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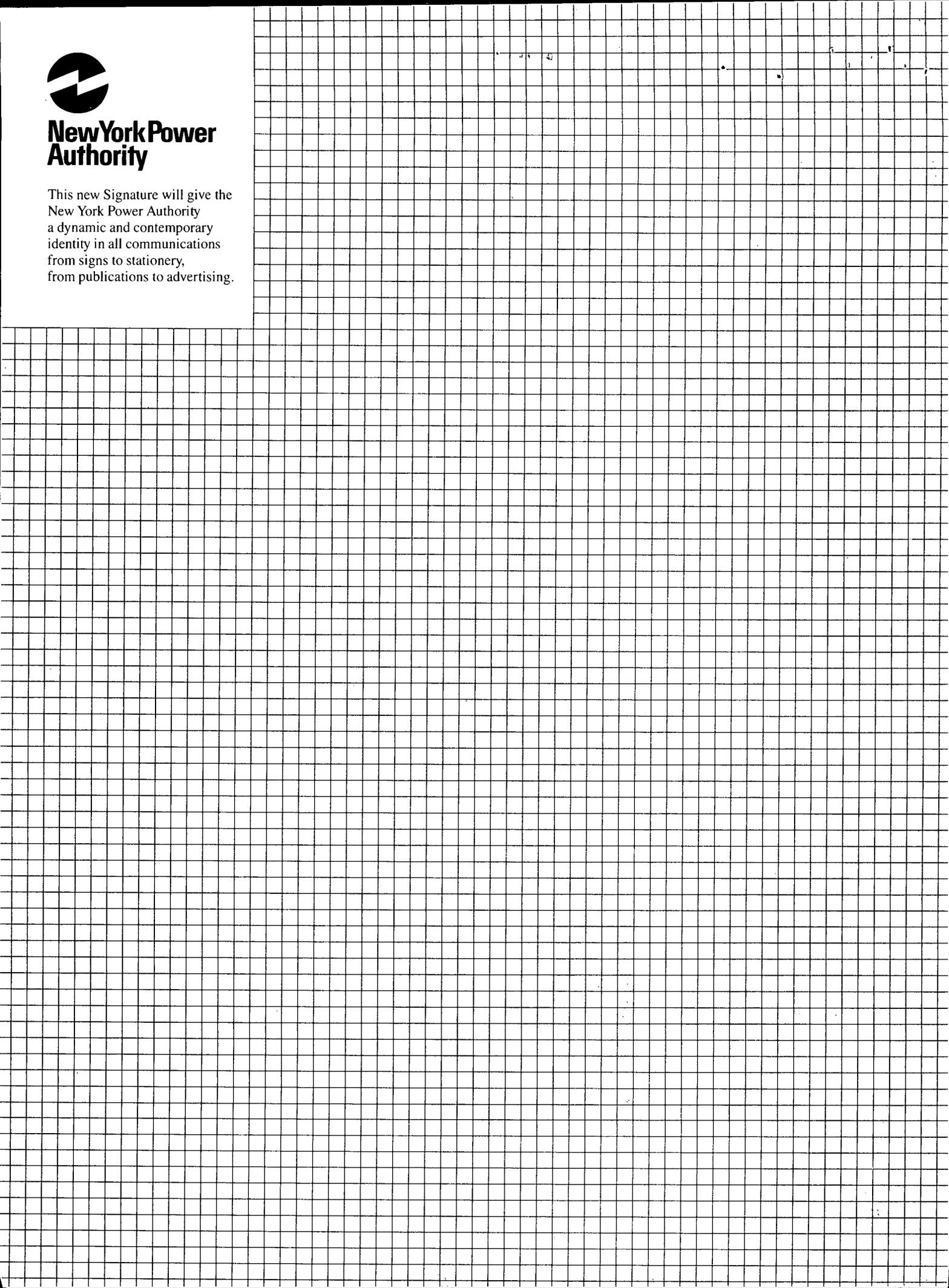
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**New York Power  
Authority  
Annual Report  
for 1982**



# New York Power Authority

This new Signature will give the New York Power Authority a dynamic and contemporary identity in all communications from signs to stationery, from publications to advertising.



### **Chairman's Message**

Since the days when mules pulled barges along the Erie Canal, New York State has been the seat of a thriving industrial empire. Textiles, leather goods and prepared foods were but a few of the products pouring forth from its factories when New York ranked as the unrivaled manufacturing leader of the nation, the Empire State.

However, New York's once overwhelming industrial might has declined. Many factors, including economic growth in the Sun Belt states, excessive regulation and high taxes in New York, contributed to the closing or relocation of many companies. Today, there are promising signs of an economic recovery, fueled in large part by the flourishing service and information industries and by the new awareness in New York of the requirements of economic growth.

The future that the advent of high technology is creating depends on electricity, the one energy form ideally suited to its needs. As a former Commissioner of Commerce, I know the important role that the cost and availability of electric power is playing in business decisions to locate, remain or expand in New York State. In this respect, New York enjoys an important advantage over California's Silicon Valley or Boston's Route 128. With the New York Power Authority, New York enjoys a true power advantage that provides the entire State with reliable electricity at reasonable cost. Today, the Power Authority provides over one-third of all the electricity used in New York State and ranks among the top twenty generators of electricity in the nation. For the future, the Power Authority will continue as the builder of the State's most cost-effective energy projects.

Through its superb network of canals and railroads, New York led the nation into the Industrial Age. Today, by serving as the site for an equally superb network of telecommunications, computers and data processing, New York can lead the nation into the electricity-dependent Age of Electronic Enterprise. And in the years to come, Power Authority electricity will help New York remain at the forefront of employment opportunity and economic growth.

*John S. Dyson*

John S. Dyson, Chairman



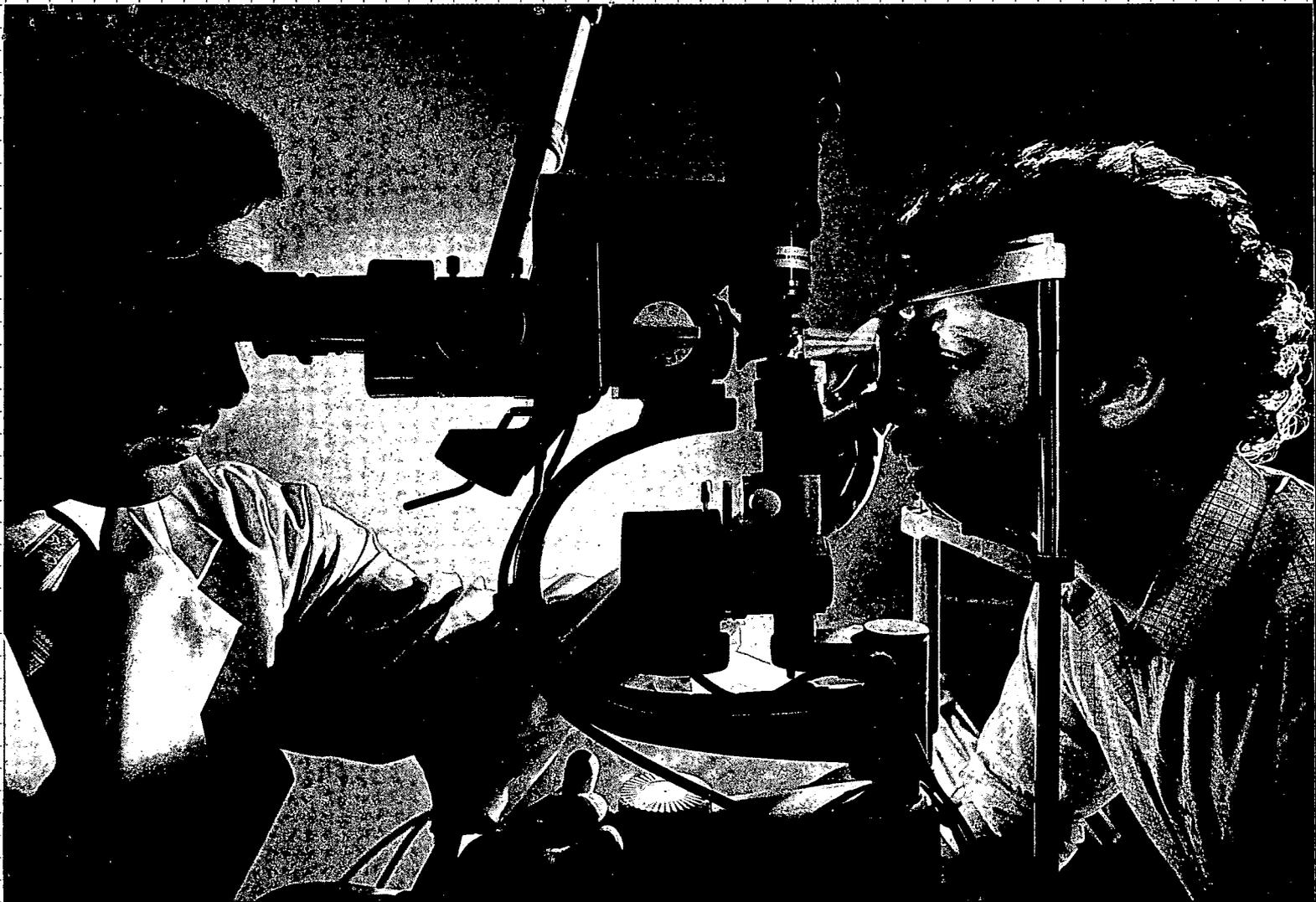
The New York Power Authority has a strong tradition of providing low-cost electricity to residential consumers and to industries. Power Authority electricity not only lights the darkness, but also promotes industry and supplies it with the energy crucial to maintaining more than 100,000 jobs. From the start, the Authority had as its mandate service to industrial as well as residential customers. Originally, the needs of home and industry were met exclusively through the hydroelectricity developed at large Power Authority dams. Through this hydropower and later through other resources used to generate electricity, industries have expanded their operations and have created jobs. As recently as 1982, the Authority made further industrial expansion possible by allocating more low-cost hydropower to four companies on the Niagara Frontier. As the result of this allocation, these companies have provided commitments to expand, creating in the process more than 2000 construction jobs and 300 permanent positions. It is in this spirit that the Power Authority has achieved continued success in serving industry and creating employment.

### ***Providing Electricity to Industry***

As electric demand grew in the years following the construction of the hydro projects, the Authority entered its second era of power production in 1975 when it diversified its generating capabilities to include nuclear power and fossil fuels. The mandate to serve industry was also expanded. Through the development of nuclear energy sources in particular, the Authority produced additional amounts of electricity to serve energy-intensive industries promising to expand or to build new facilities. Fueled by the power from the Authority's James A. FitzPatrick Nuclear Power Plant, these industries in turn created several thousand permanent positions throughout the State. By assisting industrial expansion, the Power Authority has helped New York State to build a sound industrial base, the essential prerequisite for a prosperous economy.

The past decade of oil gluts and shortages has challenged both New York's energy resources and its economic strength. The State cannot operate at best efficiency or compete for further industrial growth without assured supplies of affordable energy. It is the task of the New York Power Authority to help meet this challenge of the future. The Authority will continue to provide low-cost electricity to heavy manufacturing industries, the traditional foundation of New York's economic strength. The Authority will also work to meet the new demand for electricity from the booming high technology service and information industries and from the factories of the future.

High technology challenges the electrical resources of all sections of the country. Many states are already locked in a fierce struggle to attract and retain high tech industries. New York seeks to lead the high tech revolution, but to do so, reliable supplies of competitively priced electricity must be available in every part of the State. By continuing the development of its high-quality electrical system, the Power Authority is helping New York to position itself as an attractive site for high tech industry and as a center for employment growth.



**An argon laser treats diseases of the eye like retinal diabetes and glaucoma at New York City's Harlem Hospital. Both the laser machine and the slit lamp in front of the patient are powered by electricity.**

## **Early Years of Service to Industry**

For many years, until an International Joint Commission (IJC) order authorized its first project, the Power Authority advocated lower electric rates and lobbied for the passage of the federal legislation that would permit it to build a hydropower facility on the St. Lawrence River. On the eve of World War II, the Authority also recommended and helped plan the construction of a transmission line that would help carry excess electric energy from New York City to the aluminum-manufacturing defense industry in Massena. Drawn by the abundance of hydropower vital to its manufacturing process, the aluminum industry, represented by Alcoa, had come to Massena in 1902. But by 1941, defense demand for aluminum had outstripped the supply of electricity required to produce it. This difficulty was overcome by the construction of a 77-mile-long transmission line carrying electricity north from Taylorville to Massena. The line, a product of Power Authority and federal government cooperation, inaugurated the Authority's tradition of providing power to New York State industry to assist in its manufacturing efforts and to help create jobs.

