

POWER SOURCE[®]

A Corporate Publication of Santee Cooper

WINTER 2005



*Mepkin Abbey...an incredible offering of solitude, silence and tranquility
...and a side of eggs*

PRICE FOR POWER PUSHED UP BY RISING TIDE OF FUEL COSTS

It's disturbing to see the cost of electric power increasing—a circumstance resulting from the rising tide of fuel costs. We are reminded of this economic reality and unavoidable occurrence every time we stop at the gas pumps, shop at the supermarket, purchase a product or board an airplane.

The price of electric power is driven more directly by the cost of fossil fuel than by any other factor. Santee Cooper generates roughly 75 percent of its power from coal and 5 percent from natural gas. That power is delivered directly or through the state's 20 electric cooperatives to more than 1.8 million South Carolinians.

Over the past several years, prices for coal have risen 80 percent and natural gas prices have jumped 250 percent. Projections indicate the trend will continue for at least the next few years.

These more recent increases are primarily due to supply-side challenges presented by coal company bankruptcies, more stringent environmental permitting and an oil and gas market squeezed by increasing foreign demand and war-influenced limits on supply. Unfortunately, these are largely uncontrollable costs that

must be passed through to customers as part of each kilowatt hour of electricity.

These fuel-driven higher costs are not only for the coal, natural gas and oil used to generate electricity. They are also "built in" to the higher costs of materials and products used in the normal process of doing business. And they are embedded in the higher costs of transportation for those fuels, materials and products. As the costs for fuels continue to climb, their impact will be all pervasive on the cost of power and on the cost of doing business.

To minimize the impact of fuel-cost escalation on customers, Santee Cooper is tightening its belt, trimming expenses and taking actions wherever possible to operate more efficiently and to reduce operating costs. This includes significant reductions in non-operating expenses, consolidation of functions and services, elimination of certain programs and other means available to restrain expenditures.

Santee Cooper employees are focused on doing all they can to hold down the cost of power. Minimizing costs, in fact, is given priority among the corporate goals.

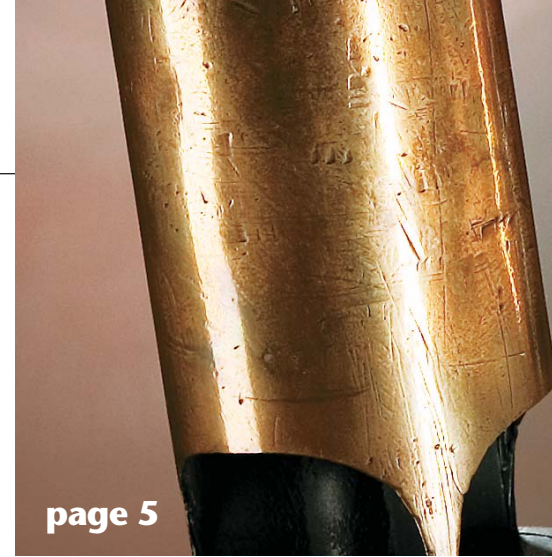
In addition, our generating stations fiercely compete to attain the highest heat



Guerry Green
Chairman — Board of Directors

rating—that is, getting the most electricity out of each ton of coal, gallon of oil or cubic foot of natural gas used in the process.

Every dollar saved in the cost of doing business and every dollar earned through additional revenue generation affects the bottom line and helps hold down the cost of power. Our commitment is to keep that number as low as possible and to look out for the best interests of our customers and the economic growth of the Palmetto State. In doing so, our goal is to remain South Carolina's major source of competitively priced electric power.



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By Willard Strong
Photography by Jim Huff
Historic photos courtesy Horry County Museum.



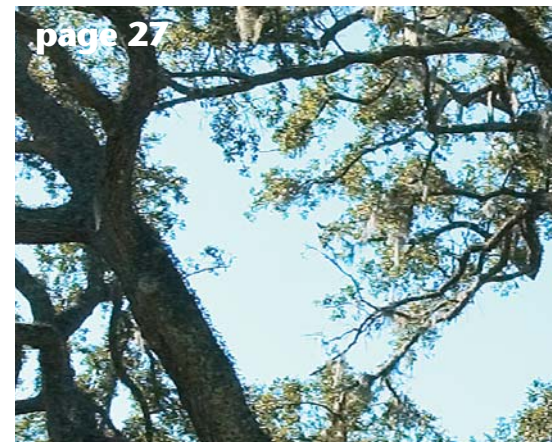
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FROM COAL AND ICE TO ELECTRIC POWER— ENERGIZING THE GRAND STRAND

“Pug” Moore, 91-year-old Santee Cooper Retiree, Recalls the Early Electrification of Conway and Myrtle Beach

He’s 91 years old and has a slow and deliberate gait. A soft-spoken man, he can vividly recall when Santee Cooper took over the electrification of Conway, ushering in a more modern age full of time-saving conveniences and an improved quality of life.

His name is Ralph Vernon “Pug” Moore. He’s lived and worked in the Horry County seat since being born there. Moore was employed by Santee Cooper from 1941 until retiring in 1976, managing the business end of Santee Cooper’s retail office. He’s one of the company’s oldest living retirees.

“When I started, I was making \$12 a week, about \$50 a month,” Moore says. “I was the chief clerk



Above: Pug Moore with his favorite set of golf clubs.

Left: Steam whistle from Quattlebaum Light and Ice Co., which provided some of the first electric power to the people of Horry County. It is on display at Grainger Generating Station in Conway.

Right: Fireplace shovel given to customers as a promotion in the late 1930s by South Carolina Utilities Co.



and I had three or four young ladies working for me. It was kind of exciting because we had a new outfit to work for.”

That “new outfit” was Santee Cooper, which in 1941 bought the electrical distribution rights from a company called the S.C. Utilities Co. It was an arm of the privately held firm, the Walnut Holding Co., based in New York City.

But before the New York-owned utility came along, electricity in Conway was a local affair. According to the book “So Much to be Thankful For, the Conway National Bank & the Economic History of Horry County” by Roy Talbert Jr., three local citizens first attempted to electrify Conway.

It was the early 20th century. They were Doc Spivey, J.C. Spivey and M.W. Collins, who “announced their intention to organize the Conway Light & Power Co. with capital stock of \$10,000,” the book states. “This particular effort stalled and at the end of 1906, Conway issued municipal bonds for ‘electric lights and other improvements.’ Under the leadership of Paul Quattlebaum, electricity came to Conway in 1907.”



Pug Moore as a young man in his 30s.

Quattlebaum presided over the Quattlebaum Light and Ice Co. and that’s where Moore first worked.

Moore’s Early Life

Moore was born on Oct. 4, 1913, growing up in town with two brothers and two sisters. He graduated from Burroughs High School in 1929. Moore enjoyed playing baseball, tennis and basketball for the Green Wave, a nickname that predated the present Conway High School Tigers.

After high school he took bookkeeping and typing courses in 1930 and worked two summers at Collins Department Store in downtown Conway.

“I took sales slips to cashiers, and remember putting (South Carolina) tax stamps on Railroad Mills snuff,” Moore says. In 1932, in the midst of the Great Depression, Moore went to work for Quattlebaum’s firm. It eventually provided a good, steady income for his wife, the former Minnie Langley, and two growing boys.

