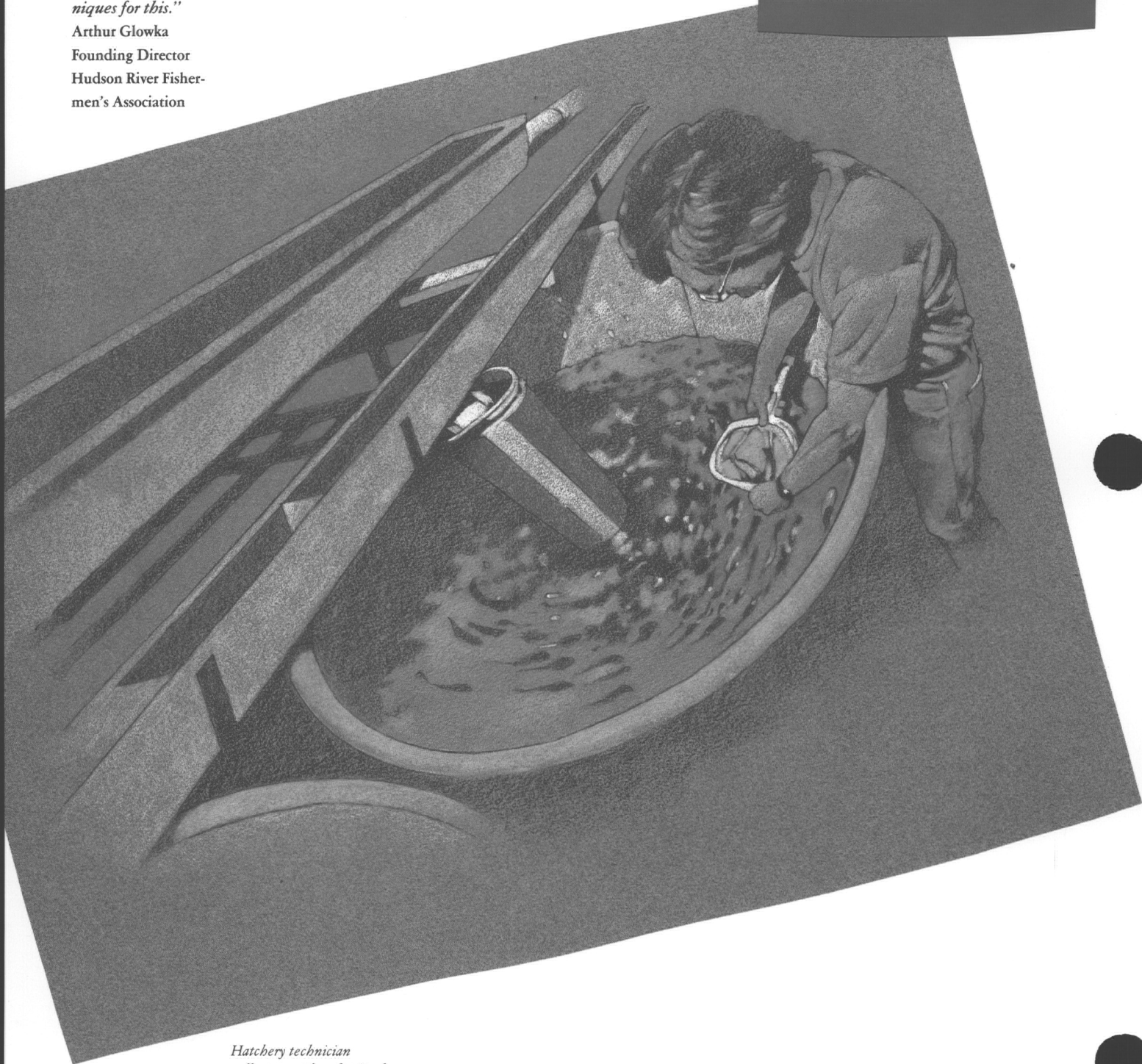


"The hatchery is one of the best-engineered facilities I've ever seen. It's also immaculate and well laid out. And the lab is a wonder of fish pathology. Among the successes? Learning how to tag small fish. The hatchery people have perfected the techniques for this."

Arthur Glowka
Founding Director
Hudson River Fishermen's Association

Hatchery Adds Striped Bass To Hudson River



Hatchery technician collects samples of striped bass from rearing tank.

either the Lower or Upper Reservoir, the latter on top of Brown Mountain. Fish, such as walleyes, from Schoharie Creek stray into the Lower Reservoir too. Some take an "elevator ride" up the penstocks and populate the Upper Reservoir as well. To feed the wildlings, Blenheim-Gilboa maintains four constant-level ponds to breed nest-making sunfish and smallmouth bass.

Since 1977 Blenheim-Gilboa has stocked its reservoirs with 73,000 juvenile trout, mainly rainbow.

Every April a 10-wheel truck brimming with 7,000 of these trout pulls up to the Lower Reservoir's boat launch. Workers dip-net the living cargo into the water. One stocking day, though, a spring storm raged into the Catskills, heaving its snow into 18-inch drifts. The truck stalled 100 feet from the reservoir. Blenheim-Gilboa called for help. Within half an hour, 20 people with buckets—local merchants, sports club members, project and park employees—showed up. Knee-deep in snow, the swirling flakes stinging their cheeks, these volunteers slogged nine-inch trout from truck to pond. The Power Authority and its fish can always count on their friends.

Below the Catskills on the east bank of the Hudson, the Power Authority and four private utilities manage the nation's largest indoor hatchery for striped bass. They are replacing stripers lost on water-intake screens at Indian Point 3 in Buchanan and at three other generating plants on the river.

As a result of a pact with regulatory agencies and environmental groups, the five power producers have spent about \$5.8 million since 1983 to assemble and operate this hatchery in Verplanck, south of Buchanan.

Set in a brown aluminum building among medieval-looking concrete silos at an abandoned limestone quarry, the facility has reared almost 1.4 million fish.

Striped Bass Prospering

The Hudson's bass population is rallying. These game fish benefit from a ban on commercial striped fishing (a response to PCBs, or polychlorinated biphenyls, contamination), restrictions on sport fishing, pollution control—and the hatchery's work.

Stripers rank among the most finicky commercial fish to raise in captivity. As Bruce Friedmann, the hatchery's manager, puts it, "They don't seem to like anything but being wild and free."

These fish even resent being touched. And if a hatchery worker were accidentally to bump the side of one of the 84 rearing tanks, some of the bass might leap right out of their

fiberglass tub. Or, worse, they might start circling so fast that they would use up the dissolved oxygen in the 450 gallons of water—and die.

Like any aquacultured fish, stripers are subject to disease. An infection can flash through a population like a head cold through a kindergarten.

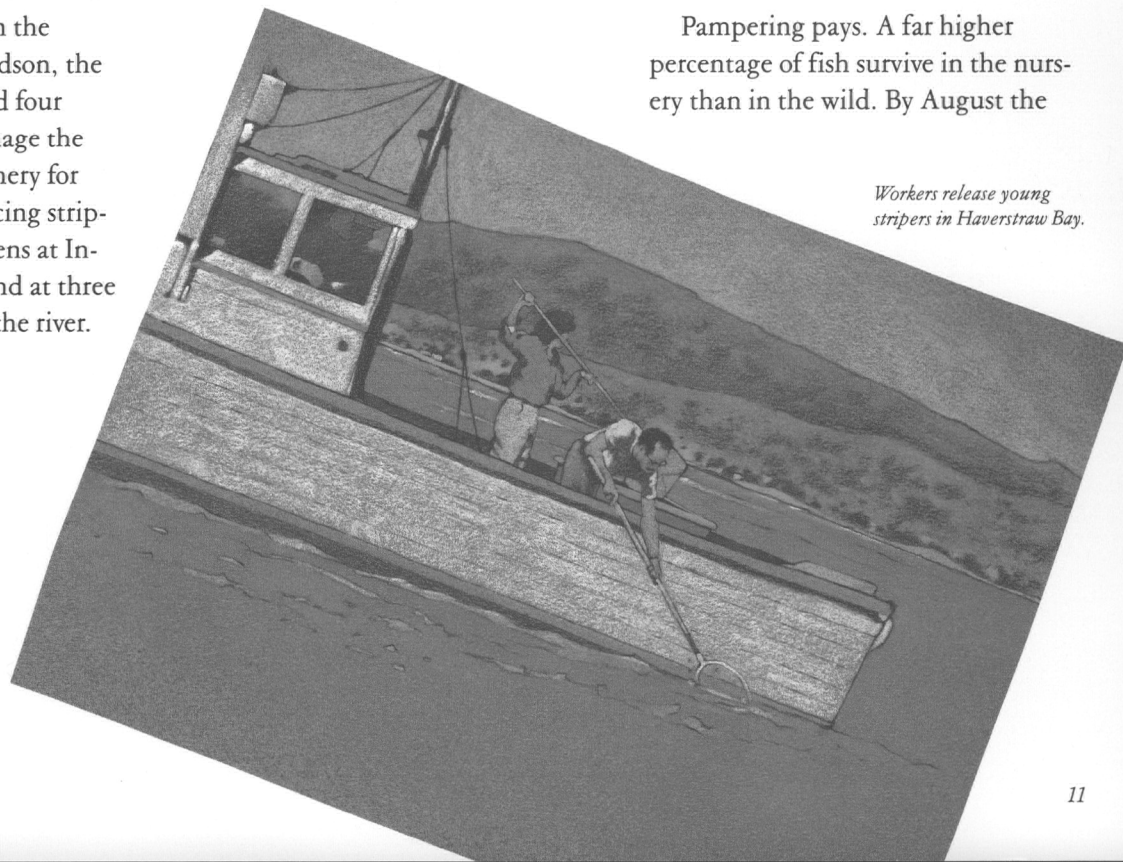
Bass appetites border on the gargantuan. To prevent stripers from gobbling up one another, every three hours workers feed newborns just-hatched brine shrimp shipped as eggs from Great Salt Lake, Utah. After a month, they switch the fish to a dry, granular salmon feed, dispensed every 15 minutes.

Saving Fish From Themselves

To further reduce cannibalism, technicians re-sort tub occupants by size once a week. "If they didn't, the big fish would eat the little fish," says Dr. Dennis Dunning, the Power Authority's administrator, aquatic programs and permits. "In short order, a tank of 7,000 fish could drop to 700."

Attendants also run the hatchery's fluorescent lights 16 hours a day to match the rhythm of summer sunlight filtering into the Hudson's underwater world.

Pampering pays. A far higher percentage of fish survive in the nursery than in the wild. By August the



Workers release young stripers in Haverstraw Bay.

bass have grown to three inches and weigh two tenths of an ounce each. Their backs have turned an olive-green, their sides silver with seven or eight dark horizontal stripes, and their bellies a milky white. These fingerlings are ready for the Big Time, Haverstraw Bay.

Technicians insert a thin magnetized wire into the cheek of each graduate. Later, when researchers retrieve fish samples from the Hudson, portable detectors will tell them which bass have come from the hatchery. This and other follow-up work costs the Power Authority and the four other utilities another \$350,000 a year.

The newly wired stripers are slipped into blue hauling tubs and loaded aboard a 37-foot trawler. The

white vessel ferries the bass southward, past the Palisades ridge.

During the three-mile trip, an attendant releases oxygen from a green cylinder into the tub water. Although slightly anesthetized, the tiny fish still gulp oxygen. They flinch at the throb of the diesel engine, the jounce of the craft on the washboard Hudson.

Nosing into Haverstraw Bay, home for many wild fingerlings, the boat cruises to within 100 feet of shore. The moment the stripers are released, they make for the safety of the grassy shallows, the river's submarine pasture.

During lifetimes of perhaps 20 years, they range out of the river, north to Nova Scotia, south to the Carolinas. Along the way they haunt shipwrecks and rock crevices. Stripers can grow to 100 pounds or more, gorging on every victual, shad to crab. Eventually they return to the Hudson estuary to spawn.

The Power Authority also plans to install new screens at the cooling-water intake of Indian Point 3 on the Hudson.

By 1991 these \$17.9 million protective barriers will be turning like eight vertical conveyor belts.

Any fish impinged on these screens will be guided into a water trough for channeling back to the river.

At present the Power Authority is testing sonar transducers, underwater noisemakers, to shoo fish from the intake. If the trials succeed, it will consider installing these deterrents at Indian Point 3.

In addition, the Power Authority and the four private utilities have paid \$12 million to endow the Hudson River Foundation for Science and Environmental Research. This organization works to advance the understanding and preservation of the Hudson River Valley ecosystem.

When the Power Authority laid out Marcy-South, its latest transmission line, it took the guardianship of the Hudson a step further. To avoid posting a red-and-white tower the height of a 40-story building on the river's west bank at Newburgh—and to avert licensing delays—it ran the cable underwater to cross the Hudson. This proved more costly than an overhead line but helped to preserve the waterway's splendor.

Making Way for Sturgeon

The Power Authority also sought to conserve the Hudson's aquatic life. Racing against a regulatory clock, it finished laying pipe-type cable in the riverbed just 15 minutes before the December 1, 1986, deadline. Later, many of the shortnose sturgeon, an endangered species in New York, would concentrate in this part of the channel before heading upriver to spawn. A female sturgeon, whose ancestors date back 200 million years, lays her eggs only about five times in her 40 years of life.