### **The St. Lawrence-Franklin D. Roosevelt Power Project**

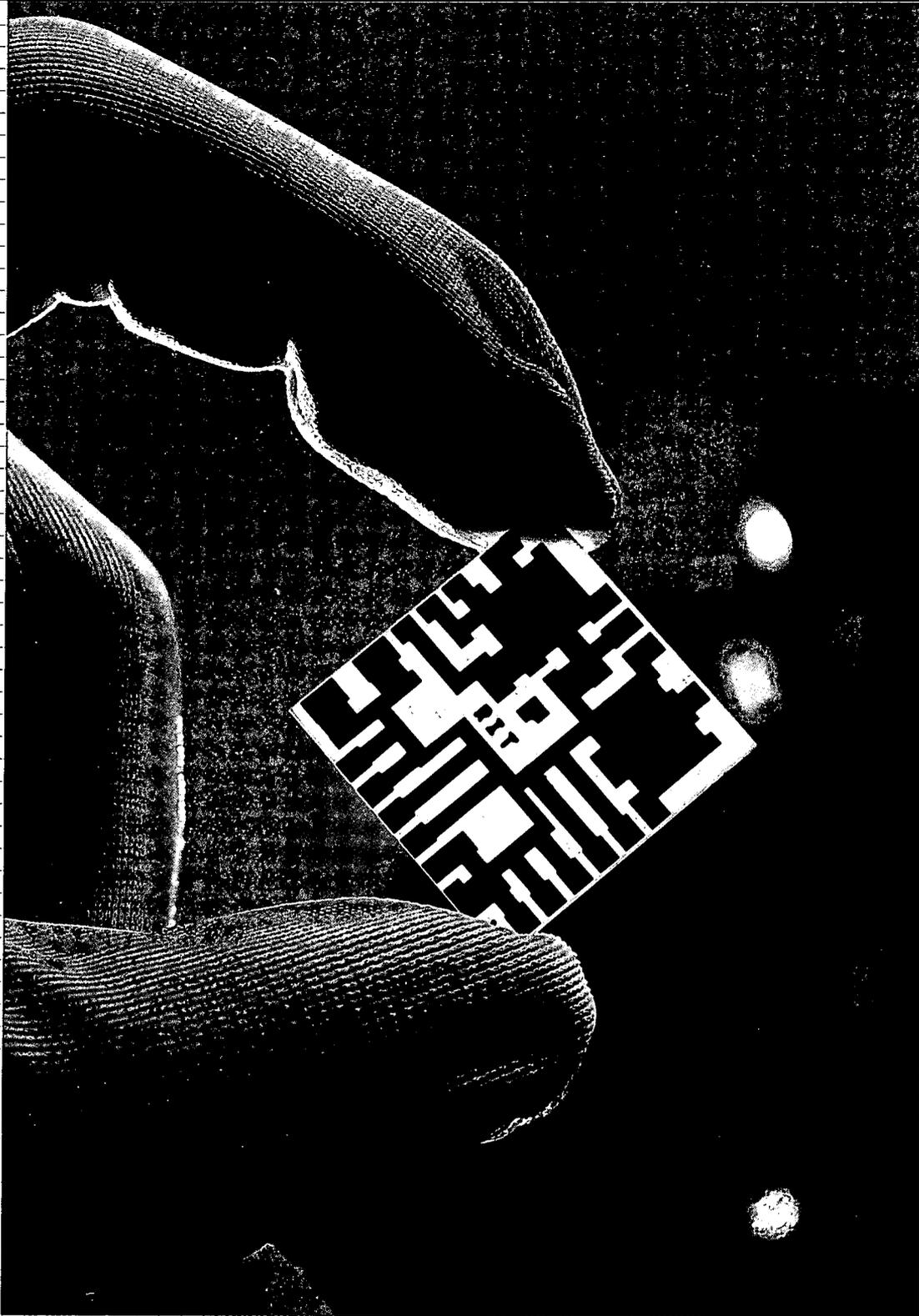
By 1953, the Power Authority had received permission from the IJC and the Federal Power Commission to harness the United States' share of the hydroelectric potential of the St. Lawrence River. Entrusted with this mission, the Authority started to develop a prosperous economy for peace. The new St. Lawrence-Franklin D. Roosevelt Power Project, completed two years ahead of schedule, offered extremely attractive electric rates to energy-intensive industries and drew them to the area. In 1958, when the project began producing electricity, Reynolds Aluminum Company moved to Massena and became the second company to sign contracts for St. Lawrence power. In 1959, the General Motors Company also built a plant at Massena, the Chevrolet Motor Division, to take advantage of the inexpensive hydropower and to benefit from the proximity of two major aluminum suppliers. Between them, Reynolds and General Motors brought about 600 jobs to the community.

Today, about 4000 workers are employed at these three large Massena industries which purchase electricity generated by the St. Lawrence-Franklin D. Roosevelt Power Project. These companies account for almost 60% of the manufacturing jobs in St. Lawrence County.

### **The Niagara Power Project**

Industrial development—and the creation of jobs on an even more impressive scale—were the results of the next project undertaken by the Power Authority. As in the case of the St. Lawrence project, controversy and delay had beset the Niagara River's hydroelectric development. This time, the dispute was resolved swiftly and dramatically. On June 7, 1956, a rockslide destroyed two-thirds of the Niagara Mohawk Power Corporation's largest hydroelectric plant, the Schoellkopf plant, near the Falls. The rockslide created an economic crisis. Most of the electricity from the ruined plant was used by industrial companies with thousands of employees. These heavy chemical

***In Rochester Institute of Technology's microelectronic engineering program, students learn to design and fabricate test patterns, like the one depicted here, for use in the creation of electronic circuits.***



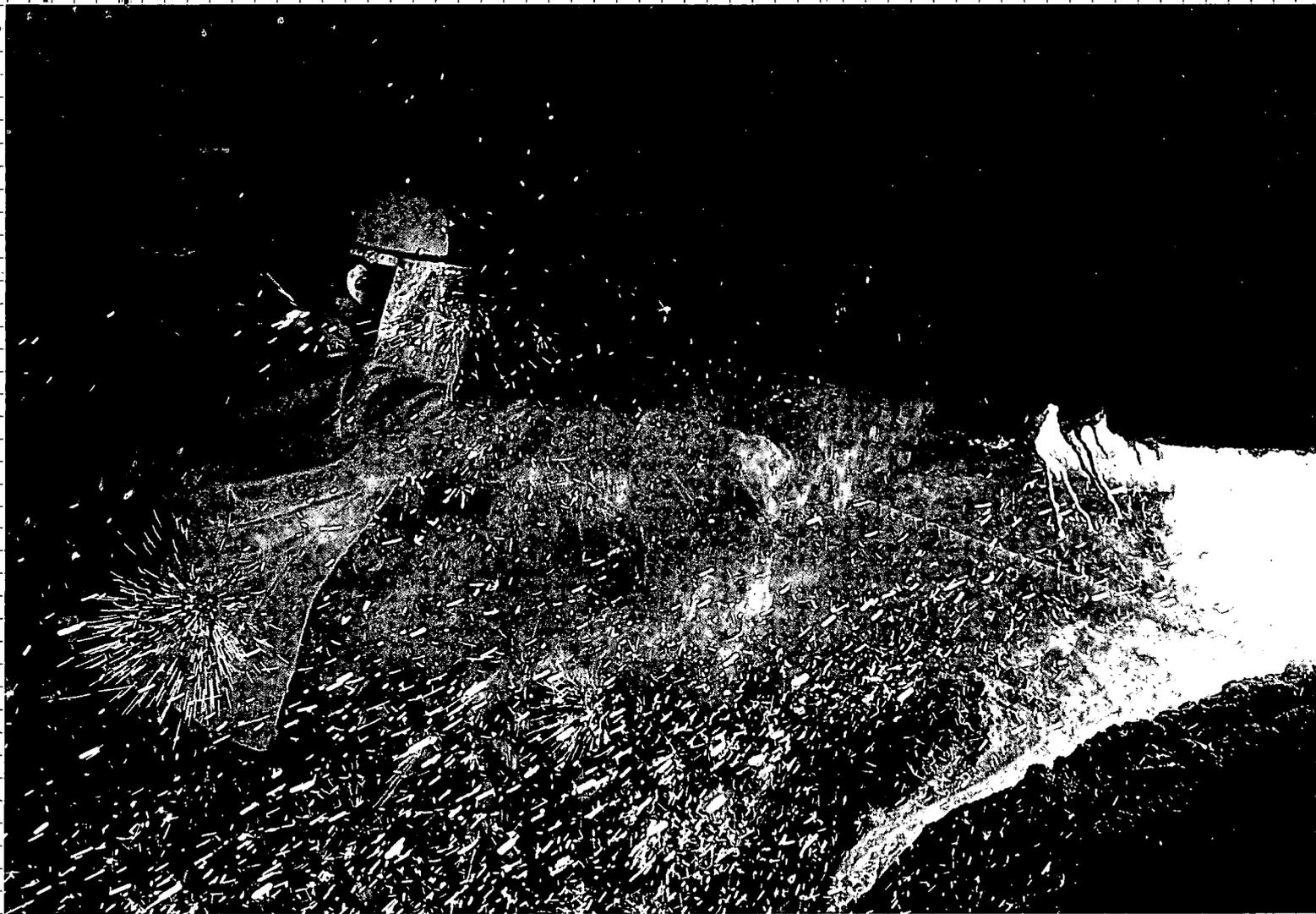
and metallurgical industries would be forced to leave the area unless another source of low-cost power could be found.

In response to the emergency, the Congress of the United States directed the Federal Power Commission to grant the Authority a license to build the Niagara Power Project. In 1961, also ahead of schedule, the facility came on line as the nation's largest hydropower plant. Under the terms of the federal law, the Power Authority sold a portion of the electric power to Niagara Mohawk. This electricity is known as "replacement power" because it replaced electricity that used to be generated by the Schoellkopf plant. Niagara Mohawk, in turn, resold the power to area industries formerly served by Schoellkopf. Electricity from the Authority's new project thus averted a massive exodus of industry from the Niagara Frontier. The increased capacity of the Niagara project provided enough electricity not just to replace Schoellkopf power, but also to encourage the industries receiving it to expand their operations. By this massive infusion of low-cost Niagara power, the Authority has helped to preserve and create more than 100,000 jobs. Both Niagara and St. Lawrence also provide low-cost electricity for millions of residential customers, primarily in upstate New York.

### ***The Second Era***

The 1960's and the 1970's brought new sources of electric generation to the Power Authority. A 1968 amendment enabling the Authority to construct nuclear power plants inaugurated this second era of power production. A primary purpose was to encourage the expansion of industry with high electrical demands. The amendment promoted industrial growth by making only those industries that were expanding or building new facilities eligible for electricity developed by nuclear power. The Authority's first nuclear unit, the FitzPatrick plant, began commercial operation in 1975. About \$171 million poured into the economy from industries qualifying for its affordable electricity while the expansion of industries eligible for FitzPatrick power created thousands of permanent jobs.

The Power Authority constructed and acquired several additional facilities during its second era of power production. The Blenheim-Gilboa Pumped Storage Power Project, an energy storage facility, provides low-cost power to meet periods of peak electrical demand by making more efficient use of baseload thermal generating stations. This reduces average residential and industrial rates and helps to prevent brownouts. The Indian Point 3 Nuclear Power Plant, the Charles Poletti Power Project and the Authority's 765-kilovolt transmission line also help to preserve the reliability of electrical service in southeastern New York State.



***Auburn Steel Company, Inc.'s electric arc furnace uses electricity to melt scrap metal. Through this technology, Auburn has become, in effect, a huge recycling plant, making new steel from old for the forging and construction industries.***

## **The Authority Upgrades Its Present Projects**

*Hydroelectric Facility Improvements.* In the interests of best efficiency and lower costs, the Power Authority is upgrading and updating its present core of facility strength. Many of these improvements are of a highly technical nature. All of the Authority's hydro projects, for example, are equipped with computer-based control and monitoring systems. They communicate with the Authority's new Energy Control Center computer, which was installed in 1982 in Marcy in central New York. The dispatch of the Authority's entire generation and transmission system, including its interconnections with Canada and neighboring states, is directed from this center. Through the new computer-based systems, the Authority achieves reliable and economical operation.

In 1981, the Authority also installed real time process control computer systems at its Blenheim-Gilboa and St. Lawrence projects to achieve the best water and energy management of these two facilities.

In another hydro-related improvement, construction is proceeding on two 345-kilovolt transmission ties between the Niagara project and Ontario Hydro's Sir Adam Beck complex in Queenston. The ties will increase the strength of the New York-Ontario interconnection and will permit additional annual imports of up to three billion kilowatt hours, replacing about 210 million gallons of oil a year.

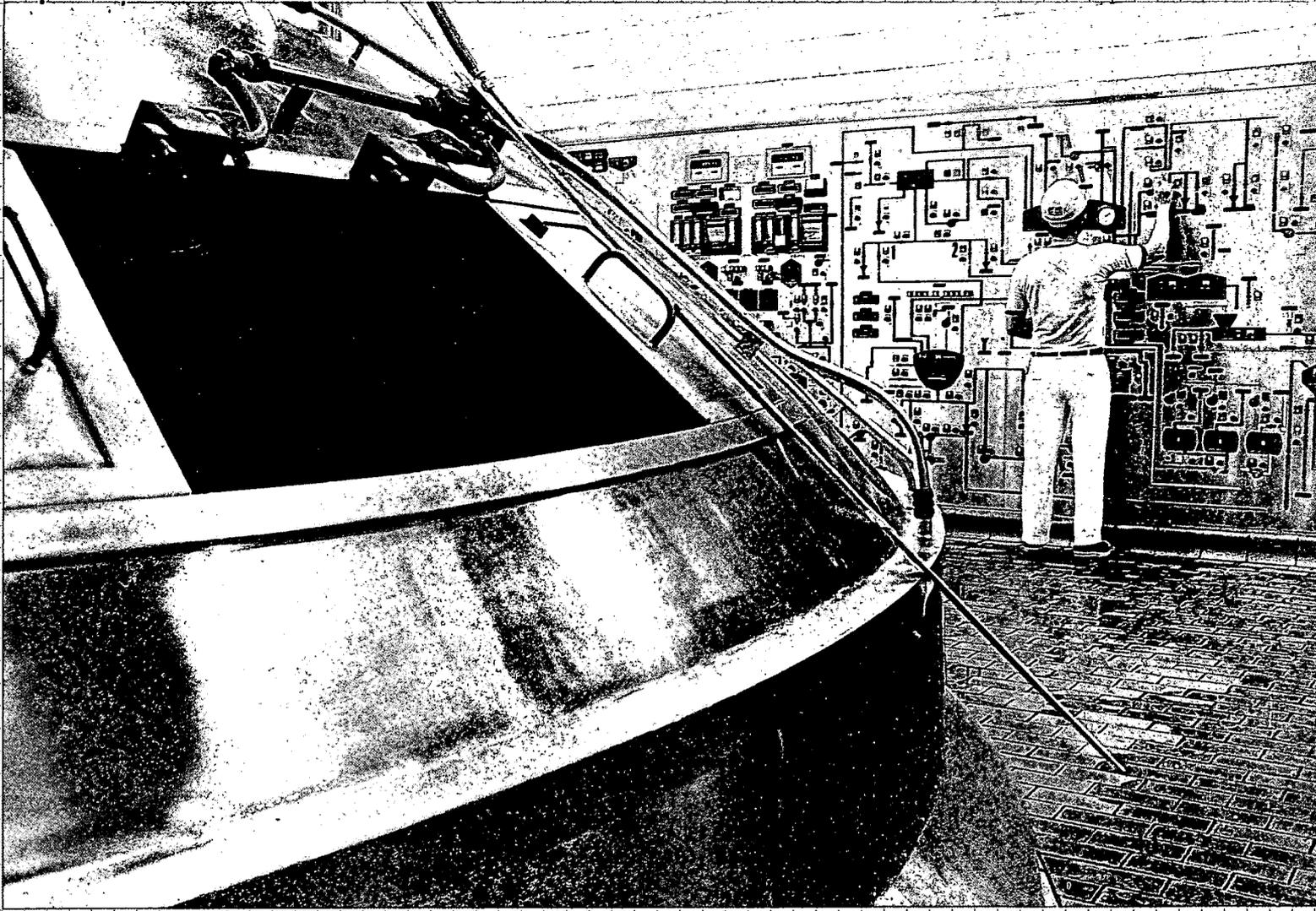
Efficiency is also the byword of the Authority's program to expand the capacity of the Niagara Power Project. The proposed new generating units will operate primarily at times of peak consumer demand for electricity and will permit more efficient use of the water available for power production. A program is also in progress to replace the turbines and rewind the generators of the Lewiston Pump Generating Plant at Niagara to upgrade availability and improve efficiency.