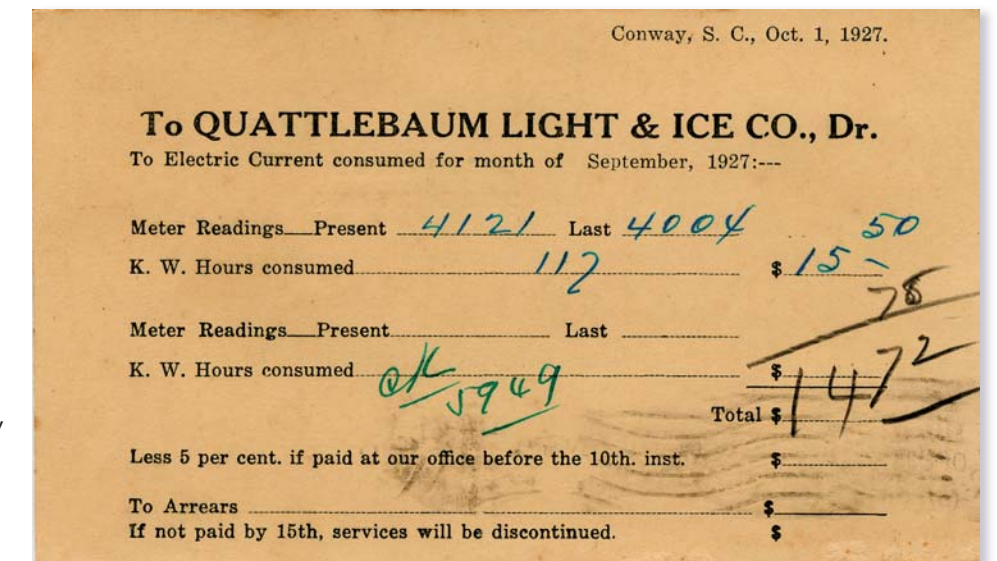
“I was paying \$25 a month rent,” he recalls. “You could get two pounds of pork chops for a quarter. A big beef roast was 75 cents, and a gallon of gas was 15 to 17 cents.”

The outfit sold three things: ice, coal and electricity. Before the perfection of home refrigeration, a viable local ice plant, which often had a diesel generating system, was a symbol of civilization of sorts for small Southern towns. Summerville and Kingstree are two other examples of cities with such local ice plants.

When Coal Was King

Coal was a very important commodity. It heated homes, and most residences and businesses had a coal-burning fireplace. This was before oil-fired furnaces became prevalent and predated the perfection of the electric heat pump. Moore vividly remembers the workings of so long ago.

“Paul was the brains, Mr. Perry was the operator inside the plant,” says Moore. “They had a distilled water system for making the ice and a 20-foot by 40-foot ice tank where they’d pour the distilled water into a galvanized can. Three hundred pounds of ice were dumped down a chute into a storage room that was kept at 20 degrees.



Top: Wedged between President Herbert Hoover and an unnamed official, Pug Moore posed for a photograph with his high school classmates on a visit to the White House.

Above: A 1927 electric bill rendered by Quattlebaum Light & Ice Co.



Paul Quattlebaum was among this group of Conway business leaders photographed in the early 1920s.

We sold ice from five pounds to 100 pounds. We had a 300-kilowatt generator. It burned coal. We sold coal by the bulk for about \$12 a ton.”

Quattlebaum’s company was responsible for lighting up Conway streets beginning in 1910, according to Talbert’s book. Conway contracted with his firm for “25 lamps at the rate of \$95 per lamp per year for standard 6.6 ampere, eight-volt, constant current, alternating-arc lights; and one-sixth of this rate for 32-candle incandescent lights on the streets. Quattlebaum agreed that ‘the lamps are to be kept lighted every night from 30 minutes after sunset till 30

minutes before sunrise, except after 1 o’clock on nights when sufficient light is furnished by the moon.”

In 1921, the firm began providing electricity to Conwayites 24 hours per day. “Prior to the summer of 1921, power had been available only at night,” Talbert states. By the mid-1930s the company had about 600 customers. The office setup consisted of Moore as manager, a chief bookkeeper and three clerks.

“We had just one (line) crew,” Moore says. “We also sold retail wiring supplies. It was my job to also dispense wiring supplies, mostly wholesale to one of the CCC (Civilian Conservation Corps) camps

on the outskirts of town on Highway 905, on a bluff called Glass Hill. They had barracks, and young men worked out of there. It provided work, and jobs were hard to come by during the Depression. We had thin meter books, and the electric meters were read once a month. A lady clerk and I would sit down at a small table and make out the bills by hand.”

By the time Santee Cooper acquired the distribution rights at Conway in May 1941, the little privately owned utility had 2,959 customers.

In the “Brief History of Horry Division” in Santee Cooper’s 1951 annual report, the state of electric power in

Conway and Myrtle Beach was described as an “outmoded, overtaxed little electric system” that was “suffering from neglect and growing pains. It had to depend on power from an antiquated little steam plant in Conway, a small diesel-powered generator at Myrtle Beach and a 5,000-volt line connection with the Carolina Power & Light Co. at Aynor, S.C.”

A big beef roast was 75 cents, and a gallon of gas was 15 to 17 cents.

Santee Cooper’s acquisition occurred only seven months before the attack on Pearl Harbor, which plunged America headlong into World War II. It was a tough time for Moore and Santee Cooper’s mission of modernization. Men and materials were going overseas for the war effort.

“I met with the draft board, told them what I did and they thought I should stay here,” he said. “I was married with two small children and got two deferments. I was in the Home Guard during the war. I was called up in February of 1945 and was supposed to go in the Army in May of that year, but didn’t have to.”

At this time, it was tough being an electric utility anywhere in the country.

“During the war, many things were very scarce,” he said. “It was hard getting electrical supplies.”

After the war Santee Cooper really took off. By comparison, Santee Cooper customers in the Horry Division consumed 6,395 kilowatt-hours in fiscal year 1942. By 1951, that figure had risen to 32,115,347 kilowatt-hours.



Steam power first came to Horry County with arrival of the railroad in Conway around the turn of the century.



Business bustled for Conway in the 30s and 40s with downtown development.

The 1951 annual report states, “In spite of over \$3 million spent for betterments and improvements for the Horry Division, Santee Cooper was able to reduce rates over 52 percent. This was made possible by the business-like handling of Santee Cooper’s affairs and also by the large number of new customers and their increased use of services.”

That annual report also states, “During the 10 years of improved service in Horry County, the users of electricity in this one county have saved an estimated \$4 million” or “approximately \$725 per customer.”

That was one benefit public power brought to this largely rural part of South Carolina. But things began changing for the area after World War II, with the term “Grand Strand” being coined by a Myrtle Beach public relations man in the 1950s.

“Myrtle Beach began taking off; it outstripped Conway in growth,” says Moore, who was called upon to train the first office manager there. The seaside settlement

originally called “New Town” was rapidly building its reputation as a resort destination, a far cry from Moore’s teen-age days.

