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1989 Annual Report

Santee Cooper

Cover

The Old Santee Canal State Park opened this year and is South Carolina's newest and most unusual state park. A joint historical project of Santee Cooper and the South Carolina Department of Parks, Recreation and Tourism, it is one of the best examples of "Working Together," the theme of this annual report. Renee and Greg Tedder, two Santee Cooper employees, are shown on the back cover as they paddle through this pristine cypress swamp environment.

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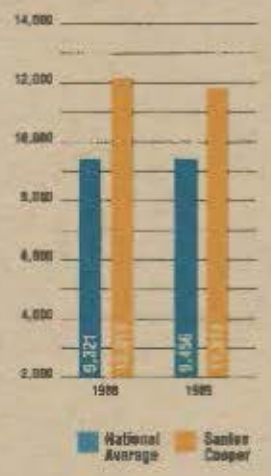
STATE DOCUMENTS

Corporate Statistics

Fiscal Year	6/30/89	6/30/88	6/30/87	6/30/86	6/30/85	6/30/84	6/30/83	6/30/82	6/30/81	6/30/80
Total Utility Plant-Net Including Nuclear Fuel (at year end) (in thousands of dollars)	**1,754,447**	1,749,244	1,727,848	1,745,892	1,773,788	1,779,161	1,570,571	1,467,710	1,205,200	960,628
Bonded Indebtedness (at year end) (in thousands of dollars)	**1,966,307**	1,964,110	1,968,105	1,938,230	1,919,750	1,788,750	1,796,545	1,735,850	1,261,420	990,100
Operating Revenues (in thousands of dollars)										
Residential	**54,751**	53,658	52,433	46,529	41,414	35,572	28,098	27,121	21,949	17,639
Commercial	**55,255**	53,481	50,998	46,709	39,268	32,865	28,853	28,145	22,452	18,835
Public Street Lighting & Other	**1,970**	1,873	1,675	1,792	1,575	1,264	1,029	955	704	587
Industrial	**185,046**	168,585	157,428	157,681	168,198	146,811	136,908	143,676	108,776	47,371
Sales to Electric Co-ops	**217,885**	203,407	207,249	193,211	172,599	135,272	121,625	101,602	87,529	63,419
Other Sales for Resale	**25,446**	6,680	5,642	5,615	5,307	4,939	4,279	4,192	3,442	2,578
Miscellaneous	**4,685**	4,296	4,634	3,463	2,261	1,986	1,716	1,840	1,484	1,364
Total	**546,039**	491,980	480,059	455,000	430,622	358,699	322,708	307,731	246,346	151,793
Operation & Maintenance Expenses Charged to Operations (in thousands of dollars) *	**326,628**	287,269	273,646	260,955	259,233	236,369	218,976	226,320	187,890	109,997
Sums in Lieu of Taxes Charged to Operations (in thousands of dollars)	**3,379**	3,056	2,390	2,176	1,920	1,750	981	565	956	928
Distribution to the State Charged to Reinvested Earnings (in thousands of dollars)	**5,180**	3,003	2,003	1,901	1,700	1,600	1,500	1,400	1,300	1,300
Net Operating Revenues Available For Debt Service (in thousands of dollars)	**242,989**	227,436	229,564	219,053	195,899	136,186	118,230	94,219	66,503	46,732
Reinvested Earnings* (in thousands of dollars)	**51,596**	39,129	40,290	30,106	45,948	50,515	41,057	53,131	29,330	18,092
Debt Service Coverage:										
Expansion Bonds	**1.70**	1.57	1.56	1.47	1.51	1.83	1.69	2.18	1.90	2.41
Priority Obligation & Expansion Bonds	**1.68**	1.55	1.54	1.46	1.59	1.78	1.65	2.07	1.79	2.14
Kilowatthour Sales (in thousands)										
Residential	**850,018**	830,620	804,154	720,438	672,865	646,467	559,929	541,522	536,461	472,495
Commercial	**980,605**	940,941	892,123	812,520	738,430	688,748	595,724	569,474	549,737	511,726
Public Street Lighting & Other	**33,720**	31,639	28,651	30,500	29,571	25,448	20,236	17,841	17,572	17,506
Industrial	**5,443,831**	5,361,414	5,157,860	5,000,860	4,907,428	4,625,303	4,313,773	4,399,759	4,295,666	2,196,997
Sales to Electric Co-ops **	**5,871,963**	4,761,653	4,588,998	4,078,809	3,749,289	3,666,107	3,300,649	3,236,212	3,346,581	2,991,534
Other Sales for Resale	**755,526**	150,431	140,542	135,513	128,798	132,347	121,626	115,176	123,461	108,040
Total	**13,135,663**	12,076,698	11,612,328	10,778,640	10,226,381	9,784,420	8,911,937	8,879,984	8,869,478	6,298,298

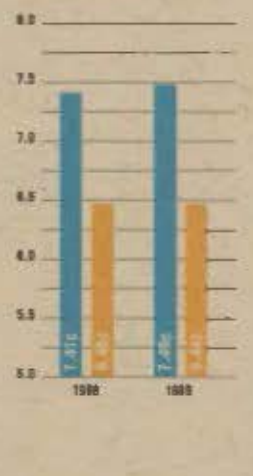
Average Residential Consumption

Fiscal Year / KWH



Average Residential Cost

Fiscal Year / KWH



Fiscal Year (Continued)	6/30/89	6/30/88	6/30/87	6/30/86	6/30/85	6/30/84	6/30/83	6/30/82	6/30/81	6/30/80
Number of Customers (at year end)										
Residential	**73,161**	70,461	67,435	63,895	59,755	55,610	50,255	46,310	43,462	40,053
Commercial	**15,137**	14,627	14,210	13,733	13,553	11,601	10,583	10,129	9,754	9,236
Public Street Lighting & Other	**294**	305	305	372	342	329	300	224	216	212
Industrial	**33**	29	30	29	29	29	28	28	26	27
Sales to Electric Co-ops	**1**	1	1	1	1	1	1	1	1	1
Other Sales for Resale	**4**	3	2	2	2	2	2	2	2	2
Total	**88,630**	85,426	81,983	78,032	73,682	67,572	61,169	56,694	53,463	49,531
Residential Statistics (average) Kilowatthour										
Consumption/ Customer	**11,814**	12,013	12,195	11,591	11,696	12,240	11,708	12,093	12,875	12,151
Cents/Kilowatthour	**6.44**	6.46	6.52	6.46	6.15	5.50	5.02	5.01	4.09	3.73
Generating Capability (at year end) (megawatts)	**2,780**	2,780	2,780	2,759	2,764	2,764	2,265	1,965	1,965	1,736
Power Requirements and Supply (kilowatthours in millions)										
Generation:										
Hydro	**366**	342	519	413	485	628	694	522	414	824
Steam	**11,656**	9,808	9,455	8,472	8,442	7,287	7,840	8,492	8,620	5,800
Combustion Turbine	**18**	1	—	—	1	2	—	18	31	10
Nuclear	**1,319**	2,327	1,744	1,871	1,516	1,931	494	—	—	—
Total	**13,371**	12,478	11,718	10,756	10,444	9,848	9,028	9,032	9,065	6,634
Purchases, Net Interchanges, Etc.	**264**	60	229	353	227	355	333	380	371	193
Total	**13,635**	12,538	11,947	11,109	10,671	10,203	9,361	9,412	9,436	6,827

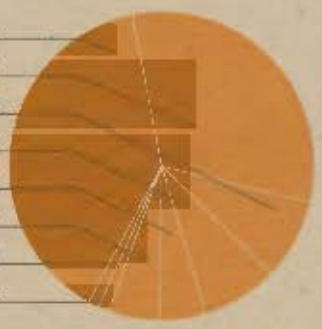
Calendar Year	1988	1987	1986	1985	1984	1983	1982	1981	1980	1979
Territorial Peak Demand (megawatts)	**2,253**	2,160	2,123	2,006	1,824	1,810	1,685	1,754	1,554	1,352

*Reinvested earnings for fiscal years 1980-84 has been restated to reflect a change in accounting methodology.
**Fiscal years 1983-87 include line losses billed to Central Electric Power Cooperative, Inc.

Source of Income

Fiscal Year 1989

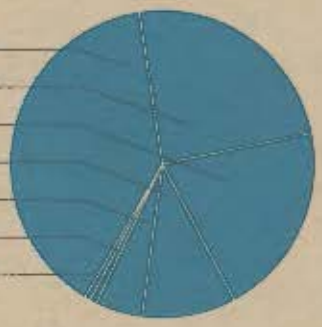
Sales to Electric Co-ops	$217,884,742	38.11%
Industrial Sales	186,045,590	32.55%
Commercial Sales	55,255,141	9.67%
Residential Sales	54,750,628	9.58%
Other Income	25,613,001	4.48%
Other Sales for Resale	25,446,491	4.45%
Other Electric Revenue	4,686,474	.82%
Public Street Lighting & Other	1,970,364	.34%



Distribution of Income

Fiscal Year 1989

Fuel and Purchased Power	$216,883,653	37.94%
Interest	139,709,986	24.44%
Operation and Maintenance	109,744,969	19.20%
Additions to Plant, Inventories, Etc.	63,415,045	11.09%
Retirement of Debt	34,693,344	6.07%
Payments to State	5,180,149	.91%
Sums In Lieu of Taxes	2,034,485	.35%



Comparative Highlights

FISCAL YEAR	1989	1988	% CHANGE
Financial (thousands of dollars)			
Total Revenues & Income	$571,652	$516,599	10.66
Total Expenses & Interest Charges	548,158	504,902	8.57
Costs to be Recovered from Future Revenue	28,102	27,432	2.44
Reinvested Earnings	$ 51,596	$ 39,129	31.86
Debt Service Coverage – Priority & Expansion Bonds	1.68 times	1.55 times	8.39
Debt / Equity Ratio	79/21	80 / 20	—
Statistical			
Retail Customers Served	88,592	85,393	3.75
Average Annual Residential Consumption (KWH)	11,814	12,013	-1.66
Average Residential Cost (cents per KWH)	6.44	6.46	-.31
Energy Sales (MWH)	13,135,663	12,076,698	8.77
Territorial Peak Demand (MW)	2,306	2,215	4.11

CALENDAR YEAR	1988	1987	% CHANGE
Territorial Peak Demand (MW)	2,263	2,160	4.8

A CHANGE IN TOP MANAGEMENT

William C. Mescher

Santee Cooper was honored during the past year when William C. Mescher, president and chief executive officer, was elected president of the American Public Power Association (APPA). APPA represents more than 3,000 consumer and public-owned electric utility systems nationwide and in several American provinces.

In April, the board of directors named Mescher president emeritus to provide him the opportunity to devote his time more fully to his duties as APPA president. While serving as APPA president, he will be a special consultant to Santee Cooper's board of directors.

The board appointed Kenneth R. Ford, executive vice president in charge of Finance, as interim president and chief executive officer. On May 22, the board named Ford as the new president and chief executive officer.

Ford came to Santee Cooper in 1978 from Omaha Public Power District, where he had served as treasurer and corporate manager of forecasting and analysis. A native of Council Bluffs, Iowa, he is a graduate of the University of Nebraska-Omaha.

REMARKS BY DWIGHT A. HOLDER

Chairman
Board of Directors

It is my privilege to be at the helm of Santee Cooper as our projections for the future move into the twenty-first century. The final decade of the twentieth century is upon us, and Santee Cooper is ready to meet the challenge.

Santee Cooper, as a public power pioneer, has been proving throughout most of this century that it is worthy of any challenge that arises. Public power had opponents even before its birth, yet our predecessors held to their vision that electricity should benefit *all* our citizens, including the rural farm families living throughout the Palmetto State.

Efficient, effective public power now touches the lives of South Carolinians from the mountains to the coast. Some rural areas have become urban areas, yet both town and country continue to reap the benefits of public power.

And Santee Cooper will continue to fulfill its mandate to the state's citizens who own it. Together, public power and Santee Cooper have made significant contributions to improve the quality of life in South Carolina and will continue to do so.

Indeed, it is a tribute to Santee Cooper's role in public power that our president emeritus, Bill Mescher, currently serves as president of the American Public Power Association.

Significant achievements can best be accomplished by a financially healthy and stable entity, and I am pleased to report that Santee Cooper has completed the most successful year in its more than 50 years of service to the state. This is evidenced by our highest-ever reinvested earnings total – more than $51.5 million.

Our energy sales also reached an all-time high of 13,136 gigawatt-hours. Furthermore, through its payments in lieu of taxes, Santee Cooper increased its contribution to the state to a total of $5.2 million.

Over on the production side, our kilowatthour sales of electricity increased by about 9 percent and our electric revenues were up about 11 percent.

In terms of energy consumption, this represents a 2 percent increase by residential customers, 4 percent by commercial customers, 1 percent by industrial customers, and 6 percent by Central Electric Power Cooperative and the municipalities of Bamberg and Georgetown.

Significant to Santee Cooper is the continued full production output and full employment by Alumax, Santee Cooper's largest industrial customer.

Growth in our number of customers was also steady. A total of 2,700 residential and 510 commercial customers were added, which represents increases of 4 and 3 percent, respectively.

All of this is a reflection of the stability and continued economic growth within the areas served directly by Santee Cooper or by the 15 electric cooperatives which are members of Central.

We are also pleased that Santee Cooper has been able to maintain a stable rate base, allowing our customers to benefit by having among the lowest costs for electricity in the state. While this is an economic benefit to them, it is also a tribute to the dedication of our employees and the effective management of our resources. It is significant to note that we have not had a rate increase since 1985 and do not project having to make any adjustments before 1992.

Our financial rating during the year also maintained its strength. Both Moody's and Standard and Poors reaffirmed their confidence in Santee Cooper by maintaining our current A1, A+ bond ratings.

An important factor in maintaining these ratings has been Santee Cooper's consistent financial success during the past several years. Two primary measurements of this success are our debt service coverage and debt equity ratio. Both of these have shown improvement during the past year.

All in all, Santee Cooper had a tremendous year. We look forward to the opportunities and challenges of the next decade that will allow us to continue our tradition of service to the citizens of South Carolina.

Dwight A. Holder

REMARKS BY KENNETH R. FORD

President and Chief Executive Officer

Measuring the success of Santee Cooper's management, operations, and service goes well beyond our assessment of the bottom line. While this is always important from a business perspective, we must also measure our progress in terms of meeting defined corporate commitments that are equally important.

"Working Together" is one of those commitments. It defines a nonmeasurable but more meaningful relationship that Santee Cooper is determined to maintain with our customers, our employees, our investors, our electric cooperatives, and with the communities where we serve. It is also the relationship we must maintain with other utilities, with state government, with our local and state agencies, and with the citizens of our state.

From a management perspective, the changes in organization during the past year have been very smooth and orderly. The streamlining of our organization has strengthened Santee Cooper's unity of purpose and direction. It has renewed our emphasis on strategic planning and working together more closely to improve our planning for the future. The spirit of cooperation among our employees and the strong support from the board have provided a renewed enthusiasm and dedication toward continued success.

From a fiscal perspective, Santee Cooper had the best year in its history. Our energy sales reached an all-time high, reinvested earnings were the largest ever, our payment to the state increased, and we maintained rates that were among the lowest in the state.

Looking beyond the areas of management and finance, it is important to report on the progress of Santee Cooper with particular emphasis on our commitment for working together.

First – our customers. To serve them more effectively and with increased reliability, we have completed engineering, design, and construction on new lines and loop feeds to our growing service area. Also, to improve power delivery to our co-op customers, we are building new transmission lines and "beefing-up" existing circuits that feed power throughout 35 counties of the state.

We're working with other utilities also for the benefit of all customers in South Carolina who might choose to live in mobile homes. This is in the form of a set of Good Cents energy efficiency standards for all mobile homes constructed or sold in South Carolina. For the leadership role of our Energy Management unit developing this standard accepted by all utilities in the state, Santee Cooper was presented APPA's Energy Innovator Award for 1989.

There is probably no better way to work with our customers, our financial investors, and the citizens of South Carolina than through our Mini-Bond program, which was introduced last fall. The support for Santee Cooper was echoed loudly in an overwhelming response to the offering of smaller denomination, tax-exempt bonds. We'd hoped for a 4 or 5 million dollar

sale, and orders totalled over 17 million dollars.

Working together with state government and state agencies is another important priority with Santee Cooper. When the governor and State Budget and Control Board called on Santee Cooper to help the Patriots Point project, we said, "Yes," and worked closely with them to develop a viable plan. Even though the plan didn't work out, the importance of this experience is the confidence that was placed in Santee Cooper by the governor and State Budget and Control Board.

Working together with our legislators, legislative committees, and state agencies has increased significantly throughout the year. Their increased use of Wampee, our corporate training and conference center, as a resource for planning, training, and productive work sessions is a chronicle of this accomplishment. Our relationship with state government is probably stronger than it has been in a long time, and the commitment of working together is helping us maintain it.

A new state park – for the recreational and educational

benefit of all South Carolinians and visitors – is another product of such cooperative efforts. The State Department of Parks, Recreation and Tourism opened the gates to the Old Santee Canal State Park, the newest and most unusual facility of its kind in South Carolina. We are extremely proud of this joint accomplishment because it preserves the oldest canal in America, which was also the precursor to the Santee Cooper project, constructed more than a century later.

For our employees, no better example of working together can be seen than our Program for Employee Participation (PEP). PEP allows personnel assigned within various units to work together as a team in solving problems. Their efforts during the past year have resulted in improved practices, procedures, and work methods, in increased productivity and efficiency, and in considerable savings in time, dollars, and resources.

Employees work together every day in a manner that is paying off for Santee Cooper and its customers directly in the form of lower power costs. A prime example is the ranking of Santee Cooper's coal-fired generating system this past year as sixth best in the nation and best in the two Carolinas and Georgia, when compared to the top 100 investor-owned utilities in the country. This was based upon a survey of these utilities conducted by *Electric Light and Power* magazine. Santee Cooper's ranking was a teamwork effort – a combination of the Production Department's Goals Program, good maintenance, high unit availability, and careful operations.

The annual savings of over $5 million resulted also from the combined efforts of our highly qualified performance testing crews, effective fuel purchasing, and through a dedicated Systems Operations team which provided economic dispatching, kept excess on-line generation to a safe minimum, and made prudent purchases and sales of power.

Working with our electric cooperatives, through Central and directly, has been an essential part of our success this year and on a daily basis. Through coordinated planning, assistance in transmission and distribution, joint advertising and promotion, and a unified economic development effort, we are seeing that teamwork can make a difference.

