gifted manager. Associates saw him as one who set high standards for himself and expected the same from others, an extremely fair man who loved talking to people in the plants and was quick to recognize good performance.

A fellow worker recalled an incident that reflected Utley's incisiveness. When a manager who reported to him fumbled for words in answering a question, Utley gently queried, "If I ask more questions, will I force you to tell me more than you know?" Later, Utley commented that "to a great degree, the success I have enjoyed can be attributed to following the philosophy of always trying to keep around me people who had more potential than perhaps I did."

Barham, a Raleigh native, earned his undergraduate and law degrees from Wake Forest University where he was a member of Phi Beta Kappa and president of the student body. He was with CP&L from 1966 until 1973 when he left to go into private practice. He returned in 1981 as vice president and senior counsel.

Richard Jones came to CP&L in 1975 from the Tennessee Valley Authority. There he had been involved in the beginning of a big nuclear program and with the breeder reactor project, experience which proved valuable at CP&L. Before attending George Washington University Law School where he graduated with highest honors, Jones had been a Presbyterian minister.

Lee joined the Company in 1962 as an agricultural engineer. He was manager at Spruce Pine and district manager in Florence before advancing to manager of the eastern division.

### **1983: MAYO 1 BEGINS OPERATION**

It was the Company's 75th anniversary year. It started on a sad note with notification that the NRC was proposing a \$600,000 civil penalty for non-compliance with NRC requirements at Brunswick. The Company had found and reported to NRC the preceding summer that it had failed to follow some technical specifications which required the establishment of procedures and the conducting of surveillance tests. Of the 500 surveillance tests required, one had been missed. The amount of the penalty reflected the extended period for which the oversight had gone undetected. When the oversight was discovered, the procedures written and the surveillance test conducted, the equipment was found to operate properly. The fine came months later.

News about Brunswick improved when Harold Denton, director of nuclear reactor regulation for the NRC, visited the plant in October. After a tour, he declared "the facility compares favorably with any other plant in the nation." He said his interviews with employees and his overall observations indicated "the plant has turned around." His remarks prompted a headline in the Wilmington Star-News: "Official gives CP&L plant good marks."

### **Fishery Management Programs**

A new environmental system was in operation at Brunswick. In addition to a diversion structure which kept adult fish from entering the canal leading to the cooling system, the Company had installed fine mesh screens to prevent the intake pumps from pulling smaller marine life into the plant. Larval fish and shellfish washed from the screens into a big trough which eventually returned them to their natural environment. Company biologists likened the 4,000 foot

trough to a giant waterslide, a "slide to life." It emptied into an eight acre pond. More importantly, it demonstrated the length to which the Company went to assure the plant would have minimum impact on the area.

Biologists also were busy at the Robinson plant. During fish sampling in 1980, they had discovered some bluegill in the lake were deformed around the mouth and gills. Studies revealed that because of natural acidity in Lake Robinson, copper and zinc was being leached into the lake as cooling water circulated through the plant's condenser tubes. To correct the problem, the copper and zinc condenser tubing was replaced with stainless steel tubing in 1981. Subsequent samplings by biologists showed the tubing change eliminated the accumulation of copper in the lake and corrected the fish problem.

Similar fishery management programs were underway for waters at other Company facilities. They were necessary to comply with National Pollutant Discharge Elimination System (NPDES) permits. Usually, the biologists made quarterly samplings of the fish population at each lake. Anglers applauded when the biologists installed artificial reefs in the Harris lake and added channel catfish and threadfin shad to its native population. When the Mayo reservoir was completed, old truck and auto tires were used to make reefs which provide cover for fish in otherwise open waters.

### **Mayo Plant**

Mayo unit 1, a 720,000 kilowatt coal-burning plant in Person County, began commercial operation in March 1983 and was dedicated officially in June. Governor James B. Hunt, Jr., spoke at the dedication, noting the importance of the plant to the area's growth and prosperity. He said that as he sought to attract high technology industries to the state, he was questioned about educational resources, the type of work force, the business climate, and the availability of electric energy. Because he could give positive answers to the questions, the Governor reported that in the last six years industry had announced \$11.5 billion worth of new and expanded investment in the state -- more than in the preceding 25 years.

Only 10 miles east of the Roxboro plant, the Mayo site was selected to minimize the distance coal had to be hauled from mines in West Virginia and Kentucky. Operating at capacity, the plant burned 8,000 tons daily. Fuel handling equipment allowed unit train deliveries, enabling the plant to take advantage of lower freight rates. The plant's name came from the stream which was impounded to provide water for the cooling towers.

Cost per unit of capacity for constructing Mayo was \$723, about 25 percent below the national average for similar units built during the same period, but well above the investment of \$314 per kilowatt for Roxboro 4 which was completed three years earlier. The initial plant operating staff was 100 persons, only a small fraction of the number required for a nuclear facility of comparable size. Within a few years, the staff had been reduced to 71.

Ned Kirby, plant superintendent, said Mayo had a remarkably smooth start-up and quickly established a pattern of excellent performance. It and the Roxboro plant, located in the same county, combined to supply more than half of the Company's energy requirements in 1984. They also combined to pay Person county almost \$3 million in property taxes in fiscal 1983-84, nearly 52 percent of the county's total.

### **75th Anniversary Celebrated**

More than 300 persons gathered in Raleigh for a November dinner sponsored by General Electric to celebrate the 75th anniversary of CP&L. Dr. William Friday, president of the University of North Carolina, praised the Company for manifesting a high level of corporate character and integrity, and "for its efforts to give us all a better way of life." Cautioning that the state could not turn away from established industries such as textiles, furniture and agriculture, he called for a vigorous program of adaptation of new technology to help supply the 900,000 additional jobs he said North Carolina would need by 2000.

Smith used the occasion to point out that over the last 25 years the number of customers served by CP&L had almost doubled while the peak demand had grown six-fold. Looking ahead, he said the task would be to provide power for a new generation of industry with new technology while continuing to meet the rising demand of existing industries.

### **Unit 2 of Harris Plant Cancelled**

Demand growth was slowing. The forecast was for growth in peak at an annual rate of only 2.6 percent through 1995. Directors decided to cancel Harris unit 2 which was about 4 percent complete and represented an investment of approximately \$315 million. A primary reason for the cancellation was the "substantial increase in costs due to continually changing and restrictive federal regulatory requirements." Construction of Mayo 2 would be accelerated to replace the generation that was to have come from Harris 2. The interest of customers was better served by substituting a coal-fired unit whose completion schedule and final cost were predictable. Even with the cancellation, the construction budget for 1984 was \$888 million.

The Company announced its plans for cooperating with state and local agencies to allow public use of the lands and waters surrounding the Harris plant. As a result, 13,167 acres were committed for public access with 8,715 acres of this being registered with the North Carolina Wildlife Resources Commission as public game lands. Boat ramps were built at two locations to allow access to the lake. The state operated the ramps, and enforced boating, fishing and hunting laws. One tract of 660 acres was leased to Wake county for the development of a park. North Carolina State University was granted use of 1,222 acres for research and teaching purposes. Wildlife refuge areas totaled 2,750 acres, including one area for the red cockaded woodpecker, a bird protected by the Endangered Species Act. In later years, management of the lands and waters at the Harris plant and at other Company facilities brought frequent recognition from state and national conservation and wildlife groups.

## **Project Share Started**

Project Share was launched in 1983 as a vehicle to allow employees and customers to help pay energy bills for low income, elderly and handicapped persons. The Company offered \$150,000 annually on a matching basis which it said would be sent to the division of social services in each of the Carolinas, based on the origin of the employee and customer contributions. Through its first 10 years, Project Share generated \$5.1 million which was distributed to help more than 47,500 families.

The 1983 rate case resulted in an increase of 8.22 percent in North Carolina, a little more than half of the 14.93 percent requested.

## **Rate Protests in South Carolina**

Consumer and political pressures also were felt in South Carolina. The legislature passed a Reorganization Commission bill which provided for continuation of the Public Service Commission and specified that it give decisions in rate cases within six months and five days. Rates no longer would be allowed to go into effect under bond, as had been the practice. Graham recalled that a rate hearing in Sumter had to be moved from the courthouse to a high school gymnasium. It was promoted in advance by a local radio station which broadcast a play-by-play account of the meeting.