The nontoxic material, dredged from the underwater cable trench, rode barges 26 miles up the Hudson to an abandoned clay pit in Ulster, near Kingston. The Laurentide ice sheet, which once saddled most of the state, deposited the gray clay here in a glacial lake. The Power Authority bought the impermeable 60-acre pit, site of an old brickyard, and its 30-acre neighbor, which borders the Hudson. It cleared and clovered the riverside land, until then a litter of brickbats (flawed bricks) and rotting



Eastern globe-flowers.

*Safeguarding Nature
Along Energy Highways*

Pleasure boats and Marcy-South's underwater cable share the Hudson.



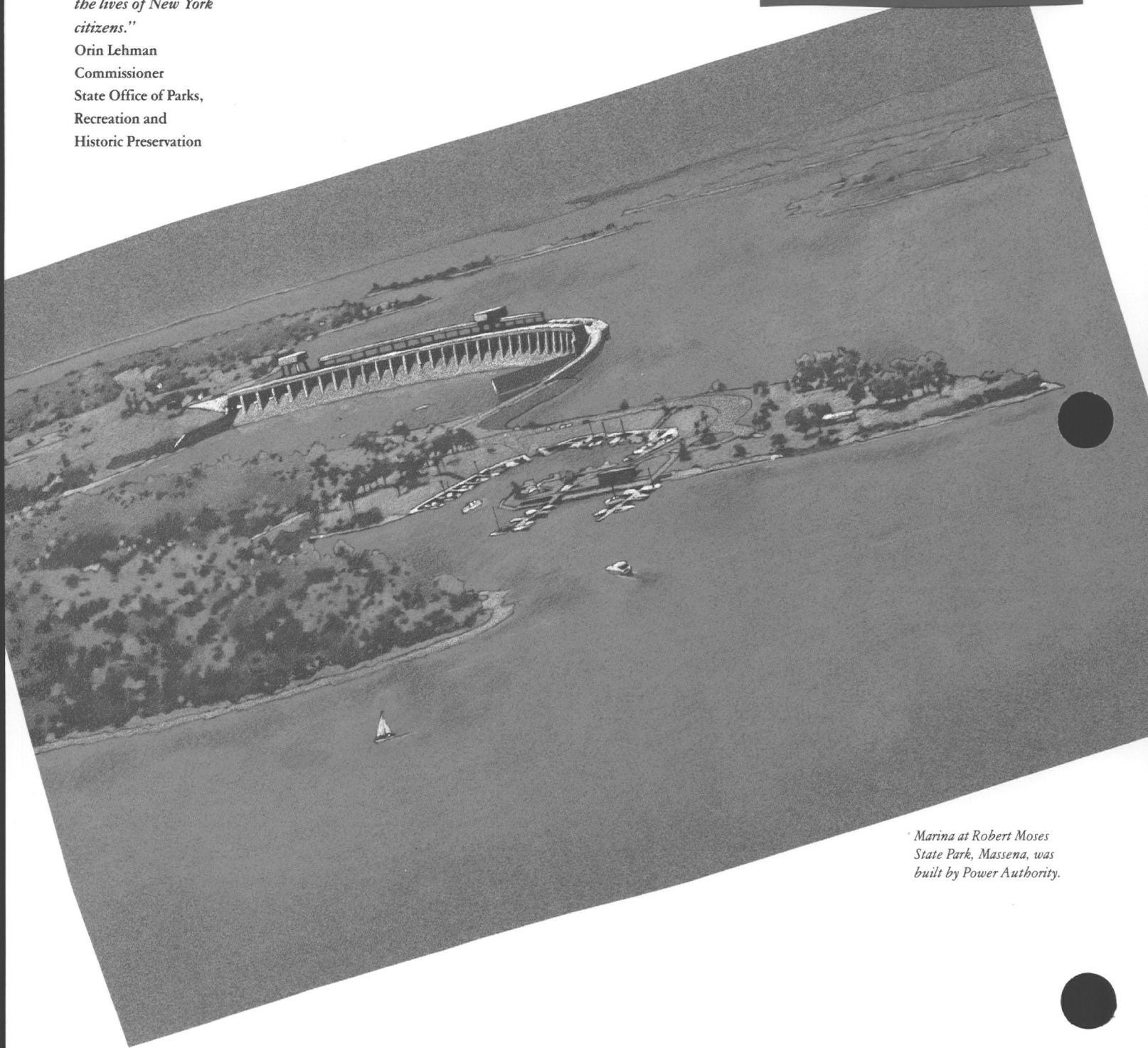
*Divers will check cable
under Long Island Sound.*

"Anytime people eliminate a species from an ecosystem, they change the whole community structure. The Power Authority showed care with the eastern globe-flower. This rare subspecies is almost exclusive to New York. Preserving diversity is important to the gene pool too. I think the Power Authority has done a good job protecting plants along Marcy-South."
Dr. Richard Mitchell
State Botanist

*"The Power Authority
has time and again
proved to be a valued
partner in our endeavors
to provide out-
standing recreational
opportunities. We at
New York State Parks
applaud the Power
Authority for its contri-
butions to our parks
and its efforts to better
the lives of New York
citizens."*

Orin Lehman
Commissioner
State Office of Parks,
Recreation and
Historic Preservation

*St. Lawrence-FDR, Niagara
Support Recreation*



** Marina at Robert Moses
State Park, Massena, was
built by Power Authority.*

sheds. It also planted red oaks and sugar maples and laid down a concrete boat ramp that would withstand Hudson tides and ice. It deeded everything to Ulster. The shoreline tract, now Charles Rider Park, "gives everybody a front porch on the majestic Hudson," says Charles Rider, Ulster's former town supervisor.

Northwest of Ulster, Marcy-South planners came upon a calcareous wetland in Columbia, near Utica. Rare plants often grow in this lime soil. The planners summoned Dr. Richard Mitchell, the state botanist. In the deepest hollows, in the blackest muds, he found colonies of eastern globe-flowers. These plants are on the rare list of New York's protected flora. Tucked against gravel knolls flung down by braided glacial streams about 10,000 years ago, their buttercup blooms glowed like suns in the dappled shade of 100-year-old white cedars.

Tower Site Moved From Wetland

The Power Authority relocated a proposed tower site from the wetland to an abandoned pasture and used a helicopter to fly the conductor, tower to tower, overhead.

The environmental know-how gained from Marcy-South's aquatic challenges will serve the Power Authority when it starts building the Sound Cable to bring more electricity to Long Island. The Westchester-to-Nassau line will cross 7.9 miles of Long Island Sound.

A ship will snake a flexible self-contained cable away from the Sands Point salt marsh

on Nassau's coast, a domain of northern diamondback terrapins. About the size of one's hand, these amphibians were once sacrificed to soup—and headed for extinction. They are now a species of special concern in New York.

Sledding Under the Sound

For most of the Sound traverse, a pontooned sled with a hose will move along the estuary's floor. An arm on the sled will lift the cable. The hose will jet water through its nozzles to fluidize the underlying sediment, much of it glacial drift deposited in a glacial lake that occupied the Sound 16,000 years ago. The cable will sink under its own weight into a 5- to 10-foot-deep bed.

In another conservation move, the Power Authority will limit its Sound work to fall and winter. At that time, aquatic creatures are less active, and most of the 21,800 pleasure boats are docked.

To spare stream life, the Power Authority will hoist buried pipe-type cable, used for the land route, above ground to follow the bridges that span

the Bronx and Hutchinson Rivers in Westchester. In crossing over the Bronx River, for instance, the cable will not disturb the European bitterling, an exotic minnow "liberated" into this waterway by aquarium hobbyists. Unlike most fish, female bitterlings lay their eggs in the gill folds of freshwater mussels.

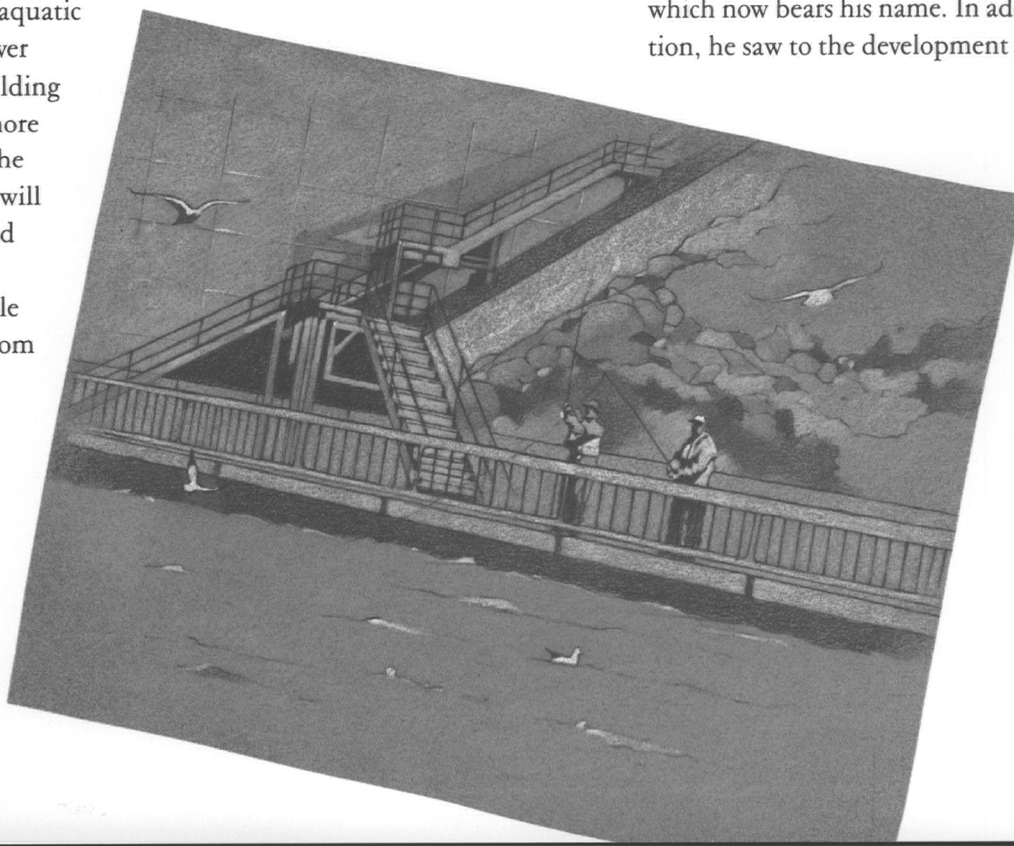
In addition, the Power Authority will dedicate \$1.2 million to community grants, and to projects that benefit the Sound environment.

In the beginning, master builder Robert Moses fought to create the Power Authority's first hydroelectric projects, St. Lawrence-FDR in Massena and Niagara at Lewiston.

A public servant who understood public interest, he accepted the Power Authority chairmanship in 1954. That year he declared: "We intend to build a reputation for character in the St. Lawrence Valley...[The new] state park, including...Barnhart Island, will be one of the great park and conservation areas..."

Mr. Moses tornadoed through red tape and vying interests to construct St. Lawrence-FDR in record time. He also mapped out a 2,300-acre park, which now bears his name. In addition, he saw to the development of

Niagara fishing platform, ready in 1989.



the 3,000-acre Wilson Hill State Wildlife Management Area nearby.

"Back then, many viewed marshland like Wilson Hill's as wasteland, not as an important habitat," says Robert Graves, the Power Authority's director of real estate. "But Mr. Moses grasped its environmental value." Marshes act as brood chambers for aquatic life. In addition, they cushion the wallop of floods and clear pollutants from water.

Under the Moses aegis, the Power Authority also established 1,800-acre Coles Creek State Park on the St. Lawrence River. It went on to finance waterfront facilities for four communities, built on soils deposited in ancient glacial lakes.

Improved Wetland Is Planned

Now the Power Authority is designing an eight-acre emergent marsh, the highest-quality wetland, in the North Country. Many of the aquatic plants will emerge above the water line. The marsh will replace six acres of adjacent wooded swamp needed for enlarging the Plattsburgh substation in Beekmantown. At the direction of the State Department of Environmental Conservation, the Power Authority will immerse the new eight acres in varying water depths for various types of aquatic life. It will plant arrowheads, for instance, which sprout potato-like tubers the size of hen's eggs underground. Canvasbacks and wood ducks, among other waterfowl, eat the small tubers, and muskrats retrieve the big ones for their winter larder.

Pondweeds will be set in deep water. Their seeds, foliage, roots and tubers will provide a substantial part of the diet for more than 20 species of waterfowl, such as goldeneyes, and

marsh birds, such as Virginia rails.

Waterfowl will also benefit from islands the Power Authority will sculpt in the marsh. "Canada geese prefer to nest on islands," explains Alan Milton, a Power Authority senior environmental scientist. "The surrounding water discourages predators like foxes from making a meal of the geese's eggs and young."

550 Acres for Parks

When Mr. Moses captained the construction of Niagara, he also charted 350 acres for new parks and 200 more acres for existing parks.