*Improvements at the Poletti Project.* In 1981, the Authority completed a major overhaul of its Poletti project which has resulted in a record-breaking availability factor of 85% in 1982. To continue this record of reliable performance, the Authority is installing a microprocessor-based system on the turbine-generator to alert operators to potential problems well in advance of their occurrence. Thus, corrective action can be taken before the onset of equipment failure.

In these ways and many others, the Authority is continuously at work to make sure that its facilities are among the safest and most efficient in the nation.

*Nuclear Plant Improvements.* Safety procedures and operator training at the Authority's two nuclear plants are being constantly upgraded and improved. The Power Authority was among the first utilities in the nation to conduct a probabilistic safety assessment at its Indian Point 3 Nuclear Power Plant. By means of a methodology derived in part from space age technology, thousands of accident scenarios were identified and their likelihood and consequences discussed. A subsequent review of the study showed that the Indian Point 3 plant met proposed Nuclear Regulatory Commission (NRC) safety goals and that a serious accident was extremely unlikely.

The Power Authority has also pioneered another major safety undertaking at Indian Point 3, a systems interaction study. This study, begun in 1980



***The Miller Brewing Company in Fulton uses computerized control boards to ensure high standards of product consistency in the brewing of its beers. The entire brewing process is controlled by the electrically-powered board.***

and still in progress, aims to ensure that safety-related systems will not be prevented from carrying out their safety functions because of unintended interactions with non-safety systems.

In the course of conducting safety studies, the Authority identified certain opportunities for improvement in its nuclear plants. Both Indian Point 3 and the FitzPatrick plants have significantly upgraded their standards for fire protection. Emergency preparedness was also strengthened by full-scale exercises at both plants.

In the area of operator training, the Power Authority has achieved outstanding results. The percentage of people who complete the stringent four-year-plus program to become licensed reactor operators is significantly above the national average. By these methods and many others, the Authority is upgrading standards of plant performance and operator training to make sure that the nuclear plants it oversees are among the safest in the nation.

### ***The Future Demand for Low-Cost Electricity***

One fact clearly emerges from the questions surrounding New York's energy future: the demand for reliable and reasonably priced electricity is growing and will continue to do so. Much of this increased demand is coming from industry, particularly from electricity-dependent high technology.

Electricity has several unique features which particularly suit it to high tech applications. Silent, odorless and residue-free, it is the cleanest of all known energy forms. It is also the most efficient; almost no electricity is wasted when it is converted into useful work. Another characteristic that suits electricity to high tech is its adaptability. Industry can control its actions and application with a degree of precision unequalled by any other process. In view of these advantages, electricity is the energy of choice for the high tech service and information industries and for the factory of the future.

### ***A Responsible Program of Building for the Future***

In 1979, New York became one of the first states to develop a master plan designed to provide electricity at competitive cost by developing alternatives to heavy oil consumption. Conservation efforts have already decreased potential need for oil, but by itself conservation does not create more efficient electric generation or new energy for a future of increased demand. The Power Authority, along with the other State utilities, must wage a vigorous construction campaign to meet future demands for cost-effective electricity and to ensure adequate reserves.

### ***Small Hydroelectric Projects***

To meet the rising demand for low-cost electricity, the Authority is building non-oil facilities for the future. One of the major elements of the State Energy Master Plan has been the development of the State's small-scale hydroelectric resources. Virtually inflation-proof and pollution-free, small hydropower projects will go on producing electricity after oil wells have run dry. The Power Authority is a national leader in their development.

The Ashokan Hydroelectric Project, first of a series of small units that the Authority intends to build, came on line in 1982. Another unit, the Kensico Hydroelectric Project, is scheduled to start up in early 1983, and the

***Hansford Data Systems,  
Inc. of Rochester uses a  
coordinate measuring  
machine linked to sophis-  
ticated computers to help  
clients improve the qual-  
ity of their manufactured  
goods.***



Authority is examining the feasibility of nine additional sites. If all of them prove viable, their generation will replace the burning of 16 million gallons of imported oil annually.

### ***Electricity from Canada***

As another means of combating the high cost of energy, in 1982 the Power Authority signed a contract with Hydro-Quebec, a Canadian utility, to purchase more of its reasonably priced hydroelectricity. Under the terms of the agreement, up to 111 billion kilowatt hours of hydroelectric energy will become available for purchase between 1984 and 1997. To derive maximum benefit from this contract, the Authority proposes to construct a new 345-kilovolt transmission system, known as Marcy-South, to ensure the efficient transfer of this relatively low-cost electricity within New York State.

### ***Resource Recovery***

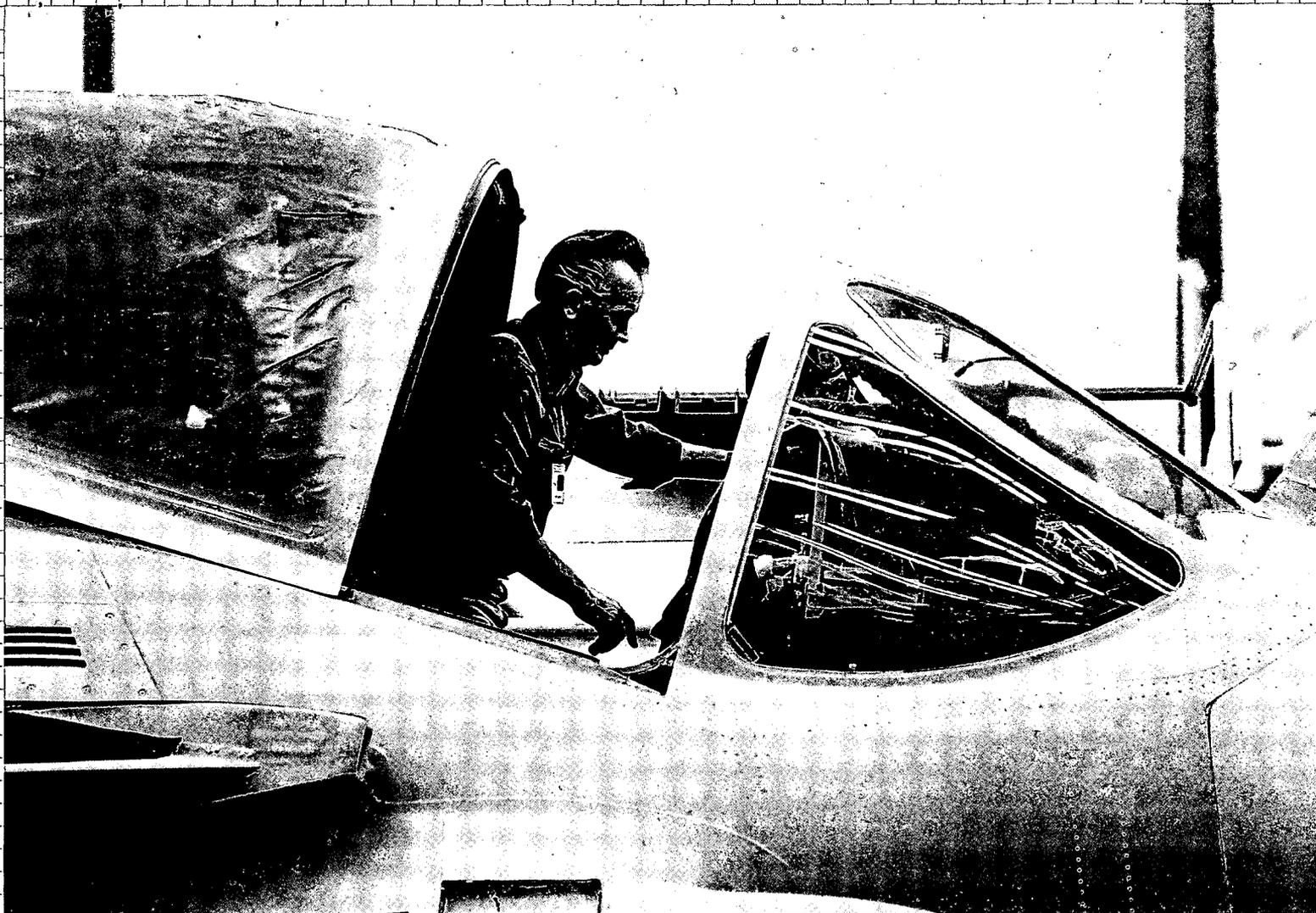
Clean, efficient mass burning of garbage is a successful European technology that the Authority hopes to use in the construction of resource recovery plants. By means of this technology, energy is produced from the burning of solid wastes. Resource recovery thus has two very real and immediate benefits: the disposal of garbage and the generation of electricity. The Power Authority is examining sites in North Hempstead on Long Island, in Onondaga County and in New York City as possible plant locations.

### ***The Incentive for Capital Investment***

The growth in electric demand has dropped off dramatically since the energy-exuberant days preceding the oil embargo. But this decline does not mean an ultimate cessation of growth, and most forecasters project a rise in nationwide demand of two to three percent annually over the next decade. To meet even such modest increases, the utility industry, which has for the most part postponed capital investment, must begin to build again. New York State, in particular, has an additional incentive for capital investment: the wrong energy mix. To replace oil, which still supplies about 36% of New York's electric energy, the State's utilities must build new capacity. The consequences of not doing so—shortages and the continued operation of aging, expensive plants—are clearly unacceptable... at least to those concerned over New York's economic future.

The Power Authority is committed to a responsible building program to meet new demand and to back out expensive oil-fired generation. From an economic viewpoint, the Authority is well equipped to build new projects because it can offer tax-exempt investment incentives in the form of its bonds. Highly regarded by the investment community, these bonds provide a stable financial basis for the construction of present and future projects.

By building for the future, the Power Authority is honing New York's competitive edge. The entire economy, and industry in particular, will benefit from the creative energy options and lower energy costs made possible by the New York Power Authority.



***The A6 Intruder equipped with 1000 pounds of electronics is checked out at full power at Grumman Aerospace Corporation's facility in Calverton. Substantial quantities of electric power are used in such tests.***

## ***The Factory and Office of the Future***

Within the past few decades, a quiet revolution has swept through the workplaces of America. New applications of electronic ingenuity are changing the nature of work in everything from the typing pool to the assembly line. If this rate of change continues, high technology will bring about the greatest transformation in the way Americans live and work since the Industrial Revolution.

At present, two-thirds of all electricity is consumed by the industrial and commercial sectors. As robots take over the factory and computers come to dominate the office, demand for electricity, the one form of energy ideally suited to high tech uses, is likely to rise. For example, a typical electric arc furnace, essential to the modernization of the American steel industry, uses about 500 kilowatt hours of electricity to melt a ton of metal. Economic experts believe that if the American steel industry is to meet competition from abroad, it must expand its use of the electric arc furnace, a measure that would demand millions of additional kilowatts of electric power. In another example, today's installed capacity for induction heating, used for forming metal parts, is great enough to consume all the electricity generated per year by five to ten large power plants. Industrial robots, which are essential to increasing the productivity of the American auto industry, use up to 1000 watts of electricity apiece. Although robots now working in American factories number only 6200, that figure is expected to grow to nearly 150,000 by 1990.

The white collar sector keeps abreast of the factory in its need for electricity. A six-station word processor, for example, uses up to 3500 watts of power, while the six typewriters it replaced use only about 900 watts. Word processing equipment and desk top computer terminals will some day become as essential to office operations as the telephone. In all, most of the productivity-boosting devices revolutionizing the nature of work in both the office and the factory are large consumers of electricity.

## ***The Computer Comes of Age***

It is a most ingenious paradox that at a time of high inflation and sluggish consumer buying patterns, the demand for computer products continues to outrun supply. The need for greater productivity explains this apparent contradiction. The quest for enhanced productivity governs decisions to use the new technology made in both corporate boardroom and family farm. Manufacturers use computer products in many areas to improve quality and to cut costs. Businesses use them to better manage payrolls and inventories. Even one of the oldest enterprises in the world, the family farm, is turning to



***At Bausch & Lomb in Rochester, an operator removes a soft contact lens from the extraction tray preparatory to final cleaning. Electricity is vital to all stages of the soft lens manufacturing process.***

computers to monitor everything from crop yields to the cost of animal feed. As much as people and businesses need computers, computers need electricity. The computer comes of age only in those areas guaranteeing it ample, affordable and reliable supplies of electric energy.

### **High Tech Has a Human Face**

High tech does not consist only of six-station word processors and induction heating. It also wears a human face in areas in which quality of life, not productivity, counts as the central consideration. Health care, in particular, has benefited by the coming of the computer to the sick room. For example, a hole in the retina, precursor of a detached retina, used to be the occasion for painful, costly surgery. Now the hole can be sealed without surgery by the laser's beam of well-collimated light.

Advances in microelectronics have made possible more "natural" artificial organs like arms and pacemakers. Thanks to tiny silicon chips, the patient can control the artificial organ with a precision and sophistication that were never before possible. In research centers across the country, paralyzed people are also receiving the assistance of computers to learn to stand and walk. Indeed, the most spectacular medical feat of recent years—the first permanent implanting of an artificial heart in a human being—was made possible by the inspired union of physician's skill, electricity and high technology.

### **High-Growth Future for a High Tech State**

Contrary to popular perceptions, New York already *is* a high tech state. The year 1982 was the first in which more than 50% of the State's 1.5 million manufacturing workers held jobs directly involved with high technology. In fact, new high tech companies are springing up almost every day, adding jobs and boosting productivity. Indeed, areas of highest employment in New York are precisely those whose economies are most closely associated with high technology.