“Myrtle Beach had one general store and one pavilion where highways 501 and 17 met in downtown,” Moore says. “There was a big sand dune, and I’d climb it. You could see all of 12 to 15 houses in Myrtle Beach. They were on the oceanfront about where the Pavilion is today. There was a small drink stand operated by three Sasser boys from Conway. There was also a large boardwalk and a bathhouse where you could rent a bathing suit. My father worked for a family named Spivey, who owned a mercantile store in Conway. They had a beach house, and we’d spend a week over the summer at what was called Spivey Swash. We had a lot of fun catching crabs.”

A big event for Horryites during this time was Hurricane Hazel. Until Hurricane Hugo came along in 1989, it was the biggest storm to hit the area.

“It was Oct. 15, 1954,” Moore says. “I remember trying to walk across Main

Street in Conway during the storm. The eye passed through the middle of the day. It tore up Conway pretty good. It pretty well destroyed the distribution lines. They had to call in crews from as far off as Tennessee.”

Twelve years later, in 1966, a big event happened in Conway when the Grainger Generating Station was dedicated.

“It was a big thing for Conway,” says Moore. “Very imposing. It meant progress.”

Moore retired in 1976, when Santee Cooper began a new era of expansion as the first of four units went online at the Winyah Generating Station in Georgetown County. Retirement allowed Moore to pursue his golfing passion.

“I made golf clubs and sold them after my retirement,” Moore says. “I used to play a lot of golf and at one time I had a five handicap.”

“Into his early 80s, he could shoot his age on the golf course,” says Zack

Dusenbury, Santee Cooper’s vice president of retail operations. “He was a pretty good golfer and helped me get set up with a set of good clubs.”

Dusenbury first met Moore in 1968, when Dusenbury was hired.

“Pug had the first Santee Cooper meter reading crew in Conway and Loris,” Dusenbury says. “I always thought a lot of him. He’s a warm, honest person and was straightforward and honest with customers. He brought a tremendous amount of knowledge with him when he came on board.”

Moore is steadfast in his affection for the state-owned utility that gave him a good living and has meant so much for his beloved Conway.

“Santee Cooper was the driving force in the betterment of life and society in Conway,” he says. “They provide great service and, of course, have the lowest rates around. They do so much for the community.”

Talbert’s book summed up the power revolution in Horry County this way: “The magic of cheap electricity provided by Santee Cooper and the Horry Electric Cooperative began a revolution in country living.”



Tongs like these were used to load 50-pound blocks of ice for delivery by Quattlebaum Light & Ice Co.

POWERHOUSE TOURS OFFER A CLOSE-UP LOOK AT THE MAKING OF ELECTRICITY

Hellooooo! I'm Eddie and welcome to the Santee Cooper Powerhouse Tour! As an electron, I'm a very small, negatively charged particle. But as your guide today, I'm about as big and positive as you can get!

Those are the words fourth-, fifth- and sixth-graders hear when they visit one of Santee Cooper's five generating stations. Edison the Electron, his given name, or Eddie for short, is the narrator for the videos. He's a cartoon character with a cartoon voice who flies through the video and appears in related brochures.

"The best way to learn how electricity is generated is to visit the place where it's made. And we have five such sites in South Carolina," said Beth Fondren, director of publications and coordinator for this project.

"When we began planning this tour package, we wanted to make sure it fit into the state's curriculum and standards for fourth through sixth grades. While keeping the standards in mind, we've developed a program in which students and teachers will benefit," she added.

Left: Edison, the Electron, also known as "Eddie."

Above: Berkeley County students check out their map of the turbine floor during a Powerhouse Tour.



The Character

Eddie went through several generations until the final version was selected. He's a big-eyed, round, three-dimensional character with swirling particles buzzing around him. Purple gloves and boots complete his outfit.



The character, created by a graphic designer, earned his name after a contest at Santee Cooper. More than 75 employees submitted potential names for the yellow character. It resulted in a tie. Jefferies Station Technical Associate Kearny Gregory came up with the character's full name, Edison the Electron, while Senior Stores Specialist Debbie Hyman gave the electron his nickname, Eddie.

Santee Cooper Principal Engineer Susan Jackson worked closely with the public relations staff on this project. She made sure technical information was correct, served as the liaison with generating station staff and coordinated information with station managers to ensure needed information was in the brochures and videos.

The original generating station tour package was developed more than 14 years ago. It featured a "eccentric scientist" character explaining the process of generating electricity. It was a great program at the time.

"But we needed to move into the 21st century," said Jackson. "We love the new program. The station managers are happy, and the students touring the stations seem to like it too."

The Program

When students enter the generating station, they are taken to a conference room where a unit operator begins the tour.

The new PowerHouse Tour program consists of a five- to seven-minute video along with a colorful brochure for each of Santee Cooper's generating stations that explains the process of making electricity.

The Video

In the video, Eddie zooms around the generating stations, showing the students the ins and outs of a powerhouse.

The video begins with an opening shot of the exterior of the station. Then Eddie squeezes down the stack and begins the tour inside. He starts at the beginning with coal being loaded on the pulverizer and ends with the electricity flowing to houses.

Since each station is unique, specifics are noted for each. For instance, at Jefferies Station, students learn how electricity is made using coal and hydropower. During the Winyah, Cross and Grainger station videos, Eddie shows how electricity is made using coal. And during the Rainey Station video, Eddie displays the steps in generating electricity using natural gas.

After viewing the video, students are given a copy of the brochure and a white pencil with yellow eraser. The pencils display Eddie's image.

The video started with a script and the character. This information was then

taken to a production studio that provided character development, animation compositing, the musical score and postproduction for the video.

Scenes for the video were shot and edited by Santee Cooper's videographer Robert Smith. Phil Fail, director of technical services, served as an adviser and producer.

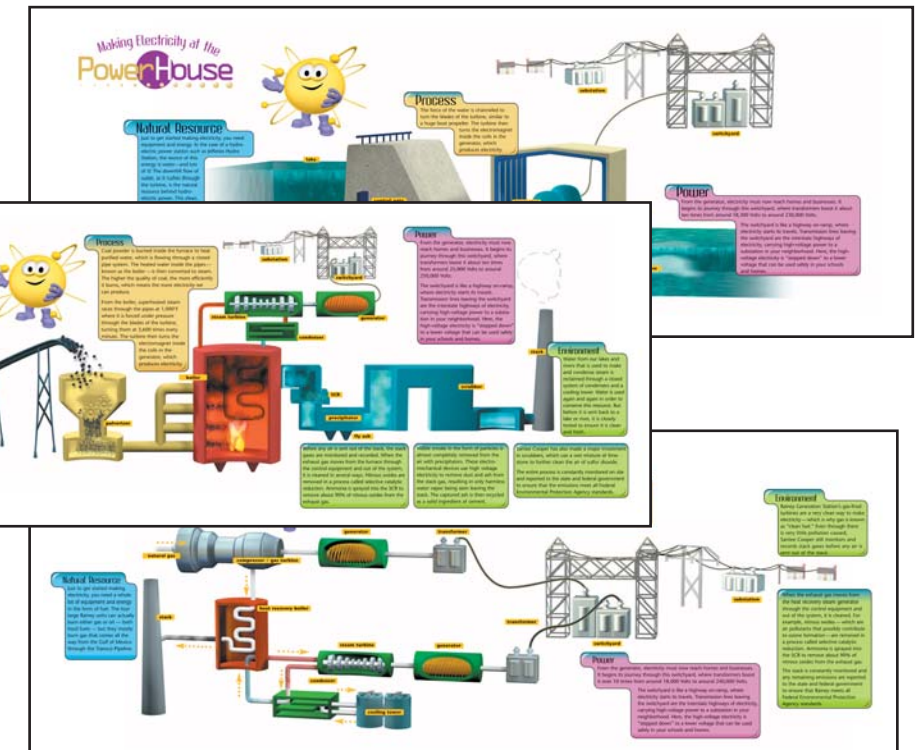
The Brochure

In a techno style, the brochure is bright orange, purple and green. The cover prominently features a photograph of the generation station. Inside the brochure are photographs of the station, station employees and station equipment.