South Carolina also became the fourth state to adopt the Southeast Interstate Low-Level Waste Compact. Low level radioactive waste from the eight states in the compact was to be shipped to Barnwell until 1992 when one of the other states was expected to host a waste facility to serve the region. Subsequently, North Carolina was selected to be the next host state. But public resistance delayed the selection of a site, and 1992 arrived with the location still unsure. South Carolina agreed to continue operation of the Barnwell facility until 1996.

## **Organizational Changes Announced**

In a further move to consolidate responsibility, fix accountability and expedite decisions, Utley announced major organizational changes. He changed McDuffie's title to senior vice president - nuclear generation with the following departments and managers reporting to him: Harris nuclear project, R. A. Watson; Robinson nuclear project, Guy Beatty; nuclear engineering and licensing, A. B. Cutter; nuclear plant construction, Sheldon Smith; engineering and construction support services, W. V. Coley; and the nuclear staff support section, J. L. Harness.

Eury became senior vice president for fossil generation and power transmission. Departments reporting to him were fossil generation, J. B. McGirt; transmission, E. S. Noell; fossil

engineering and construction, L. B. Wilson; and system operations, J. W. Kirk; plus the maintenance support section headed by C. G. Letchworth and the administrative section managed by R. M. Coats; and Mendall H. Long, manager of special projects.

Davis assumed the title of senior vice president - operations support. Departments reporting to him were fuel, W. J. Hurford; operations training and technical services, B. J. Furr; materials management, W. B. Kincaid; and the contract services section, S. F. Stidham.

### **1984: An Excellent Year in Many Ways**

Energy, the foremost concern of Americans during the mid-70s, no longer was a bother. Cambridge Reports, a national opinion-sampling firm, found only two percent of the public believed energy or environment to be the most important issues facing the country. Only one percent named nuclear power. The major concerns were foreign affairs (48%) and unemployment (32%).

Earnings improved, economic activity picked up, and major modifications at the Robinson and Brunswick plants were completed, leading Smith to describe 1984 as "in many ways, an excellent year for our Company."

With delays in licensing, the cancellation of some nuclear plants and conversion of others, NBC-TV chose to make nuclear power a topic for its Today Show. Smith was invited to participate in a brief debate with Charles Komanoff, energy economist and nuclear critic who argued that the public should not have to pay for the investments in cancelled nuclear power plants. The moderator reviewed recent nuclear setbacks, most of them during January, leading Smith to point out that it would have been a real "black January" without the nation's 80 operating nuclear power plants.

The Company removed its older nuclear unit, Robinson 2, from service in late January to inspect corroded steam generator tubes. The inspection revealed a need to replace the steam generators. While the cost of repairs was more than the original expense to build the plant, studies showed that replacement would save the Company and its customers \$2.2 billion between 1984 and 1998. The alternative to repairing it was to build an entirely new plant. In its first 12 years of operation, Robinson 2 had saved \$500 million with its lower fuel cost.

In 1981 the NRC had identified plants which had potential problems from pressurized thermal shock (PTS), a condition which results when cold water is pumped into a hot,

pressurized reactor vessel to produce a rapid cool-down during an accident. Robinson was on the list of plants which the NRC contended had "embrittled" reactor vessels. It was projected to reach the NRC's minimum strength level for reactor vessels by 1993. Joe Sheppard, principal engineer in nuclear licensing, headed a team which by 1984 came up with a new fuel assembly design that effectively shielded portions of the vessel most vulnerable to embrittlement. Called a "Partial Length Shielded Assembly," the design reduced the rate of embrittlement to less than 10 percent of what it had been prior to 1982. The new fuel design was expected to correct the PTS problem through 2007, the year when the plant's operating license would expire.

### **Banner Year for Coal-fired Plants**

Loss of Robinson 2 for the remainder of the year combined with the scheduled modifications on Brunswick 2 provided opportunity for a banner year for the Company's coal-fired plants. They operated at an equivalent availability of 86.2 percent, well above the industry norm, and burned 11 million tons of coal while supplying 79 percent of the generation for the system. Out of this experience came the slogan at Roxboro: "We carry the load." Roxboro employees scheduled an open house to show off the plant, which in the words of Manager Clint Wallace, "burned 18,000 tons of coal a day" and provided "almost half the electricity" CP&L was producing from coal. Staffing at Roxboro subsequently dropped to 237.

McGirt, manager of fossil operations, saw Roxboro as reflecting the pride felt throughout the department. As plants became bigger, more training of personnel had been necessary. One result was that people took more pride in plant performance. They looked for opportunities to reduce steam leaks around valves. They learned to fine tune equipment to pulverize coal, and to optimize the mixture of air and coal in the boilers. They maintained equipment better. These kinds of improvements combined to give additional output of 600 megawatts, the equivalent of a major new plant. It was conservation of a different kind.

### **New Training Center for Brunswick Plant**

There was upbeat news from Brunswick. Unit 1 had a capacity factor of 72.5 percent for the year. A new training center was completed. It included an \$8 million simulator which was an exact replica of the plant's control room. Richard De Young, director of the NRC office of inspection and enforcement, spoke at the dedication. He cited the new facility as symbolic of management's commitment to excellence in training and to the dividends which can accrue from such a commitment. And he referred to the improvement program, saying it had made a decided difference in the performance of the Brunswick plant and the Company.

Another indication of the Company's focus on high standards for its nuclear operations came when the Institute of Nuclear Power Operations accredited the reactor operator training program for the Robinson plant. INPO had started its accreditation program in 1983. Timely accreditation of the training programs at Brunswick and the Harris plant followed.

Hearings on the Company's application for an operating license for the Harris plant were underway with the Conservation Council of North Carolina, the Chapel Hill Anti-Nuclear Group Effort, the Kudzu Alliance and Wells Eddleman intervening. Eddleman who lived in Durham was a persistent critic of nuclear power and CP&L. He appeared at shareholder meetings and hearings before the State Utilities Commission as well as in the NRC proceedings. Four parts of the five-part hearing before the Atomic Safety and Licensing Board were finished by year end. Some of the sessions were lively. A witness for the Company likened opponents to "medieval monks" while one critic suggested the plant could send "devils" into human lungs.

1984 brought another rate case, this one requesting 12.6 percent in North Carolina as the Company sought to get its CWIP into rate base. The Commission allowed 5.35 percent. Increases approved in the three regulatory jurisdictions added almost \$100 million to annual revenues.

### **Common Sense Energy Practices Applied to Schools**

In Latta, S. C., Customer Service Representative Ernie Long called in David Whitesides to put his common sense approach to work at Carmichael elementary school, an energy inefficient building erected decades earlier. Whitesides, senior energy services engineer from Florence, proposed covering four of the six large windows in each classroom with insulating panels, adding insulation and installing a heat pump for each room. Superintendent Quincy Smith accepted the proposal, retiring a 27-year-old central heating system. His investment was \$54,000. The first year the school's energy bill was \$5,466 less than it had been the year before for heating and electricity. Air conditioning was a bonus.

More importantly to Quincy Smith, "there's a better atmosphere for learning, and that's had a big psychological impact... Our first concern has to be what's best for the children. Hot weather used to be an excuse for not learning. Now there's no excuse."

Two other school buildings in the Latta district were modified in the same way, leading to a 1984 award to the district for wise and efficient use of energy. Latta became a model, an experience which was shared with other school administrators. Whitesides called it one of the best things he had seen. "Look at who you make happy: students, teachers, principals, school board members, parents."

Four years later, Whitesides accepted for the Company the South Carolina Energy Achievement award which was presented to CP&L by Governor Carroll Campbell. The award was for energy conservation projects with 40 Pee Dee area schools which reduced annual operating expenses by \$200,000.

Participation in CP&L appliance control programs was gaining steadily with more than 30,000 customers allowing air conditioners and water heaters to be controlled remotely. There were almost 59,000 Common Sense homes and apartments.