Electricity-intensive enterprises in New York show every sign of further robust growth, provided affordable, reliable electricity can be found. Their expansion, then, constitutes a major new energy challenge for the New York Power Authority. Without abandoning its commitment to traditional industries or to residential customers, the Authority must prepare to meet a new type of demand for electricity from computers, lasers and microelectronics. To do so, the Authority is upgrading its present facilities and building for New York's future... for productivity and for jobs.

Efficiency, resourcefulness and advanced thinking have been Power Authority hallmarks for more than half a century. From that day when the first shovelful of earth was dug up at St. Lawrence to this day when it provides an average of 40 billion kilowatt hours of electricity a year, the Power Authority has taken the vast resources of New York State and turned them into resources for progress. In the years to come, the Authority will continue its legacy of leadership. It will search for bold, innovative solutions to meet the challenges posed by this new era of expensive energy so that in the future, as in the past, the Power Authority will remain New York's power advantage.



***Looking like a control board out of 2001, an audio console is used to mix sound at CBS, Inc.'s television studios in New York City. The electricity-intensive center has backup generators and voltage regulators to ensure a reliable power supply.***

## **Highlights of the Year**

For the fourth consecutive year, the New York Power Authority provided more than one-third of all the electricity used in New York State. The Authority supplied a total of almost 40 billion kilowatt hours of electricity from its seven generating facilities and from Canadian imports. Less than 4.5% of this energy was produced by burning oil.

Hydropower accounted for about 75% of all the electricity the Authority provided during 1982 (54.4% from its own facilities and 20.6% from Canadian imports). Nuclear energy provided 16%, and the balance was generated by burning natural gas and oil.

The Authority's three baseload hydroelectric projects—Niagara, St. Lawrence-Franklin D. Roosevelt and the new small hydro facility at Ashokan—produced more than 22.5 billion kilowatt hours of energy. The James A. FitzPatrick and Indian Point 3 Nuclear Power Plants together generated almost 6.4 billion kilowatt hours. This represents a decline from 1981 levels because of the shutdown of Indian Point 3 since March to allow for maintenance, refueling and steam generator repair.

### **Savings from Canadian Imports**

New York consumers have saved more than \$367 million from purchases of Canadian hydroelectricity transported over the Power Authority's 765-kilovolt line from the Quebec border to Marcy. These savings have exceeded the cost of the line. Since beginning operation in 1978, the line has eliminated the need to burn more than two billion gallons of oil.

In March, the Power Authority and Hydro-Quebec signed a 13-year contract providing for the sale of up to 111 billion kilowatt hours of energy from 1984 through 1997. Full implementation of this contract will eliminate the need to burn about eight billion gallons of imported oil in New York State. Annual consumer savings will be shared equally by all residents of the State.

This contract will go into effect only if the Power Authority builds a new transmission system from central to southeastern New York State. The Power Authority has filed an application with the State Public Service Commission to build

a new 345-kilovolt transmission system from the Utica area to Dutchess County. Its construction will assure the efficient dispatch of affordable Canadian energy throughout New York. It will also displace expensive oil-fired generation.

### **Leadership in Small Hydroelectric Development**

During 1982, the Power Authority made major progress in its program to develop more small-scale hydroelectric facilities throughout New York State. A 4750-kilowatt project at the Ashokan Reservoir in Ulster County, dedicated in November, has become the State's first new baseload hydropower facility since the Niagara Power Project began operation in 1961. Ashokan is the first of a series of projects that the Authority will build to add 200,000 kilowatts of new hydropower capacity by 1990. Total annual oil savings are expected to average 63 million gallons.

Another small hydro project at the Kensico Reservoir in Westchester County is nearing completion. The Power Authority has also accepted a federal license to build and operate a hydro project at the Hinckley Reservoir near Utica. In addition, the Power Authority has filed a federal application to develop the hydroelectric potential of the Delta Dam and Reservoir on the Mohawk River in Oneida County, and it has applied for licenses to expand the hydroelectric facilities at Crescent and Vischer Ferry Dams on the Mohawk River northwest of Albany. Studies are being conducted on the possible development of additional projects. The drive to develop these small hydroelectric units is an important step in New York's achievement of independence from imported oil.

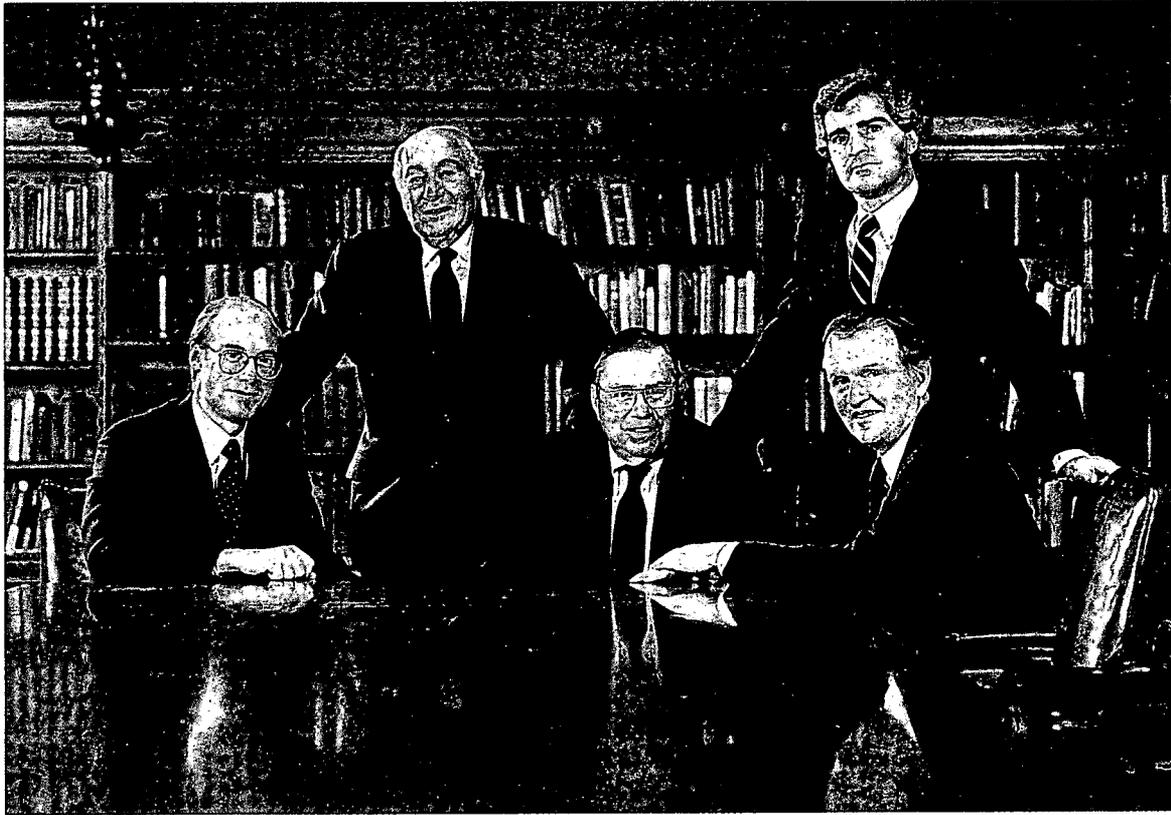
### **Record Year for Authority Projects**

The Charles Poletti oil-and-gas-fueled facility in Astoria, Queens set a generating and an availability record this year. The plant's net generation for 1982 was nearly 3.6 billion kilowatt hours, eclipsing the previous record set in 1980 by about 636 million kilowatt hours.

Poletti's availability factor, the percentage of time it was available to generate electricity, also surpassed previous records. Through the end of 1982, the availability factor was 85%, up from a record 77% set in 1980. The Poletti project, formerly known as Astoria 6, was renamed this year to honor the only man ever to serve as New York's governor and as a Power Authority trustee.

The James A. FitzPatrick nuclear plant near Oswego also enjoyed a year of notable accomplishment. In 1982, it set a record for continuous service by an Authority nuclear plant—121 days, nine hours and 58 minutes.

Left to right, seated,  
Chairman John S. Dyson,  
Vice Chairman George L. Ingalls,  
Richard M. Flynn; standing,  
Robert I. Millonzi, left, and  
James L. Larocca



John S. Dyson, Chairman  
George L. Ingalls, Vice Chairman  
Richard M. Flynn, Trustee  
James L. Larocca, Trustee  
Rolland E. Kidder, Trustee\*  
Robert I. Millonzi, Trustee\*\*

Leroy W. Sinclair, President and Chief Operating Officer  
George T. Berry, President and Chief Operating Officer\*\*\*  
Walter T. Kicinski, First Executive Vice President and Chief Administrative Officer  
Joseph R. Schmieder, Executive Vice President and Chief Engineer  
J. Phillip Bayne, Executive Vice President—Nuclear Generation  
John F. English, Executive Vice President—System Operations  
Stephen L. Baum, Senior Vice President and General Counsel  
James M. Cunningham, Senior Vice President—Public Affairs  
Robert A. Hiney, Senior Vice President—Planning & Marketing  
Bernard H. Lawson, Jr., Senior Vice President—Procurement and Contract Administration  
Thomas F. McCrann, Jr., Senior Vice President—Finance  
Robert G. Schoenberger, Senior Vice President—Program Development  
Bradley S. Telias, Secretary

\* Appointed December, 1982

\*\* Retired December, 1982

\*\*\* Retired February, 1982

## **Highlights of the Year**

### **Expansion of the Niagara Project's Capacity**

In January 1982, the Power Authority unveiled plans for the expansion of the Niagara Power Project, already one of the largest hydroelectric projects in the world. In July, it was announced that the expansion could be more extensive than originally planned. The Power Authority will seek a federal license to construct up to three new 150,000-kilowatt units at the Robert Moses Niagara Power Plant, with two units to be built initially. The Authority will also seek federal approval for three new 20,000-kilowatt units at the Lewiston Pump Generating Plant. The additional capacity would increase the amount of low-cost hydroelectricity available at times of peak consumer demand.

### **Rates**

In late 1982, Power Authority trustees approved increased rates for the electricity produced at the Charles Poletti oil-and-gas-fueled project in New York City and the Indian Point 3 nuclear plant in Westchester. The increases were needed to meet higher operating and maintenance expenses for the facilities and to provide sufficient reserve funds. The new rates will provide \$25.1 million in additional annual revenues.

By the end of 1981, the bonds issued under the Authority's 1954 Bond Resolution to finance the construction of the Niagara and St. Lawrence-Franklin D. Roosevelt projects had been retired. During 1982, a comprehensive staff study was conducted and public forums held on rates for electricity sold to rural and domestic customers served by these projects.

### **New Allocations of Hydropower to Industry**

As a result of the settlement of an allocation dispute, more low-cost Authority electricity was made available to Niagara Frontier industries. Increased allotments of electricity to DuPont, Carborundum, SKW Alloys, the American Brass Division of Anaconda Industries, Arcata Graphics and Pillsbury will result in the creation of about 650 permanent positions and more than 2000 jobs during the construction work required to modernize or expand the companies' facilities. Ten additional companies, as well as the city of Niagara Falls, also benefited from the new allocations.

### **Out-of-State Hydro Allocations**

Federal law and licenses require the Power Authority to sell "a reasonable portion" of the output of its Niagara and St. Lawrence-Franklin D. Roosevelt hydroelectric projects to

neighboring states. Connecticut, Massachusetts, New Jersey, Ohio, Pennsylvania, Rhode Island and Vermont have applied for shares of this low-cost electricity. In November 1982, the Power Authority concluded out-of-state allocation hearings, and the presiding examiner is expected to reach a recommended decision in the spring of 1983. Ohio, Pennsylvania and Vermont now purchase Authority hydropower under contracts expiring in 1985.

### **Accelerated Formation of Municipal Electric Systems**

Referenda to form their own municipal utility agencies have passed in many cities and counties of the State in response to the prospect of withdrawal of low-cost Niagara and St. Lawrence hydropower from upstate utility customers when contracts expire. Formation of these preference agencies enables residents to share available hydropower with the State's 51 municipally owned electric systems and rural cooperatives. Westchester, Orange, Onondaga, Greene, Erie, Cayuga, Niagara and Rockland Counties have approved the formation of municipal utility agencies, as have New York City, Rochester, Syracuse, Utica and the towns of Greece and Parma in Monroe County.

Formation of such public agencies by cities and counties is an alternative to the 1981 Residential and Rural Energy Authority (RREA) proposal, which was not acted on by the State Legislature. The RREA, if adopted, would have served as a preference agency to buy electricity from the Power Authority on behalf of the more than 17 million people who live in private utility service areas. This would have offered the broadest possible distribution of low-cost power to all the residents of the State.

Reallocation of the Authority's hydroelectric resources could occur even before contracts begin to expire in 1985 if a Federal Energy Regulatory Commission (FERC) ruling is upheld. The October 1982 ruling would divert power from

Niagara Frontier industries and upstate utilities' residential and farm customers and from the Metropolitan Transportation Authority and reallocate it solely to selected municipal utilities. The Power Authority has petitioned FERC for a rehearing which it has granted for the purpose of reconsidering the decision. FERC has also granted a stay of its order pending the final decision.

#### **New Computer for Energy Control Center**

During 1982, a new computer control system was installed at the Authority's Energy Control Center (ECC) at Marcy. Vast amounts of data are continuously communicated to the ECC computer from the Authority's hydro, nuclear and fossil fuel facilities as well as from remote substations interconnecting Authority transmission lines with those of other electric utilities in New York, Canada and neighboring states. The computer system then uses this constantly updated information to determine the most economical loading of the facilities. The computer also assists in coordinating the Authority's operations with those of other utilities to ensure a safe, reliable and economical power supply.

#### **Progress in Obtaining Permits**

In July 1982, a FERC administrative law judge authorized issuance of a federal license for the construction of the one-million-kilowatt Prattsville Pumped Storage Project in the Catskills, provided that the State water quality certification could be obtained. The preceding April, the former commissioner of the State Department of Environmental Conservation (DEC) had denied water quality certification on the grounds that the Power Authority had not proved that the facility could comply with State water quality standards and that a pollutant discharge permit would also be needed for operation. The Authority has appealed the DEC denial of the permit to the Appellate Division of the State Supreme Court. A favorable decision could clear the way for FERC to issue the license. Like the Authority's existing Blenheim-Gilboa Pumped Storage Project, the Prattsville project would produce electricity at times of peak consumer demand, thus saving between \$3.6 billion and \$3.8 billion for the first 19 years of its operation.

