



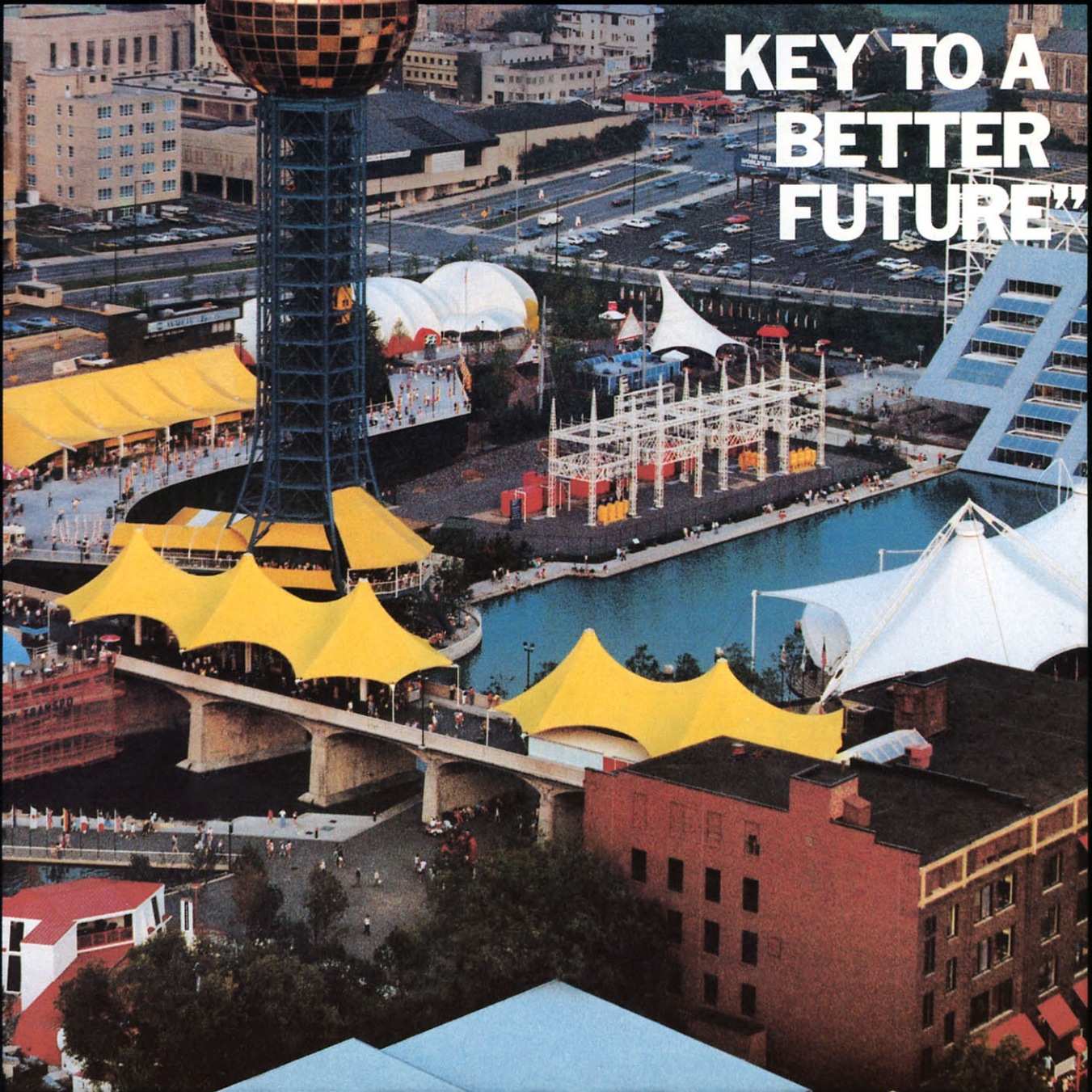
America's Electric
Energy Exhibit, Inc.



THE 1982
WORLD'S FAIR
SOUVENIR
EDITION

"ELECTRIC ENERGY:

**KEY TO A
BETTER
FUTURE"**





The initials of a friend

You will find these letters on many tools by which electricity works. They are on great generators used by electric light and power companies; and on lamps that light millions of homes.

They are on big motors that pull railway trains; and on tiny motors that make hard housework easy.

By such tools electricity dispels the dark and lifts heavy burdens from human shoulders. Hence the letters G·E are more than a trademark. They are an emblem of service—the initials of a friend.

GENERAL ELECTRIC

This advertisement first appeared in 1923. Today, you'll find our initials on many more things—on everything from jet engines to television sets to advanced medical equipment. Wherever you see them, we want them to mean the same thing to you—the initials of a friend.

**WE BRING
GOOD THINGS
TO LIFE.**
GENERAL  ELECTRIC

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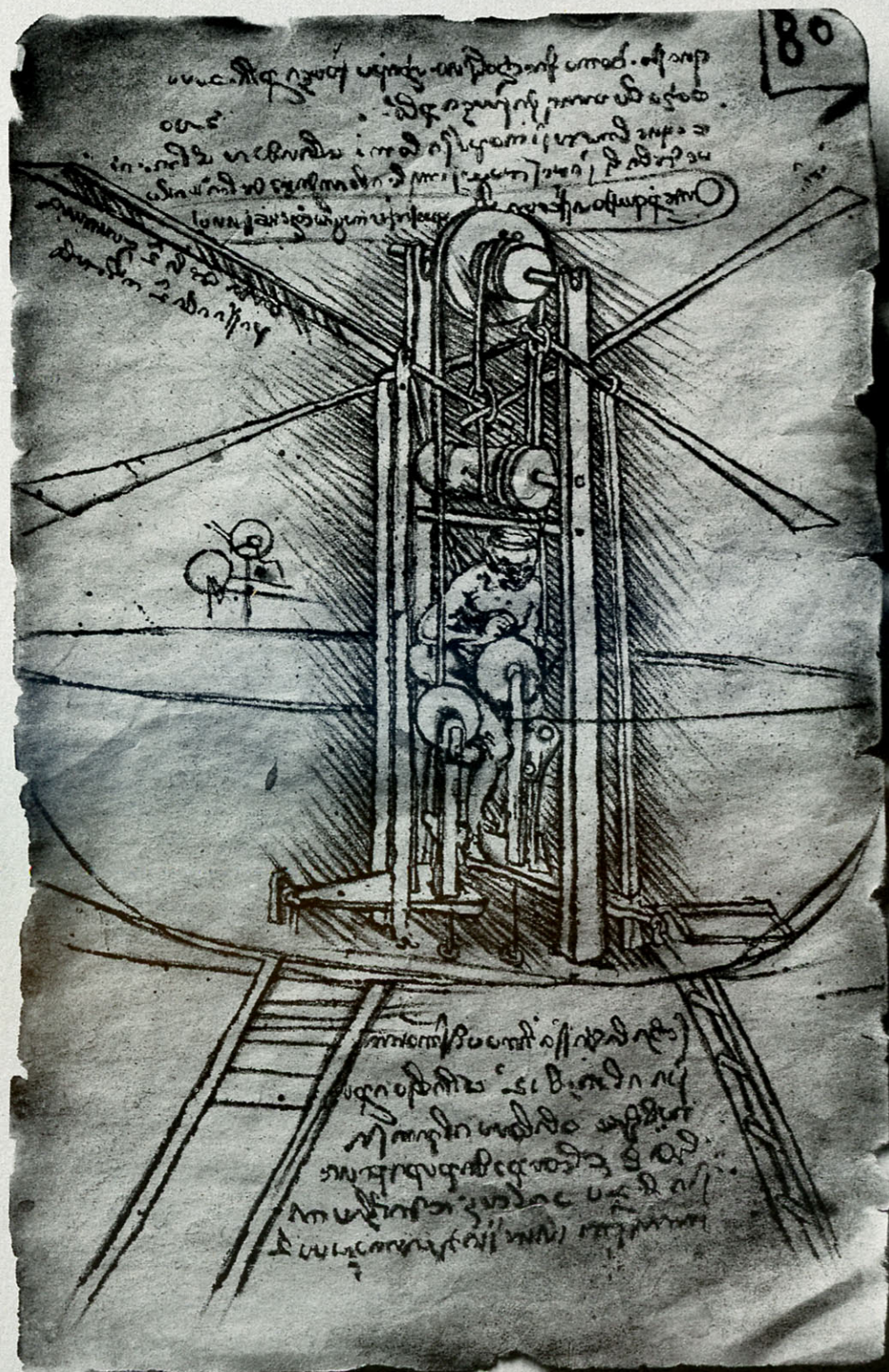
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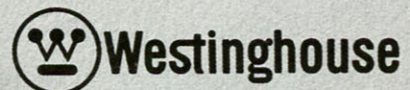
In the 15th century, few would have accepted the idea of a helicopter-like device. Maybe that's why da Vinci wrote his notes in reverse.