## **Tornado and Hurricane Damage**

Weather twice brought damage and opportunity to the system. A spring tornado cut a path from Hartsville to Kinston, leaving 65,000 customers without electrical service and causing \$3 million of damage to Company facilities. Hurricane Diana struck Wilmington and the surrounding area in September, knocking out power to 45,000 customers and doing \$1.5 million of damage to CP&L facilities. For those who experienced the storms and shared in the clean up, there were memories that would never be forgotten. Charles Hoffman, Maxton manager at that time, spoke of having to clear fallen trees from streets in order to reach lines that required repair. Twenty-five volunteers from the Weatherspoon plant, equipped with chain saws, spent two Saturdays clearing fallen timber for elderly tornado victims. One beneficiary of their efforts wrote Plant Manager C. V. Bailes: "It is men like them that make this a better world to live in."

Weather wasn't the only thing causing power outages. Media reports told of a "power-full snake" that zapped the City of New Bern, knocking out service to 5,000 customers, by crawling into an automatic circuit breaker in a substation. The Fuquay-Varina Independent said a "creepy night visitor" cut power to 4,000 by crawling into a substation. The midnight marauder was identified as a chicken snake.

The Company launched an annual merit scholarship program for the children of employees, offering 10 college scholarships of \$1,000 per year for four years. The first recipients entered college in the fall of 1984.

## **1985: Total Quality Introduced**

A visit to the American Productivity Center in 1981 had sparked Smith's interest in total quality. He saw how it was being applied by manufacturing industries. Over the next three years he continued his investigation, while pondering how and when to introduce the concept at CP&L. He viewed successful leadership as coming not by authority or command but out of the effort, skill and ability to work with people. And he saw more competitive pressures ahead.

The first electric utility in this country to commit to total quality was Florida Power

and Light Company. Smith arranged for a team from CP&L to visit Florida and learn what FP&L was doing, how they were doing it, and the results they were achieving. The CP&L team included John Monroe, representing the customer and operating services group; C. V. Bailes, representing fossil operations; and Richard Morgan, representing nuclear operations. They spent several weeks in Florida, being joined at times by other CP&L personnel. Their reports were positive.

Senior management then did an analysis, trying to answer such questions as what is CP&L like, what are its strengths, what are its weaknesses, what are its challenges, and could total quality produce more effective working relationships. The concept was endorsed. To underscore the commitment, a new department was established to bring total quality (TQ) into CP&L. Monroe was designated to head the department which had only four other professionals: Roger L. Allen, Jr., manager of quality planning; Larry E. Boyer, manager of quality performance; Martha C. Leak, manager of team development and training; and A. Wade Pridgen, manager of quality support. Clearly, the intent was to equip and enable managers to implement TQ practices in the regular work routine. Once TQ was underway, the department's functions became a part of the employee relations department.

From the outset, Smith's vision was to learn as much as possible from the experience of other firms and from consultants, and then develop a program tailored to CP&L. Over an extended period, he met regularly on Saturday mornings with Monroe and Wilson Morgan, the senior manager to whom Monroe reported. They reviewed findings, assessed progress and charted direction. Whether it was recognized at the time, they in fact were shaping a formal effort that would change dramatically the culture of CP&L. Smith later said the decision to commit to TQ at CP&L was as important and far-reaching as any he made as chief executive.

Properly understood and implemented, quality should not be just a method of change, Smith believed. It should be an inspiration to excel.

Monroe spent three weeks in Japan, traveling with a group of 20 from FP&L. Among the businesses he visited were Kansai Electric and Toyoto. Ironically, while the concept of total quality had been originated in this country following World War II, it had been marketed to the Japanese because there were no buyers here. In this country, Monroe visited IBM and other companies which more recently had implemented total quality. He said CP&L decided to focus on changing management styles and culture, depending heavily on classroom training.

### **Characteristics of Total Quality Companies**

Smith said CP&L found that total quality companies had these common characteristics:

- \* They consistently produced higher quality products and services for their customers at lower costs than their competitors.

- \* They tended to provide greater long-term security and opportunities for growth and development for their employees.

- \* They were proactive companies. When the business environment changed, they changed.

- \* They made the tough decisions, but based those decisions on facts and data, not opinions.

- \* They planned well and took the time to understand an issue thoroughly before acting.

There had been earlier use of quality circles in CP&L. R. B. Richey, then manager of materials management, had formed a team to solve a document routing problem. Bailes established reliability teams at the Weatherspoon plant which used a similar problem-solving process. The Mayo and Roxboro plants had involved workers successfully in team efforts to improve facility operation.

The senior management committee functioned as the quality council. Smith established a TQ steering committee chaired by Monroe to help develop plans and activities. It included Bailes, manager of the Roxboro plant; Richard Morgan, general manager of the Robinson plant; Cecil Goodnight, manager of employee relations; Robert Lively, manager of the eastern division; and Albert Morris, corporate communications.

Education and training were the first step. "Making Things Better" was introduced as a structured problem-solving process. "Managing Relationships at Work" was a course to improve management practices. They were offered for employees, starting with senior managers and filtering through the organization.

In the 1985 annual report, Smith told shareholders that "total quality will be a dynamic, changing activity. Its goal is continuous improvement in everything we do. So in the sense of being finished, it never will be. However, all the basic components will be in place and fully implemented ... by the end of 1987."

The first five-year plan for total quality had four basic elements: 1) satisfying the needs and expectations of customers (internal and external) and employees, 2) making the most effective use of Company resources to meet key corporate objectives, 3) achieving breakthroughs to new, higher levels of performance in areas critical to the success of the Company, and 4) continually improving all operations.

Citing competitive pressures, Smith told employees that "if we are going to succeed with the team we have today, it's because we will be able to find new ways for everybody to contribute to the maximum extent possible to accomplish our goals."

He described total quality performance as providing to the customer, the regulator, the public, or to the "person next to you at the Company" that product or service that's exactly and precisely "fit for use." Others used the phrase "doing the right thing right the first time."

### **Corporate Mission Statement Expanded**

To emphasize the commitment to total quality, the corporate mission statement was expanded by adding a sentence:

"It is the mission of Carolina Power and Light Company to provide the best service to present and future customers at the lowest rates consistent with fair compensation to employees, a fair return to those who have invested in the Company, safety for employees and the public, reasonable protection of the environment, and development of technology to provide future service. Through the development and contribution of all employees, to the maximum of their potential, the Company will assure total quality performance that results in the highest achievable levels of customer satisfaction and recognition for excellence."

Similarly, a set of CP&L beliefs was adopted:

"To conduct our business with integrity, safety, efficiency, and care; satisfying customers, suppliers, the general public and government.

"To maintain an atmosphere of respect, trust and fairness among all employees; providing opportunities for full development, contribution and recognition for achievement.

"To maintain the financial strength necessary to meet all obligations, provide for our customers' future requirements and earn reasonable returns for our Company's investors.

"To be responsible citizens supporting worthwhile programs, including economic development, in the communities we serve and to be involved in our social and political environment."

### **TQ -- A Way of Life at CP&L**

After market testing a range of proposed slogans, the Company decided the one that was easily the favorite of employees was "Total Quality -- a way of life at CP&L."

By the spring of 1986, the first project quality teams were formed to work on specific problems. There were three teams of department heads. Russ Starkey headed a team to look at ways of streamlining approvals, Bobby Montague chaired a team to consider how to improve the budget process, and Pat Howe led a group which looked at the authorized personnel inventory.

Similarly, there were six teams of section heads. Leaders and their topics were Mike Hill, budget plans as they relate to operating decisions; Bill Stocks, enhancing the process for identifying waste and inefficiency; Bobby Suggs, shortening the time required to pay invoices and employee expense accounts; John Robinson, enhancing contract activities; Jim Marshall, reducing momentary service interruptions; and Bill Hindman, enhancing the purchasing system for low-cost items.

Each team had a facilitator to assure that it followed the TQ process. When a project quality team completed its assignment, it was invited to meet with the quality council to present its findings and recommendations. Changes began to occur. As training reached deeper into the organization, teams were formed within departments to probe issues which employees identified.