The most significant results of this consolidated effort with the electric cooperatives can be seen in three major industrial announcements during the year: first, Willamette Industries' decision to locate in Marlboro County; Teledyne Alvac, Inc.'s move to Chester County; and finally, Nan Ya Plastics Corporation's selection of Lake City as the location for their new plant. Net results of all of this industrial growth on the co-op system will be more than 1,000 new jobs, and the majority of these successes would not have occurred without the combined and cooperative efforts of Santee Cooper, Central, the co-ops, and Palmetto Economic Development Corporation.

Working to improve our environment is always a concern and a responsibility of Santee Cooper. In cooperation with the South Carolina Water Resources Commission, the Department of Wildlife and Marine Resources, and the U.S. Army Corps of Engineers, 100,000 sterile, weed-eating Chinese grass carp were released into the Santee Cooper lakes in hope of helping manage the growing infestation of aquatic weeds that has become an annoyance to navigation, power production, and recreation.

The examples of "Working Together" as the new corporate commitment of Santee Cooper are numerous. Just ask any of our employees or members of our management team. They will each tell you that "working together" works. It's the secret of their success, and with their dedication and commitment, we plan to continue that success for the benefit of Santee Cooper's customers and the people of this state.

The continued leadership, support, and input from our board is equally essential for success, and it is appreciated by all members of the Santee Cooper team. All of us working together, pulling and pushing in the same direction, will assure our position as one of the most innovative, productive, and responsive utilities in the country – one of which the people of South Carolina can be proud.

Ken Ford

Working Together

It's more than a theme for this report. It is Santee Cooper's reason for existence. Working together is the essence of Santee Cooper's charter from the legislature. But it is also the objective of our day-to-day efforts in doing what we can do to improve the "health, welfare and material prosperity of the people of South Carolina," the mission of Santee Cooper as defined by its enabling legislation.

Working together – at once a method of doing... and the goal of that doing.

Working together inspires us. In it, we find fulfillment as individuals and as an enterprise. In working together we aspire to the best, individually and collectively. And in working together we come closer to that goal, because the will and the work of the many always creates an energy and direction and purpose greater than the sum of its parts.

Our commitment is to continue *working together* for our customers, our employees, our investors, our state, and all its people.

E.L. Ayers and William Craig at Willamette construction site

E. L. Ayers knows a thing or two about working together. He is vice chairman of Palmetto Economic Development Corporation, president of Central Electric Cooperative, Inc., and general manager of Fairfield Electric Cooperative, Inc. In his leadership capacity, he works with Santee Cooper in recruiting new industries into the Palmetto State. "I'm excited with the partnership we have," Ayers says. "It means a lot to our organizations, but it means even more to South Carolina."

When Willamette Industries of Portland, Oregon chose a Marlboro County location for its $325 million paper mill, Ayers had every reason to be glad. The new plant, projected to create 250 new jobs, will use 42 megawatts of electricity, says William Craig, general manager of Marlboro Electric Cooperative, power supplier for the new venture. "That makes it the largest load ever served by a co-op in this state," he adds.

Steven Rogel, Willamette Paper Group vice president, acknowledges the impact of the year-long joint economic development efforts that brought his company to this state. "With Marlboro Electric, we are dealing with local people, day by day, face to face, in a small business atmosphere," he explains.

Sums up Ayers, "When we all work together, we have an unbeatable team. We can approach industry and be successful, and our record shows this. Neither Santee Cooper nor Marlboro Electric could have achieved this alone. But our teamwork made it happen, to the benefit of our customers, Santee Cooper, and the entire state."

ENERGY SALES

At the end of the fiscal year, Santee Cooper was serving 88,592 residential, commercial, and other retail customers located in Berkeley, Horry, and Georgetown counties. This was an increase of 3,199 or 3.8 percent over the previous year. Of this increase, 2,700 were residential, 510 were commercial, and there was a decrease in public street lights and other of 11. This compares with growth in 1988 of 3,026 residential and 417 commercial.

Sales to these retail customers were 1,864 gigawatthours, up 3.4 percent over the previous year.

The average annual consumption of electricity by Santee Cooper residential customers decreased to 11,814 kilowatthours, 1.7 percent less than the previous year and 28.9 percent greater than the national average.

The average cost per kilowatthour for Santee Cooper residential customers was 6.44 cents, .3 percent less than the previous year, and 14.0 percent lower than the national average.

The average cost of power for Santee Cooper commercial

customers was 5.64 cents, down .7 percent from 1988 and 20.0 percent lower than the national average.

Industrial sales were 4,998 gigawatthours, up 1.4 percent over the previous year. The average cost of power to industrial customers was 3.36 cents per kilowatthour, 9.8 percent greater than the previous year and 29.4 percent lower than the national average.

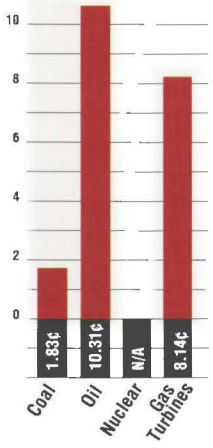
Sales to U.S. Air Force bases at Charleston and Myrtle Beach and to the Charleston Naval Station increased 13 gigawatthours, or 3.1 percent.

Sales through Central Electric Power Cooperative, Inc. to its 15 member co-ops increased 6.5 percent to 5,072 gigawatthours. Central is Santee Cooper's largest single customer. The electric cooperatives distribute power to more than 300,000 customers in 35 counties of the state.

Sales to the municipalities of Bamberg and Georgetown increased 2.7 percent.

Fuel Generating Cost

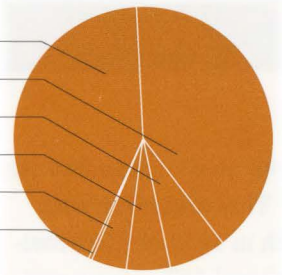
Cents / KWH
Fiscal Year 1989



Energy Sales

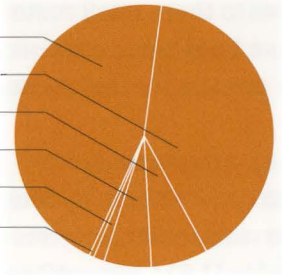
Fiscal Year 1989 (MWH)

Industrial	5,443,831	41.44%
Sales to Electric Co-ops	5,071,963	38.61%
Commercial	980,605	7.47%
Residential	850,018	6.47%
Other Sales for Resale	755,526	5.75%
Public Street Lighting & Other	33,720	.26%



Fiscal Year 1988 (MWH)

Industrial	5,361,414	44.39%
Sales to Electric Co-ops	4,761,653	39.43%
Commercial	940,941	7.79%
Residential	830,620	6.88%
Other Sales for Resale	150,431	1.25%
Public Street Lighting & Other	31,639	.26%



DISTRIBUTION

Santee Cooper provided distribution and retail service to 88,592 customers in Berkeley, Horry, and Georgetown counties, compared to last year's total of 85,393, for an increase of 3.8 percent. Energy sales for retail customers were 1,864,343 megawatthours with revenue of $111,976,333 for the year.

The Horry-Georgetown Division serves the municipalities of Myrtle Beach, Conway, Loris, North Myrtle Beach, Surfside Beach, Pawleys Island, Atlantic Beach, and Briarcliffe Acres, along with the unincorporated areas of Arcadian Shores,

Garden City, Murrells Inlet, and Waccamaw Neck.

The Horry-Georgetown Division provided new service to 1,444 single-family and multi-family homes and commercial projects. Among the new starts were River Hills Golf Club, an 18-hole course; a 1,000-lot subdivision in Little River; and Inlet Oaks Mall, which will contain seven major stores and 48 shops located in Garden City.

The project to upgrade the system in Conway by converting from 4 kV distribution primary voltage to 12 kV is now 80 percent complete. During the year, new power transformers were installed at North Conway and Caropines substations. Six additional substation main distribution feeders were energized to provide for new growth and system improvement. Within the division, approximately 15,000 meters are tested annually to ensure accurate customer readings.

The division's automated mapping system currently encompasses 75 percent of the Horry-Georgetown service area. This facility's data base, which provides access, retrieval, and storage of mapping data, is used by various departments within Santee Cooper to provide safe, reliable service for all customers.

SCADA (Supervisory Control and Data Acquisition) has operated in the Horry-Georgetown Division for the past year. Currently, 94 percent of all substations are SCADA-controlled.

A new Customer Advisory Council was formed in the division for open communication with customers, who provide direct input into policies and procedures for services and activities. Members of the council represent a cross section of community interests and come from both Horry and Georgetown counties.

"Welcome Neighbor – A Guide to Santee Cooper Customer Services" was published, providing both residential and commercial customers with information on such subjects as new service, deposits, rates, and energy conservation.

Berkeley District – The Berkeley District provided underground service to a 24-unit retirement village, a 20-lot residential subdivision, and the second phase of Sterling Oaks Subdivision.

Three-phase underground service was supplied to Santee Cooper's new office building, new services building, and new carpenter shop located near Overton Subdivision.

Construction power was furnished for the Pinopolis West Dam Project at several locations on the job site.

Approximately 102 distribution poles were replaced in the St. Stephen area for Santee TV Cable Company to provide proper code clearances.

The installation of the SCADA system for the Berkeley District was approximately 80 percent complete by the end of the fiscal year.

Approximately 3,000 feet of three-phase primary feeder was installed in phase one of Stony Landing Subdivision. This represents approximately 10 percent of the overall project.

ENERGY MANAGEMENT

Santee Cooper won its third National Energy Innovator Award from the American Public Power Association. The award recognizes Santee Cooper for its leadership in the development and implementation of a statewide energy-efficient mobile home standard for the state of South Carolina. It demonstrates Santee Cooper's commitment to serve customers across the state in the most efficient manner.

Energy Management, working together with Corporate Forecasting, Rates, and Statistics, devised new standards to provide uniform energy efficiency standards for mobile homes sold in South Carolina. These standards were endorsed with a proclamation signed by Governor Carroll Campbell. The coincident peak demand for a mobile home constructed to the new standards is approximately 36 percent lower in the peak summer month and 50 percent lower in the peak winter month,

When South Carolinians pick a place to call home, they often choose what they call a "mobile home," and that suits Eddy Mitchell, president of Mascot Homes Inc., just fine. For 25 years, he and other members of his family, the owners and operators of Mascot, have been producing quality, top-of-the-line manufactured housing in Gramling, SC. "We've been building manufactured housing units above the accepted standards for years. That's why I've got to brag on Santee Cooper. Thanks to their efforts, we've got standards to follow in this state. And we build to meet those standards."

Mitchell is referring to this year's Energy Efficient Mobile Home Standards for South Carolina. Signed as a proclamation by Governor Carroll Campbell in January, the standards outline recommendations for manufacturers to follow on insulation levels, window glazing, ventilation, and other aspects of home heating and cooling. Though voluntary, the standards provide shoppers with a yardstick with which to measure a home's energy efficiency.

"Individuals living in manufactured housing built to these guidelines can expect costs for heating and cooling to be 40 to 50 percent less than for a pre-standards unit," explains Energy Management manager Glenn Cannon, who spearheaded the standards campaign.

Also enthusiastic about the state endorsement is Charlie Webster, executive vice president and general manager of Horry Electric Cooperative. "Over thirty percent of our residential customers live in manufactured housing. We're pleased that the new standards will give our customers more comfort in their homes, which will operate more efficiently too. Working with Santee Cooper and the other utilities on this project has been a big plus to Horry Co-op."

Ralph Camp, vice president and general manager of Mascot Homes, and Glenn Cannon at Gramling, SC plant

compared to a conventional, non-energy-efficient mobile home.

The Good Cents Improved Home Award was granted to 313 customers in its first year of implementation. Through this program, homeowners convert their existing homes to meet Santee Cooper's demand-side management requirements.

The Good Cents New Home Award was granted to 232 customers during the fiscal year. Since the program started in 1987, 400 homes have been built to the Good Cents specifications. The number qualifying this year represents approximately 10 percent of all new connects in our retail service area.

As a result of customers seeking to qualify for the Improved Home rate discount, requests for energy management services have dramatically increased. During the year, 1,640 residential audits and 138 commercial audits were performed. Two hundred twenty-seven energy audits were performed under the RCS (Residential Customer Service) Program, a federal requirement to provide energy savings through individualized energy audits. Load calculations and thermal design analyses for sizing electric heating and cooling systems

were provided for 1,630 residential customers and for 81 commercial customers.

The increasing customer awareness of the Good Cents Programs is reflected in the number of wholesale and municipal customers qualifying for New and Improved Home Awards. In addition, 677 of Central Electric Power Cooperative, Inc. members received the New Home Award and 799 customers received the Improved Home Award. To date, 1,694 Good Cents homes in cooperative service areas are receiving KWH rate discounts granted by Santee Cooper.

The End Use Metering project, implemented in conjunction with the Rates unit, continues to provide excellent load and market research data. The data validates the consistent monthly coincident and non-coincident peak demand reductions obtained through participation in the Good Cents New, Improved, and Mobile Home programs.

One hundred twenty-seven Good Cents loans for energy-efficient home improvements totaled $476,924 for the year. Of that total, $376,305 was loaned for 25 fossil fuel and 43 electric resistance heating system conversions to heat pumps. The total amount loaned since the initiation of the program is over $2 million.

The Good Cents Certified Heat Pump Dealers Program continued for its 13th consecutive year. The Heat Pump Advisory Council, which consists of elected members from the certified heat pump dealers, assists Santee Cooper personnel in the promotion and implementation of our heat pump programs.

Santee Cooper's Energy Education Safety Program, "Louie, the Lightning Bug," was presented to 11,050 students in 29 schools and to three civic organizations in Berkeley, Georgetown, and Horry counties during the 1988-89 school year. "Ouch, the Outlet," a safety program for ages 4 to 6, was introduced this year to area schools.

The second Energy Educators' Seminar was held for 30 teachers in June. The teachers attended seminars on such topics as school conservation, consumer information, environment, electricity, public utility finance, and crayfish farming. They also toured energy facilities and practiced hands-on classroom activities.

GENERATION AND LOAD GROWTH

Santee Cooper facilities, which include one-third ownership of the V.C. Summer Nuclear Station, generated 13,370,710 net megawatthours of electricity this year. This was an increase of 892,923 megawatthours, or 7.2 percent, above last year.

Of the total energy generated, 87.3 percent was produced using coal, 9.9 percent by nuclear, 2.7 percent by hydroelectric, and 0.1 percent by oil. The peak hourly demand for the fiscal year was 2,306, which occurred on June 28, 1989. This was an increase of 4.1 percent over FY 88.

NUCLEAR OPERATIONS

The V.C. Summer Nuclear Station, an 885-megawatt nuclear plant jointly-owned with South Carolina Electric & Gas Company, continued to be a major contributor to Santee Cooper's energy supply during FY 89. During this period, Santee Cooper's one-third ownership of the Summer Station provided almost 1.3 billion kilowatthours of electricity for our customers, or 10 percent of the company's total electrical sales.

The plant underwent its fourth refueling outage during the fall of 1988. In addition to the refueling, this scheduled outage included numerous modifications and extensive maintenance activities which could only be accomplished while the unit was off-line. The next refueling outage is scheduled for the spring of 1990.

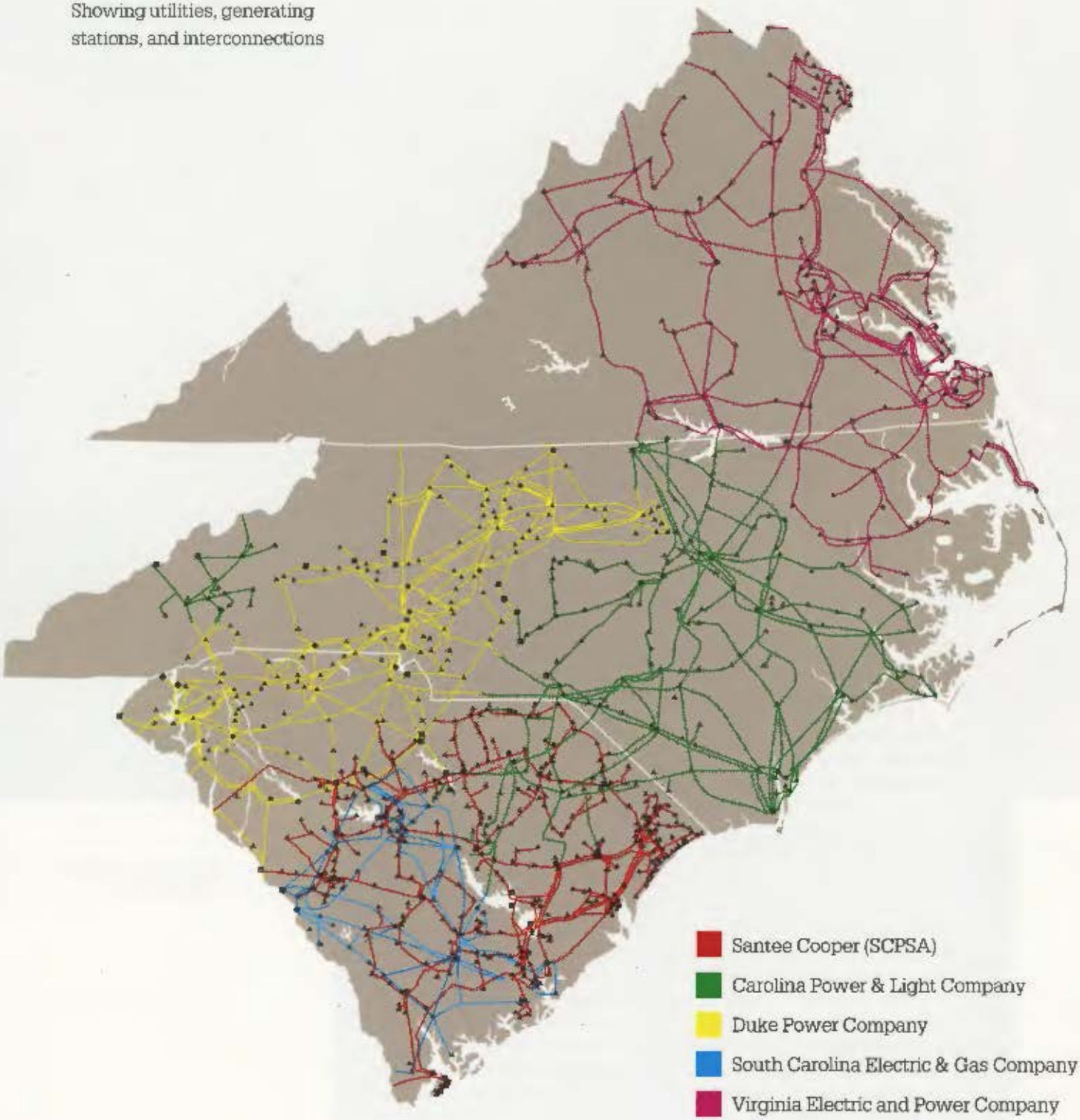
Nuclear fuel continues to be one of our cheapest energy sources, averaging only about one-fourth the cost of fossil fuel.