Still committed to public access, the Power Authority is building a \$1.3 million fishing platform on the south side of Niagara's Robert Moses plant. In addition, it plans a boat launch at the southwestern end of Lewiston Reservoir. An artificial reef, to be set on the bottom of the flat and featureless 1,900-acre reservoir, will provide orientation and cover for some of the reservoir's 28 kinds of fish, including yellow perch and smallmouth bass.

As part of an international treaty to keep Niagara Falls scenic, the Power Authority and Ontario Hydro limit their Niagara River use. They guarantee that 750,000 gallons a second will cascade over the Falls during the tourist season's daylight hours. At least 375,000 gallons a second tumble over the cataract the rest of the time. The Laurentide ice cap set the Niagara River, which feeds the two power projects, on its present path.

The Power Authority exerts environmental care too as it enlarges two smaller hydros, Vischer Ferry and Crescent, on the Mohawk. The organization is seeking ways to divert juvenile blueback herring from the power plants when the fish migrate down the Mohawk each fall. The very presence of the herring is a man-made irony. Historically barred by the Mohawk's 86-foot-high Cohoes Falls from moving up the river from the

Hudson, these fish found a gateway when the state opened the Erie Canal, in 1825. The herring are a major food for walleyes and other sport fish.

Pursuing its good neighbor policy, the Power Authority has installed a boat launch near Vischer Ferry. It will clear part of the Erie Canal towpath, also near Vischer Ferry, and provide access for shoreline fishing.

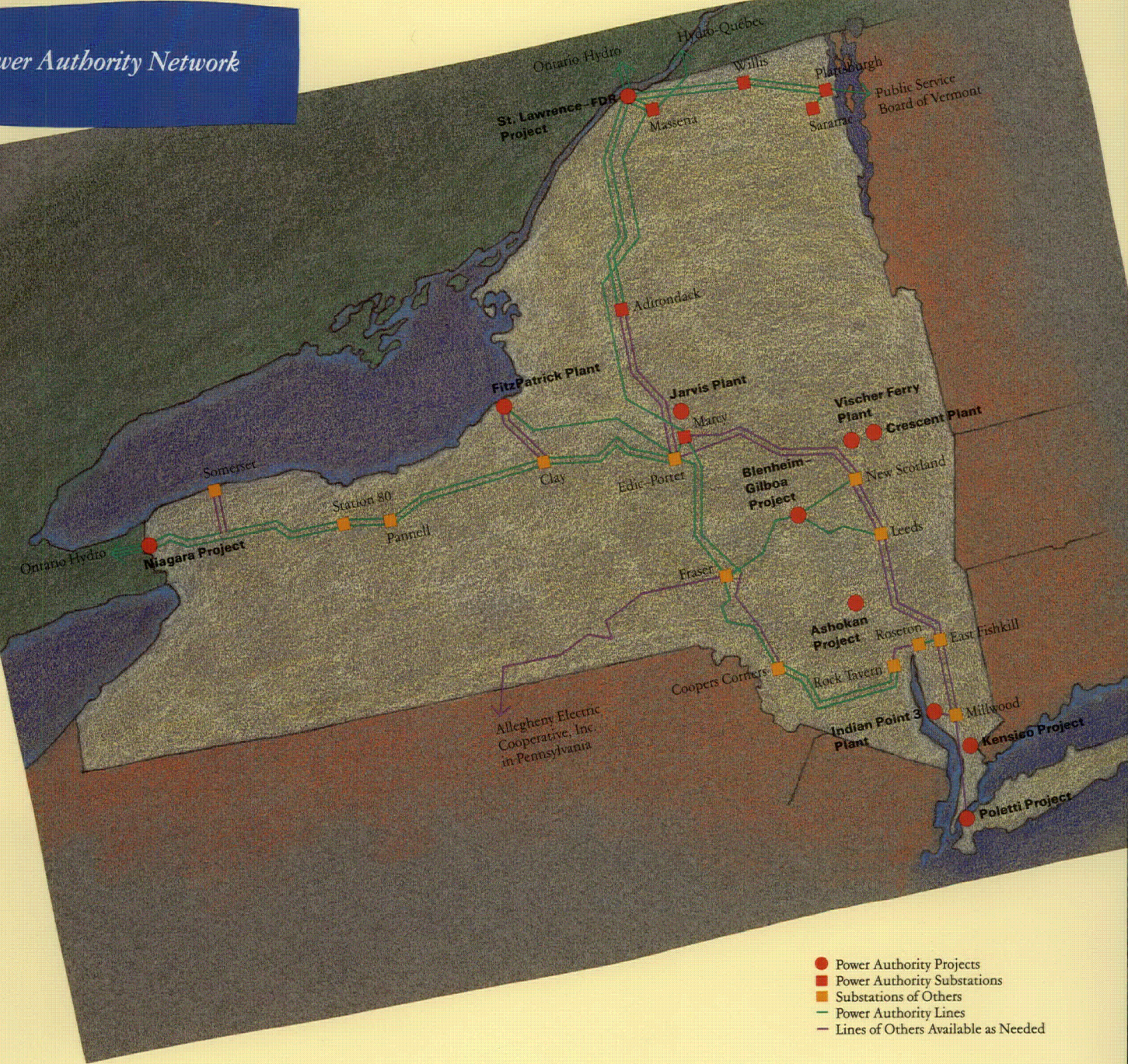
To the north, it has built a boat launch on Hinckley Reservoir at its Jarvis hydro plant and funded an engineering study for a boat launch for the Town of Scriba on Lake Ontario, a quarter mile from the FitzPatrick nuclear plant.

Ashokan Gains a Fountain

Finally, when the Power Authority opened a hydroelectric station at Ashokan, a New York City reservoir, at Olive in the Catskills in 1982, it unveiled what is now the state's highest fountain. The center plume riots 70 feet into the air.

Ralph and Wendy Rosenkranz of Kingston are among the many couples who chose the \$1 million fountain as the backdrop for their weddings. "This was the perfect romantic spot for our ceremony," Mrs. Rosenkranz says. "It was July 18, 1987, and the weather was in the 90s, a scorcher; our guests were melting. But as we said our vows, a breeze blew a shower of fountain water on us all. That made the day." Robert Moses, who presided over the 1964 New York World's Fair and its Lunar, Astral and dozens more fountains, would have liked that.

Power Authority Network



Highlights of the Year

The Power Authority took significant steps in 1988 to provide for the present and future needs of New York's electricity consumers and to encourage economic growth and development. New agreements and projects have statewide benefits.

Marcy-South

The Marcy-South transmission line was completed and energized. This 207-mile \$670 million reinforcement of the state's transmission grid opens a new path for economical power to reach areas where it is needed most.

Long Island Sound Cable

The State Public Service Commission approved the Long Island Sound Cable Project, a 26.3-mile underground and underwater link between Westchester County and Long Island.

The Sound Cable will carry about 600,000 kilowatts (kw) of less-expensive electricity from Canada and upstate. This will nearly double Long Island's transmission ties to neighboring systems and reduce the Island's heavy reliance on electricity produced by burning oil.

Construction is scheduled to begin in 1989, with completion expected in late 1991.

Niagara Project Expansion

Planning continued for the \$570 million expansion of the Niagara Power Project, targeted to begin in 1991. The work will add 330,000 kw to the facility's peak capacity. Over an eight-year period, the expansion will employ an average of 115 people, with a peak work force of 410.

1988 Generation

In 1988 the Power Authority remained New York State's largest supplier of electricity.

Electricity produced by the Power Authority or purchased from Canada provided about 28 percent of the state's total needs.

Overall production, however, declined from 1987 due to the sharply reduced flows of the Niagara and St. Lawrence Rivers. The Power Authority supplied about 39.6 billion kilowatt-hours (kwh) of electricity.

Hydropower accounted for about 63 percent of the Power Authority's energy supply mix. About 21.2 billion kwh were generated at Power Authority baseload hydro facilities. The Blenheim-Gilboa Pumped Storage Power Project produced 1.2 billion kwh at times of peak consumer demand. An additional 4.5 billion kwh were purchased from Hydro-Québec.

Workers "top off" the 1,532nd and final Marcy-South transmission line tower near Livingston Manor on March 10. The line was fully energized May 21.



Nuclear power constituted 28 percent of the total supply. The FitzPatrick and Indian Point 3 plants produced a combined 11 billion kwh. Indian Point 3 set a statewide nuclear-plant production record in 1988, generating more than 6.7 billion kwh.

The Charles Poletti Power Project, which burns oil and natural gas, provided 2.7 billion kwh, or seven percent of the total supply mix.

Landmark Agreements

The Power Authority also dealt with electricity allocations in 1988. The organization reached agreement with Hydro-Québec to purchase one million kilowatts of firm, year-round hydropower for use in southeastern New York beginning in 1995.

Almost 700,000 kw of peak-use power from Blenheim-Gilboa and the planned Niagara expansion were also earmarked for downstate use.

Upstate areas kept their hydropower allocations, totaling 960,000 kw. Of that amount, 600,000 kw will come from the Niagara and St. Lawrence-DR projects and 360,000 kw of peak-use power from Niagara. The statewide allocation package will save New York State residents an estimated \$3 billion in electricity costs.

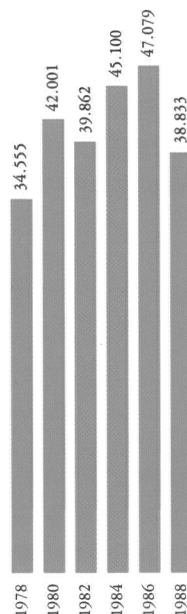
Power for Jobs

Statewide, about 100,000 jobs are protected by hydroelectric and nuclear electricity produced by the Power Authority and provided to industry either directly or through municipal electric systems, municipal distribution agencies or private utilities.

In 1988 the Power Authority intensified its Power for Jobs effort. In doing so, a number of long-standing power allocation issues were settled.

Western New York-Agreement was reached to continue the sale of up to 250,000 kw of low-cost Niagara expansion power for use by Western New York industries in return for agree-

Electric energy sales
Billions of kwh



ments to maintain thousands of jobs.

Industries in Niagara, Erie and Chautauqua Counties that received expansion power allocations in 1988 included Moog Inc.; Injected Rubber Products Corp.; Dunlop Tire Corp.; Carleton Technologies Inc.; American Precision Industries Inc., and Motorola, Inc.

Meanwhile, some 2,500 Western New York jobs were protected at Occidental Chemical Corp., Union Carbide Corp. and Nabisco Brands, Inc. under an agreement that largely settled litigation over another block of Niagara power, known as replacement power. For the first time, some of these jobs will be corporate positions at locations other than those directly using the electricity in question.

Expanded FitzPatrick Allocations—In 1987 the State Legislature acted to make the output of the Power Authority's FitzPatrick nuclear plant available to smaller companies



New York Governor Mario Cuomo and Québec Premier Robert Bourassa sign landmark Power Authority-Hydro-Québec power contract in New York City on January 15. Richard Flynn, Power Authority chairman, is standing at left.

throughout the state.

To implement this program, it created the New York State Economic Development Power Allocation Board (EDPAB) to receive, evaluate and recommend applications for FitzPatrick economic development power.

The board looks at a company's expansion plans, the number of jobs a firm plans to create and its increased electric demand. Recommendations are subject to Power Authority approval.

Companies approved for allocations of FitzPatrick power in 1988 under EDPAB and other programs include Remee Products Corp. in Orange County; H.M. Quackenbush, Inc., Herkimer; Precision Valve Corp., Yonkers, and Owens-Corning Fiberglas Corp. near Albany. Final action was also pending on a FitzPatrick power allocation to Chase Manhattan Bank in New York City. Power Authority electricity will help protect several thousand jobs that Chase had considered moving to New Jersey.

More Upstate Hydro Savings

Several upstate municipal distribution agencies (MDAs) began receiving shares of 134,000 kw of hydropower. This power was originally set aside for upstate agencies in 1985, but agency use of this electricity was delayed because of the absence of delivery agreements with local private utilities.

Power began flowing to Erie County residents served by New York State Electric & Gas on September 1. By late October, the Niagara Mohawk portion of Erie County as well as MDAs in Buffalo, Syracuse and Orleans County began sharing this electricity.

Service to the St. Lawrence County MDA also began in September. Power Authority trustees approved a 1,000-kw allocation to the agency for use by ACPC Inc. This move is expected to increase employment to about 100 in the former Alcoa cable mill in Massena.

A \$1 million Power Authority economic development loan fund for the Massena area, established in 1987, continued to help build jobs in 1988. Norfolk Paper Co. and Jack Sauve Inc. joined Michele Audio as beneficiaries of the fund. Combined, the three companies are creating almost 100 jobs.

New Downstate Tax Savings

An agreement with Con Edison for the Power Authority to meet the full electricity needs of governmental agencies in New York City and Westchester County will mean major savings for taxpayers and mass transit riders.

The Power Authority serves more than 80 governmental users in southeastern New York, principally from its Indian Point 3 and Poletti facilities.

However, the growing needs of these agencies have outstripped available capacity at the two plants.

The agreement will enable the Power Authority to serve these users (such as subway and commuter trains, streetlighting, public housing, hospitals, museums and governmental buildings) with power from additional sources.