TECHNOLOGY?

When an unusual idea precedes a need, the idea is called ridiculous.

Yet when a need precedes an unusual idea, the idea is called technology.

We must learn that to ridicule an idea today is to bankrupt the technology of tomorrow.



100 years of
advancing technology.

About AEEE...

America's Electric Energy Exhibit, Inc. (AEEE) is a non-profit corporation of associations and businesses in the electric energy industry formed especially for participation in The 1982 World's Fair.

Its members include the American Public Power Association, Breeder Reactor Corporation, Edison Electric Institute, General Electric Company, National Rural Electric Cooperative Association, Tennessee Valley Authority, and Westinghouse Electric Corporation.

AEEE is the largest corporate pavilion in The 1982 World's Fair. The \$2.5 million pavilion contains a total of 15,000 square feet and includes AEEE's own exhibit, general exhibit space for other participants, and a multi-media theater. The theater features a specially-produced audio-visual program on electricity and live entertainment with the exciting "Up With People" program sponsored by General Electric Company.

The theme of the AEEE pavilion is "Electric Energy—Key to a Better Future." The pavilion's purpose is to underscore the essential nature of electricity by demonstrating its role as a vital ingredient in the quality and stability of life we enjoy in America. AEEE also emphasizes that electricity is clean, safe, reliable, and worth what it costs—and that it is crucial to our energy future.

Exhibits in the AEEE pavilion focus on ways utilities are working to meet the need for increased amounts of electricity through conservation and new and improved technology. They also illustrate the contributions of various sources of energy and the central role of coal and nuclear energy in meeting electrical demands.

Other AEEE exhibitors are concentrating on consumer products for contemporary lifestyles and life in the 21st century. Exhibits include products and services keyed to improving life for people at home, in the office, and in industry.

The designer of the AEEE pavilion is Roger Tierney Associates (RTA) of San Diego, California. Tierney has extensive experience in design and production for pavilions, fairs, trade show exhibits, museums, and visitor centers throughout the world. An RTA associate, Bud Bair, is the Project Design Manager for the AEEE pavilion. The pavilion is managed by Butler Communications of Knoxville under contract with AEEE.



The Board of Directors of America's Electric Energy Exhibit, Inc. (AEEE) at The 1982 World's Fair is shown in the VIP Room at the AEEE pavilion. Seated from left are G.H. Mackall, Westinghouse Electric Corporation; Richard Pence, National Rural Electric Cooperative Association; and Bob Jones, General Electric Company. Standing from left are W.E. 'Trez' Lee, American Public Power Association; H.J. Young, Edison Electric Institute, chairman; William Rolf, Breeder Reactor Corporation; and Brown Wright, Tennessee Valley Authority.

Electricity - Where does it come from?

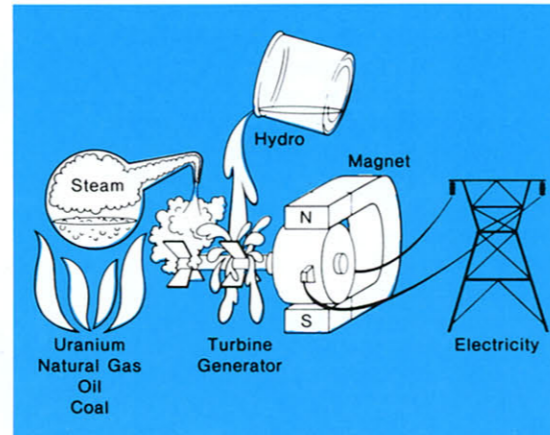
Electricity is produced by moving a conducting wire, like copper, through a magnetic field. An electric generator is a machine that contains wires coiled inside a magnet. When the generator spins, the wires move inside the magnetic field and produce electric current. To produce the large amounts of electricity we need to power our industries, businesses, and homes, we need large power plants to do the work of spinning the generator.

Most power plants start the process of spinning the electric generator with heat. Fossil plants burn oil, coal, or natural gas to make heat. Nuclear plants fission uranium fuel to make heat. In all cases, the heat is used to boil water into steam.

The steam spins the blades of a turbine (a shaft with curved blades), which is attached to the generator. The spinning turbine blades turn the generator, which makes electric current. This current is then made ready to transmit to homes, factories, and elsewhere over utility

company transmission lines.

Instead of heat, hydroelectric power plants use falling water, flowing over man-made dams, to spin the turbine blades and turn the electric generator.



Electricity and The Environment

Electric power production affects the environment, both adversely and beneficially. Controversy continues over exactly how and to what degree the environment is affected, despite the fact that pollution control efforts have already removed most of the pollutants generated by electric power production.

The conversion of fossil and nuclear fuels into electricity has raised the issues of air pollution, water pollution, solid waste disposal, acid rain, nuclear radiation, national land use policy, and the impacts on wildlife, plants, and their habitat. The continuing debate on these issues is reflected in our ever-changing environmental laws.

The United States Congress makes the national laws related to environmental protection. Federal regulations, standards, and administrative procedures are usually set and monitored by the United States Environmental Protection Agency (EPA). Some of the best-known of these laws affect electric utilities, including the National Environmental Policy Act, the Clean Air Act, the Clean Water Act, the Resources Conservation and Recovery Act, and the Endangered Species Act.