RELIABILITY

Santee Cooper is one of 30 member organizations in SERC (Southeastern Electric Reliability

VIRGINIA-CAROLINAS RELIABILITY GROUP (VACAR)

Showing utilities, generating stations, and interconnections



When Santee Cooper signed a contract for the sale of excess generating capacity to Virginia Power this year, that meant South Carolina's state-owned utility was helping light some of the nation's landmarks.

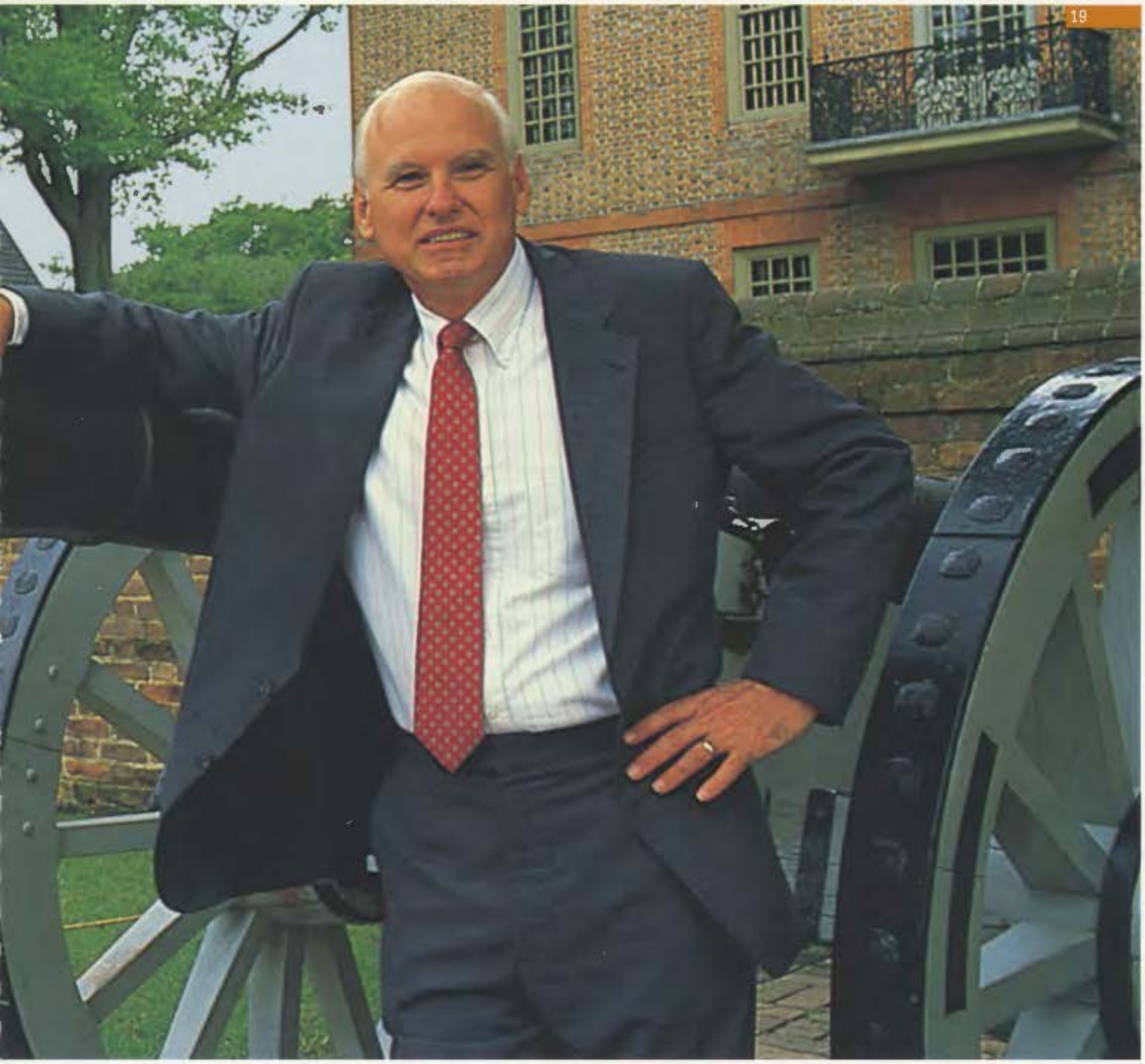
"We supply power to Historic Williamsburg, to the Pentagon, and to all the military installations in Norfolk," explains Virginia Power's Larry Ellis, vice president, System Planning and Power Supply. "Our service territory covers 30,000 square miles--most of Virginia and the northeastern section of North Carolina. We serve Richmond, where we have our corporate headquarters, and Charlottesville, where Monticello and the University of Virginia are located."

More than 4 million people inhabit Virginia Power's service territory. "Besides 165,000 commercial customers, we also have 900 industrial customers, including our largest, Newport News Shipbuilding and Drydock," states Ellis.

Working together with other utilities to meet the power supply needs of customers is a common practice for Santee Cooper. Power companies with extra generating capacity market that additional energy to other utilities on a short-term basis. "We do this routinely," states Joe Thomas, vice president, Planning and Operations. He explains that the result of these sales of energy and excess capacity are lower power costs for Santee Cooper customers, passed along through credits on monthly power bills.

"We're pleased to have the opportunity to work with Virginia Power in helping them meet their short-term power requirements," Thomas says.

Larry Ellis in Historic Williamsburg



Council) which includes all power suppliers in the region with a generating capacity of 25 megawatts or more. The council assists member systems in their coordination of overall planning and operations to achieve maximum reliability of power supply.

Santee Cooper is also one of seven power systems in VACAR (Virginia-Carolinas Reliability Group) which includes South Carolina Electric & Gas Company, Carolina Power & Light Company, Duke Power Company, Virginia Power, Yadkin Inc., and the Southeastern Power Administration. The member systems have a coordination agreement to safeguard the reliability of their service.

Santee Cooper maintains interconnections with the Southern Company and the Southeastern Power Administration at the R.B. Russell Dam; with the Southern Company at McIntosh; with South Carolina Electric & Gas at Bushy Park, North Charleston, St. George, Mateeba, Columbia, and the V.C. Summer Nuclear Station; with the Southeastern Power Administration, Duke Power Company, South Carolina Electric & Gas,

and the Southern Company at Lake Thurmond; and with Carolina Power & Light Company at Darlington, Hemingway, Kingstree, Lugoff, and Darlington County Plant.

SYSTEM PLANNING

System Planning worked with Design Engineering, Project Management, and Distribution Engineering, Horry-Georgetown, to plan the expansion of Santee Cooper's bulk electric power system.

System Planning and Power Supply personnel are participating in a cross-training program for supervisors involved in short-term and long-term planning of the operation and expansion of the bulk electric power system.

In the Horry-Georgetown Division, a program has been initiated to promote cooperation between all utilities – electric, gas, water, telephone, and cable television – to improve communication and cooperation with contractors and developers in the fast-growing areas in Horry and Georgetown counties. System Planning personnel participated in these activities to work together better to coordinate system expansion plans. System Planning personnel regularly attend Horry County Planning Commission and Waccamaw Regional Planning Council Technical Committee meetings in order to work with these planning bodies to meet the area growth.

Santee Cooper's System Planning personnel, working together with Central Electric Power Cooperative and Central-member cooperatives, have developed plans to convert lower voltage transmission to 115 kV in Aiken, Lexington, and Horry counties, where selected stations of Aiken, Mid-Carolina, and Horry electric cooperatives will be converted to 115 kV stations.

A Generation Deficiency Task Force was formed with personnel from System Planning, Production, Finance, and Customer Services. Their goal is to promote customer improvement and conservation programs with new generation only when it becomes the least-cost alternative for customers.

PRODUCTION ENGINEERING AND CONSTRUCTION MANAGEMENT

Design and construction began on a $2.8 million maintenance shop/warehouse facility at Winyah Generating Station. This facility, to be completed in the fall of 1989, will house the maintenance staff and include large metal working equipment, which will allow repairs of rotating machinery, such as turbine rotors, from all Santee Cooper stations.

Following a study to determine criteria for future generating station controls, design began on a distributed control system for upgrading the Grainger Generating Station data acquisition system.

At Cross Generating Station, a contract settlement was negotiated for the steam generator to provide for any tube material problems which may occur. The flue gas desulfurization (FGD) system outlet ducts were partially lined with high nickel content alloy to substantially extend duct life. Also at Cross, fire protection systems were improved for the FGD area, electrostatic precipitator, furnace burner area, generator exciter cabinet, and equipment with extensive lube oil piping.

At Jefferies Generating Station, the station water treatment systems were improved by installing a new clarifier and an additional 300,000 gallon condensate storage tank. Also, the fire protection system was improved by adding a diesel-powered fire pump, extending the yard fire main and hydrant system, and enlarging the sprinkler coverage of the transformers and lubrication oil piping at the hydroelectric station.

At Winyah Generating Station, Unit 2 was improved by modifying the steam generator radiant reheater and installing a new section of the FGD system ductwork fabricated of corrosion-resistant high nickel content alloy. Also, the station fire protection system was improved by increasing the capacity of the diesel-powered

(Continued on page 24)

Power Generating Stations

Jefferies Hydro Generating Station

Location: Pinopolis, SC
Fuel Type: Water (Hydroelectric)
Generating Capability: 128 megawatts
Construction Cost (excluding interest):
$58.6 million / $458 per kw
Began Commercial Operation: 1942
FY 1989 Generation: 187.7 million kwh
Fuel Consumption - FY 1989: N/A
Fuel Cost - FY 1989: none
Fuel Cost per kwh: none
Principal Features: Jefferies Hydro has four turbine generators which were initial units for the Santee Cooper Hydro Electric and Navigation System in 1942. Powerhouse is located at base of Lake Moultrie, with water level 75 feet above Tail Race Canal. Single-lift lock provides boat passage between Cooper River and Santee Cooper lakes. Water source is cumulation of rivers and streams draining 15,000 square mile Santee River Basin Watershed, which extends through the central and upper part of the state into western North Carolina.

Grainger Steam Generating Station

Location: Conway, SC
Fuel Type: Coal
Generating Capability: Units 1 & 2 - 170 megawatts
Construction Cost (excluding interest):
$ 29.2 million / $172 per kw
Began Commercial Operation: 1966
FY 1989 Generation: 325.4 million kwh
Fuel Consumption - FY 1989: 136,586 tons of coal
Fuel Cost - FY 1989: $5,449,211
Fuel Cost per kwh: 1.675 cents
Principal Features: Grainger Steam Generating Station was constructed by and is owned by Central Electric Power Cooperative, Inc. with funds received through a Rural Electrification Administration loan. The plant is operated and maintained by Santee Cooper, which is making payments on the long-term REA loan. When the loan is paid off, Santee Cooper will maintain ownership of the station.

Santee Spillway Generating Unit

Location: Pineville, SC
Fuel Type: Water (Hydroelectric)
Generating Capability: 2 megawatts
Construction Cost (excluding interest): $.04 million
Began Commercial Operation: 1950
FY 1989 Generation: 11.4 million kwh
Fuel Consumption - FY 1989: N/A
Fuel Cost - FY 1989: none
Fuel Cost per kwh: none
Principal Features: Hydro unit with small turbine generator was installed to generate power using the required discharge of 515 cfs into Santee River. Unit is operated remotely from Jefferies Steam Generating Station. Spillway is used in utility's flood control program for releases of water down Santee River.

(Continued)

POWER GENERATING STATIONS *(continued)*

Hilton Head Combustion Turbines

Location: Hilton Head Island, SC
Fuel Type: Oil
Generating Capability:
Unit 1 - 20 megawatts
Unit 2 - 20 megawatts
Unit 3 - 57 megawatts
Construction Cost (excluding interest):
Unit 1 - $ 2.7 million /$135 per kw
Unit 2 - $ 2.2 million / $110 per kw
Unit 3 - $ 9.8 million / $172 per kw
Began Commercial Operation:
Unit 1 - 1973
Unit 2 - 1974
Unit 3 - 1979
FY 1989 Generation: 9.8 million kwh
Fuel Consumption - FY 1989: 1,052,614 gallons
Fuel Cost - FY 1989: $845,811
Fuel Cost per kwh: 8.612 cents
Principal Features: Hilton Head Combustion Turbines were added to system to assist in meeting growing peak load demand, particularly on most southern end of Santee Cooper's transmission system. Units also provide 97 megawatts of backup emergency generation for the barrier island resort community if it should be cut off from the mainland power supply by a hurricane or other severe weather.

Jefferies Steam Generating Station

Location: Pinopolis, SC
Fuel Type:
Units 1 & 2 - Oil
Units 3 & 4 - Coal
Generating Capability:
Units 1 & 2 - 92 megawatts
Units 3 & 4 - 306 megawatts
Construction Cost (excluding interest):
Units 1 & 2 - $ 15.7 million / $171 per kw
Units 3 & 4 - $ 54.8 million / $179 per kw
Began Commercial Operation:
Units 1 & 2 - 1954
Units 3 & 4 - 1970
FY 1989 Generation:
Units 1 & 2 - 3.5 million kwh
Units 3 & 4 - 1.2 billion kwh
Fuel Consumption - FY 1989:
Units 1 & 2 - 13,956 BBL
Units 3 & 4 - 536,661 tons of coal
Fuel Cost - FY 1989:
Units 1 & 2 - $362,361
Units 3 & 4 - $24,198,867
Fuel Cost per kwh:
Units 1 & 2 - 10.306 cents
Units 3 & 4 - 1.937 cents
Principal Features: Jefferies Steam Units 1 and 2 are oil-fired turbine generators. Installed when oil was the most economic source of fuel, these units are used basically on a standby basis and for peak load generation. Units 3 and 4 were initially oil-fired and later converted to coal to take advantage of the more economic fuel.

Winyah Steam Generating Station

Location: Georgetown, SC
Fuel Type: Coal
Generating Capability:
Units 1, 2, 3, & 4 - 270 megawatts each
Construction Cost (excluding interest):
Unit 1 - $ 62.4 million / $231 per kw
Unit 2 - $ 73.2 million / $271 per kw
Unit 3 - $ 118.0 million / $437 per kw
Unit 4 - $ 110.3 million / $409 per kw
Began Commercial Operation:
Unit 1 - 1975
Unit 2 - 1977
Unit 3 - 1980
Unit 4 - 1981
FY 1989 Generation:
Unit 1 - 1.8 billion kwh
Unit 2 - 1.7 billion kwh
Unit 3 - 1.5 billion kwh
Unit 4 - 1.6 billion kwh
Fuel Consumption - FY 1989:
Unit 1 - 680,701 tons of coal
Unit 2 - 684,175 tons of coal
Unit 3 - 641,997 tons of coal
Unit 4 - 655,379 tons of coal
Fuel Cost - FY 1989:
Unit 1 - $30,261,517
Unit 2 - $30,359,874
Unit 3 - $28,545,189
Unit 4 - $29,187,419
Fuel Cost per kwh:
Unit 1 - 1.720 cents
Unit 2 - 1.794 cents
Unit 3 - 1.881 cents
Unit 4 - 1.862 cents

Principal Features: Winyah is Santee Cooper's largest generating station. Units were constructed during a half decade of OPEC-driven high inflation, rising construction costs, and fastest growth of demand and energy use in company's history.

Myrtle Beach Combustion Turbines

Location: Myrtle Beach, SC
Fuel Type: Oil
Generating Capability:
Units 1 & 2 - 20 megawatts
Units 3 & 4 - 40 megawatts
Unit 5 - 30 megawatts
Construction Cost (excluding interest):
Units 1 & 2 - $ 2.7 million/ $135 per kw
Units 3 & 4 - $ 3.9 million/ $98 per kw
Unit 5 - $ 2.7 million/ $90 per kw
Began Commercial Operation:
Units 1 & 2 - 1962
Units 3 & 4 - 1972
Unit 5 - 1976
FY 1989 Generation: 8.4 million kwh
Fuel Consumption - FY 1989: 996,227 gallons of oil
Fuel Cost - FY 1989: $637,241
Fuel Cost per kwh: 7.591 cents
Principal Features: Myrtle Beach combustion turbines were installed to help meet extraordinary peak demands resulting primarily from summertime population explosion along Grand Strand resort area. Units are presently used for peak load generation.

Summer Nuclear Generating Station

Location: Jenkinsville, SC
Fuel Type: Nuclear
Generating Capability:
295 megawatts (1/3 of 885 megawatts)
Construction Cost (excluding interest):
$336.0 million / $1,139 per kw
Began Commercial Operation: 1983
FY 1989 Generation: 1.3 billion kwh
Fuel Cost - FY 1989: ($1,435,726)*
Fuel Cost per kwh: N/A
Principal Features: Santee Cooper has one-third share of plant which is jointly-owned with South Carolina Electric and Gas Company. SCE&G operates and maintains plant. When unit was constructed, it was the first joint nuclear project in the Southeast between public and private utilities.

** During fiscal year 1989, deferred credits and related interest of approximately $8,756,000 were used to offset the additional fuel costs associated with replacement energy during the Summer Nuclear Station refueling outage.*

Cross Steam Generating Station

Location: Cross, SC
Fuel Type: Coal
Generating Capability: 520 megawatts
Construction Cost (excluding interest):
$366.9 million / $706 per kw
Began Commercial Operation: 1984
FY 1989 Generation: 3.6 billion kwh
Fuel Consumption - FY 1989: 1,337,494 tons of coal
Fuel Cost - FY 1989: $64,862,423
Fuel Cost per kwh: 1.827 cents
Principal Features: Cross Station has the largest single unit in Santee Cooper's generating system. It is located between Lakes Marion and Moultrie. A unique feature is the adjoining Aquaculture Center with a two-and-one-half acre greenhouse which operates using residual heat from the station's cooling cycle.

St. Stephen Hydro Generating Station

Location: St. Stephen, SC
Fuel Type: Water (Hydroelectric)
Generating Capability: 84 megawatts
Construction Cost (excluding interest):
$63.7 million / $758 per kw
Began Commercial Operation: 1985
FY 1989 Generation: 168.5 million kwh
Fuel Consumption - FY 1989: N/A
Fuel Cost - FY 1989: none
Fuel Cost per kwh: none
Principal Features: St. Stephen Hydro Generating Station was constructed and is maintained by the U.S. Army Corps of Engineers as part of the Cooper River Rediversion Project. It is operated remotely by Santee Cooper from the energy control center in Moncks Corner. The Rediversion Project was designed to reduce the silting of Charleston Harbor. With its operation, water previously discharged through the generating turbines at the Jefferies Hydro Station is rediverted through the St. Stephen facility and discharged into the Santee River.

fire pump system; cross-connecting the systems of Units 1 and 2 with the systems of Units 3 and 4; providing additional sprinkler capacity at the turbine lube oil locations; and supplying CO_2 systems for the generator exciter cabinets.