Progress was also made in obtaining permits for the 700,000-kilowatt coal-and-refuse-fueled plant proposed for the

Arthur Kill section of Staten Island, but, as in the case of Prattsville, there were also delays. On the federal level, the U.S. Environmental Protection Agency (EPA) issued a final air quality permit to the Power Authority in March 1982. Parties opposing the power plant have appealed the issuance of this permit to the EPA's chief administrator, and a decision is pending. Also on the federal level, in October 1982, the U.S. Army Corps of Engineers granted a permit for work in navigable waterways during construction.

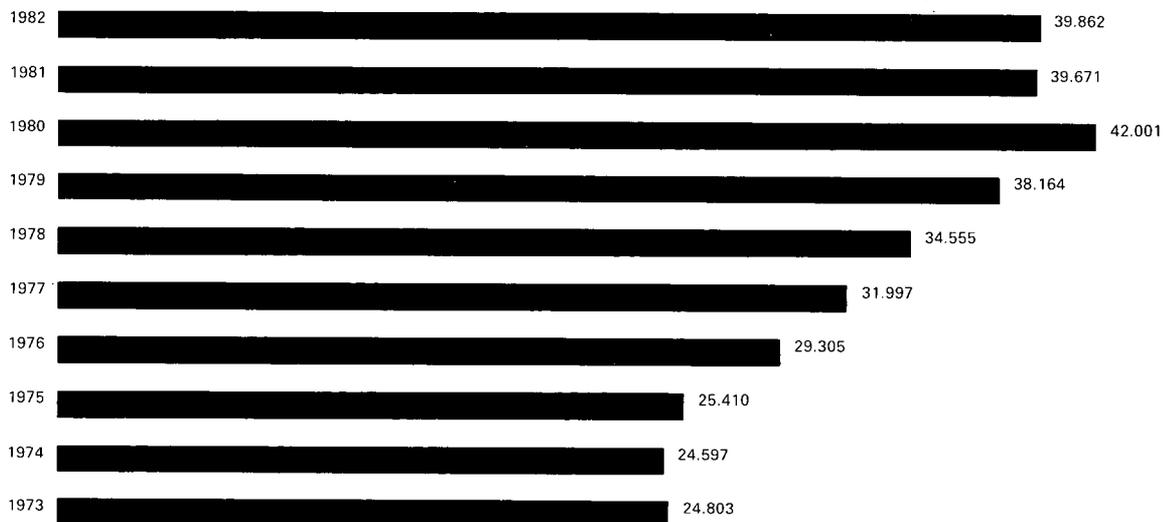
Delays were incurred with the New York State license to construct the Arthur Kill plant. In accordance with an Appellate Division order, the State Siting Board reconvened hearings to determine whether the plant could meet New York City air quality standards. The examiners concluded that the Authority was entitled to recertification of the power plant. A decision by the State Siting Board is pending.

#### **A Relocation and Some Personnel Changes of Note**

During 1982, a portion of the Authority's headquarters staff moved from New York City to White Plains in Westchester County. The year 1982 was also notable for the appointment of two new trustees and a new president at the Power Authority. State Energy Commissioner James L. Larocca succeeded Frederick R. Clark as trustee, and in December former State assemblyman Rolland E. Kidder was appointed as trustee to replace Robert I. Millonzi. Leroy W. Sinclair, previously senior vice president and chief financial officer, was promoted to president as successor to George T. Berry who retired.

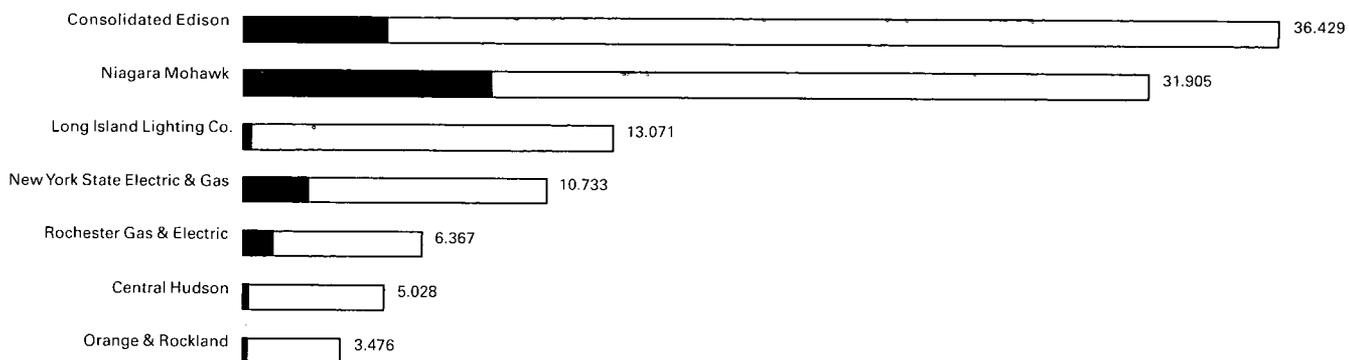
**Electric Energy Sales\***

(Billions of Kwh)



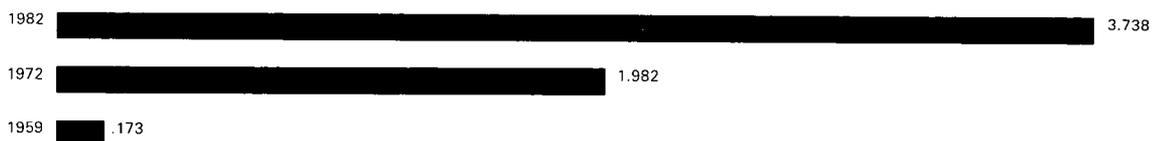
**1982 electric sales to New York State private utilities in relation to each utility's total sales\*\***

(Billions of Kwh)



**Electric sales to municipal systems and rural electric cooperatives**

(Billions of Kwh)



\*Retirement of the 1954 Project bonds enabled the Authority to consolidate its financial statements and end the need to report inter-project sales. For the purposes of direct comparison, these totals have been recomputed to eliminate such sales for the years after 1974.

\*\*Power Authority sales totaled 21,994 billion kwh, which included 4,221 billion kwh sold to the New York Power Pool (NYPP). The NYPP used this electricity to supply the utilities as needed.

## Customer List

### Customers Served Directly with Power from Hydroelectric Projects

Village of Akron  
Village of Andover  
Village of Angelica  
Village of Arcade  
Village of Bath  
Village of Bergen  
Village of Boonville  
Village of Brocton  
Village of Castile  
Village of Churchville  
Village of Endicott  
Village of Fairport  
Village of Frankfort  
Village of Freeport  
Village of Greene  
Village of Green Island  
Village of Greenport  
Village of Groton  
Village of Hamilton  
Village of Holley  
Village of Ilion  
City of Jamestown  
Lake Placid Village, Inc.  
Village of Little Valley  
Village of Marathon  
Town of Massena  
Village of Mayville  
Village of Mohawk  
Village of Penn Yan  
Village of Philadelphia  
City of Plattsburgh  
Village of Richmondville  
Village of Rockville Centre  
Village of Rouses Point  
City of Salamanca  
Village of Sherburne  
City of Sherrill  
Village of Silver Springs  
Village of Skaneateles  
Village of Solvay  
Village of Spencerport  
Village of Springville  
Village of Theresa  
Village of Tupper Lake  
Village of Watkins Glen  
Village of Wellsville  
Village of Westfield  
Allegheny Electric Cooperative, Inc.  
Delaware County Electric Cooperative, Inc.  
Oneida-Madison Electric Cooperative, Inc.  
Otsego Electric Cooperative, Inc.

Steuben Rural Electric Cooperative, Inc.  
Metropolitan Transportation Authority  
Aluminum Company of America  
General Motors Corporation  
Reynolds Metals Company  
American Municipal Power—Ohio, Inc.  
Public Service Board of the State of Vermont  
New York State Electric & Gas Corporation  
Niagara Mohawk Power Corporation  
Rochester Gas and Electric Corporation

### Blenheim-Gilboa Pumped Storage Project

Central Hudson Gas and Electric Corporation  
New York State Electric & Gas Corporation  
Niagara Mohawk Power Corporation  
Rochester Gas and Electric Corporation

### Industry Served Directly with Niagara Project Power

#### Replacement Power:

The Power Authority is required by Federal law to supply 445,000 kilowatts of its low-cost power to the Niagara Mohawk Power Corporation to replace low-cost power previously obtained from the company's Adams and Schoellkopf Plants at Niagara Falls. This power is largely resold to designated industries at the Power Authority's wholesale firm power rate plus a transmission charge and such state and local revenue taxes as are applicable. The total amount

allocated to industry during the year was 442,100 kw. However, 85,250 kw of this amount will be contracted for when expansion of certain facilities is complete. The following industries were supplied during the year with this low-cost power.

Airco Carbon Division, Airco, Inc.  
American Brass Division, Anaconda Industries  
Atlas Steel Casting Company  
Bethlehem Steel Corporation  
Buffalo Color Corporation  
Buffalo Forge Company  
The Carborundum Company—Division of Kennecott Corporation  
Donner-Hanna Coke Joint Venture  
Dresser Transportation Equipment Division, Dresser Industries, Inc.  
Dunlop Tire & Rubber Corporation  
E.I. duPont de Nemours & Company, Inc.  
FMC Corporation—Specialty Chemicals Division  
General Abrasive Division, Dresser Industries, Inc.  
General Mills, Inc.  
Great Lakes Carbon Corporation  
Hooker Chemicals & Plastics Corporation  
International Multi-Foods Corporation  
Nabisco, Inc.  
Niacet Corporation  
Niagara Falls Water and Waste Water Treatment Plants  
Nitec Paper Corporation  
Olin Corporation  
The Pillsbury Company  
Prestolite Battery Division—an Allied Company  
Republic Steel Corporation  
SKW Alloys, Inc.  
Spaulding Fibre Company  
TAM Ceramics, Inc.  
Union Carbide Corporation

**Expansion Power:**

The Power Authority has allocated 250,000 kilowatts of Niagara Project firm power reserved for sale to industries within thirty miles of the Niagara Project. This power is sold to local utility companies and by them to industries which require low-cost power to enable them to expand operations or to establish new industries in the Niagara Frontier area. Allocations of expansion power were provided during the year to the industries listed below:

- Airco Industrial Gases Division, Airco, Inc.
- Airco Carbon Division, Airco, Inc.
- Arcata Publications Group, Arcata Corporation
- Bethlehem Steel Corporation
- The Carborundum Company— Division of Kennecott Corporation
- Donner-Hanna Coke Joint Venture
- E. I. duPont de Nemours & Company, Inc.
- General Mills, Inc.
- General Motors Corporation— Harrison Radiator Division
- Great Lakes Carbon Corporation
- Hooker Chemicals & Plastics Corporation
- International Multi-Foods Corporation
- Moog, Inc.
- Nitec Paper Corporation
- Olin Corporation
- The Pillsbury Company
- Pyron Corporation— A Pacific Tin Company
- Republic Steel Corporation
- SKW Alloys, Inc.
- Spaulding Fibre Company
- TAM Ceramics, Inc.
- Union Carbide Corporation

**Customers Served with Power from James A. FitzPatrick Nuclear Power Plant**

- Air Products & Chemicals, Inc.
- Airco Carbon Division, Airco, Inc.
- Airco Industrial Gases Division, Airco, Inc.
- Aluminum Company of America
- Associated Universities, Inc. (Brookhaven National Laboratories)
- Burdox, Inc.
- E. I. duPont de Nemours & Company, Inc.
- Dresser Transportation Equipment Division, Dresser Industries, Inc.
- Hooker Chemicals & Plastics Corporation
- Olin Corporation
- Reynolds Metals Company
- SKW Alloys, Inc.
- Central Hudson Gas and Electric Corporation
- Consolidated Edison Company of New York, Inc.
- Long Island Lighting Company
- New York State Electric & Gas Corporation
- Niagara Mohawk Power Corporation
- Orange and Rockland Utilities, Inc.
- Rochester Gas and Electric Corporation

**Customers Served with Power from the Indian Point 3 Nuclear Power Plant and Charles Poletti Power Project**

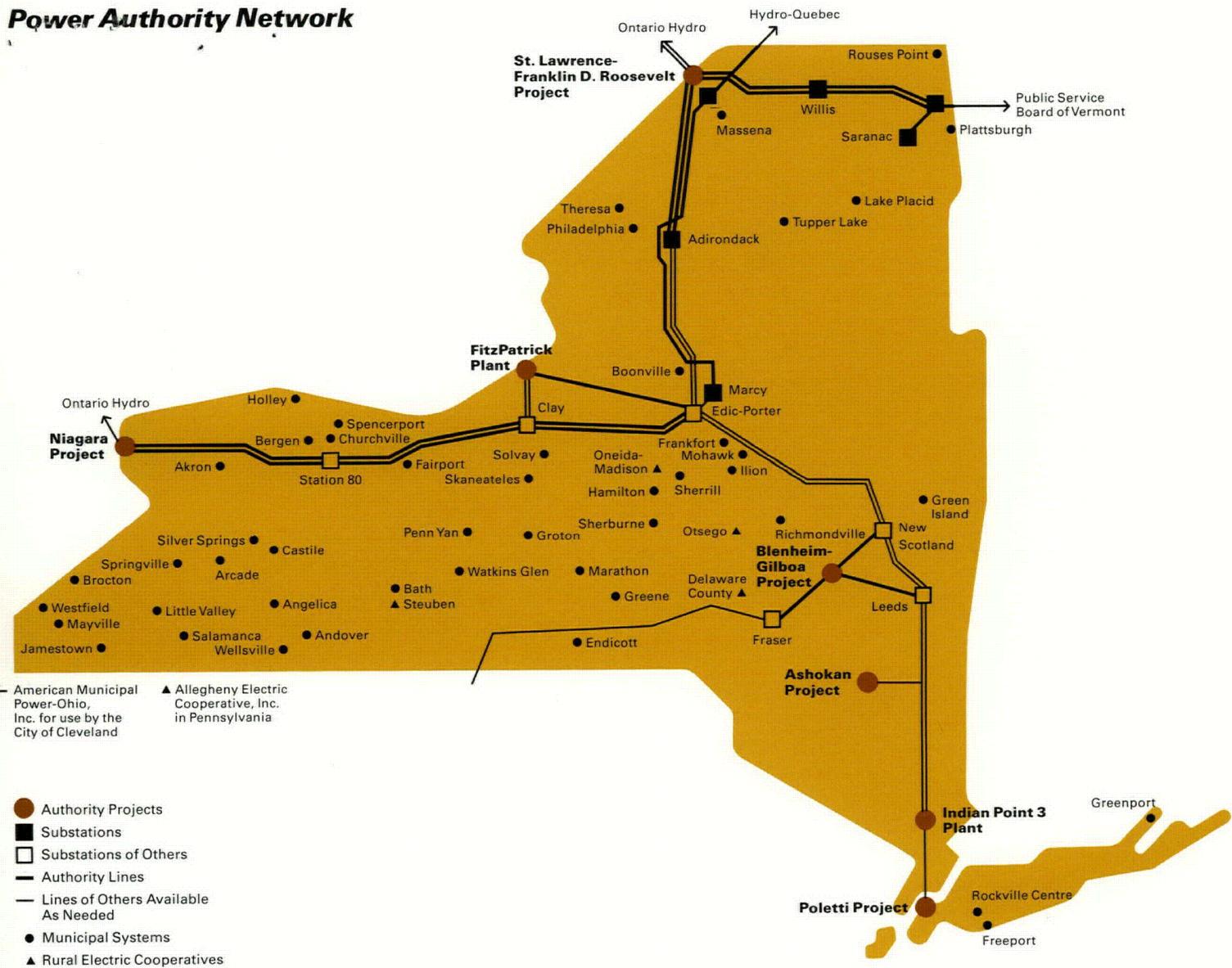
- Village of Ardsley
- Bedford Central School District
- Village of Briarcliff Manor
- Briarcliff Manor Union Free School District
- Village of Bronxville
- Village of Buchanan
- Byram Hills Central School District
- Chappaqua Central School District
- Town of Cortlandt
- Croton Harmon Union Free School District
- Village of Croton-on-Hudson
- Village of Dobbs Ferry