State and local governments, as well as some regional bodies, also enact environmental laws, but these must be consistent with federal laws. They may also be more stringent than federal legislation. Compliance with federal laws is evidenced by the utility industry's expenditure

of billions of dollars and by its efforts to support the Clean Air Act, the Clean Water Act, and other laws.

Capital costs in the electric utility industry for required air and water pollution controls alone are estimated to total at least \$64 billion for the 15-year period from 1976 to 1990. The cost of environmental protection is actually much higher than \$64 billion, because this figure includes only the cost of purchasing and installing pollution control equipment. It does not include the additional expense of operating and maintaining the equipment.

Consumers have borne and will continue to be faced with the increasing costs of complying with environmental regulations. It has been estimated that by 1990, the cost will be equivalent to \$400 per family, which would be added to its electric bills each year.

There is a direct relationship between the use of energy and the achievement of higher living standards. There is no way to avoid the fact that the use of energy has some impact on the environment. Thus, the aim is to reduce these detrimental effects to a practical minimum, consistent with other national goals, and to maximize the benefits. Pollution control efforts have been very successful in minimizing the adverse impact of electric power production on the environment while utility companies strive to meet the increasing demand for electricity.

The Cost of Electricity

The average price of residential electricity declined virtually without interruption from the inception of the electric utility industry in the 1880s until a series of increases began in 1970. Electric energy was 25 cents per kilowatt-hour in 1882 and declined in price until 1970, when the average cost to a residential consumer went from \$2.09 to \$2.10 for a kilowatt-hour. The price reached \$5.89 per kilowatt-hour in 1981, approaching the level of residential price last paid (in dollars adjusted for inflation) between 1930 and 1931.

The rate reductions over the first six or seven decades of the history of the electric utility industry were made possible by improved technology and economies resulting from larger sizes of electrical plants. A number of factors combined to change the climate by the end of the 1960s. Among them were:

- 1) Substantial increases in the cost of capital, i.e., interest rates;
- 2) A sharp rise in inflation;
- 3) Delays in obtaining regulatory licenses and regulatory orders requiring expensive new equipment;
- 4) The unusual and extreme increases in fuel costs, especially oil.

Still, an interesting comparison is the number of hours of work it takes to pay today's electric bill in contrast, for example, to 1928. The average residential customer in 1930 had to work exactly five hours to pay the monthly electric bill. In contrast, the 1980 consumer had to work five hours and 47 minutes to pay the monthly electric bill—just 47 minutes longer. However, for his or her efforts, today's consumer received more than 16 times as much electricity.

While a 1980 dollar is not the same as a 1930 dollar, neither is use of the 1980 kilowatt-hour the same as that for the 1930 kilowatt-hour. Today's kilowatt-hour is far more useful, and there are far more applications for electricity today than in 1930. Electricity is also much more efficient today, making it even more of a bargain.

Today's consumer saves time and money and lives in a healthier environment through the use of electricity. Electric heating and cooking can replace indoor combustion of gas and oil and thereby possibly help reduce "indoor pollution." Electric stoves and refrigerators are more efficient today and save messy and time-consuming chores, such as cleaning ovens and defrosting freezers. Numerous appliances, large and small, have automatic features, which again save time and labor. And what about television and other electronic entertainment

marvels?

Certainly, electricity does more for today's consumer through improved efficiencies of lighting and appliances and through the numerous electronic and electricity-powered marvels invented over the past two and three decades than the 1930 consumer could ever have imagined possible.

Tips For Reducing Your Electric Bill

With the rising cost of all energy forms, consumers are looking for ways to control their use—and the cost—of electric energy. Here are some common sense tips to help you save money:

- Consult your local electric company concerning ways to save energy.
- When you buy equipment, consider both initial cost and operating cost.
- During the heating season, lower your thermostat to 65°F during the day and 55°F at night. For cooling, set the thermostat at 78°F or higher.
- Clean or replace the air filter in a forced-air system at least once a month.
- Keep draperies and shades open on sunny windows; close them at night.
- Use your fireplace efficiently; close the damper when fireplace is not in use; install glass doors to cover fireplace.
- Set the temperature of your water heater at 140°F or lower. Add an insulating jacket to your present water heater.
- Conserve hot water; don't let the water run continuously when washing or shaving.
- Choose refrigerator and freezer sizes that are just large enough for your family's needs.
- Check the door gaskets on your refrigerator for a tight seal.
- In washing clothes, use warm or cold water, whenever possible, rather than hot.
- Always use cold water for rinses.
- Microwave ovens use less energy than conventional ranges or ovens.
- Turn off lights in any room that is not being used.
- Choose lighting fixtures or lamps for their efficiency.

Nuclear plant safety.

**IF IT'S YOUR BUSINESS, WE CAN HELP.
WE'RE THE ENERGY SYSTEMS GROUP.**

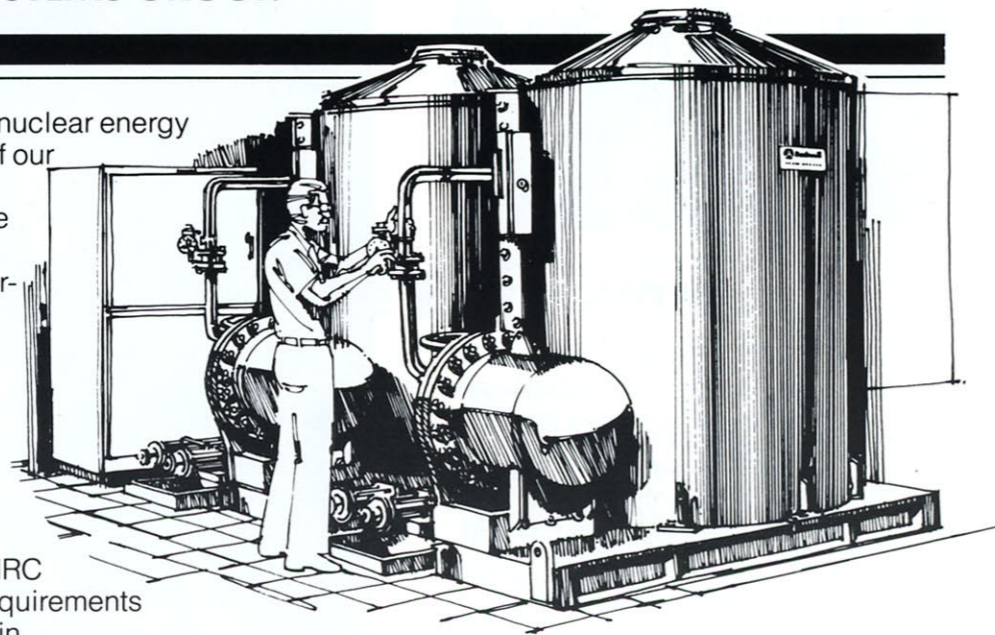
We've been in the field of nuclear energy almost from the beginning. Out of our research on fuels, fuel handling and reactors grew the experience to successfully design several products to assist in the safe operation of nuclear power plants.