Special projects included planning and construction activities for the Atlantic Center for Business and Industry in Horry County and construction management services for the completion of the main office annex building.

PERFORMANCE AND ENVIRONMENTAL SERVICES

The Performance Services group conducted ten operating heat rate tests and five ASME (American Society of Mechanical Engineers) turbine cycle performance tests on various generating station units. Cooling tower capability tests on Cross and Winyah generating station towers and performance tests on Cross and Winyah generating station steam generators were conducted.

A computer modeling group was formed in Performance Services to use Santee Cooper's mainframe computer in develop-

Senior Training instructor George Patrick and Home Telephone Company linemen Chas Burbage and Barry Heyward during training

"Our linemen install and maintain phone equipment that hangs underneath Santee Cooper equipment, on the same pole. It makes sense to join forces in training our crews, also." That's how Elwood Varner, outside plant manager for Home Telephone Company in Moncks Corner, explains a joint training effort between the two utilities, initiated this year.

Through the cooperation of Santee Cooper's Training and Development unit in Human Resources, newly-hired Home Telephone field personnel received individualized instruction in pole climbing, care of equipment, and safety at the Authority's corporate headquarters.

The training sessions were customized to meet the telephone company's needs. The employees learned and practiced the techniques of "hitchhiking," a term used to describe belt climbing, and free climbing. As with all Santee Cooper linemen, safety was emphasized as the first consideration in any type of line work. "We've always worked closely with Santee Cooper out in the field," says Varner. "Traditionally, we've trained our workers ourselves. But most of our cable is buried now; there isn't as much opportunity for new employees to learn to climb. That's why we turned to Santee Cooper."

Watching members of a line crew descend a pole with ease on their final day of training, he says with approval, "It's hard to believe that this week was the first time these men put on their climbing spikes and belts."

ing thermodynamic models of each of the generating units.

The Environmental Services section performed numerous analytical tests at Santee Cooper generating stations. Environmental seminars were conducted to educate several employee groups on state and federal regulations and their impact on operations.

The PCB management plan was updated; applications for discharge permits were made; over 100 SPCC plans were published; and work began on storm water discharge permitting. Administration continues in such areas as community right-to-know, used oil management, PCB management, solid and hazardous waste management, monitoring of underground storage tanks, ground water monitoring, and spill prevention, control, and countermeasures.

PRODUCTION OPERATIONS MANAGEMENT

Santee Cooper's generation had one of its most successful years with generation up 7.2 percent over FY 1988. Santee Cooper finished sixth in the nation for heat rate efficiency on coal-fired units. This gives Santee Cooper the most efficient generating system in the Southeast. Savings in coal burned, due to lower heat rates, over the past three years amounted to $3.53, $4.46, and $6.57 million during fiscal years 1986, 1987, and 1988, respectively.

Availability of our coal-fired generation also improved. Coal-fired units averaged 89.2 percent availability, with five of the nine coal-fired units achieving availability greater than 90 percent. The national average availability is approximately 83 percent.

Grainger Station repeated as the Goals Program winner for CY 1988, placing first in five of the seven goals. Grainger achieved an average station availability of 93.6 percent and had only one recordable accident during the year. Cross Station won the heat rate goal, saving the equivalent of $967,000 in coal when compared to the previous year's heat rate efficiency.

Sales of fly ash, one of the by-products of generation, were $55,949. Fly ash marketing efforts will continue to increase the use of this resource. A successful project involving use of ash as road base material was moved to Columbia to allow evaluation of the project by South Carolina Department of Highways & Public Transportation officials.

Production performed a rebuild of the Jefferies Hydro Unit No. 4, the first time this has been done since the units were initially operated in 1942. The 24-week outage required complete disassembly and reassembly of the unit and off-site machining of several of the large components. Also, the Spillway Hydro Unit generator was rewound, and Winyah Unit No. 1's five-year generator inspection was completed.

Production began construction of a maintenance/warehouse complex at Winyah Station to provide large scale shop services to all Santee Cooper generating stations. Also, a computerized maintenance system was started, which will track work requests, coordinate parts, and provide a history on station equipment and maintenance practices.

All indoor PCB transformers in the generating stations were replaced to eliminate the risk of PCB fires occurring inside the generating station structures.

The fire protection systems at all the generating stations were improved to help minimize losses in the event of a fire.

This year, several programs and modifications to improve performance of station equipment were initiated, such as LOI reduction on Winyah Unit No. 3, condenser leak checking, and unit equipment component testing.

POWER SUPPLY

By using its unit commitment and interchange evaluation program, Power Supply has been able to lower the system operating costs and increase our sales of energy to neighboring utilities.

In addition to low-cost economy sales, a contract was signed with Virginia Power for

capacity and energy sales over a two-year period beginning January 1, 1989. This brings Santee Cooper's off-system capacity sales to 215 megawatts. A total of 601,773 megawatthours of energy was sold to Virginia Power and North Carolina Eastern Municipal Power Agency over the past year under the off-system sales contracts for a total of $19.6 million. System controllers purchased 176,360 megawatthours of economy energy from the interconnected utilities in FY 89 to displace higher cost generation for a savings of $670,857. Also, 279,484 megawatthours of energy was sold to the interconnected utilities for a total of $8.5 million.

Santee Cooper's SCADA (Supervisory Control and Data Acquisition) system was expanded both in transmission substations and in generating stations to provide system controllers with greater remote control and monitoring of the power system. A total of nine remote terminal units were installed during the year. Also, computer programs were installed and tested on the SCADA system which will continuously monitor the reliability of the power system.

DESIGN ENGINEERING

Design Engineering completed work on three major transmission line projects and six major substation projects involving 18 substations. Completion of these projects was necessary to meet increased customer demand on Santee Cooper's system.

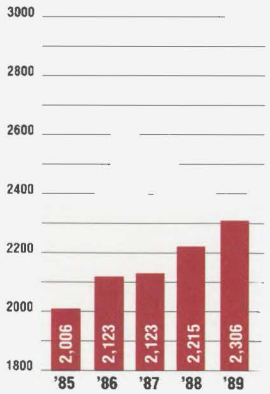
In addition, design was completed on 12 major Communications and SCADA projects including four microwave sites, a computer link between the transmission and distribution SCADA systems, and an alarm system that will warn Santee River Basin residents in the event of a breach in the North Santee Dam.

Phase III of a four-phase project for the inventory and mapping of the distribution system was completed. This will greatly aid operation and maintenance of the system by providing an accurate record of the facilities in the field.

Phase I of a three-phase project to network and integrate

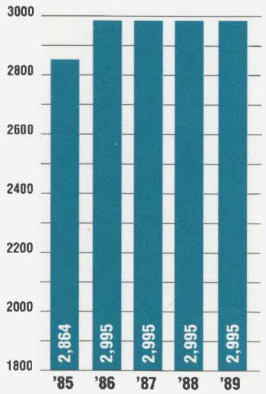
Peak Demand

Fiscal Year / In Megawatts



Capacity

Fiscal Year / In Megawatts



PEP has special meaning at Santee Cooper. It stands for the company's commitment to employee involvement and participative management. Through the Program for Employee Participation, small groups of employees who do similar work meet regularly to identify, analyze, and solve work-related problems.

The result? Working smarter leads to savings for the utility, and that means savings for customers. Explains PEP administrator Glen Brown, "The process improves communications, promotes teamwork, provides time and methods to identify problems, and trains employees in problem solving techniques."

Santee Cooper linemen formed some of the first PEP teams. "The line crews were naturals for this concept. Solving problems is a big part of their job," says Brown. Linemen Task Force 2, for instance, tackled the problem of uniform material placement on line trucks, bucket trucks, and service trucks. "We've got five crews in Myrtle Beach, and sometimes we rotate linemen from one crew to another," says service representative Earl Cooke. "If someone switched to a different crew, he had to spend some time learning where they kept all the working stock--small items like connectors, crimpets, grips, and hoses."

Now, as a result of the PEP project, linemen are able to locate material with ease. "We can do our service work faster without misplaced materials. And it helps during night and emergency situations, too," says Cooke.

Carlton Butler, Earl Cooke, and Jimmy Green with Myrtle Beach line crew

non-dedicated computers within the company is complete which will enable departments to work together from common data bases.

Survey work for the Old Santee Canal State Park and the Atlantic Center for Business and Industry aided other departments in successfully developing these properties.

GENERAL CONSTRUCTION

Santee Cooper's 42 miles of dams and dikes and its 59-mile-long navigation channel were maintained by work forces in General Construction who removed floatage and repaired the structures, channel markers, and buoys. An additional three miles of navigation channel were added this year through a joint venture between the South Carolina Wildlife and Marine Resources Department and Santee Cooper. The project involved clearing a 100-foot-wide channel from the north side of Lake Marion near Goat Island to the south side near Rocks Pond. This will ensure safe passage for those wishing to cross Lake Marion between these two tourist areas.

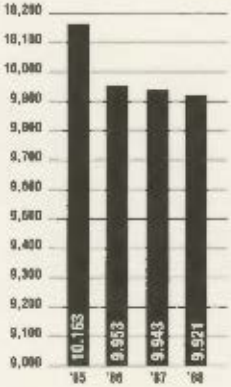
Many innovative projects are

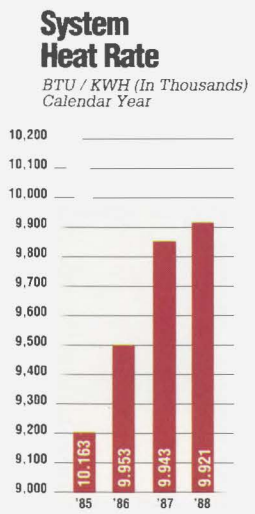
CORRECTION

We apologize for the incorrect graphics on the System Heat Rate chart on page 30 of the FY 1989 Annual Report. The numbers are correct but the bars are not. This mixup occurred due to the disruption of operations caused by Hurricane Hugo, which occurred on September 22, as the annual report was in its final stages of approval. The correct System Heat Rate chart is printed here:

System Heat Rate

BTU / KWH (In Thousands)
Calendar Year





underway to protect the safety and integrity of the project's dams. Over one million yards of soil have been moved downstream of the North Santee Dam during the past three years to provide controlled drainage and a cleared area for inspection. Construction has begun on completely replacing the Santee Spillway approach structure to return it to its original condition. The structure is 125 feet long and 16 feet wide, weighs approximately two million pounds, and will rest on eight piers extending through the dam over 70 feet in depth. Plans are complete to begin construction on a rock weir or submerged rock dam in the Diversion Canal that is part of the Federal Energy Regulatory Commission requirements for response to an emergency at the North Santee Dam. The submerged portion of the dam will be ten feet high and approximately 20 feet below the surface of the Diversion Canal and will act as the foundation for a cutoff dam to prevent flows from reversing in the unlikely event of a breach of the North Santee Dam. More than 20,000 tons of rock will be placed in the canal, and 30,000 tons will be stockpiled nearby. All of this work will have no effect on lake operations or recreational use and will preclude the need for rebuilding the North Santee Dam which will be a savings to the ratepayers of over $500 million.

Work is well underway for the Pinopolis West Dam Seismic Mitigation Project being performed by the U.S. Army Corps of Engineers. The work, estimated to cost $30 million, will be completed in October 1990.

A recent addition to General Construction services supporting new capital construction is a civil engineering testing laboratory for performing routine testing for corporate construction.

TRANSMISSION OPERATIONS

More than 13 billion kilowatthours of electricity were delivered to almost 400,000 customers through Santee Cooper's transmission system. This system consists of 3,437 miles of line and 58 transmission substations and switching stations with voltages ranging from 34,500 to 230,000 volts.

Power was supplied to over 88,000 retail and commercial customers, two municipalities, three military installations, 30 industrial customers, and approximately 311,000 customers served by 15 of the state's 20 electric cooperatives. Delivery points increased by eight to a total of 232. Transmission Operations maintains 14 transmission line ties with neighboring utilities.

Right-of-Way Management crews and contractors recleared 12,300 acres and maintained 70,000 danger trees systemwide. In an innovative approach to vegetation control and land conservation, the Right-of-Way Management section undertook two new programs. A helicopter-borne set of saws was used very effectively to sidetrim 62 miles of right-of-way. Compared to conventional tree trimming methods, this operation reduced expenses by 20 percent, took approximately one-tenth of the time, and caused no soil damage as is common in conventional means. Also, a comprehensive erosion control policy was instituted, including various plantings and soil stabilization activities.

PROJECT MANAGEMENT

Project Management coordinated substation and transmission line projects to provide improved system reliability for customers through new construction and upgrading of

existing facilities.

In the Horry-Georgetown area, the Windy Hill 115-12 kV Substation was completed, and work continued on the Campfield-Arcadia project.

In addition, design and construction for projects to support Central Electric Power Cooperative, Inc. totaled $9 million for FY 89. Projects completed were the 25-mile Aiken-Batesburg 230 kV line, Northern Aiken Loop, Crossroads Tap, and work at the Bluffton 230-115 kV Substation.

Elsewhere on the system, construction continued on the Charleston Naval Shipyard substations and transmission lines with completion scheduled for August 1989.

CORPORATE COMMUNICATIONS

Efforts were concentrated during the year in telling the story of Santee Cooper working together with its customers, employees, investors, and the people of South Carolina.

Corporate Communications directed the production of "Pushing Back The Darkness," a 24-minute historical documentary film which was produced by the South Carolina Educational Television Network and aired statewide during National Public Power Week.

The film was also distributed in videocassette format along with a new full color booklet and brochure to all school, university, and public libraries throughout the state. The "Pushing Back The Darkness" booklet tells the story of Santee Cooper's accomplishments in bringing electric power and economic progress to South Carolina, and the "Public Power Owned By The People Of South Carolina" brochure explains the company's role as a state-owned energy resource.

Working together with the electric cooperatives and other organizations, Santee Cooper increased its joint advertising, communications, and community support. Additional communications and joint marketing support was provided to the Electric Cooperatives of South Carolina, the statewide co-op organization, and to Palmetto Economic Development Corporation, a new joint economic development project of Santee Cooper and Central Electric Power Cooperative, Inc.

Santee Cooper also worked directly with several cooperatives and the state's municipal power association in promoting National Public Power Week in October. This included proclamations signed by the governor and several mayors and the publication of a tabloid section on "Public Power in South Carolina," which was inserted in four South Carolina weekly newspapers.

A desktop publishing system was installed by Corporate Communications to increase capabilities and improve the efficiency of in-house publications, graphic arts production, and other communications support.

For the fifth consecutive year, Santee Cooper won the top award for annual reports in the annual competition sponsored by the Advertising Federation of Charleston.

GOVERNMENTAL AFFAIRS

Santee Cooper came to the aid of South Carolina's electric cooperatives by conducting a series of legislative breakfasts to inform members of the General Assembly about Santee Cooper's role as South Carolina's major public power resource and the benefits of public power to the state. The staff also testified before House and Senate subcommittees in support of legislation which was passed to protect the electric cooperatives from hostile takeover attempts.

Legislation was also passed to include Sumter County among the counties which would be able to purchase treated water from Santee Cooper through a residual water treatment facility which was authorized in legislation passed the previous year. Other legislation impacting the Santee Cooper lake system included a new state law reducing the daily limit for striped bass from ten to five in South Carolina's lakes and rivers.

In the final days of the

It was called South Carolina's newest and most unusual state park, and it has lived up to its advance billing. In a cooperative effort, Santee Cooper and the South Carolina Department of Parks, Recreation & Tourism (PRT) developed the Old Santee Canal State Park in Moncks Corner on property preserved from the original Santee Cooper Hydro Electric and Navigation Project. When the gates swung open in July, visitors began to explore the park's lore of architectural, engineering, and natural history.

An active heron rookery and an osprey nesting area are among the highlights of the 250-acre park, where visitors are free to wander more than two miles of boardwalks and trails. "Our visitors like the boardwalks," says Mary Seabrook, one of two park curators. "It gives them a sense of security. Yet they are still so close to the environment that they can see fish feeding in the water." The path follows the last one-mile section of North America's first completely dug channel, the Santee Canal. This 1800 engineering feat gave produce-laden barges from the state's interior direct access to the port of Charleston.

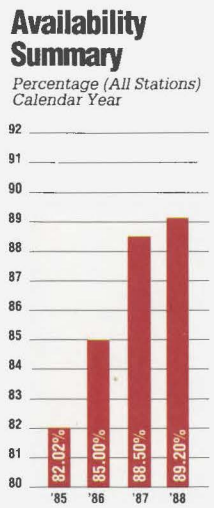
Canoe rentals offer visitors the opportunity to paddle a part of the canal and to explore the cypress swamp environment of Biggin Creek basin.

Park superintendent Ed Nesbit says that when the planned interpretive center opens next year, the park's special dual focus will be fully realized. "What attracted me to this park is its concept of interpretation and its mission of education," he explains. The new center will be the largest in the state park system, housing extensive exhibits on Lowcountry geology, plants, animals, and history.

Ed Nesbit and Mary Seabrook in Old Santee Canal State Park

legislative session, a bill was introduced to transfer the operations and management of Patriots Point, the world's largest naval and maritime museum, to Santee Cooper. This bill resulted from a request by Governor Carroll Campbell and the State Budget and Control Board, who sought to prevent $21 million in bonds on an unfinished state-owned project from going into default due to financial difficulties of the private developers. After passage in the Senate, time ran out on the legislation, and the bill died in the House on a point of parliamentary procedure.

The Governmental Affairs staff also worked closely with governmental officials and a variety of state agencies on matters relating to environmental protection, economic development, recreation, tourism, and human resources. Close working relationships included cooperative efforts with the State Development Board, Department of Parks, Recreation and Tourism, South Carolina Chamber of Commerce, South Carolina Tourism Council, Coordinating Council for Economic Development, Department of Consumer Affairs, and the South Carolina Chapter of the American Institute of



Architects, with whom Santee Cooper co-sponsored a statewide energy design awards competition.

MARKETING

The Atlantic Center for Business and Industry in Conway continued to play an important role in Santee Cooper's economic development efforts. The 272-acre industrial park is a joint project of the utility and Horry County.

The center's second tenant, Century II, located its world headquarters in three of the available buildings. Century II, a manufacturer of mobile construction cranes, will employ up to 200 people. The first crane rolled off the plant's assembly line in late March.