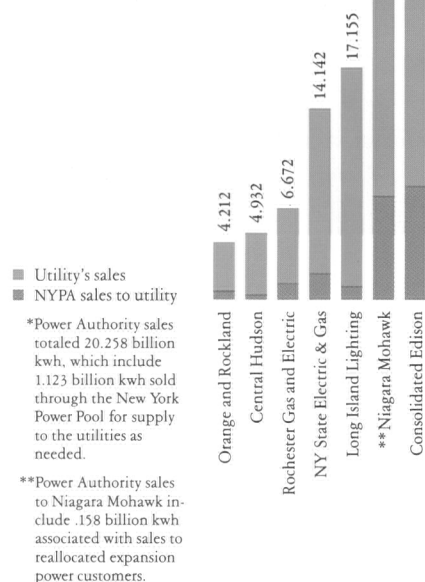
The agreement essentially creates a public power "franchise" within Con Edison's territory.

Shoreham

The Power Authority figured prominently in discussions concerning the future of the Shoreham nuclear power plant on Long Island.

A proposed agreement between New York State and the Long Island Lighting Company, the plant's owner,

1988 electric sales to New York State private utilities in relation to each utility's total sales*
Billions of kwh



called for the Power Authority to build up to five power plants on Long Island and provide technical guidance for decommissioning Shoreham.

The State Legislature, however, had not acted on the deal by year's end.

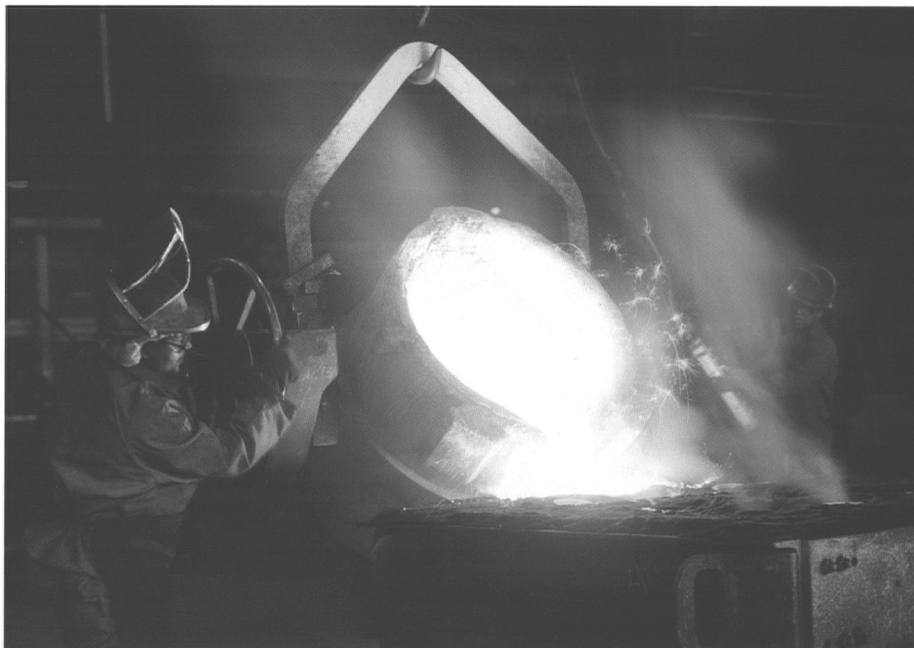
Other Developments

The Power Authority qualified for membership in the National Academy for Nuclear Training. Training programs at Indian Point 3 and Fitz-Patrick met or exceeded the academy's rigid standards. New training facilities were also opened at both plants in 1988.

The Power Authority is taking measures to return surplus St. Lawrence-FDR project land to productive use and the tax rolls.

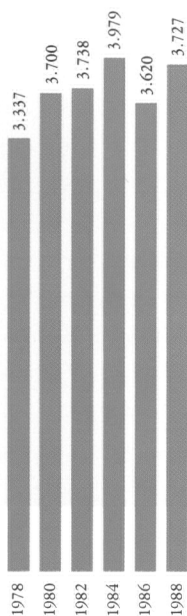
The Power Authority will request development proposals for four parcels totaling 260 acres in the towns of Louisville and Massena. A fifth parcel of about 80 acres in Massena has been set aside for possible construction of a freshwater aquarium.

Work also began in 1988 on a \$1.3 million fishing pier at the Niagara project. The platform will provide safe access to one of the area's best fishing locations. Work is scheduled for completion in spring 1989.



Pohlman Foundry Company, Inc. of Buffalo is one of the Power Authority's many industrial power customers. Lower-cost Power Authority electricity promotes economic development and protects about 100,000 jobs statewide.

Electric sales to New York State municipal systems and rural electric cooperatives
Billions of kwh



*Includes out-of-state sales to Allegheny Cooperative of .539 billion kwh.

Power Authority Facilities

St. Lawrence-Franklin D. Roosevelt Power Project

Location: Massena, on the St. Lawrence River

Capability: 800,000 kw

Construction Cost: \$650 million, divided between the Power Authority and Ontario Hydro

First Power: July 17, 1958

1988 Generation: 6.6 billion kwh

Generation Through 1988: 204 billion kwh

Principal Features:

Robert Moses-Robert H. Saunders Power Dam: runs from Barnhart Island in the United States to Cornwall, Ontario. Thirty-two generators, 16 on each side of the international boundary. Length, 3,300 feet; height, 167 feet; width, 184 feet. Hydraulic head: 81 feet.

Long Sault Dam: Extends 2,960 feet from the New York mainland to Barnhart Island.

Iroquois Dam: 25 miles upstream from Long Sault Dam near Iroquois Point in Canada. Controls outflow from Lake Ontario. Length, 2,335 feet; height, 67 feet; width, 80 feet.

Niagara Power Project

Location: Lewiston, on the Niagara River

Capability: 2,400,000 kw

Construction Cost: \$737 million

First Power: January 28, 1961

1988 Generation: 14.5 billion kwh

Generation Through 1988: 411.8 billion kwh

Principal Features:

Two water intakes on the Niagara River two and a half miles upstream from the Falls.

Two underground conduits, each 46 feet by 66 feet, carry water four miles under the City of Niagara Falls to a forebay connecting the Robert Moses and Lewiston plants.

Robert Moses Niagara Power Plant: 13 turbine-generators, each rated at 150,000 kw. Length, 1,840 feet; height, 389 feet; width, 580 feet. Hydraulic head: 305 feet.

Lewiston Pump-Generating Plant: 12 pump-generators, each rated at 20,000 kw; 1,900-acre storage reservoir.

Blenheim-Gilboa Pumped Storage Power Project

Location: Towns of Blenheim and Gilboa, Schoharie County, about 40 miles southwest of Albany

Capability: 1,000,000 kw

Construction Cost: \$149 million

First Power: July 5, 1973

1988 Gross Generation: 1.3 billion kwh

Gross Generation Through 1988: 23.3 billion kwh

Principal Features:

Lower Reservoir: 430 acres on Schoharie Creek. Upper Reservoir: 360 acres on Brown Mountain. Connecting tunnel system: vertical shaft and horizontal tunnel branching into four penstock tunnels. Powerhouse: four reversible pump-generators, each rated at 250,000 kw.

James A. FitzPatrick Nuclear Power Plant

Location: Scriba, on the south shore of Lake Ontario, Oswego County

Capability: 800,000 kw

Construction Cost: \$430 million

First Power: February 1, 1975

1988 Generation: 4.4 billion kwh

Generation Through 1988: 59.7 billion kwh

Principal Features:

Boiling water reactor, weighing 503 tons and holding 115 tons of uranium fuel; operates at a temperature of 545°F. to deliver 10.4 million pounds of steam an hour.

Turbine-generator uses steam produced by the reactor to revolve 1,800 times a minute to produce electricity at 24,000 volts.

Condenser cooling system uses Lake Ontario water to cool the steam back to water for recycling through the reactor. None of the cooling water goes through the reactor; it is returned to the lake via an underwater fountain that limits the lake-surface temperature rise to less than 3°F.

Indian Point 3 Nuclear Power Plant

Location: Buchanan, on the Hudson River, Westchester County

Capability: 965,000 kw

Construction Cost: \$560 million

First Power: April 25, 1976

1988 Generation: 6.7 billion kwh

Generation Through 1988: 54.4 billion kwh

Principal Features:

Pressurized water reactor, weighing 433 tons and holding 111 tons of uranium fuel; operates at temperature of 547°F. and pressure of 2,250 pounds a square inch. A steam generator transfers the heat to a separate system.

Turbine-generator uses steam from the system to revolve 1,800 times a minute to produce electricity at 22,000 volts.

Condenser cooling system uses Hudson River water in a separate loop to condense the steam back to water for reuse in the steam generator system. The river water is returned to the Hudson via a discharge canal that limits the maximum river surface-temperature increase to 4°F.

Charles Poletti Power Project

Location: Astoria, New York City, on the East River

Capability: 825,000 kw

Construction Cost: \$420 million

First Power: February 12, 1977

1988 Generation: 2.8 billion kwh

Generation Through 1988: 28.1 billion kwh

Principal Features:

Balanced-draft boiler, 175 feet high, modified to burn natural gas as well as oil. It delivers 6.6 million pounds of steam an hour to revolve the turbine-generator 3,600 times a minute. Oil-storage tank farm with 36-million-gallon capacity. Discharge canal lowers temperature of cooling water returned to East River.

Ashokan Project

Location: Ashokan Reservoir in the Town of Olive, Ulster County

Capability: 3,000 kw

Construction Cost: \$10.6 million

First Power: October 22, 1982

1988 Generation: 25.7 million kwh

Generation Through 1988: 126.7 million kwh

Principal Features:

Underground powerhouse with two 2,375-kw turbine-generators. A 240-foot-long penstock from the reservoir. Remote-control equipment via telephone lines from the Blenheim-Gilboa project.

Kensico Project

Location: Kensico Reservoir in the Village of Valhalla, Westchester County

Capability: 3,000 kw

Construction Cost: \$5.4 million

First Power: January 20, 1983

1988 Generation: 17.6 million kwh

Generation Through 1988: 84.3 million kwh

Principal Features:

Turbine-generators: three 1,000-kw units installed below ground in the reservoir's lower effluent chamber. Remote-control equipment at the Poletti project.

Gregory B. Jarvis Plant

Location: Hinckley Dam and Reservoir, north of Utica

Capability: 9,000 kw

Construction Cost: \$23 million

First Power: December 31, 1985

1988 Generation: 21.1 million kwh

Generation Through 1988: 79.7 million kwh

Principal Features:

Two 4,500-kw turbine-generators; 280-foot tailrace emptying into West Canada Creek; three-mile 46,000-volt transmission connection to Niagara Mohawk's Prospect Substation. Operations under jurisdiction of St. Lawrence-FDR; Clark Energy Center responsible for maintenance.

Crescent Plant

Location: Mohawk River, north of Albany in Albany and Saratoga Counties

Existing Capability: 5,600 kw

Estimated cost of expanding current facility by 6,000 kw: \$40 million

Output first sold by Power Authority: February 1, 1986

1988 Generation: 16.6 million kwh

Generation Through 1988: 87.1 million kwh

Principal Features:

Crescent Dam, which forms the impoundment for the hydroelectric plant, is 1,436 feet long. Two 34,500-volt transmission lines link the plant to the state power grid. Overall operations under jurisdiction of Blenheim-Gilboa.

Vischer Ferry Plant

Location: Mohawk River, north of Albany in Saratoga and Schenectady Counties

Existing Capability: 5,600 kw

Estimated cost of expanding current facility by 6,000 kw: \$39 million

Output first sold by Power Authority: February 1, 1986

1988 Generation: 13 million kwh

Generation Through 1988: 72 million kwh

Principal Features:

Vischer Ferry Dam, which forms the impoundment for the hydroelectric plant, is 1,918 feet long. Two 34,500-volt transmission lines link the plant to the state power grid. Overall operations under jurisdiction of Blenheim-Gilboa.

Frederick R. Clark Energy Center

Location: Marcy, Oneida County, 10 miles north of Utica

Construction Cost: \$40 million

Year Opened: 1980

Principal Features:

Maintains all Power Authority transmission, communication, computer and small hydroelectric facilities in central New York.

The switchyard is capable of handling more than three million kilowatts. It is the southern terminus for the 765-kv line and the northern terminus for the Marcy-South line.

Clark houses the Energy Control Center, which dispatches electricity from the Power Authority's power projects and power purchased from Canada. Energy Control Center is linked to the state's investor-owned utilities and the New York Power Pool, which coordinates statewide electricity distribution.

Also on site: training center for transmission line crews.