One of these is our Hydrogen Recombiner — designed to remove hydrogen gas from the containment (without purging the containment) by means of a controlled recombination of hydrogen and oxygen. It meets NRC Regulatory Guide 1.7 covering requirements for control of combustible gases in containment following a loss-of-coolant accident (LOCA). We've sold more than one hundred of these fully automatic, externally located systems in the U.S. and abroad.

Our Hydrogen Recombiner system has performed under actual LOCA conditions.

Another of our safety systems, the Vibration and Loose Parts Monitor, uses remote sensors to provide continuous protection against costly damage from hidden vibration and loose parts. Its sensors and equipment can withstand exposure to severe temperature, humidity, radiation and vibration inside the containment building.

Through our ultrasonic Inservice Inspection System (ISI), we also provide complete, low-cost



nuclear power plant inspections with minimum plant interference. ISI's computerized data processing provides permanent inspection results on magnetic tape.

For further information about our safety equipment, please contact the Marketing Department, Energy Systems Group, Rockwell International, 8900 De Soto Avenue, Canoga Park, California 91304. Phone: (213) 700-4009



Rockwell International

...where science gets down to business

Nuclear Power

There are many misconceptions about nuclear power. Many of these are derived from a feeling on the part of many people that nuclear power is mysterious and unfathomable. While some aspects of the atom are best understood by trained physicists, the principles behind electric generation by nuclear means are actually quite simple.

Most commercial electricity is produced by turbine generators which are powered by either hydroelectric dams or steam (thermal power); see page 4. In fossil-fueled generating stations, steam is produced by burning coal, oil, or natural gas in a boiler. Nuclear power plants are of the thermal variety, with the reactor taking the place of a boiler to create heat for making steam. Nuclear plants generate heat through the fission process.

In the fission process, atoms of uranium-235 are split by tiny particles called neutrons. When the uranium atom fissions (breaks apart), it releases energy which is converted into heat, and this heat is used to turn water into steam to spin the turbine generators. Neutrons released in the fission process split other uranium atoms in a controlled fashion, sustaining a chain reaction.

One advantage of nuclear power is that only very small amounts of fuel are required to generate large amounts of energy. A single pound of uranium contains the energy equivalent of 1,300 tons of coal. The cost of fuel per unit of production in a nuclear power plant is significantly lower than for a fossil-fueled plant.

Since the fission process does not actually burn fuel, as in the case of fossil plants, no carbon dioxide or other polluting chemicals are

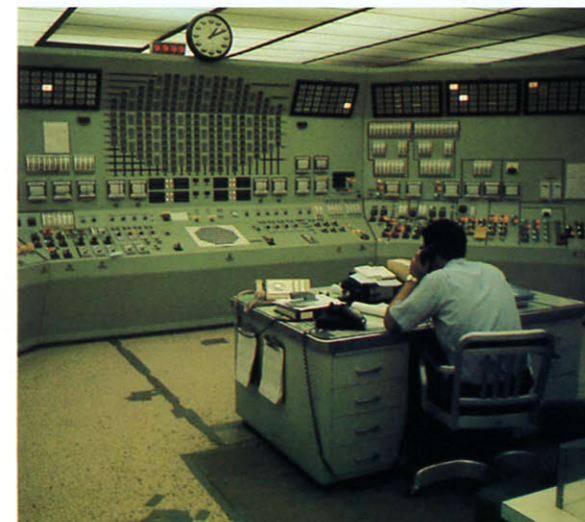
released into the atmosphere; and the leftover waste products, although radioactive, are very small in volume and can be dealt with through known, technologically developed techniques.

Before it can be used to fuel a generating plant, uranium is separated from ore obtained by mining. The uranium is then purified, converted to a different chemical form, and enriched (the proportion of fissionable uranium-235 increased) before being reconverted into uranium dioxide powder. This powder is formed into cylindrical pellets about 0.4 inches in diameter and 0.6 inches high.

The pellets are stacked in thin-walled metal tubes to form fuel rods which are typically about 12 feet in length. Groups of fuel rods, totaling anywhere from 64 to 256, are arranged together to form a fuel assembly. The reactor core consists of 150 to 700 of these fuel assemblies, depending on the number of fuel rods per assembly.

It is physically impossible for a nuclear power plant to explode like an atomic bomb. This is due, in part, to the low concentration of uranium-235 in the fuel assemblies, which is nowhere near sufficient to enable an explosive reaction to occur. Furthermore, the design of nuclear reactors is very different from that of a nuclear weapon.

The generation of electric energy by nuclear power is probably the most closely regulated activity in the United States today. Every step of the way—from design to construction, to operation, to decommissioning—is intensely monitored by government and utility personnel in order to ensure that the public interest and safety are served.



Rockwell International: A growing power in energy systems.

Coal: The Abundant Resource

Coal is our most plentiful fossil energy resource. Estimated recoverable reserves in the United States alone are capable of meeting our country's energy needs for at least the next 300 years at today's consumption rates.

Coal was once a major source of energy, but its use declined with the increasing popularity of gas and oil. During the 1970s, however, coal consumption increased—the result of a number of factors such as the influence of OPEC. The electric utility industry remains the major coal consumer today, accounting for over 80 percent of the coal used in this country. In 1980, over half of the electric energy in this country was produced from coal.

With the increasing cost and more limited availability of oil, coal is experiencing a new popularity. Industries are beginning to rediscover coal; when practical, utilities are converting oil-fired power plants to coal; and new technologies are being developed to permit cleaner burning of the fuel.

Nearly all experts point to coal as one of the few near-term alternatives with significant potential for electric power production. Projections show that in 1990 about 77 percent of all the coal consumed in the United States will most likely be used by the electric power industry.

Although most generating plants at that time will probably still be directly firing pulverized coal, a broad array of new technologies is being developed and readied to use coal both efficiently and in a more assuredly clean manner. These technologies may include fluidized-bed combustion (to capture sulfur ahead of the exhaust stack), coal liquefaction

(to produce liquid fuel from coal), coal gasification integrated with combined cycles (converting coal to a low—or intermediate—Btu gas and then extracting its energy through gas and steam turbines in tandem), and coal processing (such as solvent-refined coal). Each of these technologies offers different performance and economic incentives.

The electric utility industry believes that by increasing its reliance on coal for generating electricity, it can help ensure that American consumers will receive a reliable electricity supply at the lowest possible costs. It recognizes, at the same time, that (1) adequate environmental controls to protect the public health are essential; and (2) regulations that achieve a reasonable balance between environmental goals and energy needs will benefit both utilities and their customers.

Even though coal is a relatively abundant energy source, demand for it has increased slowly. Demand rates, however, are expected to increase as the nation seeks to reduce its dependence on foreign oil supplies and to keep energy costs as low as possible.