Another new business to locate in Santee Cooper's service territory was Powertex, a producer of plastic liners for bulk shipping containers. This company will employ up to 90 people in its facilities near Moncks Corner.

Along with local, public, and private business sponsors, Santee Cooper promoted South Carolina's economic potential when the state played host to both the Industrial Development Research Council and the Southeast United States/Japan Association. In addition, the utility continued to work closely with Palmetto Economic Development Corporation to recruit new industries to the state.

FLOOD CONTROL

As part of its flood control program, Santee Cooper conducts spilling operations when necessary to maintain proper elevations of the Santee Cooper lakes and to reduce flooding of the lower Santee River. Spilling was not required during the past year due to drought conditions, adequate capacity for lake storage, and efficient operation of the Jefferies and St. Stephen hydro units.

PROPERTY MANAGEMENT

The Property Management unit administered approximately 4,350 leases around the 152,688-acre Santee Cooper lakes. The leases include recreational lots in Santee Cooper subdivisions, marginal lots adjacent to privately-owned subdivisions, commercial lots, gratis leases to public and quasi-public agencies, and various miscellaneous leases for public recreational facilities. Revenues from these leases totaled $671,386 last year.

Property Management personnel provided maintenance and repairs for 18 public boat launching ramps and parking areas leased by the South Carolina Wildlife and Marine Resources Department.

Santee Cooper, in conjunction with the South Carolina Department of Parks, Recreation and Tourism, completed work on docks, boardwalks, observation stations, and walking trails, as well as restoration of the Stony Landing Plantation House at the Old Santee Canal State Park. The 200-acre historical and environmental park is located near Santee Cooper's corporate office in Moncks Corner.

Construction of boardwalks, piers, swimming areas, and picnic facilities are in the planning and design stage on 32 acres of land on Lake Marion. This land, to be used as a recreational park for the general public, has been leased, at no cost, to Orangeburg County.

Almost 18,900 acres of prime wildlife and waterfowl habitat were leased to the South Carolina Wildlife and Marine Re-

sources Department, at no cost, for use as part of the state's Wildlife Game Management Area Program. More than 101,000 genetically improved pine seedlings were planted on 147 acres of Santee Cooper lands as part of the reforestation program. Approximately 1,627 acres of woodlands were controlburned to reduce wildfire hazards, improve aesthetics and wildlife habitat, and control undesirable species. Approximately 150 miles of firebreaks were constructed or maintained around young pine tree plantations to protect them from wildfires.

Annual revenues from the sale of forest products and agricultural leases totaled more than $273,000.

ENVIRONMENTAL RESOURCES

Environmental Resources acquired $391,000 in federal and state funds from the South Carolina Aquatic Management Council for noxious aquatic vegetation control in Lakes Marion and Moultrie during the year. This funding was coordinated by the South Carolina Water Resources Commission. Santee Cooper provided between 15 and 50 percent in matching funds for various aspects of this program.

The Charleston District of the U.S. Army Corps of Engineers provided funds to the United States Army Engineers Waterways Experiment Station in Vicksburg, Mississippi, to conduct research studies on the large scale release of triploid (sterile) grass carp in the Santee Cooper reservoirs for aquatic weed control. The research will cover a four-year period at a cost of more than $2 million. The studies will investigate the impact of the fish on native fishes and water quality, as well as fish movement and their efficacy in controlling the growth of submersed plants.

The management plans for lake zoning and aquatic plant management were revised and submitted to the Federal Energy Regulatory Commission. The Mosquito Abatement Management Plan was re-written and filed with the Department of Health and Environmental Control.

About 100,000 triploid (sterile) Chinese grass carp were released in the upper regions of Lake Marion for biological control of hydrilla and other submersed aquatic vegetation. This stocking was the first phase of a three-year, $1.2 million program which was planned and authorized by the South Carolina Aquatic Plant Management Council. The South Carolina Water Resources Commission coordinated the purchase, release, and public funding of the joint effort. Funding was provided by the U. S. Army Corps of Engineers at 50 percent, the S.C. Water Resources Commission at 35 percent, and Santee Cooper at 15 percent.

MOSQUITO ABATEMENT

The Mosquito Abatement unit experienced a decrease in mosquito activity during the year due to the spring and early summer drought. A significant outbreak occurred in September and early October in the upper portions of Lake Marion, where aquatic plant biomass was extremely high. The outbreaks were controlled by aerial and ground spraying operations.

Mosquito control operations were conducted on all Santee Cooper properties in the five-county area surrounding the lakes, with more than 115,600 acres treated by air and ground equipment. More than 7,160 inspections and surveys were conducted to measure the density of larval and adult mosquitoes, establish threshold annoyance standards, and schedule control activity. Approximately 250,000 *Gambusia affinis* (mosquito fish) were obtained from the Aquaculture unit and stocked in mosquito breeding habitats throughout the ten abatement zones.

WATER QUALITY MANAGEMENT

On a monthly basis, the Water Quality Management section sampled each of the 53 ambient water quality monitoring stations located throughout

the Santee Cooper lakes for physical, chemical, and biological conditions. The water quality laboratory performed 21,574 analyses during the year.

The unit completed a five-year sampling study, mandated by the Federal Energy Regulatory Commission, of the Rickenbaker Canal System.

During the year, joint studies included an evaluation of the GSX Hazardous Material Disposal Site near Pinewood, a study of striped bass egg transport in the Santee River, a determination of the nutrient loading budget of the lakes, and an evaluation of the impact of the stocking of sterile grass carp on the water quality of upper Lake Marion.

Aquatic plant control was conducted on 2,354 acres of noxious aquatic vegetation. Herbicides approved by the Environmental Protection Agency were applied by helicopter, airboat, and truck-mounted spray units. Approximately 55 percent of the program cost was funded by the South Carolina Aquatic Plant Management Council and the U.S. Army Corps of Engineers.

AQUACULTURE

The Aquaculture unit at the Winyah Generating Station

Danny Johnson and John Carothers examining grass carp from Lake Marion

With more than 171,000 acres of fresh water lakes to maintain, Santee Cooper thinks big. That's why the big-picture approach is necessary to combat the problem of nuisance aquatic vegetation in lakes Marion and Moultrie. This year the South Carolina Water Resources Commission, in association with the South Carolina Aquatic Plant Management Council, the U.S. Army Corps of Engineers, and Santee Cooper, stocked 100,000 sterile weed-eating grass carp in upper Lake Marion. The fish feed on submerged aquatic plants such as those choking many areas of the lakes.

Although these federal and state agencies have worked together since 1981 on herbicidal weed control in the Santee Cooper lakes, this is the first time the grass carp method has been tried. "We've tried this method of weed control in smaller water systems," states John Carothers, chief of Environmental Resources for the Charleston District of the U.S. Army Corps of Engineers. "But during the Santee Cooper project, we plan to stock a total of 300,000 grass carp over a three-year period in 12,000 acres of Lake Marion. That makes it the largest lake system ever stocked with grass carp."

"We're optimistic about this weed control project," says Danny Johnson, director of the Surface Water Division of the S.C. Water Resources Commission. "When herbicides are applied to kill weeds, we see a loss of nuisance vegetation in a few days, but the results don't last very long. With the grass carp approach, we probably won't see a large loss of plants until the next year.

Santee Cooper Water Quality Management supervisor John Inabinet states, "The grass carp method, which costs less than herbicide applications, should help provide effective long-term weed management and improve public use of lakes Marion and Moultrie."

produced more than 12,000 triploid (sterile) Chinese grass carp fish, approximately 500,000 *Tilapia* fish, and over 2,000 pounds of catfish during the year. The triploid grass carp were stocked in Potato Creek and Dean Swamp impoundments for biological control of noxious aquatic vegetation, while the *Tilapia* were mainly used for weed control maintenance in the Winyah Station cooling reservoir. Remaining *Tilapia* were sold for weed control, and the catfish were marketed to a processing firm for sale as a food-fish.

The Aquaculture unit continued its cooperative program with the University of South Carolina in training Peace Corps volunteers who teach aquaculture when sent to third-world countries.

HORTICULTURE

The Horticulture unit produced 183,482 pounds of tomatoes during its final growing season. A bacterial disease destroyed the tomato crop early, resulting in a loss of approximately 75 percent of the 23,000 tomato plants being grown in the greenhouse. Total revenue from tomatoes was approximately $91,766, with excellent price and demand throughout the harvest months. Red, yellow, orange, and purple bell peppers were grown in two houses to evaluate production and sales. About 2,390 pounds were produced and sold with revenues of $5,860. During most of the growing season, peppers returned $2.50 per pound.

PROGRAM FOR EMPLOYEE PARTICIPATION

Executive management strengthened their efforts to make employee participation a way of life at Santee Cooper. Total involvement by the entire work force in PEP (Program for Employee Participation) is the goal of Santee Cooper's executive management. At the end of FY 89, there were 452 employees participating on 66 PEP teams, and a total of 114 projects were completed. These numbers represent increases of 30 percent, 43 percent, and 115 percent, respectively, over the previous fiscal year. PEP project improvements resulted in a net annual savings of more than $143,812 to Santee Cooper customers. During team meetings, employees are taught to apply problem solving, meeting management, and communication skills in order to identify problems, recommend changes, and implement improvements. Following are some examples of successful projects.

A Bulk Material Handling team at the Cross Generating Station thought they were spending too much time cleaning up coal spillage from under the coal conveyor system. They decided to place a water wash down header along the length of the conveyor, which improved access to the water supply and reduced man-hours required for wash down. They turned a two-man job into a one-man job with net savings of $5,000 per year.

The Blythewood line crew PEP team reviewed the procedure for repairing or replacing wooden transmission poles damaged by woodpeckers. The team researched newly developed methods of repair and recommended a new process, which will net the company $5,500 in annual savings by reducing pole replacement.

A PEP team from Management Information Systems looked at the process of making changes to application software. As a result, MIS personnel attended a four-hour change management workshop. Next, employees will define the current processes of putting software changes into production and eliminate steps that contribute to inefficiency. The team's recommendations will result in faster turn around time when making changes, saving approximately 385 man-hours, or $6,500 annually.

The Horry-Georgetown Division Stores personnel worked with the Plant Accounting and Material Control units to reduce the amount of time, paperwork, and transactions required to issue minor, inexpen-

sive items used routinely by line crews. The solution, working stock, has increased stores and line crew efficiency, raised morale, and improved cooperation between the units, in addition to saving Santee Cooper an estimated $30,000 per year.

EMPLOYEE RELATIONS

Many new contacts were established with local schools and regional colleges such as Hampton University, University of South Carolina, Clemson, South Carolina State, and North Carolina A & T. Meetings were held with placement directors and students to acquaint them with Santee Cooper and to expand recruiting sources.

Employee activities during the year included the annual company picnic, attended by over 1,700 employees, retirees, and family members; golf and softball tournaments; and aerobics and weight watching classes.

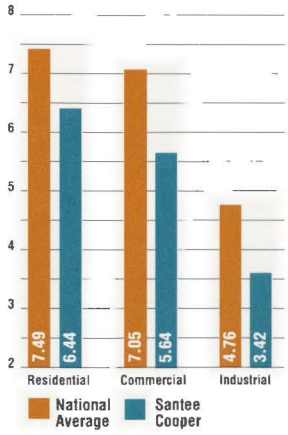
The health insurance program began a prescription card plan for employees and their eligible dependents. Also, Medi-Call, a utilization review plan, started on a voluntary basis. This program ensures that medical questions, length of hospital stays, and medical course of treatment are expedited to control overall medical costs.

Non-exempt positions were re-evaluated to more accurately reflect job responsibilities. A pre-retirement briefing program, covering many personal and economic issues, was conducted for 65 employees and their spouses.

Santee Cooper hired 75 new employees during the year, for a total of 1,605 regular employees. One hundred fifty-eight employ-

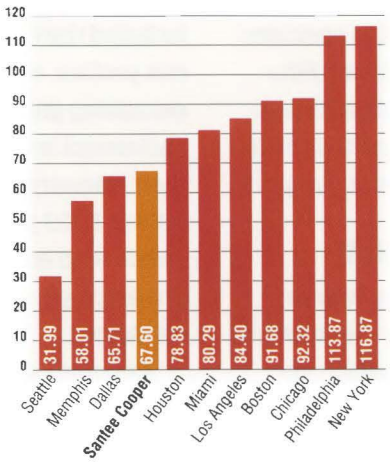
Rates

Cents/KWH (Fiscal Year 1989) Compared with utilities based on the national average



Rate Comparison

1000 KWH Residential Average Cost in Dollars Fiscal Year 1989



ccs were promoted to positions of greater responsibility. Fifty-four productivity or safety suggestions were submitted to the company's Suggestion Program.

OCCUPATIONAL HEALTH

A full-time nurse was assigned to the Horry-Georgetown Division this year, which improved the coverage for division employees. Annual physicals included the expanded health risk profiles, with many employees taking great pride in lower cholesterol levels which reduced their coronary risk factors. A total of 1,429 physicals were provided to employees, and 172 pre-employment examinations conducted.

Occupational Health coordinated and taught basic and refresher courses in cardiopulmonary resuscitation and first aid. Several employees used this knowledge to save the lives of co-workers and family members.

Occupational Health conducted hearing conservation and back injury prevention training. The department also helped coordinate the American Red Cross Blood Donor Program. Individual health counseling was provided to 112 employees, and

Grace Conley and meter reader Charles Becker at her home in Myrtle Beach

Celebrating her 88th birthday in March was a milestone for Santee Cooper customer Grace Conley, but it didn't slow her down. She and her husband moved to Myrtle Beach from Pennsylvania in 1968, seeking a warmer climate. Although widowed since 1976, she has remained a contributor, reaching out to share her talents with the community.

"I do the old-fashioned needlework – knitting, crocheting, and needlepoint. But no quilting: I don't want to start anything I may not have time to finish!" Her handicrafts are displayed each weekend at an indoor flea market at Surfside Beach.

Working with retirees such as Ms. Conley is a special mission for Santee Cooper. Many employees, such as meter readers, cashiers, and customer service representatives, deal with customers on a one-to-one basis, including many senior citizens. That's why these employees have completed the national Gatekeeper Training Program. As gatekeepers, they've learned to be more observant of the special needs of elderly customers who live alone and have limited contact with others.

"An elderly customer might show a change in appearance or behavior that would indicate they are unable to function independently," says Jill Robbins, Gatekeeper coordinator for Santee Cooper. "That's when a Santee Cooper contact person would inform a local county agency that an elderly person needs assistance."

In some cases, a Santee Cooper employee can provide the help. Mrs. Conley relates how the Gatekeeper Program looks after her. "Once I wasn't feeling well and couldn't come in to pay my bill, I called Santee Cooper, and they sent someone by to pick it up for me."

257 employees received referrals.

TRAINING AND DEVELOPMENT

A total of 825 internal and external training programs in various subject areas of management, professional, technical, and skills development were attended by approximately 4,000 employees. The corporate training course catalog was revised and updated to reflect available training.

New training equipment, video programs, cassette courses, books, and other self-study courses were added to Training's lending library.

Courses leading to two- and four-year college degrees and graduate degrees were completed by 250 employees through the tuition aid program, and 30 employees received their degrees.

SAFETY

In 1988, Santee Cooper received first place recognition for its safety record among large publicly-owned electric utilities. For the 15th time since 1964, the company earned the top safety award presented by the American Public Power Association for having worked 3,214,210 worker-hours with an incident rate of 0.37. This rate is below the national average and the best since 1981. The National Safety Council issued 22 organizational unit awards, as did the South Carolina Occupational Safety Council.

Right-of-Way Management and Darlington Area and Orangeburg Area Transmission units were presented the Award of Merit for no recordable injuries. The President's Award was presented to 83 units for no disabling injuries while operating under hazardous conditions. Safe service awards were presented to 272 employees; safe driver awards were given to 135 employees; and 13 employees were cited for avoiding injury by wearing protective devices or equipment. Five employees were recognized for outstanding leadership in units operating for 15 years without a disabling injury, and four employees were recognized for outstanding leadership in units operating for 20 years without a disabling injury.

Workers' Compensation premiums were reduced by 24 percent because of the utility's improved safety record. Also, the Industrial Hygiene unit was transferred to Safety in January 1989. Industrial Hygiene trained 497 employees to use respirators and took 258 samples to monitor for possible contaminants in the work place.

CORPORATE FORECASTING, RATES, AND STATISTICS

A mail survey of residential customers was conducted to obtain end-use, appliance saturation, and demographic data. Santee Cooper received a strong response to the survey. The data was compiled and analyzed for use in forecasting models which project residential energy consumption by appliance. Such detail projections allow Santee Cooper to better promote energy conservation programs and reduce costs to customers.

With the assistance of Stone and Webster Management Consultants, a long-range forecast of demand and energy requirements for all Santee Cooper customers was prepared. The forecast was conducted as part of a complete planning study aimed at identifying the most economical resource addition to meet future customer needs.

In August 1988, the Rates and Statistics unit upgraded their computer/translation/billing system to a computer that processes data approximately five times faster, and improves productivity in billing, report generation, and back-ups. The system also integrates the processing of the new solid-state metering technology with that of the old magnetic tape technology.

Santee Cooper continues to be recognized as a leader in the utility industry for its demand-side management program. Myrtle Beach Air Force Base, one of three military installations served by Santee Cooper, became the first military installation in the United States to

commit to the Good Cents Program offered under Santee Cooper's demand-side management program.

Also, Santee Cooper won the American Public Power Association's National Energy Innovator Award for the third time. The award recognizes Santee Cooper for its leadership in the development and implementation of a state-wide energy-efficient mobile home standard for South Carolina. Corporate Forecasting, Rates, and Statistics, working together with Energy Management, devised new regulations to provide uniform energy efficiency standards for mobile homes sold in South Carolina.

MANAGEMENT INFORMATION SYSTEMS

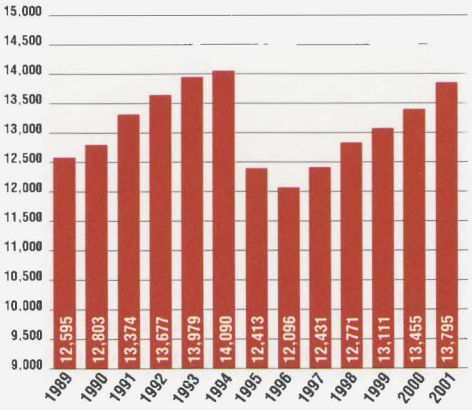
Hardware, software, and services provided to employees were reviewed and enhanced by Management Information Systems (MIS) to help Santee Cooper meet its information processing needs. Almost all mainframe system software was upgraded, and disk storage devices were replaced with newer models for speed and storage space.