Once you open the brochure, you see a large-scale diagram on how electricity is generated at that specific facility. Open the brochure all the way, and you'll read about Santee Cooper. Topics include GOFER, Green Power, careers at Santee Cooper

and history. Then, on the back of the brochure, you can read interesting facts about the generating station.

- Each generating station has a brochure featuring its source of generation.
- Rainey Station's brochure explains the process of making electricity using natural gas.
 - Jefferies Station has two brochures, one that describes the electricity generation process using coal and another that describes the process using water.
 - Cross Station's brochure illustrates how electricity is made using coal and details how emissions control equipment helps protect the environment.
 - Winyah Station's brochure has a cover shot of the station with its four stacks and talks about generating electricity with coal.
 - On the cover of the Grainger Station brochure, the station is reflected in Lake Busbee on U.S. Hwy. 501 in Conway.



The Tour

After watching the video, examining the brochure and getting information in a question and answer session, it's really "show time." In Pied Piper fashion, the students or station visitors follow their guide—usually a unit operator, assistant or technician—for a walking/talking tour of the generating facility.

A visit to the control room provides a look at the dials, switches and computers used to manage and monitor the plant's power production. Then, it's on to the turbine



floor, where visitors are dwarfed by the massive generators—humming as their gigantic magnets spin within copper-field coils to produce electricity.

Other venues include the laboratory, where water and fuel qualities are continuously evaluated, and the switchyard, where high-voltage electricity flowing from the generators is "stepped down" to a level suitable for transmission.

Visitors to the Jefferies Hydroelectric Station enjoy some added visual opportunities. They sometimes get to go to a level beneath the generator floor to see the shaft of the water-propelled turbines spinning at a constant 120 revolutions per second—to produce 60-cycle power.

Below: Atop the Pinopolis Navigation Lock, students see how boats get a 75-foot lift from the Tailrace Canal to Lake Moultrie.



And, one of the most popular stops on the hydro tour is getting to go "topside" at Jefferies to visit the Pinopolis Navigation Lock, where boats, barges and other water craft are transported 75 feet between Lake Moultrie and the Tailrace Canal.

"We plan to distribute the video and brochures to South Carolina schools with fourth, fifth or sixth grades," says Fondren. "So, if a teacher can't get his or her classroom to one of the generating stations, the teacher can use the video as an instructional tool when teaching students about generating electricity."

Scheduling Tours

To schedule a tour, call the generating station you'd like to visit. It's preferred that there be one chaperone for every 10 students.

Left: Lock Operator Bill Keyes explains touch-screen hydraulic controls for the second highest single-lift lock in the world.

Right: Unit Operator Jeff Gatlin conducts a Powerhouse tour at Jefferies Hydroelectric Station where Santee Cooper's first power was generated Feb. 17, 1942.

Station name and location	Type of generation	Phone number
Jefferies Generating Station Moncks Corner, S.C.	Coal and Hydro	(843) 761-8311
Cross Generating Station Cross, S.C.	Coal	(843) 351-4586
Grainger Generating Station Conway, S.C.	Coal	(843) 248-7235
Rainey Generating Station Iva, S.C.	Natural gas	(864) 352-6110
Winyah Generating Station Georgetown, S.C.	Coal	(843) 546-4171

BP COOPER RIVER PLANT: TOP WORLDWIDE PRODUCER OF A PRODUCT THAT MAKES LIFE EASIER

“Plastics.” It may be one of Hollywood’s most famous single-word lines. In the opening scene of the classic 1967 film, “The Graduate,” young college graduate Benjamin Braddock, played by Dustin Hoffman, was given that one-word career selection advice by one of his father’s well-wishing friends.

That silver-screen recommendation was prophetic. Since then, polymers and plastics have indeed become a bigger part of everyday life and a significant component of the worldwide economy. A prime example of that can be seen in the growth and success of the Cooper River plant of BP Chemicals Company, located in Wando, just a few miles up river from Charleston. The plant last year celebrated its 25th year of operation.

The Cooper River plant produces BP Chemical’s most important single product, purified terephthalic acid (PTA), the preferred polymer that is used in the



Left: Purified terephthalic acid (PTA), the product of the Cooper River plant of BP Chemicals Co., which annually produces more than 2.7 billion pounds.

Above: Cooper River Works General Works Manager Michael Olbrich



manufacture of polyester, one of the most versatile of man-made products.

Polymers are molecules made up of long chains of atoms. They are most familiar in plastic bottles and bags. They are also used in other products ranging from motor oil additives, bulletproof vests and artificial limbs, to consumer products, construction materials and medical supplies. Chances are that you may be reading this through a polymer—your eyeglasses, contact lenses or computer display.

As a fiber, polyester is used in applications for everything from delicate lingerie to incredibly tough cords that reinforce car and truck tires. As a film, it can be coated with metallic oxide for use as

audio and videotapes. It can be coated with adhesives for a variety of packaging materials. As a resin, polyester is molded for products such as convenient, lightweight, shatterproof bottles that preserve the freshness and flavor of beverages.