Barring delays in the opening of new mines, particularly surface mines in the West, the coal industry will have sufficient mining capacity to meet demand over the next decades. The NCA says coal production will most likely reach more than one billion tons in 1985 and 1.35 billion tons in 1990, compared with the 824 million tons produced in 1980. The NCA estimates the industry has the capacity to mine from 100 million to 150 million more tons per year than is currently being used.



What About Other Sources of Energy?

Today, about one-third of our energy is converted into electricity before it is used. By the end of this century, almost half of our energy consumption is expected to be in the form of electricity.

Unfortunately, the traditional methods for producing electricity will eventually prove to be either insufficient or unavailable. Environmental goals, concerns about depleting fuel resources, and national security considerations are combining to create new technological ground rules for electric power production.

The primary objective of an electric company is to provide its customers with an adequate and reliable electricity supply at the lowest possible cost. To accomplish this goal, electric companies are investing considerable time, money, and manpower to find the best possible energy sources.

In the near term, the nation will continue to rely extensively on fossil fuels and nuclear power to meet most of its electricity requirements. In the meantime, the industry is working to ensure that new energy technologies can make a significant contribution to meeting electricity needs as soon as possible. Alternative sources such as solar, wind, and geothermal energy may play an important role in ensuring that the United States continues to enjoy an adequate, reliable electricity supply in the years ahead.

Research has always been a key to the

successful operation and continued improvement of electric utility systems. Individual researchers, as well as private companies, government agencies, research firms, and other organizations, are working to find new and better ways to produce electricity. The Electric Power Research Institute (EPRI) will spend more than \$1.5 billion for research in the next five years. In addition, many electric utilities are conducting their own experiments with alternative energy sources.

Providing new energy sources for the future requires more than just good ideas. New technologies take time to mature. Just how much time and effort are involved in the transition from the laboratory to widespread commercial use depends on the type of technology involved, the size of the devices to be manufactured, the complexity of the manufacturing system that must be established, and the type of market to be penetrated.

For a new energy technology to be widely used, its cost must be low enough for it to compete economically with other technologies. The source must be effective, that is, able to provide enough energy to warrant the financial investment necessary to use it. And it must be reliable—proven to the point that companies will invest their money willingly and customers will be satisfied with the service they receive and quantity of energy produced.





Achievements in Engineering and Construction A Family Tradition Since 1932

The owner-management team at Burns and Roe is proud to have contributed to our country's technological advancement.

1939 • Ottawa Street Station: "Probably the most outstanding plant built in this country in years." Power Plant Engineering.

1950 • Willgoos Labs: The largest jet engine test cell.

1957 • Shippingport: The first commercial nuclear power plant.

1961 • Project Mercury Tracking Stations: The largest peacetime construction project ever attempted simultaneously around the world.

1965 • Guantanamo Bay: The world's largest combined desalting-electric generating plant, constructed at the U.S. Naval Base in record time.

1966 • Hanford Generating Plant: The largest operating nuclear power plant. In 1981 it became the second in the U.S. to reach the 50-billion kilowatt hour mark.

1969 • Oyster Creek: The first economic nuclear power plant; first built without AEC financing.

Today • Clinch River Breeder Reactor: The country's first large-scale breeder reactor demonstration plant.

• **Big Cajun Oxbow Unit 1:** One of the country's largest lignite-fired power plants.

Burns and Roe

Architect/Engineer for the Clinch River Breeder Reactor

America's Electric Energy Exhibit... A Tour



American Nuclear Society

Our Radioactive World" is presented by the American Nuclear Society (ANS). The exhibit's purpose is to provide a better understanding of radiation and radioactivity. In this exhibit, visitors are invited to "hear" natural radiation, compute their own radiation dose, and test their radiation I.Q. "Our Radioactive World" also describes what radiation is, tells where it is, and shows how it is used in industry and medicine. In addition, the exhibit discusses the benefits of nuclear power and describes how nuclear waste is handled safely. The ANS is an international, scientific, and technical society devoted to the peaceful use of nuclear science and engineering and of nuclear energy. One of its purposes is to increase public understanding of nuclear energy through education.



Breeder Reactor Corporation

Breeder Reactor Corporation (BRC), an organization representing 753 utilities, is sponsoring an exhibit which focuses on the Clinch River Breeder Reactor Plant planned for construction at Oak Ridge, Tennessee. The BRC exhibit includes a scale model which demonstrates how the plant produces more fuel than it consumes while generating electricity. Also featured in the BRC exhibit is a fuel element and more than 30,000 simulated fuel pellets—enough to supply electricity for 20,000 families for one year. A computer game explaining the basic principles of the breeder reactor and its potential contributions in meeting America's future energy needs is also included in the exhibit.

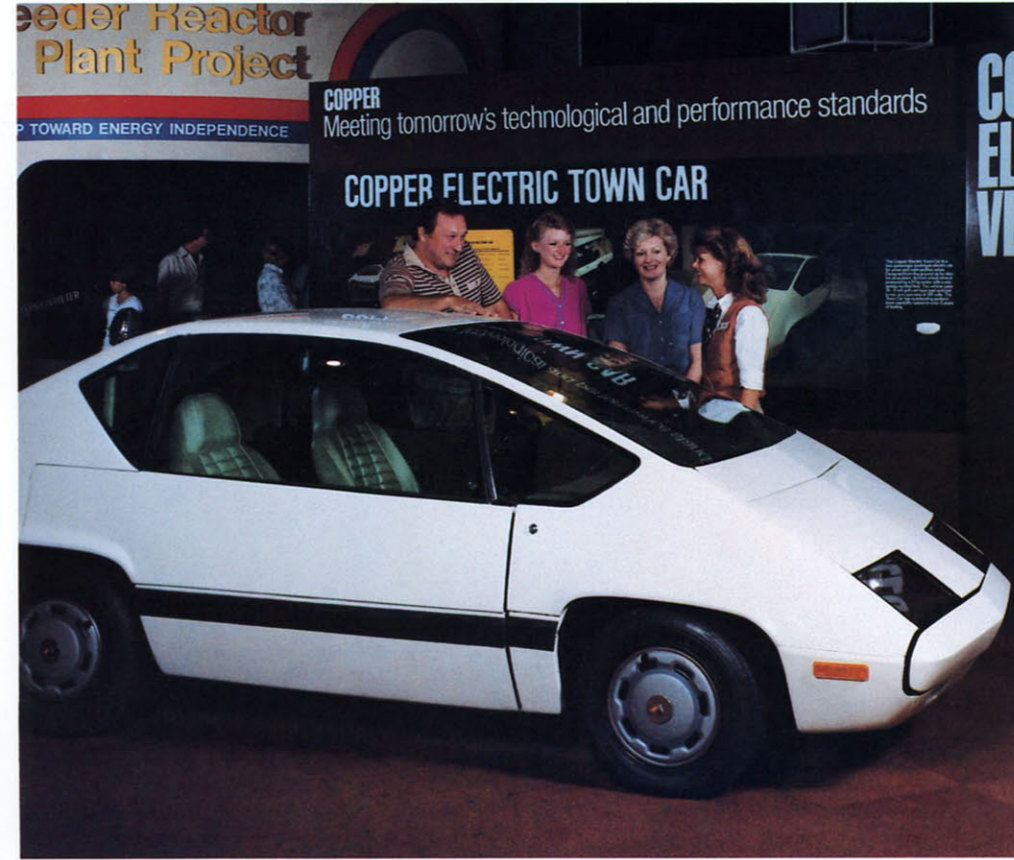


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Chicago Bridge and Iron (CBI Industries)

This exhibit illustrates CBI Industries' worldwide interests in metal plate fabrication and construction, oil and gas drilling, marine construction and repair work, and water and wastewater treatment. A continuing program of research and development has led CBI into new energy fields, such as the cryogenic storage of liquefied gas and the fabrication and construction of containment vessels and other structures used in nuclear power plants, including marine structures used in the drilling and production of offshore oil and gas. CBI is a fixed-price contractor for heavy metal plate structures throughout the world.