Key words became a part of most conversations: input, feedback, recognition, slam dunk, black hole, don't kill the messenger. Attitudes were changing. Those at lower levels of the organization who had been skeptical found management receptive to their input.

By the end of 1987, virtually all employees had received training in the fundamentals of total quality, and over 180 teams were functioning. In late 1986, Monroe had moved to Wilmington where he became vice president of the eastern division. Jerry Kirk who had been manager of the Weatherspoon plant followed Monroe as leader of the TQ department.

### **Record Cold Tests System, People**

The year had started on a very cold note. Temperatures across the system dropped below zero, breaking weather records and leading to new highs in energy usage. It was 16 degrees below zero in Asheville, 9 below in Raleigh and 1 below in Florence. On January 21 customer demand reached 7,799,000 kilowatts, 13.5 percent above the previous system peak. During 24-hours customers used 164,885,000 kilowatt-hours, up from the old record for one day of 137,314,000 set January 11, 1982. Once again, personnel in the fossil plants applied muscle and ingenuity to get coal from frozen piles into the boilers.

CP&L meteorologist Brian McFeaters had a word of comfort. He said it was the coldest ever and probably colder than the area would ever see again. At Roxboro where outside crews tackled frozen coal piles, Kelvin Wilson complained that wearing insulated overalls and wrapping faces with towels wasn't enough to protect against the cold.

David Moore, manager of the Skaale energy control center, said early warnings had allowed all available plants to be brought on line, maintenance to be postponed, and work schedules to be rearranged to have additional manpower available. Nonetheless, he said it was a severe test for the system, requiring a voltage reduction and public appeals for reduced usage.

Temperatures caused power lines to contract, snapping lines and poles. Near 50,000

customers suffered power interruptions. The familiar picture of linemen braving the elements to restore service was seen all too often, particularly in the northern and western divisions.

In February the Company sold its ninth consecutive issue of common stock at below book. But the price of \$25.50 was nearer the book value -- \$26.87 -- than for most issues sold since 1973. Over the 12 years, to maintain its equity ratio while financing construction, the Company had sold almost 72 percent of its total shares outstanding at less than book. Later in the year, the market price finally recovered enough to climb above book.

### **Smith Installed as Chairman of EEI**

Sherwood Smith's industry leadership was recognized again when he was installed as chairman of EEI. In the preceding year he had been elected a director of the American Nuclear Society. When he became chairman of EEI, CP&L could claim recognition as the first utility to provide three elected heads of the industry organization. Smith followed in the footsteps of Sutton and Harris. He had been instrumental in the merger of EEI and the National Association of Electric Companies, the lobbying arm of the industry. In 1987, he would have a leadership role in merging the Atomic Industrial Forum and the United States Committee for Energy Awareness into the United States Council for Energy Awareness. That merger was expected to give a clearer focus to industry communications. Like Sutton and Harris, he was effective nationally because he enjoyed the trust and respect of his peers.

In an address to the 1986 EEI convention, Smith declared, "If we are to be credible in our communications at both the local and national level, we must be perceived as producing and delivering a quality service in every way.... We must be perceived by our customers, our employees and our shareholders as managing well if we are to expect their support in successfully adapting to the changes we will face.... Preparing our companies to respond" to new issues "will take the efforts of all our employees working together toward a common goal. Many companies have undertaken emphasis on total quality as one means of meeting the challenges they face. They understand that every employee in every activity must project a quality image. If we appear inept in responding to a minor problem, or to a customer complaint, we cannot expect those who witness our behavior to trust the company to manage a complex enterprise such as the operation of a nuclear plant."

Commenting on the challenge of building new generating capacity, Smith said "nuclear plants are not a reasonable planning alternative because of the regulatory system which gives no assurance that a plant can be designed, built and operated. There also is some uncertainty about what would be required to build a coal plant. Most utilities are concerned that with emerging coal technologies, new plants committed to in the near future may be obsolete before they are completed."

During his year at the helm of EEI, Smith also called for stronger public information and governmental affairs programs. He urged a willingness to commit the necessary resources, including executive time, to federal affairs. He identified issues facing the industry as acid rain,

railroad deregulation and nuclear power legislation. But his major thrust was to urge a commitment to total quality in every utility's operations.

### **Customer Satisfaction -- Our Basic Business**

The customer and operating services group adopted a slogan, "Customer Satisfaction -- Our Basic Business." In October Charles E. Scott took a leave of absence from his position in customer operations support to become Adjutant General for the North Carolina National Guard. He was promoted to major general.

In its annual report, the Company said it had invested more than \$601 million in environmental protection systems since 1968, spending about \$95 million of that during 1985.

A new simulator for the Harris plant arrived in October. It was an exact replica of the control boards in the plant. The first simulator had become obsolete because of changes in the control boards which resulted from new NRC regulations. It was sold to a firm representing the People's Republic of China. Temporarily, the simulator at Harris continued to be used for training operators for the Robinson plant. But a simulator had been ordered for Robinson 2, too. Staffing and schedules were planned to allow licensed reactor operators to spend one week of every six in training.

With the simulators it was possible to create various scenarios that could develop in an operating plant and allow trainees to respond to them. At Harris one of the scenarios was the sequence of events which triggered the accident at TMI.

Robinson 2 returned to service in early 1985 after the planned replacement of steam generators, and set a performance record by generating 5,239,000 megawatt-hours while achieving a capacity factor of 89.9 per cent.

### **Prudency Audit of Harris Plant Construction**

Across the country there had developed a new and different kind of hurdle for nuclear plants. It was called a prudency audit, an investigation to determine the reasonableness of decisions made by management during construction. Prudency audits were stimulated by cost overruns and the resulting big investments which companies sought to get into rate base as plants came on line. By disallowing investment, regulators kept rates lower. For some plants, disallowances approached a billion dollars.

Given what was happening elsewhere, CP&L anticipated a prudency audit for the Harris plant. What had started out to be a billion dollar plant with four units had become a near \$4 billion plant with only one unit. While critics could fault the plant in one sentence, Dick Jones said it would take a book to respond. Consultants were retained to help develop a comprehensive history of the Harris plant, clearly establishing what was known when key decisions were made through the

years. Jones coordinated the preparation.

In late 1985 the North Carolina Commission authorized the Public Staff to undertake an audit. Its order stated: "In consideration of the time span of the Harris construction, the total amount of money involved, and the potential impact on CP&L's rates, an investigation is in order for the purpose of assembling and preserving evidence for the general rate case to be filed by the Company."

The Public Staff said its standard in reviewing CP&L management decisions would be whether such decisions were made in a reasonable manner, and at an appropriate time on the basis of what was reasonably known or should have been known at the time. The parties agreed that the investigation should not review the decision to build the Harris plant, or subsequent decisions to continue construction and to cancel three units. Both the Commission and the Public Staff had supported consistently the decision to build Harris 1.

One year later, the Public Staff selected Canatom, a large Canadian nuclear engineering firm, and Ben Johnson Associates, Inc., to perform the audit. The second firm looked at financing only. Jones later said the selection of Canatom spoke well for the fairness of the Public Staff. By mutual agreement, the beginning of the audit had been delayed to allow CP&L construction management people to complete the plant without the distraction of an audit.

There was a change in the responsibilities of senior executives. Graham was promoted to vice chairman, Utley became senior executive vice president, and Lilly was named executive vice president for finance and administration.

## **1986: CHERNOBYL**

Hearings on the Company's application for an operating license for the Harris Plant had been completed. The Atomic Safety and Licensing Board was ready to recommend that a license for fuel loading and low power testing be granted. A group which called itself the Coalition for Alternatives to Shearon Harris (CASH) continued to protest, but its meetings attracted only 30 to 35 persons. Eddleman, the MIT-educated teacher and self-styled energy consultant from the Carolina Friends School, and a few of his associates from the Kudzu Alliance were the nucleus. Media reports indicated that he and two other activists had met in Chapel Hill to start CASH. Jay Mullins, director of the Harris visitors center, attended the CASH meetings to be aware of their concerns.