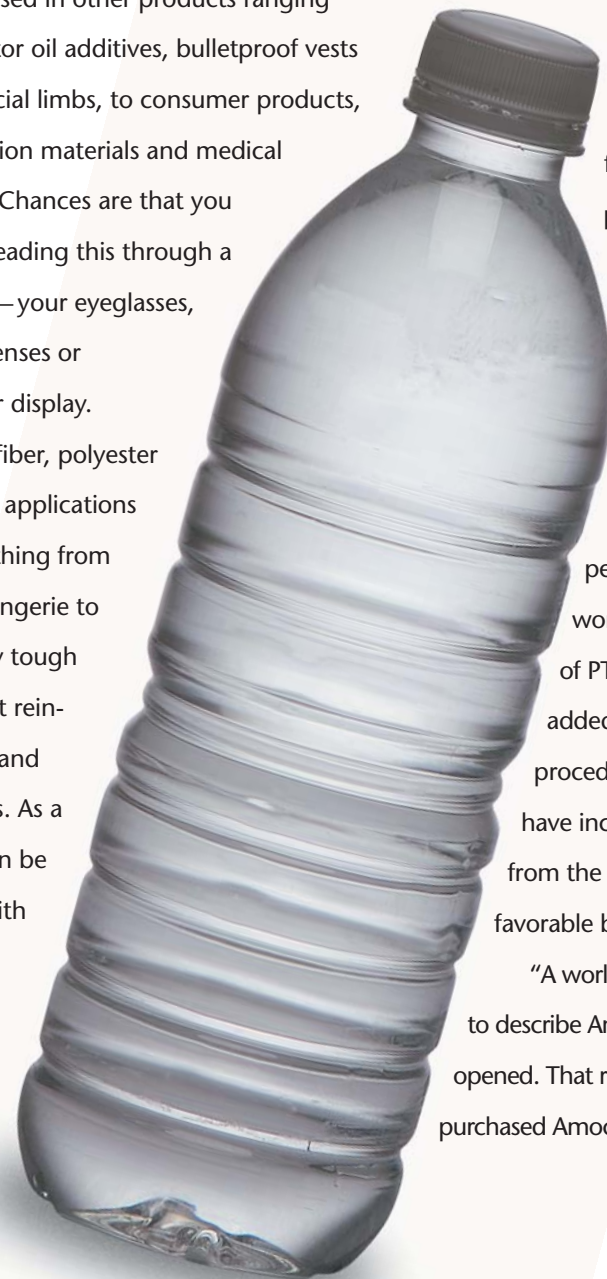
PTA is not an end product, and it is a very innocuous compound. It is a very pure, very clean and very people-friendly product. It has no hazards associated with it.

From PTA to PET to Plastic...

It's the public's voracious appetite and demand for beverages and products in clear plastic bottles that is the driving force for production at the Cooper River plant. Plastic is the preferred packaging for water, sodas and a growing selection of other beverages, foods and consumer products. One of the fast-growing new applications for PET is product packaging. Almost every item, from electronics, medical supplies and food items to pharmaceuticals, toys and computer software, is packaged in see-through plastic for its protection, display and distribution.

BP's Cooper River plant makes 2.76 billion pounds of product per year and is the largest continuous-process PTA plant in the world. It was originally designed to produce 1 billion pounds of PTA per year, and an additional 1.1 billion pounds of capacity was added in 1997. Improvements in catalyst, feedstock and maintenance procedures and the continually growing expertise of its employees have increased annual output to more than 2.7 billion pounds. Product from the Cooper River plant plays a part in the U.S. chemical industry's favorable balance of trade.

"A world leader in a product that makes your life easier" was the headline used to describe Amoco Chemical in 1980 shortly after the firm's Cooper River plant opened. That role has greatly expanded, and the name has changed. In 1998, BP purchased Amoco Corp., and Amoco Chemical made the name change to BP Chemical.



In 1980, the main use for PTA was for fiber used in the making of polyester clothes and polyester derivatives, according to Cooper River Plant Works General Manager Michael E. Olbrich. A 16-year BP veteran, Olbrich has been top executive at the local plant for the past seven months. Prior to his move there, his experience within the company included engineering, research and development, manufacturing, account management and global planning.

"Today, the biggest use for PTA is PET (polyethylene terephthalate), also called PETE, and its main use is for making plastic bottles—for water, soft drinks and a wide variety of food, cosmetics and consumer products," says Olbrich.

In the process, terephthalic acid and ethylene glycol polymerize to make PET when heated in the presence of an acid catalyst.

"The Cooper River plant has been a huge growth engine for PET over the past 20 years," says Olbrich. "In 1980, plastic pop bottles were a new thing and just beginning to catch on. Today, all of that has changed. Back then, our production was mainly fiber-driven, with a little bit of production for PET. Now, the use for our product is mainly PET. Much of the fiber production has moved to China. The clear containers we



PTA Maintenance Coordinator Moses Frost evaluates unit conditions.

commonly call ‘plastic’ are all made from PET while those that are not clear, like milk jugs and such, are made from a different product.”

Olbrich says 60 to 70 percent of the Cooper River plant’s product goes to PET. About 90 percent of the output is used in South Carolina.

“With South Carolina being a traditional home for the textile industry, this was the logical place to build a plant that serviced the polyester business, and since then many of those fiber people have become very big producers in PET.”



There are only two U.S. producers of PTA for the merchant market, according to Olbrich, and both are BP plants, the one here and one in Decatur, Ala. There are

Polymers are most familiar in plastic bottles and bags, motor oil additives, bulletproof vests and artificial limbs.

other producers that make “captive PTA,” which is exclusively for their own use, but BP services the entire United States for everyone who doesn’t make their own.

The first unit at the Cooper River plant was built in 1978 and is still the largest “single train” (continuous process) merchant producer of PTA in North America. It’s also the largest PTA-producing production line in the world. A second unit was added in 1997.

He notes that the revolution in PET usage over the past two decades has changed consumption and that demand dramatically.

“Even 10 years ago, when would you think about seeing a pop bottle with a screw-on lid?” says Olbrich. “You wouldn’t, and today that is the standard. It’s a convenience people have grown to like and appreciate. If you look at how plastic has changed packaging, it’s been extraordinary.

“The big advantage for PET is that it’s crystal clear and if you want to have water or anything you consume, you want to see its purity. PET is great for things you want to see all the way through. PET is great for carbonated materials because it keeps the carbon dioxide in the bottle quite well, and that’s a must in keeping pop fresh.

“Today, they are bottling beer in plastic bottles and we expect to see more and more beer packaged with PET. It’s great for use in stadiums, at beaches and places where safety is particularly important.” He says that when compared to glass, plastic offers the advantages of reduced weight and lower product-shipping costs, greater ease in stacking and stocking, increased safety and extremely recyclable.

The amount of beverage packaging using PET has grown exponentially — at least 9 or 10 percent annually, but unfortunately it has been offset by a slow decline in the U.S. fiber market.

“We get great growth in PET but slow and steady decline in fiber,” says Olbrich.

The Cooper River plant runs “flat out” — operating at maximum capacity and producing all the product that is physically possible. “To produce more product means adding a third unit and that is still in the plans,” Olbrich says.

Beyond Petroleum

“BP—Beyond petroleum” reflects the company’s great respect for nature. “You see that driving into our site,” Olbrich says. “We have a very outgoing program, looking for opportunities in environmental education, working with the Wildlife Habitat Council, Department of Natural Resources, the Smithsonian and all kinds of environmental agencies and organizations. We do everything we can to have a positive effect on the environment around us.”



An example of its community and environmental outreach is a project for helping grow and propagate sweetgrass (*Muhlenbergia filipes*) on selected plots of the Cooper River plant’s property. Environmental Specialist Ernie Nelson initiated and manages the project,



Left: Sweetgrass seeds.
Above: Environmental Specialist Ernie Nelson with sweetgrass plot.

which helps support and sustain a supply of the native grass that has been disappearing because of coastal development and shoreline erosion. The long-bladed grass, restricted to the coast of the Southeastern United States, has historic and cultural significance because of its use by local basket weavers who have been plying the craft in the Lowcountry for about 300 years, having adapted it from African ancestors.