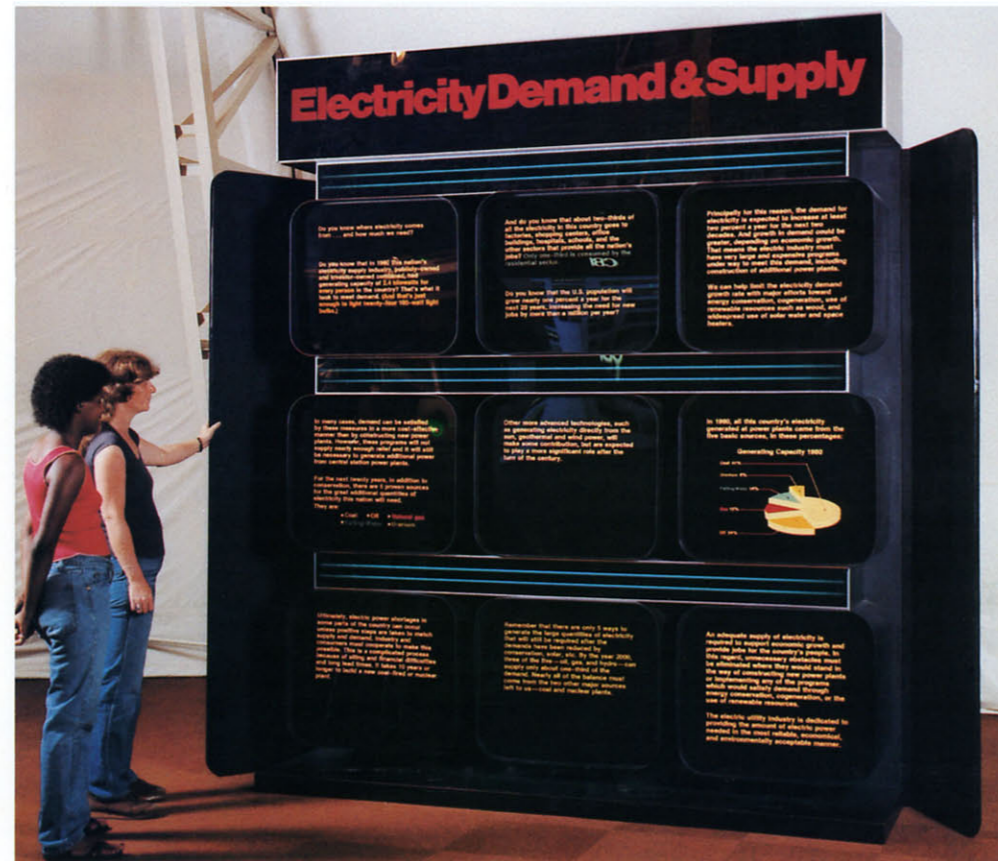
Copper Development Association

Copper Development Association, Inc. (CDA) has created an electrically-powered vehicle so advanced that it can travel a distance of 100 miles at 40-55 mph. CDA, the copper and brass industry's market development arm, calls their newest prototype vehicle the "Copper Electric Town Car." The vehicle costs between 2 and 3 cents a mile to operate in energy fuel costs. This is the fourth electric vehicle developed by CDA. The vehicle's 18 6-volt lead acid storage batteries are easily recharged overnight. The importance and potential of the electric vehicle lies in the variety of fuels and sources of power that can be used to generate electricity and in the lack of noise and air pollution associated with the car. The car's maintenance requirements are also minimal—no oil changes, no transmission or carburetor maintenance, no fuel filters, no muffler replacement or tune-ups.

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Edison Electric Institute

Edison Electric Institute (EEI), the association of electric utilities, is presenting an exhibit using questions and answers to describe the major sources of electricity, its primary uses, and the growth in electricity demand expected during the years ahead. The exhibit also discusses the importance of conservation in helping to meet future energy demands.



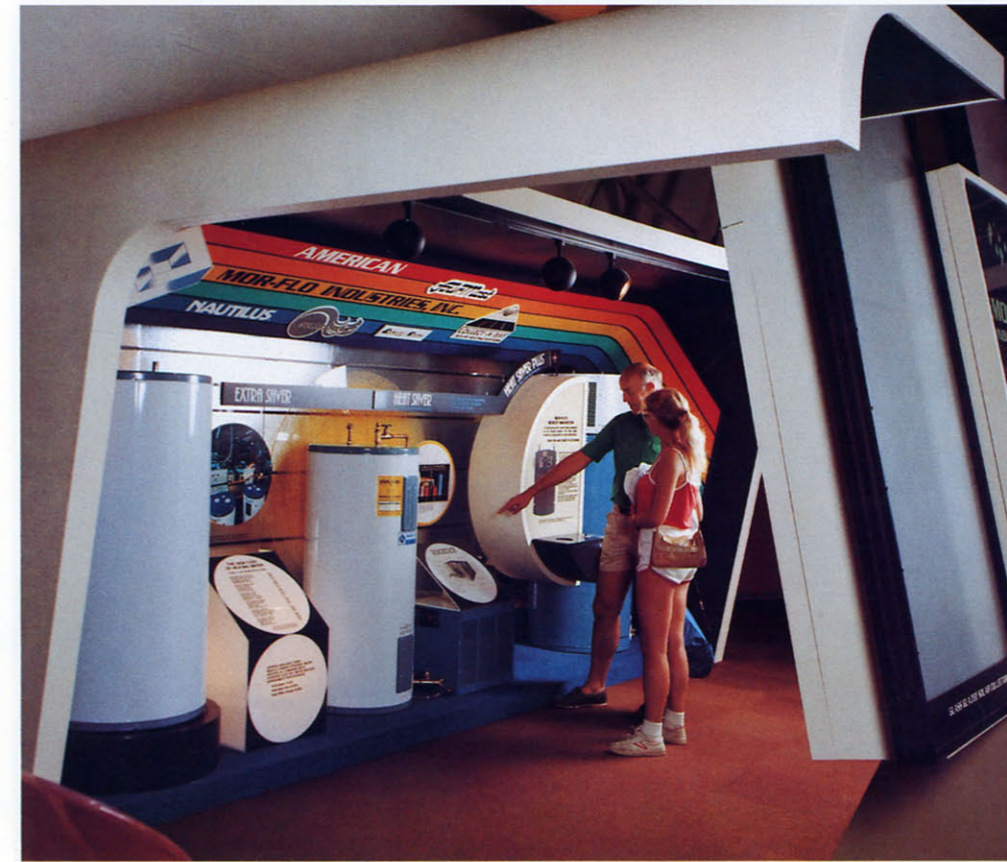
Electric Power Research Institute

"The New Edisons," a lively six-projector slide show with accompanying narration and musical background, is the principal feature of the exhibit of the Electric Power Research Institute (EPRI) in the AEEE pavilion. A fast moving, three-minute kaleidoscopic presentation, "The New Edisons" takes the viewer from the laboratories of Thomas Alva Edison 100 years ago to the thousands of research projects currently in progress under the auspices of EPRI. EPRI is funded by the nation's electric utilities and is dedicated to research and development of new and improved technology for higher efficiencies and lower costs of electric power.