On April 26 there was an accident at Chernobyl, a Russian nuclear power plant. The first that the world knew about it came from reports out of the Scandinavian countries where unusually high levels of radioactivity were detected. One of four big reactors at the site was virtually destroyed by a power surge which resulted from faulty test procedures and operator errors. Because the Russian plant had no containment structure as nuclear plants in the Western world do, the accident released large amounts of radiation, forcing evacuation of the surrounding area. Experts were quick to point out that the Russian plant was not comparable to United States nuclear plants nor could it have been licensed in the United States.

Panic was unleashed. Anti-nuclear activists found new life. CASH gained instant credibility. Its ranks swelled. Protesters took aim at the emergency plan for the Harris plant. Media coverage was extensive, once again unearthing alarmists who paraded as experts.

Nationally, the Nuclear Information and Resource Service set a day for nuclear protests and concerns, saying there would be demonstrations from the Seabrook plant in New Hampshire to Humboldt Bay, from Davis-Besse in Ohio to Arkansas Nuclear 1, from Grand Gulf to Big Rock Point, from Indian Point to Lafayette Park across from the White House. That the anti-nuclear organization failed to list the Harris plant was little consolation.

### **Nuclear Opponents Focused on Chatham County**

Chatham county, one of four counties in the Harris Plant emergency planning zone (EPZ), soon became a focal point. Commissioners came under intense pressure to withdraw from participation in the emergency plan for the Harris plant. Finally, they scheduled an evening hearing in the courthouse at Pittsboro. An estimated 700 protesters overflowed the meeting room and surrounded the courthouse square. Speakers were set up so those outside could hear what was said inside.

The spokesman for CP&L was Graham who went into the meeting knowing that the commissioners had reached their decision during a morning session. They would vote to withdraw. He spoke with calm and reason, but nothing he could have said would have swayed the crowd, many of whom had come from places other than Chatham county. He tried to establish rapport by recalling that his high school football team had played at Pittsboro. At times some in the crowd hissed and booed and stomped so forcefully that the floor of the second floor courtroom shook. Undeterred, Graham pointed out that more than 200 questions about emergency preparedness had come up during the ASLB hearings which had gone on for two years, and the Board had ruled that all relevant questions had been resolved.

At the close of the meeting, the commissioners voted to rescind their approval of the Harris emergency plan pending further critical examination of unresolved issues. Reports said the commissioners feared area hospitals were incapable of treating radiation casualties that could result from a nuclear accident. Doubts also were expressed about the ability to evacuate handicapped

residents and school children. Undoubtedly, the commissioners were looking for a release valve for the emotionally charged crowd. The chairman of the commissioners said he had received hundreds of telephone calls about the emergency plan -- only one he remembered as favorable. It came from Governor James Martin.

Later that week, Smith held a news conference in Raleigh. He declared that much of the public concern was based on misinformation supplied by CASH which continued to repeat allegations that had been thoroughly reviewed in the hearing process and dismissed. He estimated that delay in the operational schedule for the Harris plant would cost \$2 million per day. He emphasized that the Company would continue to work with everyone involved in emergency planning. From that moment, he became the Company's spokesman to the media, for television debates, to public forums. He was the lead cheerleader. And a very good one.

Among the things which CASH did was bring people from Pennsylvania who told horror stories about the impact of TMI on humans and on farm animals. It didn't matter that all of the stories had been discredited by official investigations.

To deal with developments in Chatham county and to avoid similar actions by the other three counties participating in the emergency preparedness plan, the Company organized task forces of employees and retirees in each of the counties. The total quality process was put to an early test. Team leaders were Dick Jones for Chatham, John Monroe for Lee, Bobby Montague for Wake and R. B. Richey for Harnett. They moved quickly to organize employees and develop strategies for mobilizing public and official support for the plant. Decision-making was forced to the local level. Barham headed a coordinating committee to provide corporate support for the county teams.

The Durham city council passed a resolution opposing operation of the Harris plant. Similar actions followed in Carrboro, Hillsborough, Chapel Hill and by the Orange county commissioners, all outside the CP&L service area. But within CP&L territory, the tune was different. Resolutions affirming the plant came in from Apex, Cary, Fuquay, Sanford, Louisburg, Greenville, Benson, the Wake county commissioners and dozens of other groups. The task forces were effective.

The emergency plan which was maintained by the state's division of Emergency Management in cooperation with local governments and CP&L had been tested in 1985 and judged successful. Both the NRC and the Federal Emergency Management Agency had determined that the plan was fully adequate. Governor Jim Martin made it clear early that if Chatham county chose not to participate in the emergency plan, the state would assume responsibility.

Jones described the effort of the team in Chatham county as one that used people with local connections to reach out to civic clubs, churches and other organizations with accurate information. Members of the task force brainstormed and networked, identifying opportunities and

sharing responsibilities. Their goal was "to reduce the noise level" by building understanding of the emergency plan and support for it. They hoped that would enable the commissioners to reverse their decision to withdraw. Bill Stephens who earlier had been manager at Siler City came back to be part of the task force. Joe Gregory, the Company's liaison with the agricultural community, added expertise to answer dairymen who were concerned about the health of their cows. One local meter reader was a member of two churches. He arranged for CP&L presentations at both.

### **Raleigh Town Meeting**

In Raleigh the Company held a town meeting in the Civic Center where a panel of experts was assembled to answer questions. Smith was the moderator. Panelists included the president of Ebasco Services, architect-engineers for the plant; two staff members from the Electric Power Research Institute, representatives from the state division of emergency management and North Carolina State University; and CP&L's Otilia "Tillie" Hudson, senior engineer in the nuclear fuel department.

It was a three-hour session, broadcast by WPTF. An estimated 1,500 persons attended, including a large number of opponents who directed a barrage of questions, most of them fielded by Smith. His responses drew frequent applause from CP&L employees and friends. He repeatedly emphasized that the Company had put safety above all else in constructing the Harris plant and would do the same in operation of it.

Media interest was extremely high. One newspaper profiled Smith and Eddleman of CASH as leaders in a nuclear war. Eddleman was quoted as saying "we've debated in an indirect way. We have only come toe-to-toe once in awhile. But I like his sense of humor. For example, I quoted Proverbs to him once, something like: 'He who holds back criticism causes trouble.' And Smith came back, saying he could quote the Bible, too: 'Let there be light'."

### **Former Governors Support Harris Plant**

Four former governors originated a letter published in The News and Observer. Dan K. Moore, Robert W. Scott, James E. Holshouser and James B. Hunt, Jr., wrote:

"As former Governors of North Carolina, we feel an obligation to speak to the questions of the need for the Shearon Harris Nuclear Plant in our State.

"Some 20 years ago, as North Carolina was beginning to grow vigorously with the emergence of the Research Triangle and other areas, it became clear that our State's full potential in providing jobs and opportunities for our people would be served by a commitment to use nuclear power. That commitment was confirmed by our State Utilities Commission granting a 'Certificate of Public Convenience and Necessity' for the construction of the five nuclear units now in operation

or under construction in North Carolina. Nuclear plants in our State and every state are closely supervised by the Nuclear Regulatory Commission in their design, engineering and construction to assure safety. The Atomic Safety and Licensing Board has found that the Harris plant should be granted a license for operation -- a decision reached after years of public hearings regarding public safety.

"Clearly nuclear plants must have adequate evacuation plans in case of accidents or disasters. The plan for the Harris plant has been developed by professionals in government who are trained and equipped to respond to emergencies. The State must continue to insure that these plans are adequate and work with local governments to that end.

"North Carolina needs the power from its nuclear plants for jobs and economic growth.

"We hope that if there are remaining questions about the Harris plant, they will be resolved quickly and in a way to assure its safe operation and efficient generation of power for our citizens."

Opponents contended the 10-mile evacuation zone for which the emergency plan provided was too small in light of the Chernobyl experience. The Company responded in a newspaper advertisement:

"The 10-mile limit is set by the Nuclear Regulatory Commission and the Federal Emergency Management Agency. The limit is based on findings of a joint NRC-Environmental Protection Agency task force. The 10-mile limit was found to be more than adequate to protect the public. All 100 nuclear units operating in this country are subject to the same type of plan. Those who point to the 18-mile evacuation area around Chernobyl and say the 10-mile zone isn't enough here just don't recognize the great difference between the plants. The accident at Chernobyl simply could not happen at any of our U. S. light water type nuclear plants. For example, in the Harris plant reactor, there is no graphite which in the Chernobyl accident burned and spread radiation. Also, the Chernobyl plant did not have the elaborate and extensive containment systems that the Harris plant does. The concrete containment building surrounding the Harris reactor is 4.5 feet thick. There's steel cladding under that and 11 feet of concrete in the floor. To put it simply, a fully loaded 747 could crash into the containment building and do little or no damage. This type of containment has been tested by the TMI accident and found to work well -- even better than expected."