Another example of BP's support for nature is seen through assistance provided by the Cooper River Plant for the Birds of Prey Center of South Carolina. The company is providing temporary housing for the quarantine of several hundred birds being moved to the local rehabilitation facility from England.

"At the corporate level, solar panel production is a program being pursued by BP, which supports an endless list of programs and environmental causes that are going to benefit the world. We want to be smart and produce products that add value to our world," says Olbrich. "We are adding value to the community and the state through environmental outreach, and that is our most valuable contribution.

'People Helping People' is a group of employees who have aligned themselves with our company philosophy of helping employees and community members who have special needs."

"What we're most proud of is the dedicated workforce of good people who have been with us for a long period of time," says Olbrich. "They are working harder and continuously improving our performance, which keeps us out front in terms of competition."

It may have been an Early Start for Plastic Bottles

In his book, "Alchemy," author E.J. Holmyard relates how plastic bottles may have had an early beginning — in the days before chemistry when practitioners of alchemy perhaps stumbled upon an early version of polymers that translated into plastic bottles.

Alchemy was the quest of investigators who sought to turn lead into gold. Because the economies of most cultures were based on gold, making it cheaply would amount to counterfeiting. This would have had disastrous effects on the economy. So, the practice of alchemy was often banned by kings and emperors and such.

Knowing how important it was for the rulers to keep gold valuable, Bartholomew the Englishman, a monk who lived in the 13th century, wrote in his book, "On the Properties of Things," about a Roman inventor who made an unbreakable bottle:

The inventor who is given credit for discovering how to make bottles from PET was Nathaniel Wyeth, the brother of Andrew Wyeth.

"But long time past there was one that made glass pliant, which might be amended and wrought with a hammer, and brought a vial made of such glass before Tiberius the Emperor, and threw it down on the ground, and it was not broken but bent and folded. And he made it right and amended it with a

hammer. Then the Emperor commanded to smite off his head anon, lest his craft were known. For then gold should be no better than

fen [clay], and all other metal should be of little worth, for certain if glass vessels were not brittle, they should be accounted of more value than vessels of gold."

While it is uncertain what this unfortunate inventor had come up with, it is obvious that Emperor Tiberius was just a bit hasty. The polymers that are used today for unbreakable bottles, such as poly (ethylene terephthalate), sell for only pennies per pound.

BP is the World's Largest Producer of Purified Terephthalic Acid (PTA)

BP is a world leader in the production of PTA, with worldwide equity production capacity of more than 6 million tons a year. The company's proprietary technology allows it to produce high quality PTA at low cost. BP has set high standards of product quality, reliability, customer focus, operation safety and environmental friendliness. This contributes to its continued success in making PTA a preferred raw material for most polyester uses.

BP produces PTA at plants in the United States, Belgium, Brazil, Korea, Indonesia, China, Malaysia and Taiwan. The firm successfully commissioned its latest PTA production units in early 2003 in southern China and Taiwan with a combined capacity increase of 1.050 million tons a year.

BP supplies about 22 percent of the worldwide merchant PTA market and participates in a number of joint ventures that increase its total market share to approximately 33 percent.





MEPKIN ABBNEY

A Spiritual, Historic and Environmental Haven Overlooking the Cooper River

As golden rays of sunshine streak through the moss-laden oak trees, the solitude, silence and tranquility of Mepkin Abbey surround visitors from the moment they enter the gates.

Located about 10 miles northeast of Moncks Corner, S.C. in rural Berkeley County, this monastery is home to 28 brothers of the worldwide Order of Cistercians of the Strict Observance, better known as Trappists.

“Monks’ lives are dedicated to prayer, work and spiritual study,” says Mary Jeffcoat, the monastery’s director of communications. “Their whole life is prayer.”

Mepkin Abbey, with its 3,200 acres, provides a sanctuary to the resident brothers as well as to the many visitors who come to this special place on the Cooper River.

The Monastery's History

According to legend, American Indians defined "Mepkin" as "serene and lovely," which is apparent throughout the grounds.

The land on which the monastery sits was owned by the first president of the Continental Congress, Henry Laurens, who acquired Mepkin Plantation in 1762.

Throughout the years, the land passed through several hands. In 1936, it was

purchased by Time-Life founder and publisher Henry R. Luce and his wife — dramatist, politician and diplomat Clare Boothe Luce.

In 1949, the Luces donated a large portion of the plantation to the Trappist monks of the Abbey of Gethsemani in Kentucky. Twenty-nine monks from Kentucky founded the Monastery of the Immaculate Heart of Mary, now known as Mepkin Abbey.

This property was special to the Luces so they visited quite often. They had winter and spring gardens planted along the banks of the Cooper River. Those gardens are still in place today. The Luces, along with their daughter and

Mrs. Luce's mother, are buried on the property. Others buried on the property include members of the Laurens family.

Mepkin Abbey is open to the public daily (except Monday) from 9 a.m. to 4:30 p.m. (on Saturday until 4 p.m.). Tours of the monastery are given at 11:30 a.m. and 3 p.m. During the prescribed hours, guests may visit the gardens at their leisure, and a guidebook is available at the Abbey Store for self-guided garden tours.

