

balance of the entire network. However, the introduction of a large number of wind-power plants to the current hydroelectric power grid could create the need to establish a new equilibrium between supply and demand—one which takes into account the requirements specific to wind energy.

One possible solution would be to modify the management of reservoirs to accept energy from wind-power plants functioning as virtual rivers flowing to the head reservoirs, especially in winter months when this energy is most needed.

Environmental issues

Renewable energy sources are attracting attention because they are perceived as a benign means of producing energy. But no resource is perfect; when wind energy is considered for use in tandem with hydropower, the short-term environmental impacts must be mitigated.

How do wind plants affect nearby communities? While the economic impact of the revenue generated by taxes and rent paid by wind farms is positive, the visual impact of the imposing structures is considerably negative. Local populations around wind-power plants must adapt to the altered landscape. Also, noise is a concern within a radius of about 1000 ft surrounding a wind plant. In populated areas, this can give rise to the "not in my backyard" syndrome. Some industry observers say that communities will adapt to the visual and auditory impact of wind-power facilities once the technology's benefits have been clearly demonstrated. Others argue that wind power will have difficulty imposing itself in areas with large populations.

Also, some studies suggest that wind-plants may cause minor interference with radio, television, and radar signals. This does not seem to be of major concern,

however, as the disturbance is localized within the immediate area surrounding the wind plant.

Conservationists are also concerned that birds, especially endangered birds of prey, will get caught in the blades of wind turbines. In the future, special attention will have to be paid to the installation of wind plants in areas where concentrations of rare bird species exist. Those concerns are reflected in the environmental protection legislation of many jurisdictions.

Finally, wind plants occupy large sur-

face areas. It is estimated that a 400-MW wind plant would occupy an area of approximately 50 mi². However, since a wind plant uses only 1 to 3 % of the area it occupies, its installation does not prevent an area from continuing to serve its primary use—such as farming or providing a feeding ground for cattle. ■

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The virtual classroom: A reality at the Southern Company

Using new technologies to improve the efficiency and effectiveness of communications to employees and customers is a continuous struggle for utilities in today's intensely competitive business climate.

For The Southern Company, which has 29,000 employees and five utilities scattered over four states, communications is a vital business tool. That is why, in the late 1980s, the holding company began studying how it could use advanced satellite technology to meet its training and communications needs.

In 1992, the Southern Company launched the first electric-utility TV network, the Georgia Power Co Television Network (GPTN) to more than 130 sites. Soon, some company officials were convinced that business television was a highly efficient, cost-effective way to reach a broad, geographically dispersed audience.

Network. In late 1993, the company

launched the Southern Company Television Network (SCTN) to an additional 138 sites in Alabama, Mississippi, Florida, and several corporate offices. Shortly after that, Alabama Power Co established its own business television network to carry programming specific to the needs of its employees and communities—much the same as Georgia Power had done earlier.

Donald Carson, manager of SCTN, says that "with SCTN serving as an 'umbrella' network, we can maximize the reach of all programs, regardless of their origin, to audiences throughout our service area." Carson notes that SCTN programs originate primarily from the television production facilities of Georgia Power and Alabama Power at their headquarters.

Downlinks—satellite receiving dishes and video systems—have been installed at 268 work locations throughout the Southern Company system. Convergent Media



Teaching and interacting with Southern Company students who participate in SCTN-delivered performance management skills program, William Schabel of Southern Company College reaches out simultaneously to over 100 students in four states from Georgia Power's video production facility in Atlanta. Students use interactive keypads to "raise hands" at six Learning Network pilot locations

Systems, Atlanta, Ga, provides the installation, maintenance, and transmission services for the network.

Selling efficiency. Southern Company President A.W. Dahlberg says the SCTN operation is turning into one of the company's most important communications tools. "We've just begun to scratch the surface of all the training and educational possibilities the network can provide," he declares. "SCTN enables us to bring together small or large groups of employees on very short notice, and at considerably less expense than some of the methods we've used in the past. With a company-wide TV broadcast, we can reach more employees in one hour than we can in months of visiting offices and plant sites." He adds that technologies such as SCTN "help the company operate more effectively as well as more cost-effectively—supporting its marketing strategy of selling efficiency."

Programming is manifold. In 1994 alone, more than 70 programs were broadcast on SCTN. Some of the major, company-wide programs include the annual stockholders meeting, company news reports such as "The Georgia Power Report", and "Alabama Power Live!", and executive forums on important industry issues.

Target groups. For example, in a recent program titled, "Telecommunications: A Superhighway Update," Southern Company development and investment group (SDIG) President, Robert Jones presented the company's plans to launch its interactive energy management services for residential customers. (SDIG is a Southern Company associate.) The services will signal peak-load times and pre-program energy usage to give customers more control over energy costs and efficiency. The broadcast reached a targeted group of 800 professionals in the company's marketing, telecommunications, and external affairs departments.