Computerized support for automated check reconciliation, inventory cycle counting, and a supervisory information system were developed by Systems and Programming.

The Information Center (IC) was created to support end-user

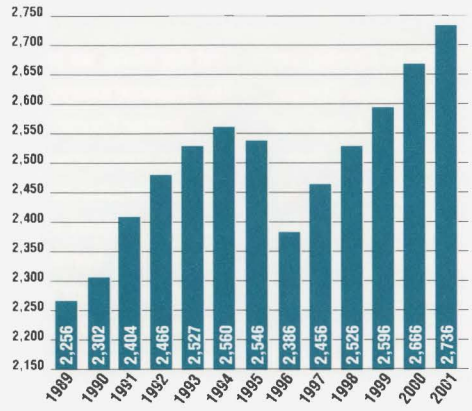
Total Energy Forecast (GWH)

Calendar Year / GWH



Total Peak Demand Forecast (MW)

Calendar Year / MW



When over 4,000 South Carolinians in 45 counties purchased Santee Cooper tax-free Mini-Bonds last year, Kathy and Carl Brown were numbered among them. The Brown family has been served by Aiken Electric Cooperative since 1974, when Brown began farming full-time. "We saw an ad for the Mini-Bonds in *Living in South Carolina*, the electric co-op magazine," says Carl Brown. "My wife and I thought the tax-free rate of return sounded pretty good. It boosts our effective rate of return even more."

Thousands of others agreed with the Browns last year: orders topped $17 million for the Mini-Bonds, sold in $500 denominations. "During the Mini-Bond campaign, we received over 12,000 inquiries," states financial analyst Nan Faulk. "And on the first day alone, we sold $100,000 in bonds. The response exceeded our expectations."

Santee Cooper sells bonds to finance ongoing improvements for its generating and transmission system, needed to meet the energy needs of customers like the Browns. The bonds offer an additional advantage to their buyers – the opportunity for sharing ownership in one of South Carolina's most valued state-owned resources.

"We're pleased with our investment in Santee Cooper," says Kathy Brown. Her husband agrees. "You might say we've got a conservative investment philosophy, and the Mini-Bond program suits us. There are enough risks in farming without going out and looking for any more."

Kathy and Carl Brown on their farm in Aiken County

computing at Santee Cooper. The IC supports approximately 1,000 work stations.

In an effort to work with and support our users, the Data Center extended the service of the on-line system to 18 hours per day, six days per week. Also, a HELP DESK was implemented to provide users with a central contact for questions or problems regarding MIS-supported computing.

TREASURY

In September, Santee Cooper sold $17,012,000 of 1988 Series M Mini-Bonds. Over 12,000 inquiries were answered during the subscription period, and over 4,000 electric customers and fellow South Carolinians purchased bonds.

A second Mini-Bond sale is planned for September 1989. In addition to the standard semi-annual interest payment bonds, this issue will also offer Capital Appreciation Bonds.

In addition, Treasury activity included the successful sale of the 1988 Refunding Bonds, Series A. With this refunding, Santee Cooper continues the practice of reducing interest costs whenever possible to help achieve the goal of providing low-cost electricity for the citizens of South Carolina.

SCHEDULE OF BONDS OUTSTANDING

As of June 30, 1989 *(In Thousands)*

Maturity Date July 1	1950 Issue Int. Rate	1950 Issue Amt.	1967 Issue Int. Rate	1967 Issue Amt.	1973 Refunding Issue Int. Rate	1973 Refunding Issue Amt.	1973 Issue Int. Rate	1973 Issue Amt.	1974 Issue Int. Rate	1974 Issue Amt.	1977 Refunding Issue Int. Rate	1977 Refunding Issue Amt.	1977 Issue Int. Rate	1977 Issue Amt.	1978 Issue Int. Rate	1978 Issue Amt.
1989	2.70	480	4.10	575*	5.00	1,060	5 1/4	1,315	6.10	1,405	5.10	3,450	4.70	540	5.00	1,200
1990	2.70	1,900	4.10	420*			5 1/4	1,380	6.20	1,505	5.20	3,620	4.80	570	5.05	1,155
1991	2.70	1,950	4.10	440*			5.30	1,455	6 1/4	1,590	5.30	3,830	4.90	590	5.10	1,220
1992	2.70	2,005	4.10	455*			5.40	1,530	6.30	1,695	5.40	4,035	5.00	625	5.15	1,285
1993	2.70	2,060	4.10	480*			5.40	1,615	6.30	1,795	5 1/2	4,260	5.10	660	5.20	1,355
1994			4.10	2,605*			5 3/4	1,700*	6.40	1,910	5.60	4,480	5.20	720	5 1/4	1,440
1995			4.10	2,720*			5 3/4	1,795*	6.40	2,035	5.65	4,710	5.30	785	5.30	1,515
1996			4.10	2,845*			5 3/4	1,900*	6.40	2,155	5.70	4,995	5.40	830	5.35	1,585
1997			4.10	2,975*			5 3/4	2,010*	6 1/2	2,295	5.70	5,265	5.45	890	5.40	1,670
1998			4.10	3,105*			5 3/4	2,125*	6 1/2	2,435	5 7/8	5,590*	5 1/2	935	5.40	1,760
1999			4.10	3,245*			5 3/4	2,245*	6 1/2	2,590	5 7/8	5,915*	5 1/2	1,005	5.70	1,850*
2000			4.10	3,395*			5 3/4	2,375*	6 3/4	2.750*	5 7/8	6,275*	5.55	1,065	5.70	1,940*
2001			4.10	3,545*			5 3/4	2,510*	6 3/4	2,920*	5 7/8	6,665*	5.60	1,130	5.70	2,045*
2002			4.10	3,705*			5 3/4	2,655*	6 3/4	3,110*	5 7/8	7,050*	5.60	1,220	5.70	2,145*
2003			4.10	3,870*			5 3/4	2,810*	6 3/4	3,295*	6.00	7,490*	5 3/4	1,295*	5.70	2,260*
2004			4.10	4,045*			5 3/4	2,970*	6 3/4	3,505*	6.00	7,950*	5 3/4	1,380*	5.70	2,380*
2005			4.10	4,230*			5 3/4	3,140*	6 3/4	3,730*	6.00	8,450*	5 3/4	1,460*	5.70	2,500*
2006			4.10	4,420*			5 3/4	3,325*	6 3/4	3,950*	6.00	8,970*	5 3/4	1,570*	5.70	2,630*
2007							5 3/4	3,515*	6 3/4	4,205*	6.00	9,400*	5 3/4	1,795*	5.70	7,385*
2008							5 3/4	3,715*	6 3/4	4,470*	6.00	9,950*	5 3/4	1,945*	5.70	7,845*
2009							5 3/4	3,930*	6 3/4	4,745*	6.00	10,565*	5 3/4	2,080*	5 7/8	8,330*
2010							5 3/4	4,155*	6 3/4	5,045*	6.00	11,210*	5 3/4	2,225*	5 7/8	8,845*
2011							5 3/4	11,520*	6 3/4	5,350*	6.00	4,980*	5 3/4	2,180*	5 7/8	9,390*
2012							5 3/4	12,180*	6 3/4	5,695*	6.00	5,315*	5 3/4	2,300*	5 7/8	9,980*
2013							5 3/4	12,880*	6 3/4	6,045*	6.00	5,625*	5 3/4	2,500*	5 7/8	10,590*
2014									6 3/4	20,045*	6.00	6,010*	5 3/4	2,640*	5 7/8	11,250*
2015											6.00	9,515*	5 3/4	21,065*	5 7/8	11,950*
2016											6.00	11,285*	5 3/4	21,235*	5 7/8	12,555*
2017													5 3/4	34,580*	5 7/8	13,190*
2018															5 7/8	50,600*
2019																
2020																
2021																
2022																
Total Outstanding	8,395		47,075		1,060		90,750		100,270		186,855		111,815		193,845	
Bonds Redeemed to 6-30-89	6,905		4,525		10,990		9,250		8,730		28,295		3,185		6,155	
Bonds Refunded to 6-30-89	0		0		0		0		0		0		0		0	
Original Issue	15,300		51,600		12,050		100,000		109,000		215,150		115,000		200,000	

*Term Bonds

See Schedule of Refunded Bonds.

1979A Issue		1980A Issue		1981A Issue		1981C Issue		1982A Issue		1982B Issue		1982 Refunding Issue		1985 Refunding Issue		1985 Issue		1985A Refunding Issue		1986A&B Refunding Issue		1986C&D Refunding Issue		1987A Refunding Issue		1988M Mini-Bond Issue		1988A Refunding Issue		Total Principal Maturities	Accruing Interest	Total Debt Service
Int. Rate	Amt.	Int. Rate	Amt.	Int. Rate	Amt.	Int. Rate	Amt.	Int. Rate	Amt.	Int. Rate	Amt.	Int. Rate	Amt.	Int. Rate	Amt.	Int. Rate	Amt.	Int. Rate	Amt.	Int. Rate	Amt.	Int. Rate	Amt.	Int. Rate	Amt.	Int. Rate	Amt.	Int. Rate	Amt.			
5.70	1,150	9.10	1,035	8.15	845	11¼	965	11.00	1,735	10½	835	7¾	505	7.00	490	7.10	13,500	6¾	360			5.00	795	4.30	805					33,045	135,244	168,289
5¾	1,195	9.20	1,130	8.30	940	11½	1,070	11½	1,905	10¾	940	8.00	545	7¼	525	7.40	13,500	7.00	380			5¼	830	4.60	850					34,360	131,436	165,796
5.85	1,240	9¼	1,235	8.45	1,050	11¾	1,185	11¾	2,105	11.00	1,060	8.20	585	7½	565	7.70	13,500	7¼	410	6¾	1,890	5.40	875	4.80	880					37,655	129,044	166,699
5.90	1,300	9.30	1,350	8.60	1,165					11¼	1,195	8.40	635	7¾	605	8.00	13,500	7½	440	7.00	5,665	5.60	925	5.00	930			7.00	845	40,185	126,348	166,533
5.95	1,360	9.40	1,475	8¾	1,295							8.60	690	8.00	650	8.20	13,500	7¾	470	7.15	7,380	5.80	975	5.90	975			7.00	910	41,905	123,564	165,469
6.00	1,425	9.45	1,615	8.90	1,435							8¾	750	8.20	705	8.40	13,500	8.00	510	7.30	7,890	6.00	1,030	5.90	1,025			7.00	965	43,705	120,657	164,362
6.05	1,490	9½	1,765	9.00	1,600									8.40	765	8.70	13,500	8.20	2,425	7.40	6,560	6.20	1,095	5.90	1,080			7.00	1,840	45,700	117,536	163,236
6.10	1,565			9.15	1,775									8.60	825			8.40	2,030	7½	7,645	6.40	1,160	5.90	1,140			7.00	3,895	34,345	114,216	148,561
6.20	1,645			9.30	1,970									8.80	900			8.60	2,390	7.60	7,995	6.60	1,235	6.00	1,205			7.00	4,155	36,600	111,951	148,551
6.30	1,725													9.00	1,060			8.70	4,980	7.70	5,925	6.70	1,320	6.10	1,280			7.10	6,635	38,875	109,504	148,379
6.35	1,815													9.05	1,160			8¾	5,405	7.80	6,365	6.80	1,400	6¼	1,350			7.20	7,110	41,455	106,890	148,345
6.40	1,915													9.10	1,150					7.80	13,200	6.90	1,505	6.40	1,435			7.30	7,660	44,855	104,070	148,725
6.45	2,025																	9.00	11,020*	7.90	835	7.00	1,605	6½	2,875			7.40	8,220	45,395	101,059	146,454
6½	2,135																	9.00	6,090*	7.90	900	7.05	1,715	6½	4,280			7.40	13,520	48,525	97,905	146,430
6½	2,260																	9.00	15,390*	8.00	4,695	7.10	3,510	6.60	4,575	7¾	17,012	7.50	330	68,792	94,628	163,420
6¾	2,390*																			8.00	5,070	7.10	4,920	6¾	20,390			7.50	365	55,365	89,631	144,996
6¾	2,540*																			8.00	5,475	7.10	5,265	6¾	16,795			7.60	5,385	58,970	86,046	145,016
6¾	2,695*																			8.00	5,910	7.20	5,625	6¾	2,350			7¾	320*	41,765	82,181	123,946
6¾	2,865*																			8.10	6,390	7.20	6,000	6¾	2,525			7¾	340*	44,420	79,520	123,940
6¾	3,010*																			8.10	6,905	7.00	6,415*	6⅞	2,715*			7¾	365*	47,335	76,606	123,941
6¾	3,160*																			8.00	7,465*	7.00	6,850*	6⅞	2,925*			7¾	395*	50,445	73,508	123,953
6⅞	3,335*																			8.00	8,060*	7.00	7,310*	6⅞	3,140*			7¾	420*	53,745	70,197	123,942
6⅞	3,525*																			8.00	10,480*	7.00	6,025*	6⅞	3,380*			7¾	460*	57,290	66,664	123,954
6⅞	3,720*																			8.00	11,315*	7.00	6,430*	6⅞	3,625*			7¾	490*	61,050	62,894	123,944
6⅞	3,925*																			8.00	12,230*	7.30	6,870*	6.90	3,880*			7¾	525*	65,070	58,873	123,943
6⅞	4,140*																			8.00	2,095*	7.30	7,915*	6.90	4,150*			7¾	7,315*	65,560	54,563	120,123
6⅞	4,370*																			8.00	2,260*	7.30	8,145*	6.90	4,465*			7¾	8,210*	69,980	50,153	120,133
6⅞	4,610*																			8.00	2,445*	7.30	20,430*	6.90	4,785*			7⅞	420*	77,765	45,649	123,414
6⅞	4,870*																			8.00	2,625*	7.30	21,875*	6.90	5,160*			7⅞	450*	82,750	40,646	123,396
6⅞	5,135*																			8.00	2,850*	7.30	23,425*	6.90	5,575*			7⅞	495*	88,080	35,350	123,430
6⅞	25,550*																			8.00	3,740*	7.30	25,060*	6.90	6,030*			7⅞	30,040*	90,440	29,662	120,102
																				7.00	23,675*	7.30	27,005*	6.90	6,520*			7⅞	39,825*	97,025	22,994	120,019
																						7.30	56,985*	6.90	7,040*			7⅞	36,680*	100,705	15,779	116,484
																						6⅝	62,325*	7.00	61,025*					123,350	8,245	131,595
104,085		9,805		12,075		3,220		5,745		4,030		3,710		9,400		94,500		52,300		195,955		334,870		191,160		17,012		188,575		1,966,307	2,773,213	4,739,520
5,915		4,450		2,610		2,360		4,435		1,960		905		1,305		40,500		4,655		0		760		1,500		0		0		149,390		
0		60,945		60,315		144,420		154,820		159,010		289,385		165,510		0		120,890		0		0		0		0		0		1,155,295		
110,000		75,000		75,000		150,000		165,000		165,000		294,000		176,215		135,000		177,845		195,955		335,630		192,660		17,012		188,575		3,270,992		

SCHEDULE OF REFUNDED BONDS

As of June 30, 1989 *(In Thousands)*

Series	1980A Issue		1981A Issue		1981B Issue		1981C Issue		1982A Issue		1982B Issue		1982 Ref. Issue		1985 Ref. Issue		1985A Ref. Issue	
Call Date	July 1, 1990		July 1, 1991		July 1, 1991		July 1, 1991		July 1, 1991		July 1, 1992		July 1, 1992		July 1, 1995		July 1, 1995	
Original Maturity Date	Int. Rate	Amt.	Int. Rate	Amt.	Int. Rate	Amt.	Int. Rate	Amt.	Int. Rate	Amt.	Int. Rate	Amt.	Int. Rate	Amt.	Int. Rate	Amt.	Int. Rate	Amt.
1989																		
1990																		
1991																		
1992							12.00	1,315	12.00	2,335								
1993							12.25	1,470	12.30	2,590	11.60	1,345						
1994							12.50	1,635	12.60	2,895	11.90	1,515						
1995					11.00	3,090					12.10	1,815						
1996					11.10	4,000					12.20	2,040						
1997					11.20	4,220					12.30	2,295						
1998					11.30	4,590												
1999					11.40	5,090												
2000					11.50	12,010												
2001							13.25	20,000*										
2002	9.80	18,220*	9.75	18,315*									9.375	9,110*				
2003									13.75	20,000*								
2004																		
2005											12.75	40,000*			9.375	5,000*		
2006																		
2007																		
2008																		
2009																		
2010	10.125	42,725*																
2011																		
2012													9.60	37,235*				
2013					9.25	28,000*												
2014																		
2015							10.00	20,000*										
2016																		
2017																		
2018																		
2019																		
2020			10.25	42,000*	12.00	89,000*												
2021					10.50	50,000*	13.75	100,000*									9.20	120,890*
2022									14.125	127,000*	13.00	110,000*	9.70	243,040*	9.50	160,510*		
Totals Per Series		60,945		60,315		200,000		144,420		154,820		159,010		289,385		165,510		120,890

*Term Bonds

APPLICATIONS OF REVENUE

Years Ended June 30, 1989 and 1988

	1989	1988
Total Operating Revenues	$546,039,630	$491,980,615
Operating Expenses:		
Operation		
Production	239,077,941	212,566,884
Purchased and Interchanged Power - Net	6,791,488	(1,868,330)
Transmission	2,579,745	2,373,714
Distribution	3,055,596	3,226,692
Customer Accounts	3,442,003	3,390,746
Sales	702,520	356,828
Administrative and General	35,586,599	32,834,086
Maintenance	35,392,730	34,387,339
Total Operation and Maintenance Expenses	326,628,622	287,267,959
Sums in Lieu of Taxes	2,034,485	1,893,509
Total Operating Expenses	328,663,107	289,161,468
Net Operating Revenues	217,376,523	202,819,147
Other Income	25,613,001	24,618,712
Revenue Available for Debt Service and Other Purposes	242,989,524	227,437,859
Total Debt Service	144,552,486	145,974,914
Lease Payments (and other obligations)	30,847,907	29,951,555
Balance After Debt Service, Lease Payments, and Other Obligations	67,589,131	51,511,390
Payments to the State of South Carolina	5,180,149	3,002,868
Payment to the Special Reserve Fund	5,180,149	3,002,868
Mandatory 8% Allocation for Capital Improvements	31,451,252	27,911,862
Revenue Available for Operating Requirements	$25,777,581	$17,593,792

(1) This summary has been prepared from the financial statements and other data of the Authority and has not been examined by the independent auditors. This summary presents the net revenues available to the Revenue Fund for purposes such as providing for increases in working capital requirements. It differs from the Statement of Reinvested Earnings in that it represents cash transactions on debt service and, accordingly, excludes non-cash items such as depreciation, costs to be recovered for future revenue, and amortization of debt discount and expense.