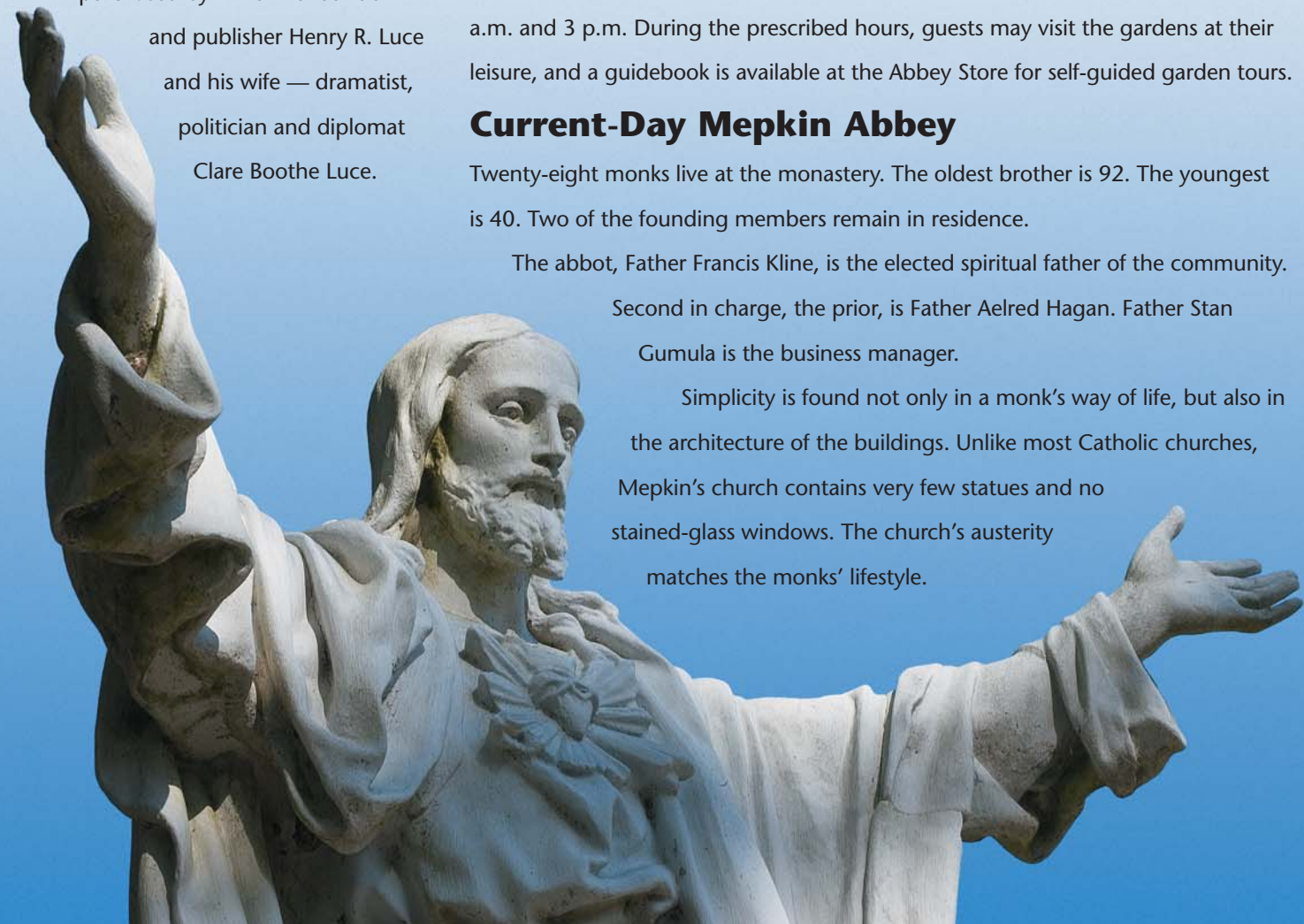
Current-Day Mepkin Abbey

Twenty-eight monks live at the monastery. The oldest brother is 92. The youngest is 40. Two of the founding members remain in residence.

The abbot, Father Francis Kline, is the elected spiritual father of the community.

Second in charge, the prior, is Father Aelred Hagan. Father Stan Gumula is the business manager.

Simplicity is found not only in a monk's way of life, but also in the architecture of the buildings. Unlike most Catholic churches, Mepkin's church contains very few statues and no stained-glass windows. The church's austerity matches the monks' lifestyle.



Father Aelred Hagan.

Work and Business at Mepkin

Historically, hard, manual labor has been an important part of monastic life.

"We live by the labor of our hands," says Father Aelred.

The monks raise almost all of the money needed to support their daily expenses. Revenue comes from egg and compost sales, timber, rental fees for the Laurens Conference Center, store sales and donations. Mepkin also invites donations for its outreach activities, including support for the public gardens and the Clare Boothe Luce Library and Conference Center.

For many years, Mepkin Abbey has been well known for its eggs. More than 34,000 hens produce 30,000 eggs each day. Hens lay eggs every 26 hours. Local Piggly Wiggly stores, the Charleston Air

A Monk's Life at Mepkin Abbey

The monks at Mepkin Abbey follow a strict daily schedule.

They rise at 3 a.m. and the first prayer service begins at 3:20 a.m. Work and meals, along with seven additional services, occur during the day until 8 p.m., the beginning of "grand silence," which ends the following morning after the 7:30 a.m. mass. All meals also are taken in silence.



Force Base and Limehouse restaurant distributors purchase most of Mepkin's eggs. Local folks can also purchase eggs at the Abbey Store.

"We finally realized that our chickens were giving us two products rather than one," says Father Guerric Heckel, Abbey Store manager. "We make compost from the chicken manure. Our compost, named Earth Healer, is an organic compost that helps replete the soil rather than treat it. It is available in our store and local garden centers."

The Abbey Store, located in the Reception Center, was recently expanded to make room for more than just eggs. New items, such as jams and jellies, creamed honey and boxed candy made by other monasteries nationwide, have been added to the inventory, as have hand-crafted items not available in most stores.

Fruit cakes are another popular item made and sold by Mepkin Abbey's monks during the Christmas season. Last year, people from as far away as 100 miles were driving to Berkeley County to purchase one of the famed cakes. Demand exceeded the supply. So, this year, the monks are doubling production to 1,000 two-pound fruitcakes, which can be purchased for \$18 in the monastery's store.

Above: Father Guerric Heckel manages the Abbey Store where Mepkin's eggs and garden compost are available along with products made by other monasteries.

Right: Father Aelred Hagan mixes batter for some of the fruitcakes made by the monks.

A book room and a small gallery also have been added to the store. The gallery's art exhibit is changed every two months.

The Abbey Store is open to the public every day except Monday from 9 a.m. to 4:30 p.m. (on Saturday until 4 p.m.).

Some folks ask if the work done at Mepkin Abbey interferes with the meditation and prayer, a vital part of monastic life.



"It's our belief that if we're not in dialog with our culture today, we run the risk of just being a museum rather than a living, flourishing monastic community," says Father Guerric.

Giving back to the community is evidenced by Mepkin Abbey's hospitality, a long-standing monastic tradition. The monastery opens its doors to women and men of all faiths. In addition to casual day visitors, those who want to spend a little more time experiencing the calm, silence and serenity offered at the monastery are always welcome. This can be for a day of recollection or for three-, four- or seven-night retreats. Reservations are necessary for overnight retreats.

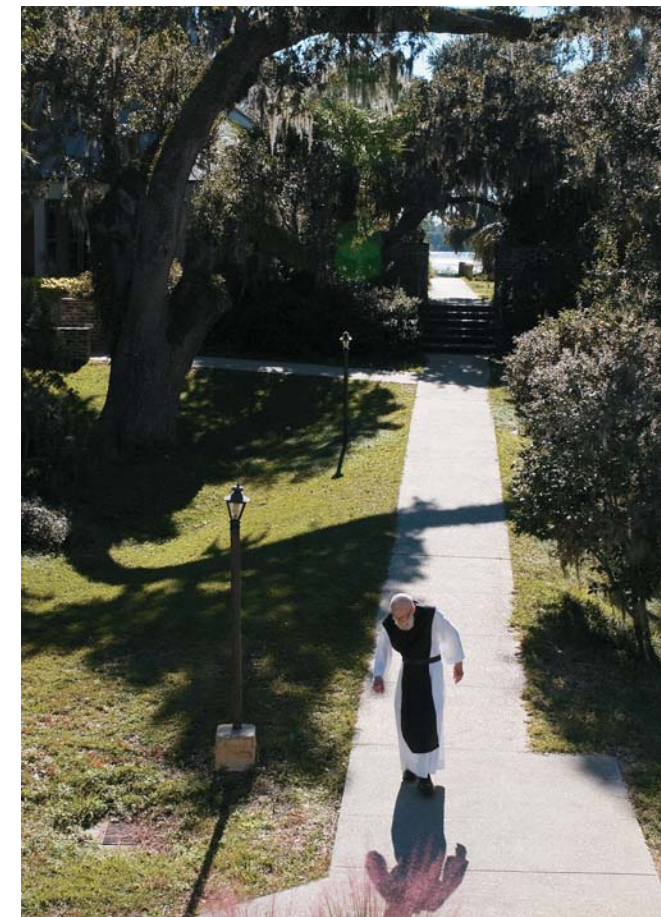
"People who come stay with us for a few days usually find something to take back to their daily lives," says Father Aelred.