Trustees and Officers

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*Chairman and
Chief Executive Officer*

George L. Ingalls
Vice Chairman

Rolland E. Kidder
Trustee

James L. Larocca
Trustee

*J. Phillip Bayne
*President and
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*John C. Brons
*Executive Vice President
Nuclear Generation*

*John F. English
*Executive Vice President
System Operations*

*Robert A. Hiney
*Executive Vice President
Marketing and Development*

*Robert G. Schoenberger
*Executive Vice President
Finance and Administration*

*James M. Cunningham
*Senior Vice President
Public Affairs*

*Management Committee

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Power Contracts*

Alfred Klausmann
*Senior Vice President
Appraisal and Compliance
Services*

Robert A. Leopold
*Senior Vice President
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Contract Administration*

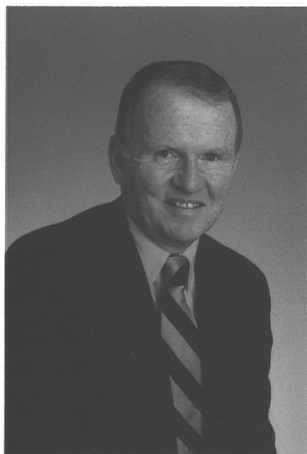
*Charles M. Pratt
*Senior Vice President and
General Counsel*

Alan J. Weiser
*Senior Vice President
Human Resources*

Robert L. Tscherne
*Vice President
Corporate Finance*

Anne M. Wagner-Findeisen
Secretary

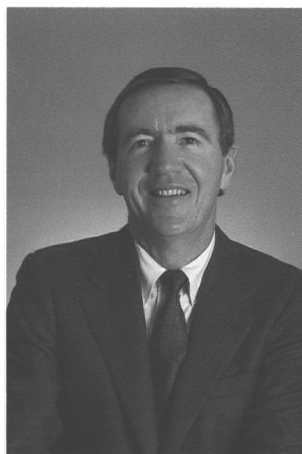
Richard M. Flynn



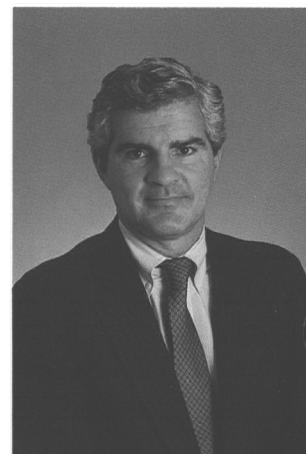
George L. Ingalls



Rolland E. Kidder



James L. Larocca



Financial Statements

Power Authority
of the State of New York

During 1988 the New York Power Authority received revenues on a cash basis of \$1,125,704,000. Of this total, \$1,026,293,000 resulted from the sale and transmission of power, and \$99,411,000 was earned on investments. Of these revenues, \$763,669,000 was allocated to the Operating Fund to pay the costs of operating, maintenance and fuel, and \$320,035,000 was allocated to the Bond Service, Bond Reserve and Note Debt Service Accounts to meet debt service requirements, which included the retirement of \$55,220,000 of bonds at a cost of \$54,689,000. The remaining \$42,000,000 of revenues was allocated to the General Reserve Account and is intended to be used to fund a portion of the Power Authority's ongoing capital program.

On June 1, 1988, the Power Authority's Marcy-South transmission project, a 345-kilovolt transmission line extending from substations at Marcy and Edic in Oneida County to the East Fishkill substation in Westchester County, was completed. As a result—beginning June 1—revenues, operating and maintenance expenses and debt service requirements are reflected in the above numbers.

On June 13, 1988, the Power Authority sold \$653,640,000 General Purpose Series V Bonds. The proceeds from these bonds, together with \$146,755,000 of available funds in the Bond Service and Bond Reserve Accounts, were used to refund part of the Series N and Series S Bonds. The \$471,885,000 principal amount of the Series N Bonds refunded pertained to term bonds maturing on the first day of January in the years 1998, 2003, 2006 and 2017. The Series S Bonds that were refunded consisted of \$169,000,000 of term bonds maturing January 1 in the years 2003, 2006 and 2009. It is expected that this refunding will save the Power Authority approximately \$198,700,000 of future gross debt-service costs.

In October 1988, the Trustees authorized publication of proposed actions to increase rates at the James A. FitzPatrick Nuclear Power Plant, effective February 1, 1989, and the Blenheim-Gilboa Pumped Storage Power Project, effective April 1, 1989. Rates charged for power from these facilities have not been increased since 1982. Such rate increases are expected to generate about \$15.4 million of added revenues on an annual basis.

In addition, the Trustees authorized firm transmission rate increases, beginning February 1, 1989, on certain transmission facilities. These increases are expected to generate an additional \$9 million of revenues on an annual basis.

As a result of prior Trustee approval, rates for expansion power and rural and domestic customers were increased. This resulted in about \$3.2 million of additional revenues in 1988 and is expected to result in an additional \$3.4 million in 1989. No other formal modification in rates was approved in 1988.

The Power Authority's financial statements, reported on by independent public accountants Arthur Young & Company, follow.

Balance Sheet

December 31, 1988

(In thousands)

Assets

Utility Plant:

Electric plant in service		\$ 3,997,497
Less accumulated depreciation		(1,113,735)
		<u>2,883,762</u>
Construction work in progress		261,718
Nuclear fuel less accumulated amortization of \$121,354		<u>180,482</u>
Net utility plant		<u>3,325,962</u>

Restricted Funds:

Cash	\$ 30	
Investment in U.S. Government securities, at cost	<u>659,784</u>	659,814

Construction Funds:

Cash	366	
Investment in U.S. Government securities, at cost	<u>981,120</u>	
Interest receivable on investments	<u>17,898</u>	999,384

Current Assets:

Cash	296	
Investment in U.S. Government securities, at cost	<u>443,212</u>	
Interest receivable on investments	<u>20,367</u>	
Receivables—customers	<u>76,437</u>	
Materials and supplies, at average cost:		
Plant and general	<u>50,964</u>	
Fuel	<u>10,194</u>	
Prepayments and other	<u>4,752</u>	606,222

Deferred Charges and Other Assets:

Preliminary investigations	7,641	
Unamortized debt expense	<u>38,875</u>	
Other	<u>10,606</u>	57,122

Total Assets \$ 5,648,504

Liabilities and Capital

Long-term debt (Note F)	\$ 3,700,685
Accumulated net revenues employed in the business	<u>1,433,819</u>
	5,134,504

Current Liabilities:

Notes payable (Note E)	\$ 61,250	
Accounts payable and accrued liabilities	<u>144,068</u>	
Customer advance billings	<u>33,333</u>	238,651

Deferred Credits and Other Long-Term Liabilities:

Nuclear fuel disposal and decommissioning (Note H)	<u>171,060</u>	
Deferred revenues	<u>104,289</u>	275,349

Commitments and contingencies (Note I)

Total Liabilities and Capital \$ 5,648,504

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

**Statement of Net Revenues
and Accumulated Net Revenues
Employed in the Business**

Year Ended December 31, 1988

(In thousands)

Operating Revenues:	
Power sales	\$ 806,118
Transmission charges	46,912
Wheeling charges	197,967
Total Operating Revenues	<u>1,050,997</u>
Operating Expenses:	
Operations	281,948
Nuclear fuel	66,746
Fuel oil and gas	72,239
Purchased power—Hydro-Québec	96,247
—Other	17,786
Maintenance	91,391
Wheeling	197,967
Depreciation	95,870
Total Operating Expenses	<u>920,194</u>
Net Operating Revenues	<u>130,803</u>
Other Income:	
Interest	96,384
Other	1,372
Total Other Income	<u>97,756</u>
Other Deductions:	
Interest on long-term debt	282,147
Interest—other	3,205
Interest capitalized	(78,620)
Amortization of debt discount and expense	5,812
Total Other Deductions	<u>212,544</u>
Revenues, net before advance bond refunding charge	16,015
Advance bond refunding charge (Note G)	(75,012)
Net Revenues (Deficiency)	<u>(58,997)</u>
Accumulated net revenues employed in the business at January 1, 1988	<u>1,492,816</u>
Accumulated Net Revenues Employed in the Business at December 31, 1988	<u>\$ 1,433,819</u>

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

Statement of Cash Flows

Year Ended December 31, 1988

Increase (Decrease) in Cash

(In thousands)

Cash Flows From Operating Activities:

Received from customers for the sale of power, transmission, wheeling	\$ 1,031,155
Earnings received on investments	99,411
Paid to suppliers and employees for:	
Operations and maintenance	(382,129)
Purchased power	(117,731)
Fuel oil and gas	(69,759)
Wheeling of power by other utilities	(205,210)
Interest paid (net of \$80,052 capitalized)	(202,703)
Net cash provided by operating activities	153,034

Cash Flows From Investing Activities:

Earnings received on construction fund investments	74,988
Additions to utility plant	(256,239)
Additions to nuclear fuel	(50,497)
Paid for preliminary investigations	(9,373)
Purchase of investment securities	(2,768,937)
Sale of investment securities	2,957,827
Net cash (used in) investing activities	(52,231)

Cash Flows From Financing Activities:

Sale of bonds-Series V (\$653,640 principal amount)	633,965
Refunding of bonds-Series N and Series S (\$640,885 principal amount)	(700,896)
Retirement of bonds (\$55,220 principal amount)	(54,689)
Net cash (used in) financing activities	(121,620)

Net (Decrease) in Cash

Cash, January 1, 1988

Cash, December 31, 1988

(20,817)

21,509

\$ 692(a)

Reconciliation to Net Cash Provided by Operating Activities

Net Revenues (Deficiency)	\$ (58,997)
Adjustments to reconcile net revenues deficiency to net cash provided by operating activities:	
Provision for depreciation	95,870
Amortization of nuclear fuel	50,045
Provision for spent fuel disposal and nuclear plant decommissioning	17,581
Provision for deferred revenues	14,798
Amortization of debt discount and expense	5,812
Preliminary investigation expensed	2,801
Advance bond refunding charge	75,012
Net increase in receivables and inventory	(29,315)
Net decrease in accounts payable and accrued liabilities	(24,904)
Revenue received for power produced during construction	4,862
Bond retirements at less than principal amount	(531)

Net cash provided by operating activities

\$ 153,034

(a) Shown on the Balance Sheet under:

Restricted Funds	\$ 30
Construction Funds	366
Current Assets	296

\$ 692

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

Summary of Funds (cash basis)

Year Ended December 31, 1988

(In thousands)

	Revenue	Operating
Available Funds, January 1, 1988	\$ 0	\$466,825
Cash Receipts:		
Sale of power, transmission and wheeling	1,026,293	
Earnings on investments	99,411	
Sale of bonds—Series V		
Accrued interest on bonds sold		
Administrative expenses reimbursed from other funds		17,114
Utility plant additions reimbursed from other funds		6,629
Total Receipts	1,125,704	23,743
Total Available	1,125,704	490,568
Transfer of funds—revenue	(1,125,704)	643,413
	\$ 0	1,133,981
Cash Disbursements:		
Interest on bonds and notes		
Retirement of bonds (\$55,220 principal amount)		
Deposit of \$731,192 with Escrow Agent to refund Series N and S		
Utility plant additions		28,467
Nuclear fuel		
Fuel oil and gas		
Operations and maintenance		380,213
Purchased power—Hydro-Québec		98,333
—Other		19,398
Wheeling		205,210
Bond discount		
Financing costs		
Administrative expenses chargeable to other funds		1,916
Utility plant additions reimbursed to the operating fund		
Preliminary investigations		
Costs transferred to utility plant		
Total Disbursements		733,537
Available Funds, December 31, 1988		\$400,444
Distributed as follows:		
Cash		\$ 296
Investments in U.S. Government securities		400,148
Interest purchased		
		\$400,444

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

Fuel Reserve Account	Projects Study	Restricted					Advance Bond Refunding (Note G)
		General (Held by Trustee)					
		Bond Service	Bond Reserve	General Reserve	Temporary Interest Fund	Note Debt Service Reserve	
\$ 0	\$51,093	\$ 0	\$369,689	\$277,074	\$12,612	\$20,000	
			49,527				\$604,113
		3,715					
		3,715	49,527				604,113
	51,093	3,715	419,216	277,074	12,612	20,000	604,113
120,256		276,183	41,390	42,000		2,462	
120,256	51,093	279,898	460,606	319,074	12,612	22,462	604,113
		211,692			12,612	2,462	
		37,910	16,779				
		30,296	116,458				584,438
50,497							
69,759							
				6,629			11,367
	9,373						8,308
	(1,344)						
120,256	8,029	279,898	133,237	6,629	12,612	2,462	604,113
\$ 0	\$43,064	\$ 0	\$327,369	\$312,445	\$ 0	\$20,000	\$ 0
			\$ 2	\$ 11		\$ 17	
	\$43,064		326,769	311,216		19,983	
			598	1,218			
	\$43,064		\$327,369	\$312,445		\$20,000	

Summary of Funds (cash basis)

(continued)

Year Ended December 31, 1988

(In thousands)	J.A. FitzPatrick Project Improvement Fund				
	Poletti	J.A. FitzPatrick Blenheim-Gilboa	No. 1	No. 2	No. 3
Available Funds, January 1, 1988	\$26,688	\$6,190	\$21,692	\$39,917	\$90,950
Cash Receipts:					
Earnings on investments	1,794	339	1,353	3,028	6,197
Revenues during construction					
Other					
Total Receipts	1,794	339	1,353	3,028	6,197
Total Available	28,482	6,529	23,045	42,945	97,147
Transfer of funds—other				408	(408)
	28,482	6,529	23,045	43,353	96,739
Cash Disbursements:					
Interest on bonds and notes					
Utility plant additions	644	1,984	6,900	12,859	12,039
Utility plant additions reimbursed to Projects' Study					
Administrative expenses reimbursed to the operating fund	447	267	514	1,134	832
Total Disbursements	1,091	2,251	7,414	13,993	12,871
Available Funds, December 31, 1988	\$27,391	\$4,278	\$15,631	\$29,360	\$83,868
Distributed as follows:					
Cash		\$ 49	\$ 96		\$ 67
Investments in U.S. Government securities	\$27,391	4,229	15,535	\$29,360	83,801
	\$27,391	\$4,278	\$15,631	\$29,360	\$83,868