- Town of Eastchester
- Eastchester Union Free School District
- Village of Elmsford
- Town of Greenburgh
- Greenburgh Housing Authority
- Town of Harrison
- Village of Hastings-on-Hudson
- Hendrick Hudson School District
- Village of Irvington
- Lakeland Central School District
- Village of Larchmont
- Town of Mamaroneck
- Village of Mamaroneck
- Mamaroneck Union Free School District
- Metropolitan Transportation Authority
- Montrose Improvement District
- Village of Mount Kisco
- Town of Mount Pleasant
- Mount Pleasant Central School District
- City of Mount Vernon
- Mount Vernon City School District
- Town of New Castle
- City of New Rochelle
- New Rochelle Municipal Housing Authority
- City of New York
- New York City Housing Authority
- Office of General Services, New York State
- Town of North Castle
- Village of North Tarrytown
- North Tarrytown Housing Authority
- Town of Ossining
- Village of Ossining
- Ossining Union Free School District

- City of Peekskill
- Village of Pelham
- Village of Pelham Manor
- Pelham Union Free School District
- Village of Pleasantville
- Pleasantville Union Free School District
- Port Authority of New York and New Jersey
- Village of Port Chester
- Port Chester Housing Authority
- Port Chester-Rye Union Free School District
- City of Rye
- Town of Rye
- Rye Neck Union Free School District
- Village of Scarsdale
- Scarsdale Union Free School District
- Village of Tarrytown
- Union Free School of the Tarrytowns
- Thornwood Water District
- Village of Tuckahoe
- Tuckahoe Housing Authority
- Tuckahoe Union Free School District
- Valhalla Union Free School District
- Westchester County
- Westchester Joint Water Works
- Westchester, Southern Board of Cooperative Educational Services
- City of White Plains
- White Plains City School District
- White Plains Housing Authority
- City of Yonkers
- Yonkers Housing Authority
- Town of Yorktown
- Consolidated Edison Company of New York, Inc.

In addition, the Power Authority supplies other members of the New York Power Pool with firm and non-firm energy imported from Hydro-Quebec.

# Power Authority Network



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1982 was a year of stability in the Authority's finances. The retirement of all outstanding General Revenue Bonds in November 1981 allowed the Authority to report as a single entity with simplified financial statements. The Authority's financial statements for 1982 are presented in accordance with generally accepted accounting principles, a recognized target for governmental bodies.

The Series M bonds sold late in 1981 provided sufficient funds for the 1982 construction of the Improvement Projects at the Indian Point 3 and James A. FitzPatrick nuclear power plants and the Ashokan and Kensico hydroelectric power projects. As other projects did not require significant expenditures, no new bonds were issued in 1982.

On August 13, 1982, the Authority issued \$37,500,000 of Variable Rate Demand Notes as part of the continuing effort to improve the flexibility, and reduce the cost, of its short-term financing for fuel and construction. On December 31, 1982, there was a total of \$127,500,000 of short-term obligations outstanding under various financings. This reflects a reduction in short-term debt of \$12,500,000 during 1982.

Revenues totaled \$1,258,808,000 in 1982, a new high for the Authority. Of these revenues, \$938,172,000 were allocated for operating expenses and fuel and \$3,368,000 for Projects' Study. Interest of \$211,700,000 was paid from the Bond Service Account. Also, \$42,742,000 was paid to retire \$60,645,000 principal amount of bonds and \$31,137,000 was deposited in the Bond Reserve Account to meet bond resolution requirements. During the year \$79,500,000 was deposited into the General Reserve Account.

In order to meet the requirements of the Resolution, to provide for increases in operating and maintenance costs, and to maintain adequate reserves, the Authority approved certain rate increases in 1982. The revised rates for the Charles Poletti and Indian Point 3 plants, effective December 2, 1982, are expected to provide increased revenues of approximately \$25,100,000 in 1983. In addition, an energy adjustment factor is applied each month to reflect variations in the actual cost of fuel and purchased power.

Projections of revenues and expenses at the FitzPatrick plant and the Blenheim-Gilboa pumped storage facility indicated that an increase in rates over those established in 1982 was not immediately required. A study to recommend the rates for power and energy for the Authority's Niagara and St. Lawrence-Franklin D. Roosevelt projects is expected to be completed in the spring of 1983.

## Financial Statements

### Balance Sheet December 31, 1982

(in thousands)

#### Assets

Utility Plant (Note C-2):		
Electric plant in service	\$2,961,410	
Less accumulated depreciation (Note C-3)	(628,220)	
	2,333,190	
Construction work in progress	220,642	
Nuclear fuel less accumulated amortization of \$91,857 (Note C-4)	265,791	
Net Utility Plant	2,819,623	
Funds Held by Bond Trustee:		
Cash (including time deposits)	\$ 53,680	
Investment in U.S. Government securities, at cost (Note C-9)	391,757	445,437
Construction Funds:		
Cash (including time deposits)	10,622	
Investment in U.S. Government securities, at cost (Note C-9)	153,211	
Interest receivable on investments	4,220	168,053
Current Assets:		
Cash (including time deposits)	24,551	
Investment in U.S. Government securities, at cost (Note C-9)	155,959	
Interest receivable on investments	27,397	
Receivables—customers	74,782	
Materials and supplies, at average cost:		
Plant and general	29,459	
Fuel	26,959	
Prepayments and other	3,661	342,768
Deferred Charges and Other Assets:		
Preliminary investigations	33,224	
Unamortized debt expense (Note C-6)	22,187	
Other	9,937	65,348
Total Assets		\$3,841,229

#### Liabilities and Capital

Long-term debt (Note E)		\$2,409,212
Accumulated net revenues		1,034,741
		3,443,953
Current Liabilities:		
Notes payable (Note G)	\$127,500	
Accounts payable and accrued liabilities	114,076	
Customer advance billings, net	46,502	
Provision for refund of revenues (Note H)	42,400	330,478
Deferred credits and other long-term liabilities		66,798
Commitments and contingencies (Note J)		
Total Liabilities and Capital		\$3,841,229

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

**Statement of  
Net Revenues  
Year Ended  
December 31, 1982**  
(in thousands)

<b>Operating Revenues:</b>	
Power sales	\$ 940,377
Transmission charges	42,640
Wheeling charges	158,774
Total Operating Revenues	<u>1,141,791</u>
<b>Operating Expenses:</b>	
Operations	158,977
Nuclear fuel	37,248
Fuel oil and gas	185,903
Purchased power—Hydro-Quebec	226,755
—Others	16,491
Maintenance	79,230
Wheeling	158,774
Depreciation	71,137
Total Operating Expenses	<u>934,515</u>
<b>Net Operating Revenues</b>	<u>207,276</u>
<b>Other Income:</b>	
Interest	85,065
Other	1,017
Total Other Income	<u>86,082</u>
<b>Other Deductions:</b>	
Interest on long-term debt	209,705
Interest—other	12,028
Interest capitalized	(35,707)
Amortization of debt discount and expense	1,870
Total Other Deductions	<u>187,896</u>
<b>Revenues, net before bond retirements at less than principal amount</b>	105,462
Bond retirements at less than principal amount (Note F)	12,612
<b>Net Revenues</b>	<u>\$ 118,074</u>

**Statement of  
Accumulated Net  
Revenues  
Year Ended  
December 31, 1982**  
(in thousands)

Accumulated net revenues at December 31, 1981, as adjusted (Note B)	\$ 935,667
Prior period adjustment—provision for refund of revenues (Note H)	(19,000)
Accumulated net revenues at December 31, 1981, as restated	<u>916,667</u>
Net revenues	118,074
<b>Accumulated net revenues at December 31, 1982</b>	<u>\$1,034,741</u>

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

**Statement of  
Changes in  
Financial Position  
Year Ended  
December 31, 1982**  
(in thousands)

**Funds provided by:**

Net revenues	\$118,074
Items not affecting funds:	
Provision for depreciation	71,137
Amortization of nuclear fuel	23,840
Provision for spent nuclear fuel and decommissioning	18,645
Bond retirements at less than principal amount	(12,612)
Amortization of debt discount and expense	1,870
	<u>220,954</u>
Decrease in construction funds	75,176
Total funds provided	<u>296,130</u>

**Funds applied to:**

Additions to—Utility plant	95,554
—Nuclear fuel	33,381
Retirement of bonds	33,848
Preliminary investigations	4,652
Increase in funds held by Bond Trustee	61,467
Increase (decrease) in working capital (excluding cash and investments) and other:	
Interest receivable on investments	\$ 9,477
Receivables—customers	8,598
Materials and supplies	942
Notes payable	12,500
Accounts payable and accrued liabilities	42,374
Customer advance billings	(23,320)
Provision for refund of revenues	(23,400)
Other—net	(4,102)
	<u>23,069</u>
	<u>251,971</u>

**Increase in cash and investments**

**Cash and investments, January 1, 1982**

**Cash and investments, December 31, 1982**

44,159

136,351

\$180,510

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

**Summary of Funds  
(cash basis)  
Year Ended  
December 31, 1982**  
(in thousands)

	<b>Revenue</b>	<b>Operating</b>
<b>Available Funds, January 1, 1982</b>	\$ —0—	\$136,454
<b>Cash Receipts:</b>		
Sale of power, transmission and wheeling	1,189,130	
Earnings on investments	69,678	
Electric plant additions (prior years) reimbursed from other funds		60,925
Administrative expenses reimbursed from other funds		5,401
Other		
<b>Total Receipts</b>	<u>1,258,808</u>	<u>66,326</u>
<b>Total Available</b>	1,258,808	202,780
Transfer of funds—Revenue	(1,258,808)	706,802
Other		
	<u>\$ —0—</u>	<u>909,582</u>
<b>Cash Disbursements:</b>		
Interest on bonds and notes		14,575
Retirement of term bonds (\$60,645 principal amount)		
Payment of notes		
Electric plant additions		42,995
Nuclear fuel		
Fuel oil and gas		
Operations and maintenance		258,520
Purchased power—Hydro-Quebec		232,516
—Others		22,305
Wheeling charges		153,905
Administrative expenses chargeable to other funds		259
Preliminary investigations		
Administrative expenses reimbursed to operating fund		
Costs transferred to utility plant		9,393
<b>Total Disbursements</b>		<u>734,468</u>
<b>Available Funds, December 31, 1982</b>		<u>\$175,114</u>
Distributed as follows:		
Cash (including time deposits)		\$ 20,188
Investment in U.S. Government securities		154,762
Accrued interest purchased		164
		<u>\$175,114</u>

\*Funds held by Bond Trustee

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

**General\***

<b>uel Reserve Account</b>	<b>Projects' Study</b>	<b>Temporary Interest</b>	<b>Bond Service</b>	<b>Bond Reserve</b>	<b>General Reserve</b>
\$ 30	\$ 51	\$2,329	\$ 4,122	\$280,453	\$ 97,066
	156				
				23	
	156			23	
30	207	2,329	4,122	280,476	97,066
231,370	3,368		206,631	31,137	79,500
			947		
<u>231,400</u>	<u>3,575</u>	<u>2,329</u>	<u>211,700</u>	<u>311,613</u>	<u>176,566</u>
		2,329	211,700		
31,250				42,742	
19,239					
180,814					
	7,241				
	264				
	(9,393)				
<u>231,303</u>	<u>(1,888)</u>	<u>2,329</u>	<u>211,700</u>	<u>42,742</u>	
<u>\$ 97</u>	<u>\$5,463</u>	<u>\$-0-</u>	<u>\$ -0-</u>	<u>\$268,871</u>	<u>\$176,566</u>
\$ 97	\$4,266			\$ 16,425	\$ 37,255
	1,197			252,446	139,311
<u>\$ 97</u>	<u>\$5,463</u>			<u>\$268,871</u>	<u>\$176,566</u>

continued

**Summary of Funds  
(cash basis)  
(continued)  
Year Ended  
December 31, 1982**  
(in thousands)

	<b>C.M. Poletti</b>	<b>Indian Point 3</b>
<b>Available Funds, January 1, 1982</b>	\$19,461	\$10,052
<b>Cash Receipts:</b>		
Earnings on investments	2,259	1,233
Sale of notes		
Electric plant additions (prior years) reimbursed from other funds		10,240
Other		
<b>Total Receipts</b>	<u>2,259</u>	<u>11,473</u>
<b>Total Available</b>	21,720	21,525
Transfer of funds—Other		
	<u>21,720</u>	<u>21,525</u>
<b>Cash Disbursements:</b>		
Interest on notes		
Electric plant additions	2,869	11,831
Electric plant additions (prior years) reimbursed to other funds		
Administrative expenses reimbursed to operating fund	77	1,700
<b>Total Disbursements</b>	<u>2,946</u>	<u>13,531</u>
<b>Available Funds, December 31, 1982</b>	<u>\$18,774</u>	<u>\$ 7,994</u>
Distributed as follows:		
Cash (including time deposits)	\$ 2,162	\$ 200
Investment in U.S. Government securities	16,612	7,794
	<u>\$18,774</u>	<u>\$ 7,994</u>