Visitors experience a place for quiet and solitude, the beauty of nature and a connection with themselves. Mepkin's visitors include those interested in history, spirituality, ecology, monasticism and art.

Groups are always welcome. Simply call the guest master at (843) 761-8509 to make a reservation for a time when space is available.

Other Facilities at the Monastery

The Clare Boothe Luce Library, which includes the Laurens Conference Center, is located on the monastic green. It houses a collection of more than 43,000 volumes of theological, spiritual and monastic works. The state-of-the-art conference center has a conference room with Internet connections, videoconferencing and a large projection





Above: Monks lives are dedicated to prayer, work and spiritual study.

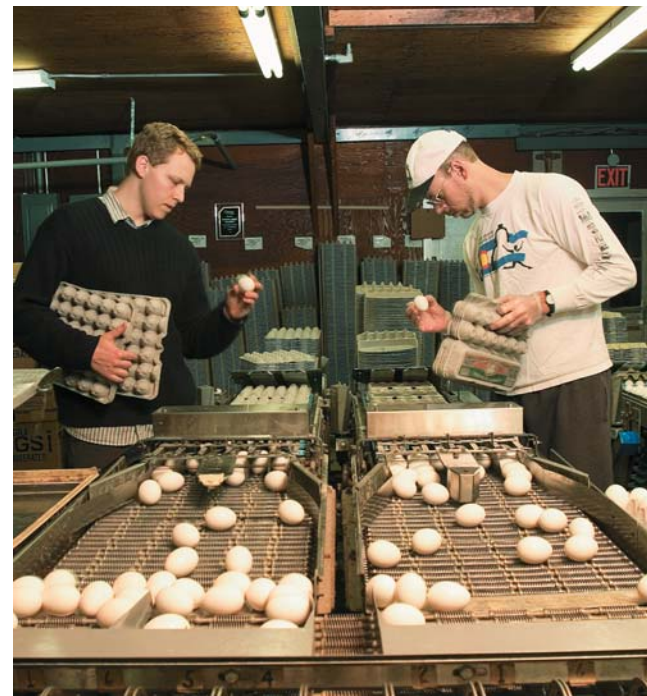
Right: Every day, except Sunday, monks and long-term monastic guests grade and package about 30,000 eggs.

screen. The center, available for a reasonable fee, is used by church, professional, business, governmental, environmental, historical and educational groups. It can accommodate 150 people theater style, and about 50 with tables and chairs. A catering service for lunch and refreshments is also available.

By reservation, serious scholars may use the library's collection for on-site research.

Reflections on Mepkin Abbey

"We're just ordinary folks making a living. Our outreach efforts extend into the community to help those in need. This is all in the context of seeking God through prayer," says Father Aelred.



"The abbey is a container that holds me and allows me to go deep rather than broad," says Father Gueric. "When I began to explore this life, it became a natural next step for me on my journey."

"We (the monastery) can provide a place of solitude and quiet in a world that gets more and more inundated with noise," says Father Gueric. "We can share the gift of this land with others who aren't fortunate enough to have this amount of green space."

"The monks at Mepkin Abbey, even though they live a cloistered life, are an important part of the Lowcountry community," says Mrs. Jeffcoat. "They take seriously their ownership of this property, and they welcome all to visit."

For more information about Mepkin Abbey and for information about making reservations, go to www.mepkinabbey.org or call (843) 761-8509.

"For me, the beauty of Mepkin is like the ocean," says Jeffcoat. "It changes every day with the sunlight and the seasons."

Brother Joseph Szwedo works in the Abbey's feed mill.



SANTEE COOPER FLY ASH TESTED FOR COST-SAVING RESURFACING OF DIRT ROADS

Process may Revolutionize Road Building and Maintenance

Dirt roads as we know them, with muddy ruts and water-filled potholes, may soon be a thing of the past in South Carolina.

That could happen if a test project on a road near St. Stephen in Berkeley County is successful. The result would be a longer-lasting surface and thus, lower maintenance costs for counties in the road maintenance business.

The test project began on Oct. 26, when a 1-mile section of Tobacco Road was resurfaced using 425 tons of fly ash trucked to the site from a Santee Cooper generating station. The Berkeley County Roads and Bridges Department provided the equipment and labor for the project.

"This is a great way to use Santee Cooper's fly ash, which is an environmentally friendly byproduct of Santee Cooper's coal-combustion

process," said Tommy Edens, administrator of Combustion Products Utilization.

"It can also help counties by providing a more cost-effective way to build and maintain roads."

Overseeing the project were Edens and two employees of EviRoad, a 30-year-old company based in Portland, Ore.

To begin the project, the road was graded, and a 2-inch mixture of 20 percent Santee Cooper fly ash and 80 percent sand was applied. The road was then tilled to a depth of 6 inches, and a product called Earthbind was placed on the surface. Earthbind is a liquid petroleum-based organic compound that is a byproduct of the pulpwood industry.

As the final touch, the road is roller-compacted and sprayed with an Earthbind emulsion. After the road "cures" for 24 hours, it is ready for vehicles, which are again using Tobacco Road. The project is a



Tobacco Road, near St. Stephen, S.C. is being graded and prepared for application of fly ash and sand.

joint endeavor between Santee Cooper, the Berkeley County Roads and Bridges Department and EnviRoad.

B.K. Jones and Gerald Shealy, both retired from the S.C. Department of Transportation, work for EnviRoad in North and South Carolina. Experienced at road building and maintenance, they have done similar road projects in Orangeburg and Lexington counties. Those test projects were successful in the use of fly ash as a road-building material.

"By using this material today, we can build a road for about \$15,000 a mile, instead of \$450,000 a mile for asphalt treatment," Jones said. "That's pretty dramatic. We're going to see how it holds up for one year."

Edens explains that fly ash is a great material for this application. "Because the fly ash particle shape is round and the shape of sand is irregular, when mixed, they naturally bind together. This results in a road that is as hard as an asphalt road. This could mean the eventual end of the traditional sand and gravel road used for generations."

To do the project, the county had to first obtain a permit from the S.C. Department of Health and Environmental Control. The same had to be done in Orangeburg and Lexington counties.

Santee Cooper will do soil testing in ditches at the edge of the road to ensure that the project meets environmental standards. If S.C. DHEC approves, Edens says, road builders wouldn't have to obtain a permit each time a road is built using this process. He's hopeful the road will stand the test of time, which would benefit the South Carolina Department of Transportation.



Vibrating roller is used to compact the road prior to the final spray of Earthbind emulsion.

Edens says if this type of road building takes off, Santee Cooper may find another market for its fly ash. The utility produces approximately 700,000 tons of fly ash from its coal-burning power plants on a yearly basis. Edens says fly ash is being utilized at a faster clip in 2004 and usage should easily exceed the 509,000 tons recycled last year.

Fly ash is used for building materials such as concrete blocks and tile and ending up in projects such as Charleston's new Cooper River bridge.



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