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

Construction

Indian Point 3 Project Improvement Fund			Small Hydro	Niagara Project Expansion	Marcy-South Line	Sound Cable Project	Total
No. 1	No. 2	No. 3					
\$26,589	\$54,513	\$187,768	\$77,828	\$181,891	\$91,599	\$291,597	\$1,097,222
2,185	3,152	13,064	5,625	12,771	8,572	16,908	74,988
			1,932		2,930		4,862
					422		422
2,185	3,152	13,064	7,557	12,771	11,924	16,908	80,272
28,774	57,665	200,832	85,385	194,662	103,523	308,505	1,177,494
2,007	(240)	(1,767)					
30,781	57,425	199,065	85,385	194,662	103,523	308,505	1,177,494
			7,110		6,847	15,451	29,408
2,075	19,459	18,127	13,362	578	56,425	3,690	148,142
			1,344				1,344
659	1,748	1,201	1,621	289	6,828	1,574	17,114
2,734	21,207	19,328	23,437	867	70,100	20,715	196,008
\$28,047	\$36,218	\$179,737	\$61,948	\$193,795	\$33,423	\$287,790	\$ 981,486
\$ 17	\$ 56		\$ 74		\$ 7		\$ 366
28,030	36,162	\$179,737	61,874	\$193,795	33,416	\$287,790	981,120
\$28,047	\$36,218	\$179,737	\$61,948	\$193,795	\$33,423	\$287,790	\$ 981,486

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 32 of the laws of 1987.

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 - Accounting Policies

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

(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, 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 expenses 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 2.6% 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 costs of disposal of spent nuclear fuel will be met from provisions included in operating expenses (see Note H). In addition, the Authority is providing for the decommissioning of its nuclear plants over their estimated useful lives (see Note I (6)).

(5) Deferred revenues represent certain billings, related to the recovery of costs, which have been deferred and will be amortized over the life of the applicable asset.

(6) 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 (see Note D). If the study does not result in a project,

the costs are charged as an expense to net revenues in the period such determination is made.

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

(8) In accordance with the Resolution, upon completion or the latest estimated date of completion of each project, whichever is earlier, all revenues received from such project are required to be paid into the Revenue Fund.

(9) 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, 1988 no liability is reflected in the accompanying financial statements for January 1, 1989 bond service payments of \$165,865,000.

(10) Investment of the Authority's funds is administered in accordance with the applicable provisions of the General Purpose Bond Resolution and with its investment guidelines adopted pursuant to Section 2925 of the Public Authorities Law. These guidelines comply with the New York State Comptroller's investment guidelines for public authorities. The Authority's investments have been restricted to obligations of the U.S. Government, its agencies and instrumentalities and to agreements for the repurchase of such obligations. All investments are held by the Authority's designated custodian in the name of the Authority. Securities that are the subject of repurchase agreements must have a market value at least equal to the cost of the investment, and the agreements are limited to a maximum fixed term of five business days. At December 31, 1988 the Authority had no investments in repurchase agreements, and the aggregate cost of all investments in U.S. Government securities approximated market value based upon published bid prices. At December 31, 1988 the Balance Sheet reflects cash in the Restricted Funds, Construction Funds and in Current Assets of \$692,000. The available bank balances were \$10,605,000, of which \$612,000 was covered by Federal depository insurance, \$2,027,000 was collateralized, and \$7,966,000 was uninsured. The uninsured balance relates primarily to amounts in checking accounts for which checks have been issued but have not yet cleared.

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

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

Note C - Pension Plan

Substantially all employees of the Authority are members of the New York State and Local Employees Retirement System (System), which is a cost-sharing, multiple public employer retirement system. The System offers

plans and benefits related to years of service and final average salary, and all benefits generally vest after ten years of accredited service. For personnel who became members of the System prior to July 27, 1976 the Authority contributes the entire amounts determined by the System to be payable. Personnel who joined the System after July 27, 1976 are required to contribute three percent of their gross salary, and the Authority contributes the balance payable to the System for these employees. Amounts withheld from employees' paychecks are sent currently to the System. Pension costs for the year ended December 31, 1988 were \$13,780,000. The Authority's employees are also covered by Social Security.

The payroll for Authority employees covered by the System for the year ended December 31, 1988 was \$145,685,000; the Authority's total payroll was \$149,275,000. The Authority's contributions payable to the System are billed in May of each year on the basis of salaries paid during the System's fiscal year ending March 31 of the previous year and are made in accordance with funding requirements determined by the actuary of the System.

The Pension Benefits Obligation (PBO) of credited projected benefits is a standardized disclosure measure prepared in accordance with Statement No. 5 of the Government Accounting Standards Board, of the actuarial present value of pension benefits, adjusted for the effects of projected salary increases, estimated to be payable in the future as a result of employee service to date. The PBO is independent of the actuarial funding method used to determine contributions to the System. The system does not make separate PBO determinations for each individual employee.

The PBO of credited projected benefits as reported by the System at March 31, 1988 for the System, as a whole, determined through an actuarial valuation performed as of that date was \$28,794,000,000. The System's net assets available to pay benefits at that date were \$32,663,000,000. The Authority's employer contribution of \$10,962,000 billed in May and paid in June 1988 for the year ended March 31, 1987 was approximately 1.0% of total contributions required of all employers participating in the System. The Authority believes that appropriate provision in the amount of \$23,400,000 for unbilled pension contributions is included in its accounts payable and accrued liabilities at December 31, 1988.

For additional detailed information concerning the System, please refer to the State of New York Comprehensive Annual Financial Report of the Comptroller for the fiscal year ending March 31, 1988.

Note D - General Purpose Bond Resolution

The General Purpose Bond Resolution adopted on November 26, 1974, as amended and supplemented (Resolution), applies to all projects of the Authority, which it defines 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 indepen-

dent engineer. A Projects' Study Fund to finance preliminary efforts of the Authority to determine appropriate methods to fulfill its purposes under the Power Authority Act was established by the Resolution.

The Authority has covenanted with bondholders that at all times rates and charges will be sufficient, together with other monies available therefor, to meet the financial requirements of the Resolution. All revenues from any completed Project of the Authority (after deductions for operating expenses including necessary working capital reserves and for Projects' Study) are applied first to the payment of bond service (interest and principal installments due on outstanding bonds); then a sum equal to 15 percent of the amount allocated to 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 must 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 Resolution also provides for the retirement of bonds from amounts in the bond reserve account in excess of the bond reserve requirement. Any excess of principal amount over the cost of bonds retired is to be used for additional bond retirements. The Authority has periodically purchased such bonds when available at favorable prices (see Note F).

Amounts in the general reserve account not needed to meet any deficiency in the bond service or bond reserve accounts are 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 are 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.

Note E - Notes Payable

At December 31, 1988 the Authority had outstanding, under a master note arrangement with a bank, \$61,250,000 of short-term notes, 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 repayment 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 weekly at the greater of a specified percentage of the 13-week United States Treasury Bill rate converted to an annual yield or the rate published by a bank representing the cost of short-term tax-exempt debt, applied to the daily principal amount outstanding. The revolving credit agreement expiring March 4, 1991 provides credit support for payment of these notes (see Note F).

Note F—Long-Term Debt

Long-term debt at December 31, 1988 was composed of:

General Purpose Bonds	\$3,200,685,000
Adjustable Rate Tender Notes	500,000,000
	<u>\$3,700,685,000</u>

A summary of General Purpose Bonds payable at December 31, 1988 follows:					Earliest Redemption Date Prior to Maturity (b)
	Amount	Maturity January 1	Interest Rate (a)		
Series A					1/1/85
Term Bonds	\$ 96,550,000	2010	7.875%		
Serial Bonds	18,090,000	1990 to 1995	6.90% to 7.30%		
Series B					6/1/85
Term Bonds	82,635,000	2010	8.125%		
Serial Bonds	32,080,000	1990 to 1997	7.25% to 7.90%		
Series E					10/1/86
Term Bonds	102,300,000	2010	7.25%		
Serial Bonds	13,975,000	1990 to 1994	6.50% to 6.90%		
Series F					2/1/87
Term Bonds	141,800,000	2010	6.625%		
Serial Bonds	14,270,000	1990 to 1993	5.90% to 6.10%		
Series G					1/1/88
Term Bonds	42,200,000	1999	6.40%		
Term Bonds	194,280,000	2012	6.75%		
Serial Bonds	47,000,000	1990 to 1995	5.80% to 6.20%		
Series H					1/1/89
Term Bonds	117,215,000	2009	8.00%		
Serial Bonds	20,000,000	1990 to 1999	7.10% to 7.75%		
Series J					1/1/91
Term Bonds	113,000,000	2000	9.60%		
Term Bonds	67,000,000	2006	9.75%		
Term Bonds	60,000,000	2010	8.00%		
Term Bonds	198,775,000	2020	9.875%		
Serial Bonds	36,000,000	1990 to 1995	8.00% to 9.00%		
Series N					1/1/94
Term Bonds	52,495,000	2018	6.00%		
Serial Bonds	33,320,000	1990 to 1995	7.50% to 8.75%		
Series S					1/1/95
Term Bonds	33,000,000	2010	7.00%		
Serial Bonds	47,290,000	1990 to 1994	7.20% to 8.00%		
Series T					1/1/96
Term Bonds	55,000,000	2006	7.40%		
Term Bonds	75,000,000	2010	7.30%		
Term Bonds	350,000,000	2018	7.375%		
Term Bonds	50,000,000	2019	5.00%		
Serial Bonds	120,000,000	1992 to 2002	5.60% to 7.30%		
Series U					1/1/96
Term Bonds	50,380,000	2005	7.10%		
Term Bonds	194,715,000	2016	7.00%		
Term Bonds	58,070,000	2018	5.75%		
Serial Bonds	93,710,000	1990 to 2001	5.40% to 7.00%		
Series V					1/1/98
Term Bonds	32,630,000	2004	7.00%		
Term Bonds	72,560,000	2006	7.80%		
Term Bonds	40,330,000	2007	7.875%		
Term Bonds	90,060,000	2009	7.00%		
Term Bonds	106,990,000	2013	7.875%		
Term Bonds	145,005,000	2017	8.00%		
Serial Bonds	165,905,000	1995 to 2003	6.60% to 7.60%		
	3,263,630,000				
Less: Unamortized Discount	62,945,000				
Total	<u>\$3,200,685,000</u>				

(a) Interest is payable semiannually on January 1 and July 1.

(b) The bonds are subject to redemption prior to maturity in whole or in part as provided in the supplemental resolutions authorizing the issuance of each series of bonds, beginning for each series on the date indicated, at principal amount or at various redemption prices according to the date of redemption,

together with accrued interest to the redemption date. Annual maturities for the next five calendar years are as follows: 1989, \$45,460,000; 1990, \$48,505,000; 1991, \$58,595,000; 1992, \$61,845,000; and 1993, \$65,925,000.

During 1988 the Authority purchased \$55,220,000 principal amount of bonds at a cost of \$54,689,000.

Adjustable Rate Tender Notes (Notes) outstanding at December 31, 1988 were:

<i>Series</i>	<i>Amount</i>	<i>Interest Rate at 12/31/88(a)</i>
1985 Notes:		
Due March 1, 2007	\$50,000,000	6.125% (b)
Due March 1, 2016	75,000,000	5.00% (b)
Due March 1, 2020	75,000,000	5.00% (b)
	<u>200,000,000</u>	
1987 Notes, Second Series:		
Due November 1, 2019	150,000,000	6.00% (c)
Due November 1, 2020	150,000,000	6.00% (c)
	<u>300,000,000</u>	
Total Adjustable Rate Tender Notes	<u>\$500,000,000</u>	

(a) In accordance with the Adjustable Rate Tender Note Resolutions adopted April 30, 1985 and November 16, 1987 (Note Resolutions), the interest rates and dates on which the interest rates may be adjusted can vary based on the recommendations of the Remarketing Agent appointed under each of the Note Resolutions. The Notes may be tendered to the Authority by the holders on any adjustment date.

(b) Pursuant to the Remarketing Agent's recommendation, on September 1, 1988 the interest rate for the Notes maturing March 1, 2007 was adjusted to 6.125%, and the adjustment period is the year ending September 1, 1989. The adjustment period for the Notes maturing March 1, 2016 and March 1, 2020 is the year ending March 1, 1989, with an interest rate for this period of 5.00%.

(c) Pursuant to the Remarketing Agent's recommendation, on November 1, 1988 the interest rate for these Notes was adjusted to 6.00%, and the adjustment period is the six months ending May 1, 1989.