Financial Statements

SOUTH CAROLINA
PUBLIC SERVICE AUTHORITY

FISCAL YEAR 1989

Report of Independent Auditors

The Advisory Board
and Board of Directors
South Carolina Public
Service Authority

We have audited the accompanying balance sheet of the South Carolina Public Service Authority at June 30, 1989, and the related statements of accumulated earnings reinvested in the business, reinvested earnings, and cash flows for the year then ended. These financial statements are the responsibility of the Authority's management. Our responsibility is to express an opinion on these financial statements based on our audit.

We conducted our audit in accordance with generally accepted auditing standards. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audit provides a reasonable basis for our opinion.

The financial statements of the South Carolina Public Service Authority are intended to present the financial position and results of operations and cash flow of proprietary fund types of only that portion of the funds and account groups of the State of South Carolina that is attributable to the transactions of the South Carolina Public Service Authority.

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the South Carolina Public Service Authority at June 30, 1989, and the results of its operations and cash flows for the year then ended in conformity with generally accepted accounting principles.

Ernst + Young

Ernst & Young
Charleston, South Carolina
August 31, 1989, except for Note 11 as to which the date is October 6, 1989

Report of Independent Certified Public Accountants

The Advisory Board
and Board of Directors
South Carolina Public
Service Authority

We have audited the accompanying balance sheet of the South Carolina Public Service Authority as of June 30, 1988, and the related statements of accumulated earnings reinvested in the business, reinvested earnings, and cash flows for each of the two years in the period ended June 30, 1988. These financial statements are the responsibility of the Authority's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with generally accepted auditing standards. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

The financial statements of the South Carolina Public Service Authority are intended to present the financial position and results of operations and cash flows of proprietary fund types of only that portion of the funds and account groups of the State of South Carolina that is attributable to the transactions of the South Carolina Public Service Authority.

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the South Carolina Public Service Authority as of June 30, 1988, and the results of its operations and cash flows for each of the two years in the period ended June 30, 1988 in conformity with generally accepted accounting principles.

Coopers & Lybrand

Coopers & Lybrand
Columbia, South Carolina
August 18, 1988, except for the
statements of cash flows, as to
which the date is August 31, 1989.

Balance Sheets

South Carolina Public Service Authority
June 30, 1989 and 1988

Assets	1989	1988
	(Thousands)	
Utility Plant — At Cost:		
Electric plant in service	$ 2,168,031	$ 2,121,928
Construction work in progress	102,779	78,721
Total	2,270,810	2,200,649
Less accumulated depreciation	540,887	479,872
Electric plant — net	1,729,923	1,720,777
Nuclear fuel — net	24,524	28,467
Utility plant — net	1,754,447	1,749,244
Other Physical Property (Net of Accumulated Depreciation)	357	368
Cash and Investments Held by Trustee (Designated)	290,269	305,929
Current Assets:		
Cash and investments held by trustee	41,028	35,104
Accounts receivable, less allowance for doubtful accounts of $1,154,000 in 1989 and $1,056,000 in 1988	55,579	50,283
Accrued interest receivable	3,617	4,004
Inventories, at average cost:		
Fuel (coal and oil)	30,828	37,208
Materials and supplies	18,908	10,774
Prepaid expenses	4,680	1,898
Total current assets	154,640	139,271
Deferred Debits:		
Unamortized debt expense	15,333	17,720
Unamortized loss on refunded debt	234,612	222,171
Costs to be recovered from future revenue	252,881	224,779
Other	11,665	7,646
Total deferred debits	514,491	472,316
Total	$ 2,714,204	$ 2,667,128

The accompanying notes are an integral part of the financial statements.

Liabilities and Capitalization	1989	1988
	(Thousands)	
Long-Term Debt:		
Electric Revenue Bonds - Priority Obligations	$ 56,530	$ 58,565
Electric System Expansion Revenue Bonds	1,798,265	1,797,545
Subtotal	1,854,795	1,856,110
Electric System Revenue Bonds	94,500	108,000
Capitalized lease obligations	66,111	68,949
Total long-term debt	2,015,406	2,033,059
Less:		
Reacquired debt	3,860	2,535
Unamortized debt discount and premium — net	23,156	25,778
Long-term debt — net	1,988,390	2,004,746
Accrued Interest on Long-Term Debt	68,801	68,222
Construction Fund Liabilities — Accounts Payable	3,210	2,415
Other Non-current Liabilities	13,185	9,026
Current Liabilities:		
Commercial paper notes	50,000	50,000
Electric System Revenue Bonds - Mini-Bonds	17,012	—
Accounts payable	35,539	31,070
Customer deposits	5,023	4,971
Accrued sums in lieu of taxes	1,611	1,522
Other	13,721	15,563
Total current liabilities	122,906	103,126
Commitments and Contingencies		
Deferred Credits:		
Unamortized gain on reacquired debt	778	420
Nuclear fuel settlement	7,917	16,572
Total deferred credits	8,695	16,992
Capital Contributions — U.S. Government Grants	34,438	34,438
Accumulated Earnings Reinvested in the Business	474,579	428,163
Total	$ 2,714,204	$ 2,667,128

Statements of Accumulated Earnings Reinvested in the Business

South Carolina Public Service Authority
Years Ended June 30, 1989, 1988 and 1987

	1989	1988	1987
		(Thousands)	
Accumulated earnings reinvested in the business — beginning of year	$ 428,163	$ 392,037	$ 353,750
Reinvested earnings for the year	51,596	39,129	40,290
Total	479,759	431,166	394,040
Distribution to the State of South Carolina (See note below)	5,180	3,003	2,003
Accumulated earnings reinvested in the business — end of year	$ 474,579	$ 428,163	$ 392,037

Note: The distribution to the State of South Carolina is determined utilizing a calculation formula required under the Indenture which is based essentially on operating cash flow and mandatory reserve requirements. Such calculation varies substantially from reinvested earnings for the year principally due to costs to be recovered from future revenue and working capital requirements.

The accompanying notes are an integral part of the financial statements.

Statements of Reinvested Earnings

South Carolina Public Service Authority
Years Ended June 30, 1989, 1988 and 1987

	1989	1988	1987
		(Thousands)	
Operating Revenues:			
Sales of electricity	$ 541,353	$ 487,684	$ 475,425
Other operating revenues	4,686	4,296	4,634
Total operating revenues	546,039	491,980	480,059
Operating Expenses:			
Operation expense:			
Production	239,078	212,567	204,600
Purchased and interchanged power — net	6,791	(1,868)	2,698
Transmission	2,580	2,374	1,821
Distribution	3,056	3,227	2,300
Customer accounts	3,442	3,391	(172)
Sales	703	357	318
Administrative and general	35,587	32,834	28,693
Maintenance expense	35,391	34,387	33,388
Total operation and maintenance expense	326,628	287,269	273,646
Depreciation	68,731	66,670	65,033
Sums in lieu of taxes	3,379	3,055	2,390
Total operating expenses	398,738	356,994	341,069
Operating Income	147,301	134,986	138,990
Other Income:			
Interest income:			
Other funds	25,749	24,737	25,178
Borrowed funds	—	—	284
Other income (expense) — net	(136)	(118)	(181)
Total other income	25,613	24,619	25,281
Subtotal	172,914	159,605	164,271
Interest Charges:			
Interest on long-term debt	134,908	138,675	144,190
Other	14,512	9,233	9,030
Total interest charges	149,420	147,908	153,220
Subtotal	23,494	11,697	11,051
Other, Add (Subtract):			
Costs to be recovered from future revenue	28,102	27,432	28,921
Other deductions — net	—	—	318
Reinvested Earnings	$ 51,596	$ 39,129	$ 40,290

The accompanying notes are an integral part of the financial statements.

Statements of Cash Flows

INCREASE (DECREASE) IN CASH AND CASH EQUIVALENTS

South Carolina Public Service Authority
Years Ended June 30, 1989, 1988 and 1987

	1989	1988	1987
		(Thousands)	
Cash Flows From Operating Activities:			
Reinvested earnings	$ 51,596	$ 39,129	$ 40,290
Adjustments to reconcile reinvested earnings to net cash provided by operating activities:			
Depreciation and amortization	68,731	66,670	65,033
Amortization of bond related expenses	9,477	6,286	6,470
Costs to be recovered from future revenue	(28,102)	(27,432)	(28,921)
Nuclear fuel settlement	(8,655)	228	216
Changes in assets and liabilities:			
Accounts receivable and accrued interest	(4,909)	3,573	(4,210)
Inventories	(1,754)	(12,078)	11,107
Prepaid expenses	(2,782)	542	(416)
Other deferred debits	(4,019)	(4,350)	(569)
Accounts payable	4,020	139	5,093
Other current liabilities	(1,701)	9,008	602
Accrued interest on long-term debt	579	(2,891)	(706)
Other non-current liabilities	4,159	2,723	1,893
Net cash provided by operating activities	86,640	81,547	95,882
Cash Flows From Investing Activities:			
Net decrease (increase) in investments	8,781	8,568	(66)
Expenditures for utility plant	(74,345)	(88,656)	(47,224)
Sale of plant assets	422	601	245
Increase (decrease) in construction fund liabilities	1,244	2,914	(4,112)
Decrease (increase) in cash and investments Held by Trustee (Designated)	15,660	39,814	(10,379)
Net cash used in investing activities	(48,238)	(36,759)	(61,536)
Cash Flows From Financing Activities:			
Proceeds from bonds	205,587	—	528,290
Repayment and refunding of bonds	(204,715)	(34,310)	(468,298)
Refunding loss and other unamortized expenses of bonds	(16,551)	4,143	(87,883)
Distribution to the State of South Carolina	(5,180)	(3,003)	(2,003)
Other	(2,838)	(2,806)	(2,783)
Net cash used in financing activities	(23,697)	(35,976)	(32,677)
Net Increase in Cash and Cash Equivalents	14,705	8,812	1,669
Cash and Cash Equivalents at the Beginning of the Year	13,696	4,884	3,215
Cash and Cash Equivalents at the End of the Year	$ 28,401	$ 13,696	$ 4,884
Reconciliation of Cash and Cash Equivalents:			
Cash and cash equivalents at the end of the year	$ 28,401	$ 13,696	$ 4,884
Investments, not considered cash and cash equivalents	12,627	21,408	29,976
Cash and investments held by trustee (as shown on balance sheet)	$ 41,028	$ 35,104	$ 34,860
Supplemental Disclosure of Cash Flow Information:			
Cash paid during the year for:			
Interest	$ 139,496	$ 143,988	$ 145,995
Cash received during the year for:			
Interest	$ 22,510	$ 22,637	$ 24,457

The accompanying notes are an integral part of the financial statements.

Notes to Financial Statements

June 30, 1989

Note 1 — Summary of Significant Accounting Policies:

A — Reporting Entity — The South Carolina Public Service Authority (the "Authority"), a component unit of the state of South Carolina, was created by the 1934 State Legislature. The Board of Directors is appointed by the Governor of South Carolina. The purpose of the Authority is to provide electric power to the people of South Carolina. Capital projects are funded by bonds issued by the Authority and internally generated funds. The Board of Directors sets rates charged to customers to pay debt service, operating expenses and provide funds required under bond covenants.

B — System of Accounts — The accounting records of the Authority are maintained substantially in accordance with the Uniform System of Accounts prescribed by the Federal Energy Regulatory Commission (FERC).

C — Utility Plant Capitalization and Maintenance — Additions to plant are recorded at cost, which includes material, labor, overhead, and interest capitalized during construction. The costs of repairs and minor replacements are charged to appropriate operating and maintenance expense. The costs of renewals and betterments are capitalized. The original cost of utility plant retired and the cost of removal less salvage are charged to accumulated depreciation.

D — Depreciation — Depreciation is computed on a straight line basis over the estimated useful lives of the various classes of the plant. Annual depreciation provisions, expressed as a percent of average depreciable utility plant in service, were approximately 3.3% for each of the three years in the period ended June 30, 1989. Amortization expense of capitalized leases is included in depreciation expense.

E — Revenue Recognition — Substantially all wholesale and industrial revenues are billed and recorded at the end of each month. Revenues from retail customers are recognized as billed on a monthly cycle basis. Fuel costs are reflected in operating expenses as consumed.

F — Amortization — Unamortized debt discount, premium and expense are amortized to income over the terms of the related debt issues. Unamortized gains or losses on refunded debt are amortized to income as impacted through the rate-making process, generally over the terms of the new debt issues.

G — Cash Flow — The Authority adopted Statement of Financial Accounting Standard No. 95, "Statement of Cash Flows," during fiscal year 1989 and has restated the prior year's financial statements presented to include statements of cash flows consistent with the current year's presentation. For purposes of the statements of cash flows, the Authority considers highly liquid investments with a maturity of less than three months and cash on deposit with financial institutions as cash and cash equivalents. Cash and Investments Held by Trustee (Designated) are not included in cash and cash equivalents for the purpose of the statement of cash flows.

Note 2 — Costs to be Recovered from Future Revenue:

The Authority's electric rates are established based upon debt service and operating fund requirements. Depreciation is not considered in the cost of service calculation. This results in timing differences between costs as defined in the rate-making process and costs determined in accordance with generally accepted accounting principles. These differences are recognized as costs to be recovered from future revenue. The recovery of outstanding amounts associated with costs to be recovered from future revenue will coincide with the retirement of the outstanding long-term debt of the Authority.

For the years ended June 30, 1989, 1988 and 1987, costs to be recovered from future revenue included in the statement of reinvested earnings consists principally of the difference between depreciation and debt service requirements.

Note 3 — Cash and Investments Held by Trustee (Designated):

Unexpended funds from the sale of expansion bonds, debt service funds, other special funds and cash and investments are held and maintained by trustees and their use designated in accordance with applicable provisions of various trust indentures, bond resolutions, lease agreements, and the Enabling Act included in the South Carolina law. Such funds consist principally of investments in government securities carried at amortized cost.

CASH — Cash is categorized as follows: Category 1 includes bank balances entirely covered by federal depository insurance. Category 2 includes bank balances that are uncollateralized or collateralized with securities held by pledging financial institutions but not in the Authority's name.

INVESTMENTS — Trust indentures and resolutions authorize the Authority to invest in obligations of the U.S. Treasury, agencies, instrumentalities, and certificates of deposit. The Authority's investments consist of U.S. Government securities, certificates of deposit and repurchase agreements. The Authority requires that securities underlying repurchase agreements have a market value of at least 102 percent of the cost of the repurchase agreement. Securities underlying repurchase agreements are delivered by broker dealers to the Authority's trust agents. At June 30, 1989, the Authority's repurchase agreements totalled $36,550,000.

The Authority's investments are categorized below to give an indication of the level of risk assumed by the entity at year-end. Category 1 includes investments that are insured or registered or for which the securities are held by trust agents in the Authority's name. Category 2 includes uninsured certificates of deposit which are collateralized with securities held by the pledging financial institution but not in the Authority's name.

	1989					
	Investments		Cash		Total	
	Category 1	Category 2	Category 1	Category 2	Carrying Value	Market Value
	(Thousands)					
Cash and Investments Held by Trustee (Designated):						
General Improvement Funds	$ 24,005	$ 100	$ 6	$ (396)	$ 23,715	$ 23,745
Debt Service and Special Funds						
Indentured Bonds						
Interest Fund	$ 1,105	$ —	$ —	$	$ 1,105	$ 1,105
Bond Fund	2,118	—	—	—	2,118	2,118
Debt Service	8,760	—	—	135	8,895	9,079
Expansion Bonds						
Interest Fund	—	—	—	63,742	63,742	63,742
Bond Fund	—	—	—	17,430	17,430	17,430
Debt Service	129,883	—	—	81	129,964	130,524
Subordinated Bonds						
Interest Fund	—	—	—	3,746	3,746	3,746
Bond Fund	—	—	—	13,500	13,500	13,500
Debt Service	3,804	1,250	—	2	5,056	5,054
Mini-Bonds						
Interest	659	—	—	—	659	659
Debt Service	658	—	—	—	658	673
Other Special Funds	26,935	—	—	(7,254)	19,681	19,074
Total	$173,922	$1,250	$ —	$91,382	$266,554	$266,704
Cash and Investments Held by Trustee:						
Revenue Fund	$ 28,454	$ —	$ —	$ 6,336	$ 34,790	$ 34,807
Special Reserve Fund	6,148	—	100	(10)	6,238	6,273
Total	$ 34,602	$ —	$100	$ 6,326	$ 41,028	$ 41,080

	1988					
	Investments		Cash		Total	
	Category 1	Category 2	Category 1	Category 2	Carrying Value	Market Value
	(Thousands)					
Cash and Investments Held by Trustee (Designated):						
General Improvement Funds	$ 47,880	$ 200	$ 9	$ 47	$ 48,132	$ 48,131
Debt Service and Special Funds						
Indentured Bonds						
Interest Fund	$ —	$ —	$ —	$ 1,149	$ 1,149	$ 1,149
Bond Fund	—	—	—	2,042	2,042	2,042
Debt Service	8,814	—	—	—	8,814	8,997
Expansion Bonds						
Interest Fund	—	—	—	62,658	62,658	62,658
Bond Fund	—	—	—	16,320	16,320	16,320
Debt Service	130,069	—	—	23	130,092	131,523
Subordinated Bonds						
Interest Fund	—	—	—	13,500	13,500	13,500
Bond Fund	—	—	—	4,202	4,202	4,202
Debt Service	3,737	1,250	—	48	5,035	5,026
Other Special Funds	20,159	—	5	(6,179)	13,985	12,855
Total	$162,779	$1,250	$ 5	$93,763	$257,797	$258,272
Cash and Investments Held by Trustee:						
Revenue Fund	$ 27,785	$ —	$ —	$ 4,815	$ 32,600	$ 32,589
Special Reserve Fund	2,442	—	100	(38)	2,504	2,502
Total	$ 30,227	$ —	$100	$ 4,777	$ 35,104	$ 35,091

Note 4 — Long-Term Debt Outstanding:	June 30, 1989	June 30, 1988
	(Thousands)	
Electric Revenue Bonds - Priority Obligations:		
Series of 1960, bearing interest at 2.70% and due 1989 to 1993	$ 8,395	$ 8,705
Series of 1967, bearing interest at 4.10% and due 1989 to 2006	47,075	47,790
Refunding Series of 1973, bearing interest at 5% and due 1989	1,060	2,070
Total Electric Revenue Bonds - Priority Obligations	56,530	58,565
Electric System Expansion Revenue Bonds:		
1973 Series; bearing interest from 5.25% to 5.75% and due 1989 to 1993 and 2013	90,750	92,000
1974 Series, bearing interest from 6.10% to 6.75% and due 1989 to 1999 and 2014	100,270	101,595
1977 Refunding Series, bearing interest from 5.10% to 6% and due 1989 to 1997 and 2002 and 2016	186,855	190,135
1977 Series, bearing interest from 4.70% to 5.75% and due 1989 to 2002 and 2017	111,815	112,330
1978 Series, bearing interest from 5% to 5.875% and due 1989 to 1998 and 2008 and 2018	193,845	194,970
1979 Series A, bearing interest from 5.70% to 6.875% and due 1989 to 2003 and 2009 and 2019	104,085	105,190
* 1980 Series A, bearing interest from 9.10% to 9.50% and due 1989 to 1995	9,605	28,775
* 1981 Series A, bearing interest from 8.15% to 9.30% and due 1989 to 1997	12,075	31,150
* 1981 Series C, bearing interest from 11.25% to 11.75% and due 1989 to 1991	3,220	4,085
* 1982 Series A, bearing interest from 11% to 11.75% and due 1989 to 1991	5,745	7,340
* 1982 Series B, bearing interest from 10.50% to 11.25% and due 1989 to 1992	4,030	4,770
* 1982 Refunding Series, bearing interest from 7.75% to 8.75% and due 1989 to 1994	3,710	13,290
* 1985 Refunding Series, bearing interest from 7% to 9.10% and due 1989 to 2000	9,400	14,860
1985 Refunding Series A, bearing interest from 6.75% to 9.00% and due 1989 to 1999 and 2003	52,300	173,525
1986 Refunding Series A&B, bearing interest from 6.75% to 8.10% and due 1991 to 2008 and 2019 and 2020	195,955	195,955
1986 Refunding Series C&D, bearing interest from 5% to 7.30% and due 1989 to 2007 and 2012 and 2021 and 2022	334,870	335,630
1987 Refunding Series A, bearing interest from 4.30% to 7% and due 1989 to 2007 and 2012 and 2021 and 2022	191,160	191,945
1988 Refunding Series A, bearing interest from 7% to 7.875% and due 1992 to 2005 and 2015 and 2021	188,575	—
Total Electric System Expansion Revenue Bonds	1,798,265	1,797,545
Electric System Revenue Bonds, 1985 Series, bearing interest from 7.10% to 8.70% and due 1989 to 1995	94,500	108,000
Capitalized Subordinated Lease Contracts, payable 1989 to 2015	66,111	68,949
Total Long-Term Debt	$2,015,406	$2,033,059

*See schedule for refunded debt.