General Atomic Company/Gas-Cooled Reactor Associates

An alternative to the current generation of nuclear plants—the High Temperature Gas-Cooled Reactor (HTGR)—is featured in the AEEE pavilion by General Atomic Company and Gas-Cooled Reactor Associates. According to the developers, features of the HTGR include higher operating efficiency, less uranium requirement, high safety level, and adaptability to further development for use as a source of industrial process heat. In cooperation with the Department of Energy, GA and GCRA are engaged in a continuing study of a "direct cycle" HTGR design in which the hot helium gas will drive turbine generators. The "direct cycle" HTGR will eliminate thermal pollution and the need for large amounts of condenser cooling water.

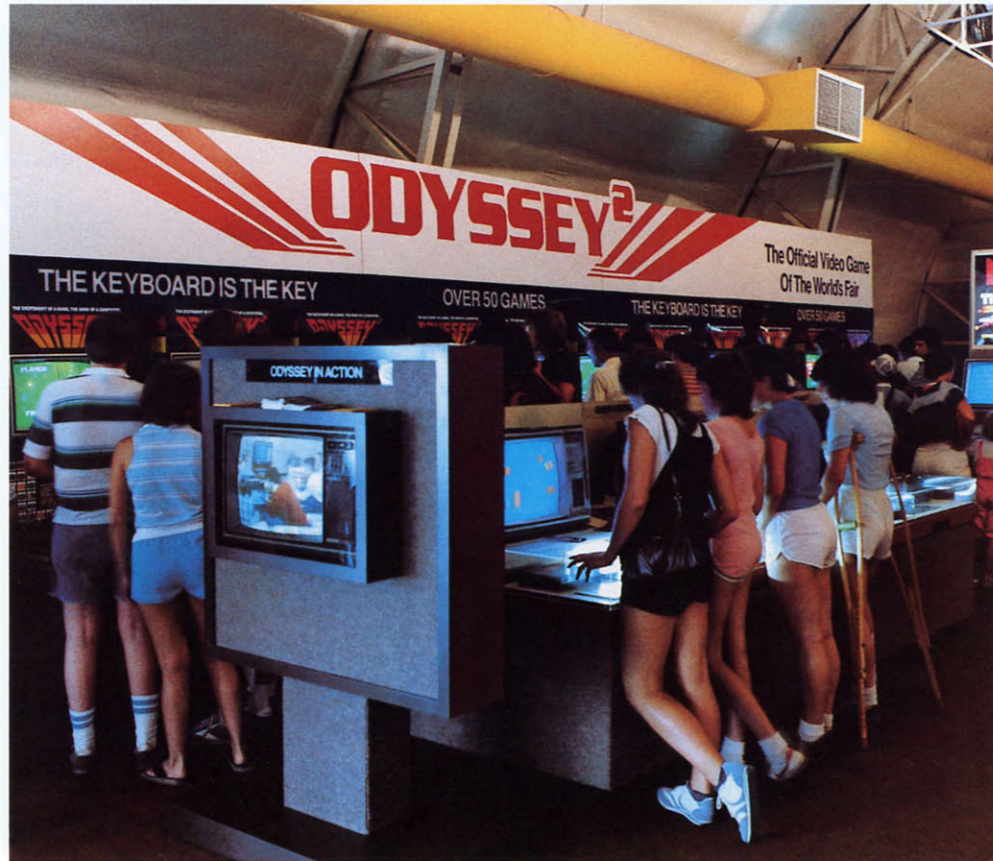


Mor-Flo Industries

Mor-Flo Industries of Cleveland, Ohio—a leading manufacturer of gas, electric, and solar water heaters—is displaying its line of energy-saving products. These include solar water heating systems, energy efficient conventional electric models, and the revolutionary Mor-Flo heat pump water heater which can reduce water heating costs by more than half. The Mor-Flo HEAT SAVER™ add-on heat pump water heater was introduced nationally last summer, and a companion integral unit—The Mor-Flo HEAT SAVER PLUS™—was introduced at the World's Fair this spring. During 1981, Mor-Flo also introduced a gas-assisted solar unit and its NAUTILUS™ gas water heater, both featuring submerged combustion chambers, and expanded its capability as a producer of complete solar water heating systems for residences, swimming pools, and spas.

Odyssey

The Odyssey division of N.A.P. Consumer Electronics of Knoxville, Tennessee is sponsoring a free, hands-on video game display center with 14 operating games in the AEEE pavilion. One of the pavilion's most popular attractions and a major manufacturer of home video games, Odyssey offers over 50 cartridges with a wide selection of computer games. The new Odyssey voice module was first shown to the public during The 1982 World's Fair. Additional information on the Odyssey game and cartridges may be obtained from Odyssey, N.A.P. Consumer Electronics, P.O. Box 6950, Knoxville, Tennessee 37914.



Science Applications, Inc.

Science Applications, Inc. (SAI) of LaJolla, California designed a special exhibit for the World's Fair employing a multi-slide presentation to describe its diversified areas of business interest including national security, energy, environment and health, and high technology products. Visitors to the exhibit are invited to view two "Jacob's Ladders." A Jacob's Ladder displays an electric arc that races up a set of stainless steel rods and continually lights up a neon sign as it reaches the top. One neon sign says "SAI" and the other "AMSE" (American Museum of Science and Energy). The exhibit also contains a hologram showing the space shuttle orbiting the earth.



Technology Growth Corporation

The attractions of the Tennessee Technology Corridor—a stretch of scenic parkway connecting Knoxville and Oak Ridge in Tennessee—are displayed in an exhibit by the Technology Growth Corporation. There are three main parts of the Corridor exhibit: a large map of the Knoxville/Oak Ridge area showing the location of the corridor; a section titled "Available Technologies," which allows visitors to obtain information about the sponsoring companies through a computer display; and an eight-minute audiovisual presentation on the resources and attractions of the corridor. Funding for the exhibit was furnished by eight corridor companies: Boeing Engineering and Construction Company Southeast; Chemical Separations Corporation; EG&G ORTEC; FLAKT, Inc.; IT Envirosience Corporation; Modular Computer Systems, Inc.; Pathway Bellows, Inc.; and Technology for Energy Corporation.