The Authority entered into revolving credit agreements (Agreements) with banks to provide supporting lines of credit. Under Agreements that terminate on November 2, 1990 and March 4, 1991, respectively, the Authority may borrow up to \$300,000,000 and \$261,500,000, respectively, for purposes including paying the costs of construction of any projects as provided for in the Agreements, including the repayment of the Notes or other obligations issued for any such purposes. The Agreements provide interest on outstanding borrowings (none outstanding at December 31, 1988) at a percentage of the bank's prime commercial lending rate as in effect from time to time and for a fee on the unused portion of the commitment. The Agreement terminating in 1991 also provides for alternate fixed lending rates for specific terms.

Note G—Advance Bond Refunding

In order to achieve debt service savings, on June 13, 1988, pursuant to the Resolution and the Twentieth Supplemental Resolution, the Authority sold for settlement

and delivery on June 28, 1988, \$653,640,000 principal amount of General Purpose Bonds, Series V, with an average coupon rate of 7.58% maturing from 1995 to 2017. The proceeds from the sale of Series V Bonds, after expenses and original issue discount (\$633,965,000), together with monies held in the bond service account and bond reserve account apportioned to the refunded Series N Bonds and Series S Bonds, were deposited with the Escrow Agent and were invested in direct obligations of the United States of America. The maturing principal of and interest on such securities will be sufficient to pay, when due, principal, interest and applicable call premium on \$471,885,000 principal amount of General Purpose Bonds, Series N, and \$169,000,000 principal amount of General Purpose Bonds, Series S, outstanding on June 28, 1988.

As a result of the refunding and the deposit with the Escrow Agent, the Series N Bonds and Series S Bonds that were refunded are deemed to have been paid pursuant to the Resolution and cease to be a liability of the Authority. Accordingly, the refunded Series N Bonds and Series S Bonds (and the deposit with the Escrow Agent) are excluded from the Balance Sheet.

The Authority expects to realize gross debt service savings from this refunding transaction of approximately \$198,700,000 over the life of the bonds. The refunding produced an economic gain (the present value of the debt service savings, adjusted for additional cash paid) of approximately \$45,000,000.

However, because of the difference (\$60,011,000) between the total cash deposited with the Escrow Agent and the principal amount of the refunded Series N Bonds and Series S Bonds together with the unamortized discount and expense pertaining to the refunded bonds (\$15,001,000), an advance bond refunding charge of \$75,012,000 results from this transaction. Under generally accepted accounting principles, this amount is presented as an extraordinary charge to net revenues. This charge will have no effect on the Authority's continuing revenue requirements.

Note H—Nuclear Fuel Disposal

In accordance with the Nuclear Waste Policy Act of 1982, the Authority in June 1983 entered into a contract with the United States Department of Energy (DOE), under which DOE, commencing not later than January 31, 1998, would accept and dispose of spent nuclear fuel. Based on DOE's progress to date, it is likely that the scheduled opening of DOE's first permanent repository will be deferred for at least five years. The contract provides that the Authority will pay quarterly to DOE a fee based on nuclear generation at a specified rate from April 7, 1983. In addition, the contract requires the payment to DOE of a one-time fee relating to spent nuclear fuel discharged prior to April 7, 1983 and for in-core spent fuel on that day. As permitted by the contract, the Authority at present intends to pay this one-time fee of \$58,710,000 together with interest, accrued thereon from April 7, 1983, when the Authority first ships spent nuclear fuel to an approved DOE disposal facility. As of December 31, 1988, the liability to DOE related to the one-time fee, including accrued interest from April 7, 1983, totaled \$90,404,000.

Note 1-Commitments and Contingencies

(1) Estimated costs to be incurred on outstanding contracts in connection with the Authority's construction programs aggregated approximately \$117,000,000 at December 31, 1988.

(2) The Indian Point 3 Nuclear Power Plant has been experiencing steam generator tube corrosion problems, similar to problems experienced by other nuclear generators of pressurized water reactor design. While improvements made by the Authority have reduced the rate of tube degradation, the economic benefits of replacement, resulting from improved plant availability and reduced maintenance expenses over the remainder of plant life, are believed to exceed significantly the estimated direct construction cost of \$120,000,000 (which was provided from the proceeds of the Series T Bonds). The replacement began in January 1989, with an expected outage duration of six months.

(3) There are pending before Federal and State courts and agencies actions and proceedings involving several of the Authority's existing or planned projects. The effect of these matters has delayed and may impede the Authority's construction and operation of such projects or planned projects and require the Authority to incur substantial additional costs. While the ultimate outcome of these matters is not determinable at present, the Authority's General Counsel believes that the Authority has meritorious positions that have or will be asserted in these matters.

(4) Under regulations previously promulgated under the Federal Price-Anderson Act, each licensee of a nuclear plant was required to provide annually to the Nuclear Regulatory Commission (NRC) a guarantee that assured the ability to pay retrospective premiums of up to \$5,000,000 per nuclear reactor per incident but not more than \$10,000,000 per reactor in any calendar year. The Authority has submitted to the NRC such guarantees for its FitzPatrick and Indian Point 3 nuclear plants. Under amendments extending the Price-Anderson Act for another 15 years, the amount of retrospective premiums that could be charged a licensee following any nuclear incident could be as much as \$63,000,000, in addition to inflation adjustments thereon, per reactor, with a yearly charge no greater than \$10,000,000 per reactor.

(5) In addition to the liability insurance required by the Federal Price-Anderson Act, the NRC requires each licensee to carry decontamination liability and excess property damage insurance in the aggregate minimum amount of \$1,060,000,000 for each reactor site. The Authority has

such coverage in force. A portion of the insurance is provided by the Nuclear Electric Insurance Limited (a company that provides decontamination and excess property damage insurance to a group of nuclear facilities). In the event there is a covered loss at any of the member group's nuclear facilities that exceeds insurance funds available, the Authority could be subject to retrospective premium assessments for both its reactors during any one policy year based on a multiple of the annual premium. As of December 31, 1988, the Authority could be liable for a maximum assessment of approximately \$14,200,000.

(6) In June 1988, the NRC issued new decommissioning rules requiring reactor operators to certify that sufficient funds, in amounts not less than certain prescribed minimums that for the Authority would amount to \$122,000,000 and \$149,000,000 for the Indian Point 3 and J.A. FitzPatrick nuclear plants, respectively, will be available for decommissioning. These funds may be in the form of prepayments or external sinking funds, either of which must be segregated from the licensee's assets and outside of its administrative control, or by surety or insurance payable to a trust established for decommissioning costs. The Authority is currently examining the options available to it under the NRC decommissioning rules that require a decommissioning funding plan be established by July 27, 1990. The Authority anticipates that sufficient funds will be available in accordance with the NRC decommissioning rules to decommission the nuclear plants at the end of their useful lives.

(7) On February 28, 1989 the Governor of New York and the President of the Long Island Lighting Company (LILCO) signed an agreement for the closing of the Shoreham nuclear power plant, contingent on certain regulatory action by the New York Public Service Commission (PSC) and approval by LILCO's board of directors, its stockholders, the Long Island Power Authority (LIPA) and the Authority. In the latter part of 1988, both the PSC and LILCO's stockholders had approved the essential elements of this new agreement. As contemplated by that earlier form of agreement, the Authority entered into a memorandum of understanding with LILCO that provides at LILCO's request, on a project-by-project basis, for the Authority to enter into one or more subsequent agreements with LILCO to construct, install and sell to LILCO the output of up to five generating plants totaling up to 1,400 mw, consisting of two gas turbine peaking units and possibly three baseload units as well as to provide necessary transmission facilities for delivery of this power. LILCO, however, is presently constructing one of these gas turbine units. If any such projects are to be undertaken by the Authority, the Authority would be required to issue substantial amounts of additional debt. The new settlement agreement also contemplates the Authority entering into a separate agreement with LIPA to provide managerial, technical and other services to LIPA relating to the transfer of Shoreham to LIPA and its decommissioning for which the Authority would expect full reimbursement. The Authority has no plans to acquire any ownership or other interest in the Shoreham plant and has projected no financing requirement therefor.

*Report of Independent
Public Accountants*

Additional Data

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

*The additional data, starting on page 40, have been prepared from records and other data of the Power Authority and have not been examined by the independent auditors.

We have audited the accompanying balance sheet of the Power Authority of the State of New York at December 31, 1988 and the statements of net revenues and accumulated net revenues employed in the business and cash flows for the year then ended. These financial statements are the responsibility of the Authority's management. Our responsibility is to express an opinion on these financial statements based on our audit.

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

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the Power Authority of the State of New York at December 31, 1988 and results of operations and cash flows for the year then ended in conformity with generally accepted accounting principles.

Our audit has been made primarily for the purpose of expressing 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 audit 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.

Arthur Young & Company

Arthur Young & Company

New York, New York

February 10, 1989

except for Note I (7), as to which the date is

February 28, 1989

1988 Sales to Customers (kwh)

Niagara Total Energy

Investor-Owned Utilities

New York State Electric & Gas	1,796,005,000
Rochester Gas and Electric	870,793,000
Niagara Mohawk ⁽¹⁾	6,886,394,667

Municipal and Cooperative Systems

2,256,556,425

Out-of-State

Public Service Board of Vermont	291,594,000
Allegheny Electric Cooperative	224,980,000
City of Cleveland	281,482,000
Connecticut Municipal Electric Cooperative	73,747,000
Massachusetts Department of Public Utilities	338,890,000
New Jersey Board of Public Utilities	65,758,000
Rhode Island Public Utilities Commission	4,051,000

Municipal Utility Service Agencies

Nassau County Public Utility Agency	32,437,000
New York City Public Utility Service	256,860,000
Orange County	8,994,000
Rockland County	7,941,000
Suffolk County Electrical Agency	32,408,000
Westchester County Public Utility Agency	28,491,000

Southeastern New York

Metropolitan Transportation Authority	119,664,664
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St. Lawrence-FDR

Investor-Owned Utilities⁽²⁾

New York State Electric & Gas	24,136,000
Niagara Mohawk	171,330,000

Municipal and Cooperative Systems

388,754,526

Out-of-State

Public Service Board of Vermont	341,435,000
Allegheny Electric Cooperative	38,256,000
City of Cleveland	34,145,000
Connecticut Municipal Electric Cooperative	10,244,000
Massachusetts Department of Public Utilities	18,093,000
New Jersey Board of Public Utilities	23,212,000
Rhode Island Public Utilities Commission	3,083,000

Municipal Utility Service Agencies

City of Buffalo Electric Agency	46,662,000
Erie County	76,042,000
Nassau County Public Utility Agency ⁽²⁾	57,107,000
New York City Public Utility Service ⁽²⁾	384,796,000
Niagara County Public Utility	1,439,000
Orange County ⁽²⁾	12,983,000
Orleans County Public Utility Service	10,729,000
Rockland County ⁽²⁾	11,770,000
St. Lawrence County	884,410
Suffolk County Electrical Agency ⁽²⁾	57,092,000
City of Syracuse	23,066,000
Westchester County Public Utility Agency ⁽²⁾	42,711,000

Others

St. Lawrence Seaway	250,901
N.Y.S. Office of Parks, Recreation and Historic Preservation	453,037
Niagara Frontier Transportation Authority	2,752,576

Industrials

Alcoa	1,963,554,000
Reynolds Metals Company	2,081,266,000
General Motors Corporation	46,235,313

Southeastern New York

Metropolitan Transportation Authority	42,725,376
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Blenheim-Gilboa

Investor-Owned Utilities

New York State Electric & Gas	900,000
Niagara Mohawk	30,594,000
Orange and Rockland	3,728,000

FitzPatrick

Investor-Owned Utilities

Central Hudson	24,880,000
Con Edison	1,691,021,000
Long Island Lighting	601,184,000
Orange and Rockland	136,868,000
Rochester Gas and Electric	203,558,000
Niagara Mohawk ⁽³⁾	305,634,000

Municipal and Cooperative Systems

1,081,398,827

Municipal Utility Service Agencies

Westchester County Public Utility Agency	6,200,380
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Industrials

Occidental Chemical Corporation	198,896,258
Air Products and Chemicals, Inc. ⁽⁴⁾	103,728,899
Reynolds Metals Company ⁽⁵⁾	125,602,000
Airco Industrial Gases, Div. of The BOC Group	120,333,738
SKW Alloys, Inc.	41,218,433
Grumman Corporation	69,618,311
Associated Universities, Inc. ⁽⁶⁾	199,748,414
General Motors Corporation	68,006,448
Shearson Lehman Hutton	54,295,164
Olin Corporation ⁽⁷⁾	32,325,449
Owens-Corning Fiberglas Corporation ⁽⁸⁾	38,936,417