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

**Construction**

<b>Classena- Arcy Line</b>	<b>J. A. FitzPatrick Blenheim- Gilboa</b>	<b>Kensico</b>	<b>Ashokan</b>	<b>Arthur Kill</b>	<b>J. A. FitzPatrick Project Improvement Fund No. 1</b>	<b>Indian Point 3 Project Improvement Fund No. 1</b>	<b>Total</b>
\$ 1,795	\$1,042	\$4,771	\$ 9,556	\$4,332	\$ 94,694	\$ 94,943	\$240,646
224	282	610	994	1,502 18,750	5,834	8,413	21,351 18,750
8,819	4,652						23,711
58		63	138				259
9,101	4,934	673	1,132	20,252	5,834	8,413	64,071
10,896	5,976	5,444	10,688	24,584	100,528	103,356	304,717
		(242)	(705)				(947)
10,896	5,976	5,202	9,983	24,584	100,528	103,356	303,770
				1,174			1,174
1,529		2,271	6,135	12,440	2,104	9,811	48,990
		126			58,068	26,442	84,636
1,414		139		875	502	430	5,137
2,943		2,536	6,135	14,489	60,674	36,683	139,937
\$ 7,953	\$5,976	\$2,666	\$ 3,848	\$10,095	\$ 39,854	\$ 66,673	\$163,833
\$ 114	\$ 114	\$ 269	\$ 354	\$ 2,054	\$ 52	\$ 5,303	\$ 10,622
7,839	5,862	2,397	3,494	8,041	39,802	61,370	153,211
\$ 7,953	\$5,976	\$2,666	\$ 3,848	\$10,095	\$ 39,854	\$ 66,673	\$163,833

**Notes to  
Financial Statements**

**Note A-General**

The Power Authority of the State of New York is a corporate municipal instrumentality and political subdivision of the State of New York created by the Legislature of the State by Chapter 772 of the Laws of 1931, as last amended by Chapter 705

of the laws of 1982.

Properties and income of the Authority are exempt from taxation. However, the Authority is authorized by Chapter 908 of the Laws of 1972 to enter into agreements to make payments in lieu of taxes with respect to property acquired for any project where

such payments are based solely on the value of the real property without regard to any improvement thereon by the Authority and where no bonds to pay any costs of such project were issued prior to January 1, 1972.

**Note B-Adjustments to Conform with Generally Accepted Accounting Principles**

Effective January 1, 1982 the Authority's financial statements were modified to conform fully with generally accepted accounting principles. Prior to 1982, the financial statements of the Authority were prepared on the basis of the provisions of the

Authority's General Purpose Bond Resolution (the Resolution) and the former 1954 and 1970 bond resolutions. The Resolution provides that available revenues are allocated for debt service and bond retirement and the cost of ordinary replacements is treated as an operating expense in lieu of provisions for depreciation, amortization or similar charges that would

otherwise be applicable under generally accepted accounting principles.

The Accounts which reflected the Authority's accumulated net revenues, based on provisions of the bond resolutions, as of December 31, 1981 and the adjustments required for conforming with generally accepted accounting principles at that date are as follows:

		<b>Accumulated net revenues</b>	
		(in thousands):	
Bonds retired			\$1,141,715
Revenues allocated to:			
Bond service	\$ 21,560		
Bond reserve	82,318		
General reserve	97,066		
Additions to electric plant	158,095		
Projects' Study	2,850		
Fuel reserve	88,613		
Reserve for spent nuclear fuel disposal and decommissioning	35,286		
Working capital and operating reserves	81,759	567,547	
Bond proceeds used to provide interest and fuel			(211,820)
Balance at December 31, 1981, before adjustments			1,497,442
Adjustments required for conformity with generally accepted accounting principles:			
Recording of accumulated depreciation at December 31, 1981	(558,398)		
Transfer from Electric Plant of costs incurred for a project terminated in 1979	(186,494)		
Advance bond refunding—credit recorded in 1980 as a deferred credit	208,873		
Recording of accumulated amortization of debt discount and expense (Debt discount and expense of \$60,275 was transferred from Electric Plant to Deferred Charges)	(29,966)		
Transfer of interest income on construction funds after date of completion of a project, previously credited to Electric Plant	38,712		
Bond retirements at less than principal amount recorded on trade date basis, previously recorded at settlement date	5,292		
Capitalization of replacements to Electric Plant previously expensed	2,774		
Transfer to long-term liabilities of reserve for spent nuclear fuel disposal and decommissioning	(35,286)		
Transfer to deferred credits of accelerated portion of revenue requirements applicable to a transmission line	(7,282)	(561,775)	
Accumulated net revenues at December 31, 1981, as adjusted			<u>\$ 935,667</u>

**Note C—Accounting Policies**

(1) Accounts of the Authority are maintained in accordance with the Uniform System of Accounts prescribed by the Federal Energy Regulatory Commission.

(2) Utility Plant is stated at original cost and consists primarily of amounts expended to license, construct, acquire, complete and place in operation the projects of the Authority. Such expenditures include: labor, materials, services, other indirect costs and interest on bonds and notes (net of interest income on unexpended funds), reduced by revenues received for power produced (net of expenditures incurred in operating the projects) prior to the date of completion. The costs of current repairs are charged to operating expense and renewals and betterments are capitalized. The cost of utility plant retired and the cost of removal less salvage (exclusive of nuclear plant decommissioning costs) are charged to accumulated depreciation.

(3) Depreciation is provided on a straight-line basis over the estimated useful lives of the various classes of plant, as determined by independent engineers. The depreciation provision expressed as a percent of

average depreciable Electric Plant approximated 2.43% on an annual basis.

(4) The amortization of nuclear fuel is provided on a unit of production basis. Amortization rates are determined and periodically revised to amortize the cost of nuclear fuel over its estimated useful life. The Authority anticipates that future costs of reprocessing or disposal of spent nuclear fuel and of decommissioning its nuclear plant facilities will be met from provisions included in operating expenses and from funds expected to be available in accounts established under the Resolution by the end of the useful lives of its nuclear plants.

(5) Costs incurred by the Projects' Study fund for preliminary investigations of a project are transferred to utility plant upon the specification of a project under the Resolution.

(6) Unamortized debt discount and expense are amortized over the lives of the related debt issues on a straight-line basis.

(7) In accordance with the Resolution, all revenues, as defined, are required to be paid into the revenue fund upon completion, or the latest estimated date of completion, of each project, whichever is earlier.

(8) Funds required for all bond service payments due under the Resolution are payable on July 1 and January 1 and are made available to the Bond Trustee on the immediately preceding June 30 and December 31, by which dates such amounts

are segregated for that purpose. Accordingly, at December 31, 1982 no liability is reflected in the accompanying financial statements for January 1, 1983 bond service payments of \$104,031,000.

(9) At December 31, 1982, the aggregate cost of all investments in U.S. Government securities approximated market value based upon published bid prices.

(10) Employees of the Authority are members of the New York State Employees' Retirement System (System). For personnel who became members of the System prior to July 1, 1976, the Authority contributes the entire amount determined by the System to be payable. Personnel who became members of the System on or after July 1, 1976 deposit three percent of gross salary, and the Authority contributes the balance payable to the System for these employees. Pension costs for the year ended December 31, 1982 of \$8,877,000 are based on billings received from the System. The Authority's employees are also covered by the Federal

Insurance Contributions Act (Social Security).

(11) Sales and purchases of power between the Authority's generating facilities are eliminated from revenues and operating expenses.

(12) Customers' meters are read and bills are rendered on a monthly cycle basis. Purchased power and fuel costs above base-rate levels are recovered under an energy adjustment clause from customers served by the C.M. Poletti and Indian Point 3 plants. Interest costs incurred on obligations issued to purchase fuel are included as a fuel cost.

**Note D-General Purpose Bond Resolution**

The Authority adopted the General Purpose Bond Resolution on November 26, 1974 to finance all projects other than those projects financed under two former bond resolutions. Projects are defined in the Resolution as any project of the Authority directly or indirectly related to power generation or transmission, whether owned jointly or singly by the Authority, including any output in which the Authority has an interest, authorized by the Power Authority Act and specified in a supplemental resolution

adopted at the time a series of bonds is authorized. Before bonds are issued for any new project, a prescribed earnings test must be met, based on estimated revenues and operating expenses certified by an independent engineer. The Resolution also established a Projects' Study fund to finance preliminary efforts of the Authority to determine appropriate methods to fulfill its purposes under the Power Authority Act.

The Authority has covenanted with bondholders that at all times, rates and charges will be sufficient, together with other moneys available therefor, to meet the financial requirements of the Resolution. All revenues from any project of the Authority after its completion (after deductions for operating expenses including necessary working capital reserves and for Projects' Study) are applied first to the payment of bond service (interest only to December 31, 1984; thereafter interest and principal installments due on outstanding bonds); then a sum equal to fifteen percent of each year's bond service is set aside in a bond reserve account; and any remaining revenues are deposited in a general reserve account. Amounts in the bond reserve account will be applied by the Bond Trustee monthly to meet any deficiency in the bond service account and may be paid to the Authority for emergency repairs or replacements. The Twelfth Supplemental Resolution adopted in 1981 amended the Resolution by providing that

amounts in the general reserve account not needed to meet any deficiency in the bond service or bond reserve accounts shall be deposited in a subaccount to meet the costs of major repairs and replacements, renewals, additions, betterments, improvements and extensions with respect to the Authority's projects and shall be maintained in such subaccount in amounts necessary or desirable, as determined by the Authority, to keep the projects in good operating condition, to meet regulatory requirements, to expand project capacity or to provide facilities for the transportation of project power and energy to their markets. Amounts in the general reserve account not required for the foregoing purposes shall, at the Authority's direction, be paid to it for any lawful corporate purpose.

A total of \$2,515,775,000 principal amount of bonds has been issued under the Resolution, of which \$2,415,465,000 remains payable at December 31, 1982.

### Note E—Long-Term Debt

A summary of General Purpose Bonds payable at December 31, 1982 follows:

	Amount	Maturity January 1	Interest Rate(a)	Earliest Redemption Date Prior to Maturity(b)
Series A				1/1/85
Term Bonds	\$ 113,360,000	2010	7.875%	
Serial Bonds	25,000,000	1987 to 1995	6.50% to 7.30%	
Series B				6/1/85
Term Bonds	98,425,000	2010	8.125%	
Serial Bonds	40,000,000	1987 to 1997	6.90% to 7.90%	
Series C				1/1/86
Term Bonds	581,485,000	2001	9.50%	
Series E				10/1/86
Term Bonds	120,950,000	2010	7.25%	
Serial Bonds	20,000,000	1987 to 1994	6.00% to 6.90%	
Series F				2/1/87
Term Bonds	155,410,000	2010	6.625%	
Serial Bonds	25,000,000	1987 to 1993	5.40% to 6.10%	
Series G				1/1/88
Term Bonds	42,200,000	1999	6.40%	
Term Bonds	228,210,000	2012	6.75%	
Serial Bonds	65,200,000	1987 to 1995	5.50% to 6.20%	
Series H				1/1/89
Term Bonds	120,450,000	2009	8.00%	
Serial Bonds	26,000,000	1987 to 1999	6.80% to 7.75%	
Series J				1/1/91
Term Bonds	115,000,000	2000	9.60%	
Term Bonds	70,000,000	2006	9.75%	
Term Bonds	60,000,000	2010	8.00%	
Term Bonds	198,775,000	2020	9.875%	
Serial Bonds	60,000,000	1986 to 1995	7.20% to 9.00%	
Series M				1/1/92
Term Bonds	35,000,000	1999	11.75%	
Term Bonds	60,000,000	2004	12.00%	
Term Bonds	100,000,000	2009	12.125%	
Term Bonds	32,500,000	2010	9.00%	
Serial bonds	22,500,000	1987 to 1995	8.875% to 10.875%	
	<u>2,415,465,000</u>			
Less: Unamortized discount	<u>6,253,000</u>			
Total	<u>\$2,409,212,000</u>			

a) Interest is payable semi-annually on January 1 and July 1.

b) The Bonds are subject to redemption prior to maturity in whole or in part in inverse order of maturities (except that amounts available in the bond reserve account for the Series J Bonds will be applied first in equal amounts to purchase or redeem Series J Term Bonds maturing January 1, 2000, January 1, 2006 and January 1,

2020 and amounts available in the bond reserve account for the Series M Bonds will be applied pro rata to purchase or redeem Series M Term Bonds maturing January 1, 1999, January 1, 2004 and January 1, 2009), beginning for each series of bonds on the date indicated at principal amount or at various redemption prices according to the date of redemption and the amount redeemed together with accrued

interest to the redemption date. Annual maturities within the next five calendar years are as follows: 1985, \$6,000,000; 1986, \$60,470,000 and 1987, \$63,850,000.

None of the Bonds of Series D, I, K and L has been or will be issued by the Authority.

**Note F—Bond Retirements at Less than Principal Amount**

Under the Authority's Resolution amounts in the bond reserve account in excess of the bond reserve requirement (see Note D) may be used to retire bonds. Any excess of principal amount over the cost of bonds retired is used for additional bond retirements. The Authority periodically purchases such bonds when available at a favorable price and, accordingly, during the year ended December 31, 1982, the Authority purchased \$46,460,000 principal amount of bonds at a cost of \$33,848,000.

**Note G—Notes Payable**

As of December 31, 1982, the Authority had outstanding short-term notes as follows:

Master note arrangements	\$ 90,000,000 <sup>(1)</sup>
Variable rate demand notes	37,500,000 <sup>(2)</sup>
Bank revolving credit agreement	— <sup>(3)</sup>
Total notes payable	<u>\$127,500,000</u>

(1) Notes issued under master note arrangements (subject to extension in November, 1983) with two banks payable within one month from the date of issuance or on prior demand. The proceeds of the notes may be used to finance the costs of fuel, including the repayments of obligations issued to pay the costs of such fuel, and/or costs of construction of any project designated pursuant to the Resolution. Interest is computed at a specified fraction of the 91-day United States Treasury bill rate, converted to an annual yield, on

a weekly basis, applied to the daily principal amount outstanding.