In early July, six weeks after voting to withdraw from the emergency plan, Chatham commissioners acted unanimously to rejoin the plan. They said their concerns had been addressed. Much of the public protest had been displaced by support for the Harris plant and the emergency plan for it. On October 24 the NRC issued an operating license under which fuel could be loaded and testing at up to five percent of rated capacity could begin.

As a precaution, the Company decided to organize a team of employees under the

leadership of Richard J. White, director of communications planning, to visit every residence and business within a 10-mile radius of the Harris plant. Their purpose was to talk one-on-one, identify concerns and answer questions, and deliver personally a copy of the 1987 calendar which conveyed information about the emergency plan. This canvass which involved 150 employees from all across the system resulted in 11,200 contacts and was completed successfully in less than one month.

The last time the Harris plant was opened for public tours was May 3 and 4 when near 2,500 employees and their families visited the facility.

In June demonstrators gathered outside the plant to release 800 helium-filled balloons which carried a message claiming that radiation from the plant could drift as far as the balloons. In November another group gathered in the shadow of the cooling tower to stage a “die-in” to protest fuel loading.

With interest rates dramatically lower than in the early '80s, the Company took advantage of opportunity to lower its cost of capital by refinancing some of its long-term debt and redeeming two issues of preferred stock. Funds from new issues of bonds bearing interest of less than 9 percent were used to retire bonds, preferred stocks and guaranteed notes with interest rates ranging from 11.16 to 16.5 percent.

### **Hay Hauled to Drought-Stricken Farmers**

A prolonged and unusual summer drought brought pain to the agricultural community and an opportunity for CP&L to be a good neighbor. There was neither grass nor hay for livestock. In other regions, farmers were donating hay but someone had to haul it. The Company dispatched George Creech, Jesse Dunn and Richard Southerland to Dutchess county, New York, on a weekend drive to bring three tractor-trailers loaded with 1,200 bales of hay to Oxford. As soon as the trailers were unloaded, three other drivers -- Randy Earp, Neal Moore and Ricky Prior -- left for Lima, Ohio, on a similar mission. Carlie Massengill joined the driver rotation as the group made five excursions to transport donated hay, about 6,000 bales in all. It was a small way to demonstrate concern for farm customers.

### **1987: HARRIS PLANT COMPLETED**

On January 3, 1987 the Harris plant achieved initial criticality, producing its first heat from nuclear fuel. Nine days later the NRC issued a full-power license, paving the way for the plant to produce its first electricity for customers on January 19. It was declared commercial on May 2. The time that elapsed between fuel loading and 5 percent power production set a record for the

industry. The total construction period was more than two years shorter than the average for comparable plants.

R. A. Watson had been vice president for the Harris nuclear project since 1983. A native of Pinehurst and a nuclear engineering graduate of North Carolina State University, he came to the Company in 1969 as a nuclear fuel engineer and subsequently headed the fuel department.

During its first eight months of operation, the Harris plant had a capacity factor of 67 percent and produced 3.9 billion kilowatt-hours. It contributed to an excellent year for the Company as nuclear plants had a combined capacity factor of 70 percent and yielded 43 percent of system generation.

### **Brunswick Plant Establishes Record**

The oft-maligned Brunswick plant passed a world record for dual-unit General Electric boiling water reactors in November and at year-end set a new record of 180 days of continuous operation. During the previous year, Brunswick 1 had achieved a capacity factor of 86.46 percent, earning an outstanding achievement award from GE. Only four of the 40 boiling water reactor units in the United States exceeded a 75 percent capacity factor in 1986.

Addition of the Harris plant raised the system generating capability to 9,614,000 kilowatts which was supplied by eight coal-fired plants, four nuclear units, four hydroelectric plants, and 33 combustion turbines. Because most of the capacity had been added since 1960, CP&L's generating system was one of the more youthful, modern and efficient in the industry.

Parsons recalled one of the lighter moments during construction at Harris which emphasized that even burly construction men are kindhearted. While concrete was being poured for the fuel handling building, workmen observed a robin nesting in one of the forms. They worked in other areas until they could wait no longer. The robin had hatched four eggs. Three of the birds had left the nest. Workmen removed and relocated the nest. The mother robin found her nest and successfully cared for the remaining bird.

### **Mayo 2 Cancelled**

In March, plans for construction of Mayo 2 were cancelled. Smith said the Company could buy lower cost power for intermediate and peaking purposes than it could produce from Mayo 2, if required to install scrubbers. Environmental regulators had determined that Mayo 2 would be required to have sulfur dioxide removal equipment -- large chemical treatment facilities called scrubbers. The incremental cost would have been about \$200 million. Mayo 1 had been in operation since 1983, burning low sulfur coal without scrubbers, and had met all air quality regulations. In view of this, Smith questioned the prudence of investing \$200 million to produce only marginal improvements in air quality.

Cancellation of Mayo 2 and completion of the Harris plant ended a mammoth construction program. There were immediate impacts. Annual construction expenditures which had been \$779 million in 1986 dropped to \$469 million. The authorized personnel inventory which had grown to near 9,600 began to shrink. Two hundred positions were dropped. Less than 50 were occupied. An outplacement program was implemented to assist displaced individuals in finding other jobs, either within or outside the Company. It was a new experience for CP&L.

The inevitable rate cases came again in 1987, the first in three years. To get the Harris plant into rate base and cover other higher costs, the Company elected to take a two-step process in all jurisdictions. This avoided the loss of revenues that might have resulted from delays attributable to the prudency audit. The 1987 cases yielded \$130 million of annual revenue. The question of prudence was deferred to a second round of cases for which the Company made its filing in North Carolina in September, asking for a 13.89 percent increase.

Because of the steadily escalating cost of building new generating plants, the utility which had been the last to complete a plant usually had the higher prices in the Carolinas. This was true for CP&L when the Harris plant became operational. Other companies also had finished their construction programs. Smith, Graham and Lilly recognized that further price increases would be out of the question until the rates of other companies were nearer those of CP&L. Therefore, they embarked on a strategy to reduce costs.

When Lee resigned his position as senior vice president for customer and operating services, Smith and Graham used the vacancy as an opportunity to decrease the number of senior managers. They realigned some responsibilities and, in a lateral move, named Wilson Morgan who had been group executive for corporate services to succeed Lee.

Many people thought of the electric company as a monopoly but Smith spoke often about competitive pressures. Not only were CP&L rates compared to those of neighboring firms. He recognized that energy prices were a factor in choosing new industrial locations, and that gas and oil were vying for the commercial and residential heating markets. He anticipated competition from co-generators, and he envisioned that bulk power suppliers could seek to serve some of the Company's wholesale loads. He saw deregulation proposals as a threat. He understood the need to perform as well for shareholders as other utilities were doing. He was aware of competition for the brightest and more able employees.

## **1988: RESPONDING TO THE PRUDENCY AUDIT**

When Canatom made its report on the prudency audit of the Harris plant construction, it recommended that from \$261 million to \$297 million of the \$3.9 billion investment be disallowed in rates. The report said the larger part of this, approximately \$187 million, could have been avoided by anticipating in 1975 the possible cancellation of units 3 and 4, and redesigning

the plant from a single four-unit facility to two plants with two units each.

Further, Canatom auditors contended the plant could have been completed three months earlier, saving between \$63 million and \$99 million. They also claimed \$11 million of engineering and construction costs could have been avoided.

While there was a feeling of relief that the proposed disallowance was modest as compared to similar audits of other companies, the immediate reaction at CP&L was one of puzzlement as to why it should have known as early as 1975 that units 3 and 4 would not be needed. Dick Jones concluded that the finding was based on perfect hindsight and lack of understanding of how nuclear regulations developed and were implemented in the United States.