Computer Games and Opinionmeters

Visitors to the AEEE pavilion are challenged to test their knowledge of energy subjects by taking one of five computer quizzes in the exhibit hall. Subjects include coal, nuclear power, conservation, and alternate technologies. A fifth computer quiz on the breeder reactor is located in the Breeder Reactor Corporation's exhibit. The quizzes are popular attractions, with high scorers permitted to leave their name on the computer. Visitors also have an opportunity to register their views on a variety of energy subjects by using "Opinionmeters" located in the pavilion. The Opinionmeter gauges a participant's knowledge about energy matters and solicits views about how the nation's energy needs should be met.



AEEE Theatre

Multi-Media Slide Show "Electricity"

"Electricity," a 14-minute multi-media presentation produced especially for the World's Fair, is shown daily in the 280-seat AEEE Theater. The program, which uses 18 computer-controlled 35mm slide projectors, highlights the important contribution of electricity in daily living. The program reminds viewers that electric energy is a subtle but indispensable part of our quality of life. "Electricity" was produced under the supervision of Edison Electric Institute by Visual Images of Washington, DC.



Up With People

The widely acclaimed Up With People program is presented five times daily in the AEEE Theater from June 19 to September 12. Up With People is a non-profit, international, educational program created to build understanding and communication among people, cultures, and countries—and to give young people a unique experience. The Up With People show, sponsored by General Electric at the World's Fair, is billed as an expression of "creative energy" to fit into the Fair's overall theme. For its participants, Up With People endeavors to broaden and enlighten the individual's perspective of the world, emphasize person-to-person communications, explore and release the student's own unique potential, and nurture a sense of responsibility and service to mankind.



The AEEE VIP Room



Sponsors and exhibitors in the AEEE pavilion have access to a well-appointed VIP Room for business entertainment. The room provides a spacious, relaxing atmosphere for conducting business or simply taking a break during a visit to the Fair. One feature is a large-screen television set with the complete selection of computer quizzes on energy subjects found in the main exhibit hall.



America's Electric Energy Exhibit
1111 19th Street, NW
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DESIGN

Roger Tierney Associates, San Diego, California
Roger R. Tierney, President
D. H. Bair, Project Design Director
Larry D. Lowe, Computer Consultant

AEEE THEATRE PRODUCTIONS

Multi Media Show—"Electricity"—Visual Images, Washington, DC
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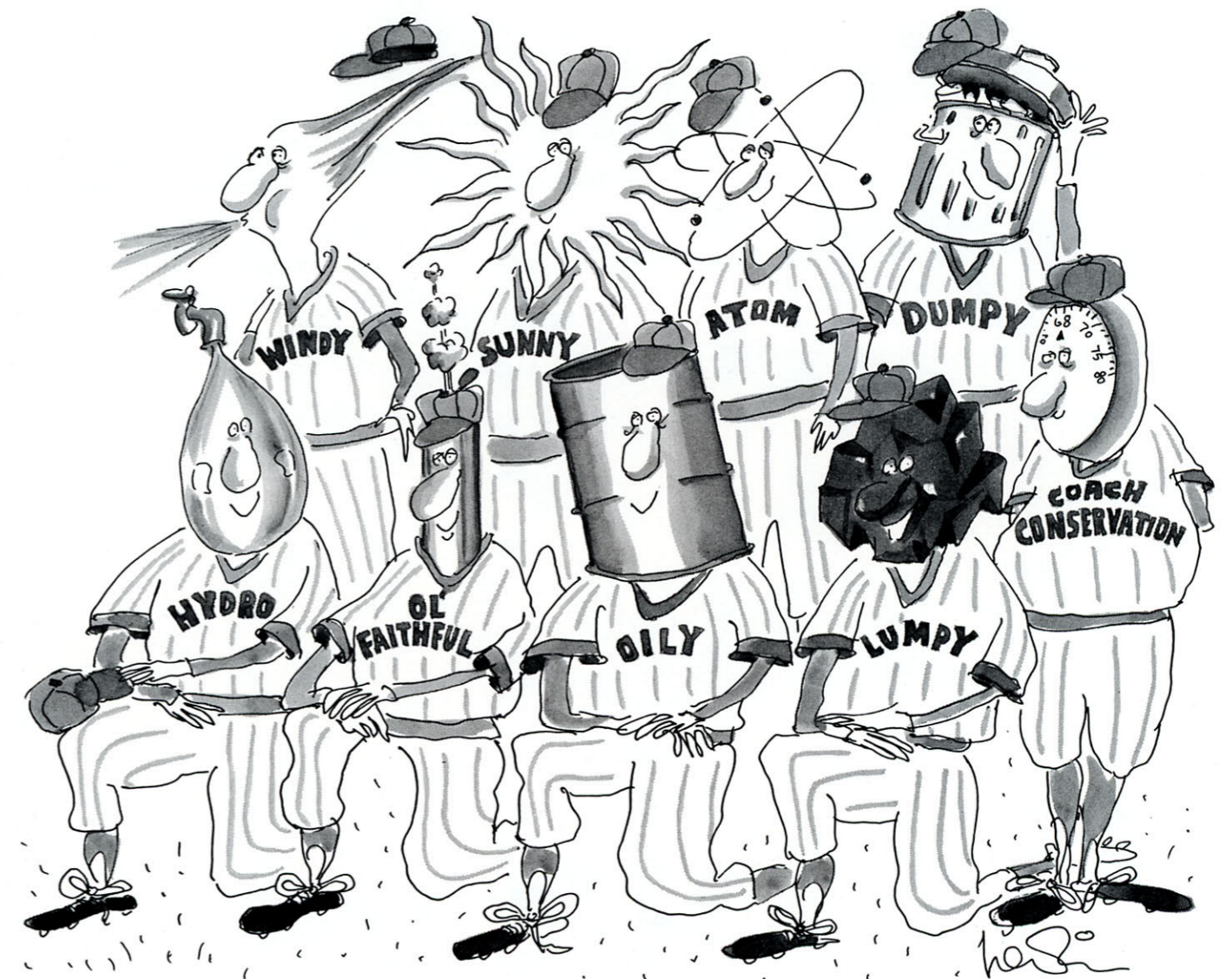
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America's Electric Team.

We can't afford to let any resource sit on the bench.

The electric team has strong players on the squad. Some are veterans we can count on to produce—coal, nuclear and hydro-electric power. Many are rookies who still need a lot of practice—solar, wind, biomass and geothermal. And one is an old-timer on its way out—oil.

On every playing field, veteran and rookie alike need the support of a coach. On this team the coach is Conservation. He gets the most out of every player.

The demand for electricity keeps growing, along with our population and the needs of the economy. It doesn't make sense

to tie ourselves to just one way to generate power. And we're not. We're committed to the whole electric team to secure America's energy future.

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The association of electric companies
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Electricity is America's manufactured resource.