(2) Variable rate demand notes issued on August 13, 1982, pursuant to a Note Resolution adopted on July 27, 1982, to purchase fuel, including the repayment of obligations issued to pay the costs of such fuel. These demand notes mature on August 13, 1983 with interest payable on February 13, 1983 and at maturity. Interest is computed at a specified fraction of the 91-day U.S. Treasury bill rate, converted to an annual yield, on a weekly basis.

(3) Under a 1981 revolving credit agreement, as amended, with a bank, the Authority may borrow up to \$127,500,000 for the purposes of paying the costs of fuel, including the repayment of obligations issued to pay the costs of such fuel and/or costs of construction of any project designated pursuant to the Resolution. The agreement (which expires in December, 1983 and which is subject to annual extension) provides for interest on outstanding notes (none outstanding as of December 31, 1982) at a specified fraction of the prime rate in effect from time to time and for a fee on the unused portion of the commitment.

**Note H—Provision for Refund of Revenues**

On October 13, 1982, the Federal Energy Regulatory Commission issued a declaratory opinion and order which in part provided for a refund with interest by the Authority of amounts paid by its municipal and rural electric cooperative wholesale customers for power and energy sold to them at rates in excess of the rates at which the Authority sells them hydroelectric power, and which provided further for the Authority to begin to bill such customers at its hydroelectric rates for all power currently sold to them. Pursuant to the order, such refund and revised billing is to be implemented within 60 days after the date the opinion and order become final and non-reviewable. Subsequently the Commission, on petition of the Authority and other parties to the proceeding, issued an order on November 30, 1982 granting rehearing of its opinion for the purpose of further consideration.

Since the latter part of 1979 the Authority has been selling power to supplement the requirements of these "preference" customers from its James A. FitzPatrick Nuclear Plant at rates higher than the Authority's hydroelectric power rates, and the refund was ordered on the basis of a finding by the Commission that the Authority was obliged under the Niagara Redevelopment Act to provide hydroelectric power to preference customers in an aggregate amount up to 50% of Niagara Power Project capacity. The Authority and other parties to the proceeding intend to seek judicial review of the Commission opinion and order if they are confirmed upon rehearing. As a result of the Commission decision, as of December 31, 1982 provision has

been recorded for estimated refunds aggregating \$42,400,000 including \$19,000,000 applicable to periods prior to 1982.

In its order the Commission directed the Authority and other interested parties to negotiate reformation of existing contracts concluded in 1961 with three investor owned utilities to permit the reallocation to preference customers of hydroelectric power sold under these contracts to the utilities. This portion of the order has been stayed by the Commission pending further consideration. If the Commission opinion and order are confirmed upon reconsideration, and pending contract reformation, to the extent additional power from the FitzPatrick plant continues to be sold to preference customers for the period after December 31, 1982 to meet requirements which the Commission has determined should be met with hydroelectric power, the amount of the refunds which the Authority may be required to make will increase.

#### **Note I—Advance Bond Refunding**

In September, 1980, the Authority sold \$505,775,000 principal amount of General Purpose Bonds, Series J, to refund the \$734,000,000 principal amount of bonds (1970 bonds) outstanding under the former 1970 Resolution in order to defease the lien of such resolution. Funds were deposited with an Escrow Agent and were invested in direct obligations of the United States of America, the maturing principal of and interest on which will be sufficient to pay when due principal, interest and sinking fund

installments on the 1970 bonds. As a result of the refunding, the 1970 bonds were deemed paid pursuant to the 1970 Resolution and ceased to be a liability of the Authority. Accordingly, the refunded 1970 bonds are excluded from the balance sheet. The resulting Advance Bond Refunding—Credit of \$208,873,000, which represents primarily the difference between the principal amounts of the refunded 1970 bonds and the Series J Bonds, has no effect on the Authority's continuing revenue requirements and has been transferred to accumulated net revenues as of December 31, 1981 (see Note B).

#### **Note J—Commitments and Contingencies**

Estimated costs to be incurred on outstanding contracts in connection with the Authority's construction programs aggregated approximately \$179,000,000 at December 31, 1982.

In addition to the proceeding referred to in Note H, there are pending before Federal and State courts and Federal and State agencies actions and proceedings involving several of the Authority's planned projects or existing projects or revenues therefrom. While the ultimate outcome of these matters is not

presently determinable, the Authority's General Counsel believes that the Authority has meritorious positions with respect to these matters. However, the effect of these matters has delayed and may impede the Authority's construction and operations of such projects or planned projects and require the Authority to incur substantial additional costs or reduction in revenues.

The Indian Point 3 nuclear facility was taken out of service on March 25, 1982, two days before a scheduled refueling and maintenance outage, due to a steam generator leak. The Authority has discovered certain pitting and denting of the steam generator tubes and other defects in the steam generator shells and is implementing appropriate remedial measures. The Authority expects the facility to resume operation in May 1983, subject to Nuclear Regulatory Commission approval.

Under regulations established by the Nuclear Regulatory Commission, each licensee of a nuclear plant must provide a guarantee that assures, following a nuclear incident in the United States, that it can pay retrospective premiums up to a maximum of \$10,000,000 in each calendar year for each large power reactor it operates. The Authority has submitted to the Commission such guarantees for both its FitzPatrick and Indian Point 3 nuclear plants.

Power Authority of the State of New York  
New York, New York

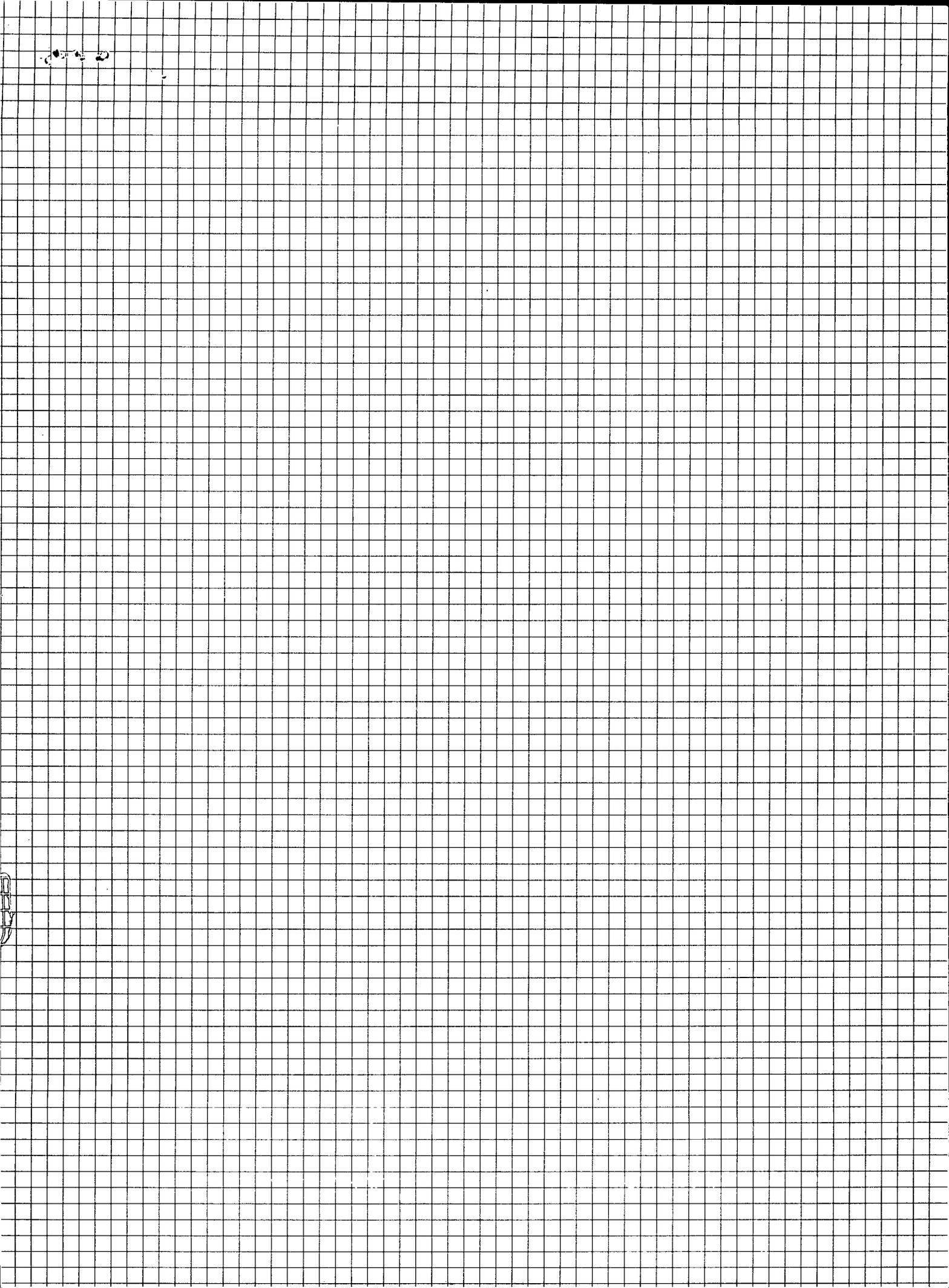
We have examined the balance sheet of the Power Authority of the State of New York as of December 31, 1982, and the statements of net revenues, accumulated net revenues and changes in financial position for the year then ended. Our examination was made in accordance with generally accepted auditing standards and, accordingly, included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

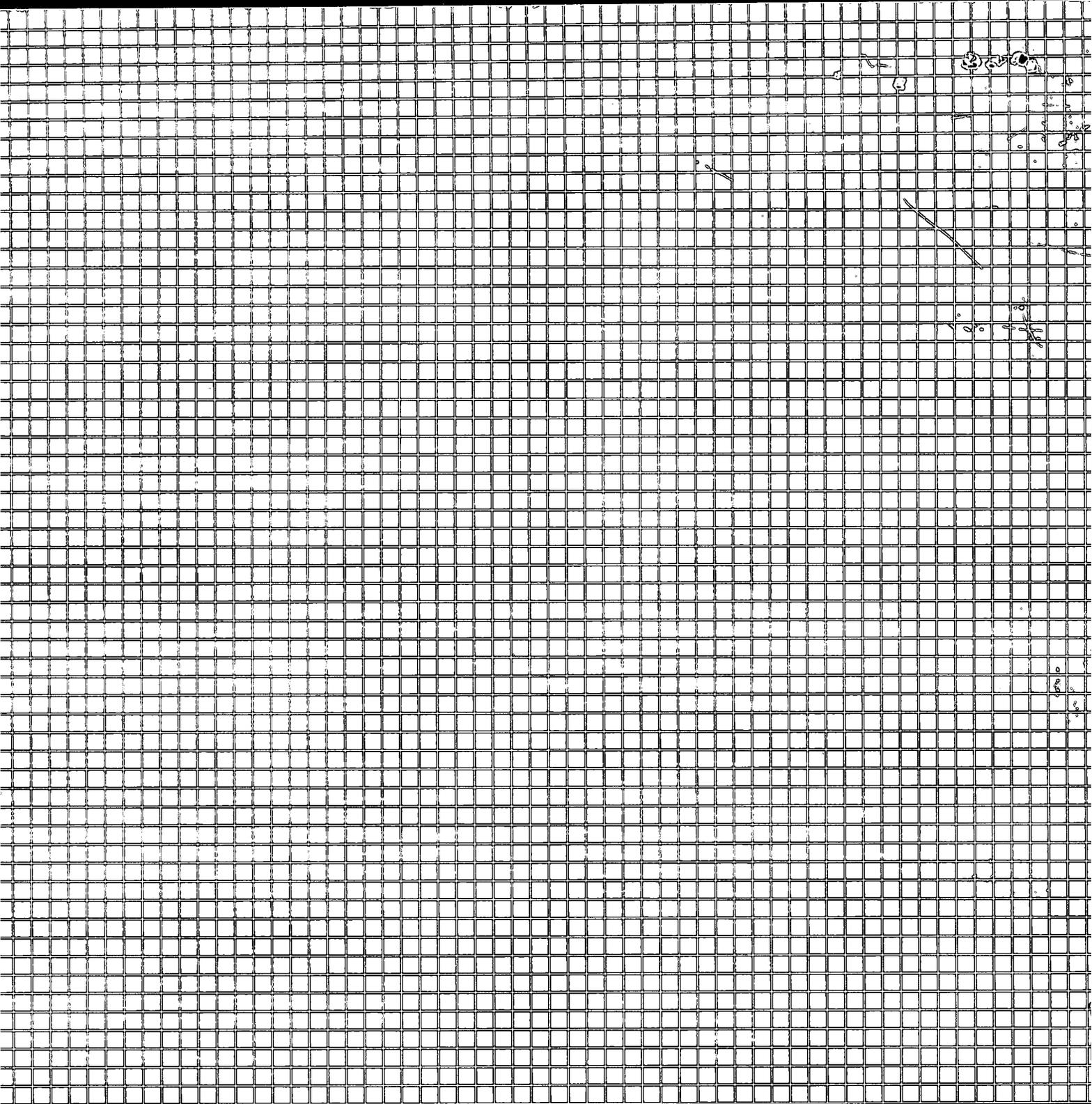
In our opinion, the financial statements referred to above present fairly the financial position of the Power Authority of the State of New York at December 31, 1982, and the results of its operations and the changes in its financial position for the year then ended, in conformity with generally accepted accounting principles applied on a basis consistent with that of the preceding year after giving retroactive effect to the changes, with which we concur, that result from conforming with generally accepted accounting principles as described in Note B.

Our examination was made for the purpose of forming an opinion on the basic financial statements taken as a whole. The Summary of Funds (cash basis) is presented for purposes of additional analysis and is not a required part of the basic financial statements. Such information has been subjected to the auditing procedures applied in the examination of the basic financial statements and, in our opinion, is fairly stated in all material respects in relation to the basic financial statements taken as a whole.

*Coopers & Lybrand*

New York, New York  
February 9, 1983.





**New York Power  
Authority  
10 Columbus Circle  
New York, N.Y. 10019**