Another feature of SCTN is its ability to deliver highly focused messages to groups of employees and external audiences who have common needs for training and communications, but are geographically separated. What's more, company spokesmen point out that SCTN enables Southern Company to provide targeted communications and training more frequently than before, while making significant cuts in corporate travel expenses.

Videotaping. Some of the company's most successful training programs for internal audiences focus on management skills training, specialized health care information and training, and software instruction. For example, Southern Company Services' information resources department recently used a live, two-hour broadcast on SCTN entitled "Upgrade to Word 6.0" to help all employees using Microsoft Word upgrade to the latest ver-

sion of the word-processing program. The broadcast reached more than 1000 employees company-wide, and videotapes of the broadcast have since been viewed by many other employees.

The cost saving achieved with the broadcast is typical. Donna Dorn, one of the company's training managers, estimates that using SCTN, rather than sending an instructor to hundreds of sites for the software training saved the company more than \$100,000. She adds that the information resources department plans to use the television network for as many as four other broadcasts this year.

Health care. In the area of health care benefits and health education, Southern



Power generation fuel sources will be the topic of discussion for David Ratcliffe, president and CEO of Mississippi Power Co, as he prepares with SCTN program hostess Evelyn Herbert to address 800 middle and high school science teachers via SCTN

Company's SCTN gives periodic updates on company health care benefit programs and programs aimed at medical self care.

A recent live SCTN program that received high ratings was on prevention and early detection of cancer. Hosted by Georgia Power Human Resources Vice President Barbara Bowers, who was assisted by several medical experts, it explained the importance of early cancer detection and featured testimonials from Southern Company employees who had successfully battled the disease. The live program, aired last October, reached more than 600 employees and drew more than 200 positive responses and requests for similar programs in the future.

SCTN has also become a valuable tool for helping customers control energy costs. One customer group—HVAC dealers throughout the Southeast—recently viewed "Quality HVAC Installation" at Southern Company locations. During the live broadcast, participants were encouraged to phone in their recommendations for achieving greater energy efficiency in their customers' homes and businesses.

One participant in the interactive event was Lamar Giles, president of Giles Heating & Cooling, Clanton, Ala. When the topic of air loss in central duct systems was raised, Giles offered viewers advice on using mastic material to seal joints, rather than duct tape.

Assessing the overall impact of the telecast, Giles says that he was impressed with the number of dealers who called in with questions and suggestions, and urged SCTN officials to continue offering similar programs in the future.

Interactive workshops. While SCTN helps Southern Company maintain strategic relationships with professionals in related industries, it is also helping the company fulfill its obligation to educate the communities it serves about the uses of energy and its relationship to the environment.

Recently, SCTN presented a full-day, live, interactive workshop entitled "Energy and the Environment" that brought together more than 800 middle school and high school science teachers at 40 company locations. The teachers first viewed presentations by subject-matter experts, then demonstrations by hands-on facilitators at each location.

The workshop was also beamed via satellite to participants in seven other states. It showed how electricity is made, examined and compared fuel sources, and addressed a variety of environmental, economic, and quality-of-life issues. James Kirley of Southern Company College says "the workshop program was the most ambitious undertaking ever attempted by a utility, to reach so many teachers with an energy message at one time."

Learning network. Now that the Southern Company has established its use of business television for many different forms of corporate communications and basic training applications, the next step is interactive distance learning. For the rest of 1995, the company will fine-tune its use of the medium for corporate training by developing the Southern Company Learning Network (SCLN).

SCLN will deliver a variety of programs to 40 of SCTN's 268 downlink sites where additional technology will be installed to allow a higher level of student-instructor interaction through interactive keypad technology. The pilot network for SCLN, involving 30 sites, was already in operation at the end of 1994.

Gary Guntor, distance learning manager for Southern Company College, explains that SCLN will enable the company to deliver focused learning segments, reduce time and travel costs, minimize interruptions to work schedules, and make more effective use of skilled instructors and subject-matter experts. Programs planned for 1995 include compliance training, information resources training, power generation/technical skills training, and courses

offered by the company's Power Delivery Curriculum Council.

Key padding. Participants at remote sites will respond to the instructor using keypads—also known as student response terminals—which have built-in microphones. The keypads enable students to “raise their hands” electronically with the push of a button, ask questions as if they were sitting in the front of the instructor, and even answer test questions.

At the originating site, instructors manage their training sessions with a touchscreen monitor. By simply touching icons, they can identify and query individual par-

ticipants. Instructors activate students' microphones to receive questions, answers and comments, which are heard by participants at all remote sites.

The instructor can also instantly tabulate incoming responses and display the results graphically and numerically, providing an immediate measure of training effectiveness.

Company officials predict the learning network eventually will have a profound impact on corporate culture, training, and communications—much the same as SCTN has affected the company over the past three years. ■