State Attorney General Lacy Thornburgh, who later sought unsuccessfully the democratic nomination for governor, contended "imprudent management" added \$856 million to the cost of the plant. His figure came from a study done by a consultant whom he retained. "It should not be the responsibility of North Carolina consumers to pay for CP&L's management mistakes," he said in a news conference.

When the hearing began in April, Smith testified that with completion of the Harris plant, "we have successfully finished the construction of a sound and cost effective generation system capable of supplying our customers' needs for the future. We have appropriate reserve margins and a balanced fuel mix of coal and nuclear. Reaching this point has been difficult and challenging. We have had to make many decisions, frequently under rapidly changing and trying conditions. Since 1970, we have installed about 3100 Mw of nuclear generation and over 2700 Mw of coal-fired generation to meet customer needs. We feel that our total system capital costs are reasonable and that the Harris plant should be evaluated in the context of the system of which it is a part.

"...We have completed a massive construction program which began in the midst of a crisis over whether we could meet our service area's growing demand and which today provides our customers with adequate but not excessive levels of generation resources.

"The Harris project was undertaken and built in compliance with federal, regional, and state energy and economic policies which all supported the construction of nuclear power plants."

Smith also pointed out that the Harris plant had been financed and constructed under the most difficult conditions ever experienced in the history of the electric industry. The most significant factor in cost escalations, he said, was changing NRC requirements that required more dollars to be spent for design, construction, inspection and documentation. This extended the construction period during years when inflation and interest rates were at record highs, increasing financing costs.

Roland Parsons, general manager of Harris plant completion assurance, elaborated on what he termed "the TMI imperative for the NRC to formulate a more aggressive enforcement policy." He said the new policy ultimately resulted in a shutdown order being issued for the Zimmer nuclear plant, not because of poor quality, but because the quality of the plant was found to be "indeterminant". This raised the real possibility that other plants could be completed but not allowed to operate because of "indeterminant" quality. The result was more detailed design, more quality attributes to be inspected, more documentation, and more reviews of the documentation.

McDuffie stated it very dramatically. More work-hours were required for inspection and documentation at the Harris plant than were required for the construction of Robinson 2, CP&L's first nuclear facility..

Parsons illustrated the impact on productivity by relating how inspection of pipe hangers expanded. Pipe-hangers are the supports which are designed to hold pipes precisely in place in the event of an earthquake or similar event. In 1978 inspection of 13 quality attributes was anticipated. As the result of new regulations, the number of attributes to be inspected grew to 51. The efficiency of direct work suffered, too. Small hangers which were being installed in 1980 for 13.9 work-hours each escalated steadily to 35.6 work-hours in 1985. For large hangers, the escalation was from 35.4 work-hours in 1980 to 108.9 work-hours in 1985. Parsons said increased complexity of the pipe hanger erection process consumed the additional hours. There was an increase in paperwork, too. He noted that the paper required to describe and authorize even trivial modifications to hangers and to describe their as-built conditions grew from 3,620 documents during 1983 to 43,965 during 1984.

From the announcement of the Harris plant in 1971 until its completion in 1987, the Company installed about two-thirds of its system generating capacity -- four nuclear units, five coal-fired units and 20 combustion turbines. Smith repeatedly emphasized that what happened with the Harris plant should be viewed in terms of the total construction program of which it was the last piece.

In the prudency hearings which lasted 38 days, the longest hearing in Commission history, CP&L was fortunate that most of the key players in managing construction of the Harris plant still worked for the Company. McDuffie, Parsons, Howe, Max Thompson and Leonard Loflin were good, credible witnesses because they spoke from firsthand experience. Loflin Had been manager of design engineering for the plant and Thompson had been responsible for administration of engineering contracts and schedules.

When the North Carolina Commission issued its decision in August, it awarded a 9.1 percent increase, approximately two-thirds of what the Company had sought. The Commission included a rate moderation provision, specifying that the increase be implemented in three annual increments. It disallowed \$142 million of investment in the Harris plant, primarily for what it termed a schedule delay of five months. And it ruled that \$180.6 million of the \$3.9 billion investment be treated as part of the cancelled Harris units and amortized over 10 years. The immediate impact was to reduce 1988 earnings by \$1.28 per share.

Dick Jones contended the Commission, in finding there had been a schedule delay, ignored evidence that the Harris plant's construction schedule was over two years shorter than the average for plants going into service in the same time interval.

Smith had some good news for customers and employees. After five rate cases during the 1970s and eight during the 1980s, he predicted the Company would not seek further rate increases for at least three years. Speaking to the New York Society of Security Analysts, he declared "we are now turning our attention from building and financing generating and other facilities, and securing their inclusion in the rate base, to concentrating on the efficient and profitable operation of our system."

### **World Association of Nuclear Operators Formed**

In May the directors approved and encouraged the Company's participation in the World Association of Nuclear Operators (WANO). The purpose of WANO which had four worldwide centers, including one in Atlanta, was to promote the safety and reliability of nuclear power through exchange of information by plant operators. The initial meeting was in Moscow, providing Smith an opportunity to visit Chernobyl and see firsthand the results of the accident there.

Smith described WANO as being closely patterned after the Institute of Nuclear Power Operations insofar as its mission and organization were concerned. He emphasized that it was an organization of operators of the world's 400 nuclear plants, not an organization of governments.

CP&L also signed an agreement with Tohoku Electric Power to exchange technical and managerial information. The Japanese utility was about the same size as CP&L and had one nuclear plant, a boiling water reactor that was a later model than Brunswick.

### **1989: SHRINKING THE ORGANIZATION**

Downsizing, something which the Company had never experienced, was part of the post-construction adjustment. It began with a voluntary early retirement program which was offered during the last half of 1988. There were 223 persons who chose to end their careers early. On the heels of the early retirement activity came the "OA", organization analysis.

The project quality team chaired by Howe had recommended a top to bottom analysis of positions in the authorized personnel inventory (API). Cecil Goodnight, vice president for employee relations, was a member of the team.

Utley who was nearing retirement volunteered to lead the API task force. On the task force with him were Goodnight, Wilson Morgan, senior vice president for customer and operating services; Eury, senior vice president for operations support; Norris Edge, manager of rates and service practices; Jerry Kirk, manager of the TQ department; and Walter Simpson, head of the management services department. Kirk was assigned to be OA project manager. A consulting firm was retained to provide a framework for the study and to guide department managers in planning and carrying out the analysis. Department managements identified and prioritized their work, and decided on the more efficient organization with which it could be accomplished. Meanwhile, the employee population was decreasing through attrition and controls on filling vacancies.

In a report to the Company's directors, Kirk stated the goals of OA were to reduce operating costs while maintaining or improving the quality of operations and services, and to incorporate the principles of the OA into on-going business planning processes. He said the goals would be achieved by eliminating unnecessary, low priority work; streamlining needed work, and better aligning functions and activities organizationally.

As OA entered the final stages, Smith met with department managers to consider the information that had been collected and how it would be used to improve the Company. He wore a pink shirt. Later, he explained. "I put on a pink shirt because it was different. I usually wear blue or white shirts. And so that morning I changed. I put on a pink shirt to talk with you because we had some real challenges before us and we had to change."

There was stress and anxiety among employees as August 28 approached. On that day results of the OA would be known and outplacement centers would be activated to help those whose jobs were eliminated. The outplacement centers offered counseling, job fairs, assistance with preparing resumes and other support.

In spite of the preparation, there was widespread pain when those whose jobs were eliminated got the message from their supervisors. Separation from the workplace was immediate. It was a shocking move in a company where job security had been taken for granted as long as one performed satisfactorily. Employee morale suffered. Approximately 570 individuals were outplaced. The outplacement package included job search assistance, administrative leave, severance pay based on years of experience, and continued medical, dental and life insurance.

Since May 1988, the Company had reduced its work force by about 1,250. In the new organization, there would be 8,300 positions. Also eliminated were jobs of about 1,000 contract personnel who maintained buildings, trimmed trees, provided security services or performed other specific tasks.