The Authority refunds and defeases debt primarily as a means of reducing debt service, thereby postponing or reducing future electric rate adjustments. In fiscal year 1989, the Authority issued $189 million in Electric System Expansion Bonds to advance refund certain maturities of the 1980 Series A and 1981 Series A expansion revenue bonds and certain maturities of the 1982, 1985 and 1985A Refunding Series Bonds. The 1980A, 1981A, 1982, 1985 and 1985A bonds (original bonds) totaled $172 million. The new bonds bear an average interest rate of approximately 7.8%. The original bonds averaged approximately 9.3%. The net proceeds of the bonds, $189 million (after payment of $.4 million and $1.4 million in underwriting fees and original issue discount) plus an additional $6.7 million were used to purchase U.S. Government securities. The securities have been placed in an irrevocable trust to provide for all future debt service payments on the original bonds. As a result, the original bonds are considered defeased and the liability for those bonds has been removed from the Authority's accounts.

Although the advance refunding resulted in a deferred accounting loss of approximately $28 million, the Authority was able to reduce its total debt service over the next 36 years by approximately $28 million and obtain an economic gain (the difference between the present values of the debt service payments on the old and the new debt) of approximately $10 million.

Amounts outstanding, original loss on refunding, and the unamortized loss at June 30, 1989 follow:

Refunding Issue	Refunded Bonds	Refunded Amount Outstanding	Original Loss	Unamortized Loss
			(Thousands)	
1977 Refunding	1971 and 1976 Series	$ —	$ 11,244	$ 6,741
1982 Refunding	$100,000 of the 1981 Series C and $127,000 of the 1982 Series A	227,000	62,588	2,994
1985 Refunding	$150,000 of the 1982 Series B	150,000	30,570	8,707
1985A Refunding	$139,000 of the 1981 Series B and $ 40,000 of the 1981 Series C	179,000	27,853	6,368
Cash Defeasance	$ 20,000 of the 1982 Series A	20,000	2,763	2,432
1986 A&B Refunding	$ 42,725 of the 1980 Series A $ 42,000 of the 1981 Series A $ 61,000 of the 1981 Series B $ 4,420 of the 1981 Series C $ 7,820 of the 1982 Series A $ 9,010 of the 1982 Series B	166,975	43,736	43,736
1986 C&D Refunding	$280,275 of the 1982 Refunding Series	280,275	97,109	90,396
1987 A Refunding	$160,510 of the 1985 Refunding Series	160,510	48,038	44,594
1988 A Refunding	$ 18,220 of the 1980 Series A $ 18,315 of the 1981 Series A $ 9,110 of the 1982 Refunding Series $ 5,000 of the 1985 Refunding Series $120,890 of the 1985 Refunding Series A	171,535	28,644	28,644
Total		$1,355,295	$ 352,545	$ 234,612

The Authority's bond indentures provide for certain restrictions, the most significant of which are:

The Authority covenants to establish rates and charges adequate to provide revenues sufficient, among other things, to pay debt service when due on the priority obligations and expansion bonds, to make required payments when due into the lease fund and the capital improvement fund, and to pay the costs of operation and maintenance of the Authority's electric system and all necessary repairs, replacements, and renewals thereof.

The Authority is presently required to pay annually into its capital improvement fund an amount which, together with the amounts deposited therein the two preceding fiscal years, is at least equal to 8% of the Authority's gross revenues (as defined) in the three preceding fiscal years. The Authority may issue additional parity expansion bonds if, among other things, the Authority's Consulting Engineer certifies that net revenues (as defined) in each succeeding fiscal year after the date on which such additional bonds are sold to and including the later of (a) the third succeeding full fiscal year after such date or (b) the first full fiscal year after the estimated date of commercial operation of any power plant to pay the cost of construction of which additional expansion bonds have been, are being, or are then authorized to be issued, shall be at least equal to the sum of the amounts required in such fiscal year for (i) debt service on the priority obligations and the expansion bonds then outstanding, being issued, or authorized but not yet issued, (ii) payments into the lease fund, and (iii) payments into the capital improvement fund.

Electric revenue and expansion bonds maturing during the years ending June 30, 1990 through 1994, are, as follows:

	Electric Revenue Bonds	Priority Obligations & Expansion Bonds	Total
		(Thousands)	
June 30, 1990	$ 13,500	$ 19,545	$ 33,045
June 30, 1991	13,500	20,860	34,360
June 30, 1992	13,500	24,155	37,655
June 30, 1993	13,500	26,685	40,185
June 30, 1994	13,500	28,405	41,905
Total	$ 67,500	$ 119,650	$ 187,150

Note 5 — Summer Nuclear Station:

The Authority and South Carolina Electric and Gas (SCE&G) are parties to a joint ownership agreement providing that the Authority and SCE&G shall own the Summer Nuclear Station with undivided interest of 33⅓% and 66⅔%, respectively. SCE&G is solely responsible for the design, construction, budgeting, management, operation, maintenance, and decommissioning of the Summer Nuclear Station, and the Authority is obligated to pay its ownership share of all costs relating thereto. The Authority receives 33⅓% of the net electricity generated. At June 30, 1989 and 1988, the plant accounts included approximately $426,423,000 and $426,142,000, respectively, representing the Authority's investment, including capitalized interest, in the Summer Nuclear Station. The Authority's interest in Summer Nuclear Station was financed solely by long-term debt. For the years ended June 30, 1989 and June 30, 1988, the Authority's operation and maintenance expenses included $20,208,000 and $36,695,000 respectively, for operation and maintenance expenses of the Summer Nuclear Station.

Nuclear fuel costs are being amortized based on energy expended which includes a component for estimated disposal costs of spent nuclear fuel. These amortizations are included in fuel expense and are recovered through the Authority's rates. Decommissioning costs (costs to take the plant out of service in the future) for the Summer Nuclear Station are estimated to be $314 million, for the Authority's ⅓ ownership, based on a 30 year useful life with decommissioning expected to commence in the year 2013. The Authority accrues for its share of the estimated decommissioning costs over the remaining life of the facility. These costs are being recovered through the Authority's rates. The estimated decommissioning costs are periodically reviewed and adjustments recorded as appropriate.

The supplier under the original uranium supply contract breached the contract in 1975 due to uranium market conditions. SCE&G initiated action seeking specific performance of the contract provisions, and a final settlement was reached and approved by all parties in April 1980. By terms of the settlement, the Authority has received approximately $10,243,000 in cash as partial settlement of the lawsuit. Additionally, the agreement provides for delivery of uranium, long-term deliveries of equipment and services (including conversion and fuel fabrication) at a discount. The cash and discounts received (and related interest earned) which approximated $16,572,000, were recorded as deferred credits through June 30, 1988. During fiscal year 1989 deferred credits and related interest of approximately $8,756,000 were used to offset the additional fuel costs associated with replacement energy during the Summer Nuclear Station refueling outage. The remaining deferred credits of $7,917,000 will be used during scheduled refueling outages in future years.

Note 6 — Commercial Paper Notes and Mini-Bonds:

The Board of Directors authorized the issuance of commercial paper not to exceed $50,000,000. The paper is issued for valid corporate purposes with a term not to exceed 270 days at an annual interest rate not to exceed 9½%. As of June 30, 1989 and 1988, the effective interest rate on outstanding borrowings was 6.55% and 4.96%, respectively. During 1989 and 1988, the average amount outstanding was $50,000,000; the average maturity was 33 and 38 days, respectively; the average effective interest rate was 6.17% and 4.94%, respectively.

At June 30, 1989, the Authority had a Revolving Credit Agreement of $50,000,000. This Agreement is used to support the Authority's issuance of commercial paper. Under an agreement signed November 1988, the Authority is required to pay a fee equal to 1/8 of 1% on the total line of credit. No loans were outstanding under the Agreement at June 30, 1989.

In September 1988, the Authority issued $17 million in 7¾% Electric System Revenue Bonds 1988 Series M ("1988 Mini-Bonds"). These 1988 Mini-Bonds, which are due on demand of the registered owner, are considered current liabilities of the Authority. The 1988 Mini-Bonds are to be paid from and secured by a pledge of revenue on a parity with the 1985 Electric System Revenue Bonds and Commercial Paper Notes, but are junior and subordinate to all other outstanding bonds and capital lease obligations.

In August 1989 the Authority issued a preliminary official statement for the sale of 7% Electric System Revenue Bonds 1989 Series M, (1989 Mini-Bonds). The Authority expects to sell approximately $15 million of these bonds during October 1989. The repayment, security and lien level of these bonds will be equivalent to that of the 1988 Mini-Bonds.

Note 7 — Contracts with Central Electric Power Cooperative, Inc.:

The Authority has lease contracts with Central Electric Power Cooperative, Inc., covering a steam electric generating plant, transmission facilities, and various other facilities. The lease terms range from six to twenty-six years. Quarterly lease payments are based on a sum equal to the interest on and principal of Central's indebtedness to the Rural Electrification Administration for funds borrowed to construct the above mentioned facilities. The Authority has an option to purchase the leased properties at any time during the period of the lease agreement for a sum equal to Central's indebtedness remaining outstanding on the property involved at the time the option is exercised or to return the properties at the termination of the lease. The Authority plans to exercise each and every option to acquire ownership of such facilities prior to expiration of the leases.

Future minimum lease payments on Central leases, at June 30, 1989, were:

Years ending June 30:	Amount (Thousands)
1990	$ 5,258
1991	5,258
1992	5,258
1993	5,258
1994	5,250
Thereafter	69,943
Total minimum lease payments	96,225
Less, amounts representing interest	30,114
Balance at June 30, 1989	$ 66,111

Leased property under capitalized leases and related accumulated amortization included in utility plant at June 30, 1989 totalled $102,300,000 and $45,468,000, respectively, and at June 30, 1988 totalled $102,400,000 and $42,700,000, respectively.

Power supply and transmission services are provided to Central in accordance with the Power System Coordination and Integration Agreement dated January 19, 1981, and amended as of March 31, 1988. The amendment provides for a charge in the Authority's rate-making methodology for Central. In addition, the Authority will be the sole supplier of Central's energy needs excluding what Central receives from the Southeastern Power Administration and SCE&G. The agreement allows Central to audit all charges by the Authority. Audits and any potential findings for the years ended June 30, 1986 through 1989 have yet to be completed. Management does not believe there will be any material effect to the Authority as a result of these audits.

Note 8 — Commitments and Contingencies:

BUDGET — The Authority's capital budget provides for expenditures of approximately $126,300,000 during the fiscal year ending June 30, 1990, and $180,000,000 during the two fiscal years thereafter.

DAM REINFORCEMENT — During 1982, FERC notified the Authority that the Pinopolis West Dam and the Santee North Dam, which form a part of the Authority's electric utility system, possessed marginal seismic stability under applicable design earthquake criteria. FERC indicated that remedial measures should be undertaken by the Authority to provide an increased level of seismic stability.

The preliminary design on the reinforcement of the Pinopolis West Dam was completed by the U.S. Army Corps of Engineers (Corps), and a contract was awarded in April 1988 by the Corps. The construction of the bolster is the responsibility of the Corps and is expected to cost the federal government $28.3 million, including the engineering design. Construction is projected to last three years.

An "Emergency Action Plan" was developed for implementation in the event of a failure of the Santee North Dam. In 1986, FERC tentatively approved the plan with 22 modifications. The Authority agreed to all of the modifications except one regarding "strict liability" which was contested in Federal Court. On July 5, 1988, an order was received from the Federal District Court upholding the Authority's position and remanding the case to FERC. Based on the facts as they currently exist, management believes that any cost incurred by the Authority related to the dams would not materially affect the financial position of the Authority.

Note 9 — Retirement Plan:

Substantially all Authority full-time employees must participate in the South Carolina Retirement System ("System"), a cost-sharing multiple-employer public employee retirement system. The payroll for employees covered by the System for each of the years ended June 30, 1989, 1988 and 1987 was $50,949,000, $45,959,000, and $42,484,000, respectively.

Employees who retire at or after age 65 or have 30 years of service are entitled to a retirement benefit, payable monthly for life equal to 1.7 percent of their average final compensation. Benefits fully vest on reaching 5 years of service. Vested employees may retire at 60 and receive reduced retirement benefits. The System also provides death and disability benefits. Benefits are established by State statute.

Employees are required by State statute to contribute 6 percent of salary. The Authority is required by the same statute to contribute 7 percent of total payroll. The contribution requirement for each of the years ended June 30, 1989, 1988, and 1987 was $3,568,000, $3,286,000, and $3,098,000 from the Authority and $3,057,000, $2,595,000, and $2,386,000 from employees.

An actuarial valuation is performed for the System annually. At the most recent valuation date, June 30, 1988, the pension benefit obligation for retired and active members was approximately $7.4 billion. The amortized cost of assets of the System was approximately $5.4 billion. The unfunded pension obligation was approximately $2.0 billion. The pension benefit obligation is a standardized disclosure measure of the present value of pension benefits, adjusted for the effects of projected salary increases, estimated to be payable in the future as a result of employee service to date. The measure, which is an actuarial present value of credited projected benefits, is intended to help users assess the System funding status on a going-concern basis, assess progress made in accumulating sufficient assets to pay benefits when due, and make comparisons among public employee retirement systems. The System does not make separate measurements of assets and benefits payable for individual employers. The Authority's contribution represented approximately two percent of the total contribution to the System.

Ten-year historical trend information showing the System's progress in accumulating sufficient assets to pay benefits when due is presented in the System's June 30, 1988 comprehensive annual financial report.

Note 10 — Major Customers:

Sales to two major customers for the years ended June 30, were:

	1989	1988	1987
	(Thousands)		
Central Electric Power Cooperative, Inc.	$ 218,000	$ 203,000	$ 207,000
Alumax of South Carolina, Inc.	$ 88,000	$ 76,000	$ 69,000

Note 11 — Subsequent Event:

On September 21, 1989, Hurricane Hugo struck South Carolina causing substantial damage to the Authority's system. Preliminary estimates on the cost to repair and replace the facilities total approximately $35 million. Management believes that insurance will provide for a part of this cost, except for transmission and distribution lines. The Authority is currently evaluating its options regarding financial assistance from the federal government for the transmission and distribution line repairs and replacements, debris removal, etc. The Authority estimates that with insurance and with the possibility of financial assistance from the federal government net unrecoverable costs will total approximately $7 million. At this time, the decrease in net revenues resulting from Hurricane Hugo is estimated to be in the range of $10-$15 million for the months of September-December 1989. Management believes the long-term effect on the Authority's financial position will not be material.

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D. Gene Rickenbaker
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Representing the 6th Congressional District
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Representing the electric cooperatives of South Carolina

Ralph H. Ellis
Representing Horry County

A. Clint Gossett
Representing the 4th Congressional District
Greenville, Spartanburg, and Union counties

Harold M. Robertson
Representing the 1st Congressional District
Beaufort, Charleston, Colleton, Dorchester, Hampton, Jasper, and part of Berkeley counties

Johnnie Joe Young
Representing Georgetown County

BOARD CHANGES

There was one change in Santee Cooper's Board of Directors during the past fiscal year. Ralph H. Ellis of Little River was appointed to represent Horry County. A graduate of Clemson University, he is a real estate broker and partner in Luck & Ellis Realty Company. Ellis is a former school principal, postmaster, State Senator and Representative.

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Management

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Executive Vice President Engineering and Operations

Robert V. Tanner
Executive Vice President Production

F. Eugene Williams
Executive Vice President Customer and Public Relations

T. Graham Edwards
Senior Vice President Administration and Finance

Charles H. McGlothlin Jr.
General Counsel

Emily S. Brown
Vice President and Corporate Secretary

Bill McCall Jr.
Vice President Production Operations

Ronald T. Nolte
Vice President Corporate Forecasting, Rates, and Statistics

Robert F. Petracca
Vice President Property and Transportation

Byron C. Rodgers Jr.
Vice President Engineering and Construction Management

Joseph P. Thomas
Vice President Planning and Operations

Curtis L. Williamson Jr.
Vice President Horry-Georgetown Division

H. Roderick Murchison
Treasurer

Elaine G. Peterson
Controller

Jerry L. Stafford
Corporate Communications Director

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Santee Cooper

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