Smith expressed regret that many fine employees were leaving the Company. "It is one of the necessary results of an organization analysis such as this that as cost reductions are achieved, some people are outplaced. The work force reduction will benefit the Company and our customers over the long term by helping to offset increasing costs in operations... We estimate the

future savings from the reduction and related changes in operations to grow to a minimum of \$70 million annually."

Following the OA, the Northern division which had been the Company's fastest growing area was divided to create a Raleigh division headed by James Massengill, giving the Customer and Operating Services group six divisions. Jerry Kirk headed the Northern division. Margaret S. Glass, an attorney, was elected treasurer.

### **Eury and Watson Succeed Utley and McDuffie**

In anticipation of the retirements of Utley and McDuffie, Lynn Eury was elected executive vice president for power supply and Al Watson senior vice president for nuclear generation effective April 1. R. B. Richey succeeded Watson as manager of the Harris nuclear project. Jim Davis was senior vice president for fossil generation and power transmission, a position into which he had moved in 1986.

Eury's career at CP&L began as a student employee during the summers of 1957 and 1958. Upon his graduation from North Carolina State University in 1959, he came to the Company as a junior engineer. Subsequently, he was manager of system operations and maintenance, vice president for system planning and coordination, senior vice president for power supply and later for fossil generation and power transmission. He completed the advanced management program at Harvard Business School, the EEI executive management course, and the senior reactor operator training program. Associates considered that he had been on a fast track.

### **Hurricane Hugo**

Joe Turner, southern division vice president, went to bed on September 21, 1989, knowing that South Carolina was in the path of Hurricane Hugo. He wondered how his inexperienced storm coordinator, A. C. Page, would respond to his first emergency. What he saw when he arose the next morning was unbelievable. Four big pine trees had fallen on his residence. Four others were down on the lot. The only vehicle he could remove was his "little red truck". He headed for work.

Everywhere he looked there was devastation. Still, he had no idea that what he saw in Florence was not unlike what had happened over the entire southern division. Hugo had caused a big mess, and left virtually all of CP&L's 140,000 South Carolina customers without electricity. Damage extended into North Carolina, too, leaving an additional 45,000 customers in the eastern and central divisions without power.

Six transmission lines which served Sumter were down. The city had no water or sewage service. It was, Turner said, as much like a battle zone as any area he had ever seen. "Imagine a tornado 100 miles wide and 300 miles long, and you begin to get the picture," he explained.

Over the next ten days, helped by crews from as far away as Maine, CP&L workers logged 16 hour days to restore service to those customers who were able to accept it. There were 500 crews totaling about 1,600 persons putting up poles and stringing lines, supported by hundreds of others, notably the folks who were locating materials and delivering them.

At Sumter an aerial inspection revealed that the quickest way to get some electricity back to the city was to repair a South Carolina Electric and Gas transmission line from the south that interconnected with CP&L. With the cooperation of SCE&G, crews repaired that line first. The only toilets were portable units. There was no hot water for warm baths. People looked for ways to help. A funeral home erected several tents outside the local CP&L office where food could be served. Mickey Denham, a dispatcher from Florence who previously was in Sumter, set up a cooker from which he served steaks and venison. Other employees and customers brought grills and foods from their freezers. Bottling companies supplied soft drinks. Water and ice was brought from Florence. Grocery stores contributed frozen and canned foods. It was a giant cookout that lasted for days. Other localities did the same kinds of things to assure that workers had food.

On the second morning after the storm, Turner called Wilson Morgan in Raleigh. He asked him to come down and see the situation. Else, Turner said, "you will never understand what is going to be requested for repairs."

It was Sunday. Morgan traveled to South Carolina. He said he had seen the damage of Hurricane Hazel, the great ice storm of 1959, but nothing to approach Hugo. He was impressed by the absolute devastation in the Kingstree-Sumter area, and with the way employees ignored damage to personal property to get the power back on. "It is hard," he said, "to visualize how difficult it is to work under conditions where you have no water, no lights nor any conveniences for days."

Lester Misenheimer, manager of the transmission department, noted that crews, working around the clock in difficult conditions, restored service without a personal injury. That made restoration of the system in so short a time all the more remarkable.

"We had to do things we never anticipated," Turner recalled. "We decentralized. We told people to do what they could see needed to be done. They responded. It expedited the work."

What happened at Turner's home probably occurred with countless other CP&L families. An anxious son, seeing news accounts of the storm, came home to help. A crane removed the trees from the house. Wife Betty had one surprise: photos of the home taken the day before and the day after the storm on the same roll of film.

Damage to the Company's transmission and distribution system was estimated at \$15 to \$20 million. The Federal Emergency Management Agency assessed Hugo as the most expensive

individual disaster in United States history, putting damage at \$6 billion. It said 1.8 million people were impacted and 500,000 were evacuated.

Charlie Walker writing in the Kingstree (S.C.) News gave a colorful description of Hugo's damage and the good deeds which followed. "Just down the road from my house stands Herbert McCutchen's grocery. Mr. Herbert's grocery is his life. But without electricity he's like a preacher without a collection plate. Doris McKenzie's yard was the showplace of Sandy Bay. She has 42 trees down in her yard.

"Ice has replaced crack as the most valued item in Williamsburg county. All you have to do is mix electricity and water and -- presto, you have ice. But when you don't have either electricity or water, that makes ice worth its weight in gold.

"Of all the places I have visited," wrote Walker, "Greeleyville is the most devastated. When you have lived in Williamsburg county for 40 years you think you are shock proof, but what I saw in Greeleyville was terrifying.

"I have seen movies and photographs of this kind of destruction. It is one thing to look at it on the screen or in your newspaper. It's another to be surrounded by it. I spoke to Mayor Doris Browder at her headquarters.... Across the road all those beautiful trees in the park that served as a canopy for Flag Day lay broken like tobacco sticks. The old Greeleyville Elementary that housed so many memories is shattered. Houses are beaten into the ground and roads are impassable. It is hell without fire.

"All over Williamsburg County I have seen the Golden Rule in action. We didn't have any water, but the demand for the milk of human kindness didn't exceed the supply." Walker wrote of soft drink and beer trucks bringing water and ice instead of their usual merchandise, and of other trucks bringing provisions from distant places.

An article in the Greensboro (N.C.) News & Record, reporting on the situation in South Carolina, said "Dinney Dukes calls her sister, Lisa. She's crying into the telephone, `my lights are on, my lights are on!' And her little boy dances around shouting, `the lights are on, mommy!' Things we take for granted become diamonds when they are no longer there."

### **Forecast Indicated Slower Growth**

In December CP&L directors adopted a forecast which anticipated demand growth over the next 10 years at a rate of 1.9 percent annually. Growth in energy consumption was projected to be 2.1 percent. The Company was adding industrial customers at a slower pace. Textile, chemical and paper plants accounted for two-thirds of the industrial energy sales. The generation plan deferred new base load capacity until after 2000. What a difference the decade had made!

During the '80s, total utility plant grew from \$3.883 billion to \$7.575 billion, capitalization increased from \$2.939 billion to \$5.294 billion, system capability rose from 7,796 megawatts to 9,584, energy sales climbed from 28.7 billion kilowatt-hours to 38.6 billion, and revenues jumped from \$926 million to \$2,480 million. Similarly, the average investment per customer went from \$5,355 to \$7,970, the number of customers from 725,017 to 950,492, and the average revenue per kilowatt-hour from 3.20 cents to 6.33 cents. The average annual bill for residential customers rose from \$481 to \$987 while energy consumption reached 12,419 kilowatt-hours, up from 11,785.

Investment per kilowatt of generating capacity, based on original plant costs, had dropped to \$105 in 1968. It rose to \$249 with the completion of Mayo 1 and to \$588 with completion of the Harris plant.

More importantly, the Company had achieved a high degree of stability. The big construction program with its demand for huge blocks of capital was finished. Personnel cutbacks were behind. Managers were a more youthful group. The Company faced a new decade better positioned to control its destiny and embrace fully its new corporate culture. After 20 turbulent years, dominated by nuclear and rate issues, its activities generated less interest for the media.