Poletti/Indian Point 3

Investor-Owned Utilities

Con Edison 2,371,369,000

Southeastern New York

Metropolitan Transportation Authority 2,470,815,389
 N.Y.C. Public Buildings 2,627,934,893
 Port Authority of N.Y. and N.J. 850,362,869
 N.Y.C. Housing Authority 916,102,587
 Jacob K. Javits Convention Center 39,916,440
 Roosevelt Island Operating Corp. 3,946,142
 New York State Office of General Services 258,944,505
 Village of Ardsley 466,372
 Bedford Central School District 480,360
 Village of Briarcliff Manor 2,023,257
 Briarcliff Manor Union Free School District 1,489,800
 Village of Bronxville 1,872,818
 Village of Buchanan 537,220
 Byram Hills Central School District 1,832,576
 Chappaqua Central School District 3,707,526
 Town of Cortlandt 1,336,821
 Croton Harmon Union Free School District 784,326
 Village of Croton-on-Hudson 1,901,931
 Village of Dobbs Ferry 1,099,882
 Town of Eastchester 2,054,700
 Eastchester Union Free School District 1,521,619
 Village of Elmsford 756,777
 Town of Greenburgh 19,336,559
 Greenburgh Housing Authority 815,276
 Town of Harrison 5,018,496
 Village of Hastings-on-Hudson 1,086,844
 Hendrick Hudson School District 1,812,960
 Village of Irvington 1,356,100
 Lakeland Central School District 4,920,269
 Village of Larchmont 952,939
 Town of Mamaroneck 1,208,113
 Village of Mamaroneck 2,282,854
 Mamaroneck Union Free School District 3,869,483
 Montrose Improvement District 1,321,675
 Village of Mount Kisco 2,821,449
 Town of Mount Pleasant 4,220,535
 Mount Pleasant Central School District 1,397,252
 City of Mount Vernon 12,313,431
 Mount Vernon City School District 6,324,632
 Town of New Castle 3,766,438
 City of New Rochelle 17,686,262
 New Rochelle Municipal Housing Authority 3,646,920
 Town of North Castle 1,798,530
 Village of North Tarrytown 1,153,501
 North Tarrytown Housing Authority 416,520
 Town of Ossining 444,267
 Village of Ossining 4,194,443
 Ossining Union Free School District 2,329,200
 City of Peekskill 10,115,238

Village of Pelham 587,385
 Village of Pelham Manor 315,010
 Pelham Union Free School District 1,297,574
 Village of Pleasantville 1,174,836
 Pleasantville Union Free School District 1,077,530
 Village of Port Chester 2,666,032
 Port Chester Housing Authority 1,570,722
 Port Chester-Rye Union Free School District 1,824,921
 City of Rye 3,915,247
 Town of Rye 2,076,822
 Rye Neck Union Free School District 1,196,355
 Village of Scarsdale 3,365,417
 Scarsdale Union Free School District 2,958,887
 Southern Westchester Board of Cooperative Educational Services 3,435,675
 Village of Tarrytown 3,230,596
 Union Free School District of Tarrytown 1,493,229
 Thornwood Water District 418,450
 Village of Tuckahoe 1,207,906
 Tuckahoe Housing Authority 640,500
 Tuckahoe Union Free School District 568,320
 Valhalla Union Free School District 564,217
 Westchester County 134,404,859
 Westchester Joint Water Works 1,008,704
 City of White Plains 21,265,553
 White Plains City School District 4,363,389
 White Plains Housing Authority 2,007,720
 City of Yonkers 47,584,070
 Yonkers Housing Authority 8,634,840
 Town of Yorktown 883,353

⁽¹⁾Energy includes 158,135,667 kwh reallocated on a temporary basis

⁽²⁾Total energy received on a temporary basis

⁽³⁾Includes 1,729,209 kwh received on a temporary basis

⁽⁴⁾Includes 17,288,184 kwh received on a temporary basis

⁽⁵⁾Includes 6,549,071 kwh received on a temporary basis

⁽⁶⁾Includes 92,147,662 kwh received on a temporary basis

⁽⁷⁾Includes 14,784,490 kwh received on a temporary basis

⁽⁸⁾Includes 12,596,489 kwh received on a temporary basis

**Energy Transfers and Purchases
For New York Power Authority Use¹ (kwh)**

**New York Power Authority
Generating Facilities**

Energy Transferred		Facility	Type	Net Rated Output (mw)	1988 Net Generation (mwh)
St. Lawrence-FDR to Niagara	458,125,000 ⁽²⁾	St. Lawrence-FDR ⁽¹⁾	Hydro	800	6,594,388
		Niagara	Hydro	2400	14,532,130 ⁽²⁾
Niagara to:		Blenheim-Gilboa	Pumped Storage	1000	(640,013) ⁽²⁾
Blenheim-Gilboa	644,369,000	FitzPatrick	Nuclear	800	4,356,875
FitzPatrick	527,538,000	Indian Point 3	Nuclear	965	6,711,902
Poletti/IP3	395,832,000	Poletti ⁽³⁾	Oil/Gas	825	2,758,277
Blenheim-Gilboa to:		Ashokan	Hydro	3	25,694
FitzPatrick	45,296,000	Kensico	Hydro	3	17,641
Poletti/IP3	338,122,000	Total Net Generation			34,356,894
FitzPatrick to Poletti/IP3	137,041,000				
Ashokan to Poletti/IP3	25,670,000				
Kensico to Poletti/IP3	17,591,000				

(1) Formerly the St. Lawrence Facility
(2) Net of pumping energy
(3) Formerly the Astoria 6 Facility

Purchased Power for New York Power Authority Use

Canadian Sources to:	
FitzPatrick	173,437,000
Poletti/IP3	157,507,000
Investor-Owned Utilities to:	
FitzPatrick	163,953,000
Poletti/IP3	411,260,000

Selected Financial Data^(a)

Project	Operating Revenues ('000)	Operating Expenses ('000)	Accumulated Depreciation ('000)
St. Lawrence-FDR	\$ 81,603	\$ 31,407	\$164,028
Niagara	92,784	58,066	279,957
Blenheim-Gilboa	32,498	18,634	52,710
FitzPatrick	169,420	108,940	164,059
Poletti/IP3	588,882	129,988	377,350
Ashokan/Kensico	(b)	358	1,732
Massena-Marcy	139,846	27,985	66,970

(1) Transfers between projects are reported on a net basis and do not reflect transmission losses.
(2) Includes 196,746,094 kwh sold outside New York State. All other transfers in this table were for sales within the state.

(a) Operating revenues and operating expenses, by project, include interproject sales and purchases of power. They do not include any of the following unallocated items:

	(000)
Other income (principally interest)	\$97,756
Other deductions (principally interest on debt)	212,544
Advance bond refunding charge	(75,012)

(b) Available energy is transferred to and sold from Poletti/IP3.

1988 Sales Supplemental Schedule (kwh)

Busbar Prices for Power and Energy Sold to Power Authority Customers

Municipal and Cooperative Systems	Hydro Energy⁽¹⁾	Incremental Energy⁽²⁾
Akron	32,889,082	12,776,735
Andover	5,884,981	1,264,937
Angelica	6,476,810	1,423,800
Arcade	92,619,270	31,566,015
Bath	53,473,989	21,721,275
Bergen	7,448,028	10,669,888
Boonville	37,663,700	21,957,933
Brocton	11,568,946	832,963
Castile	5,744,717	1,789,702
Churchville	8,804,926	7,364,134
Delaware	36,398,040	10,642,613
Endicott	35,031,344	15,315,729
Fairport	196,244,434	159,612,750
Frankfort	13,626,522	5,093,576
Freeport	149,823,734	70,871,520
Greene	19,661,859	13,462,066
Green Island	8,703,035	2,107,171
Greenport	18,328,091	11,049,924
Groton	17,173,640	3,653,845
Hamilton	37,141,297	20,627,614
Holley	15,905,257	5,575,444
Ilion	52,000,293	15,907,369
Jamestown	260,690,000	38,506,000
Lake Placid	64,060,876	61,663,145
Little Valley	17,519,479	1,027,370
Marathon	10,903,017	5,861,311
Massena	74,423,078	48,453,065
Mayville	18,223,349	5,740,362
Mohawk	16,062,730	6,480,154
Oneida-Madison	13,500,121	3,739,374
Otsego	33,029,272	6,909,729
Penn Yan	38,967,866	20,125,398
Philadelphia	6,160,488	3,822,978
Plattsburgh	396,295,111	135,845,347
Richmondville	8,361,713	4,245,644
Rockville Centre	126,616,465	0
Rouses Point	43,827,722	40,693,997
Salamanca	42,621,833	24,432,692
Sherburne	31,269,660	35,141,788
Sherrill	58,534,056	6,086,375
Silver Springs	3,375,460	1,236,960
Skaneateles	18,566,853	8,136,624
Solvay	175,685,948	82,836,328
Spencerport	46,923,599	8,255,465
Springville	40,246,075	11,057,484
Steuben	54,300,177	3,963,066
Theresa	4,661,545	2,411,894
Tupper Lake	44,512,912	34,512,438
Watkins Glen	28,435,631	10,222,685
Wellsville	51,734,556	5,524,967
Westfield	53,189,364	19,179,184
Total	2,645,310,951	1,081,398,827

Niagara/St. Lawrence-FDR Projects - \$1.00 per kw/month and 1.99 mills/kwh (Jan. 1-April 30), \$1.00 per kw/month and 2.29 mills/kwh (May 1-Dec. 31).

Replacement Power sales of 445,000 kw to Niagara Mohawk: \$1.00 per kw/month and 2.67 mills/kwh.

Expansion Power sales of 250,000 kw to Niagara Mohawk and New York State Electric & Gas: \$1.47 per kw/month and 2.51 mills/kwh.

Replacement Power Recipients

Advanced Refractory Technologies, Inc.⁽¹⁾
 American Brass Company
 Bell Aerospace Textron
 Bethlehem Steel Corporation
 Buffalo Color Corporation
 Buffalo Forge Company
 Buffalo Tungsten, Inc.
 The Carbon/Graphite Group, Inc.
 Carborundum Abrasives Company
 Con Agra Inc.⁽¹⁾
 Dunlop Tire Corporation
 E.I. du Pont de Nemours and Company
 Fiber Waste Converters, Inc.
 Fisher-Price, Division of The Quaker Oats Company
 FMC Corporation-Specialty Chemicals Division
 F.N. Burt Company, Inc.
 General Abrasive Division, Dresser Industries, Inc.
 General Electric Company
 General Mills, Inc.
 Globe International Inc.⁽¹⁾
 Great Lakes Carbon Corporation
 International Multi-Foods Corporation
 ITV Steel Company, Inc.
 Nabisco Brands, Inc.
 Niacet Corporation
 Niachlor
 Niagara Cold Drawn Corporation
 Niagara Falls Water and Waste Water Treatment Plants
 Niagara Molded Products
 Niagara Straw Company, Inc.⁽¹⁾
 Occidental Chemical Corporation
 Olin Corporation
 The Pillsbury Company
 Rich Products Corporation
 Seneca Steel⁽¹⁾
 SKW Alloys, Inc.
 Spaulding Composites Company, Inc.
 Standard Oil Engineered Materials Company
 TAM Ceramics, Inc.
 Ultra Tool & Plastics, Inc.⁽¹⁾
 Union Carbide Corporation
 Washington Mills Electro Minerals Corporation

(1) Total hydro energy to this class of customer is supplied from the Niagara and St. Lawrence-FDR projects.

(2) Total incremental energy to this class of customer is supplied from the FitzPatrick plant.

(1) Has not commenced service

Expansion Power Recipients

Airco Industrial Gases, Division of The BOC Group, Inc.
 Al Tech Specialty Steel Corporation
 American Precision Industries Inc.⁽¹⁾
 Arcata Graphics Buffalo, an Arcata Graphics Company
 Bethlehem Steel Corporation
 Buffalo Specialty Products, Inc.
 The Carbon/Graphite Group, Inc.
 Carleton Technologies Inc.⁽¹⁾
 Cascades Niagara Falls, Inc.
 Domtar Gypsum
 Dunkirk Ice Cream Co., Inc.
 Dunlop Tire Corporation
 Dussault Foundry Corporation
 E. I. du Pont de Nemours and Company
 Fisher-Price, Division of The Quaker Oats Company
 F.N. Burr Company, Inc.
 Freezer Queen Foods Inc.
 General Mills, Inc.
 General Motors Corporation, Harrison Radiator Division
 Great Lakes Carbon Corporation
 Greater Buffalo Press⁽¹⁾
 Injected Rubber Products Corporation⁽¹⁾
 International Multi-Foods Corporation
 Moog Inc.
 Motorola, Inc.⁽¹⁾
 O-CEL-O, A Division of General Mills, Inc.
 Occidental Chemical Corporation
 Olin Corporation
 The Pillsbury Company
 Pohlman Foundry Company, Inc.
 Pyron Corporation
 Russer Foods, Division of Zemco Industries, Inc.
 SKW Alloys, Inc.
 Spaulding Composites Company, Inc.
 Steuben Foods Incorporated
 TAM Ceramics, Inc.
 Trico Products Corporation
 Union Carbide Corporation
 Westwood Pharmaceuticals

(1) Has not commenced service.

St. Lawrence FDR Project

Rates to:

Alcoa - \$4.259/kw/month and 8.418 mills/kwh (Jan. 1-April 30);
 \$4.497 kw/month and 8.889 mills/kwh (May 1-Dec. 31).
 Reynolds Metals Co. - \$4.329/kw/month and 8.556 mills/kwh
 (Jan. 1-April 30); \$4.577/kw/month and 9.047 mills/kwh (May 1-
 Dec. 31).
 General Motors - \$1.00/kw/month and 2.67 mills/kwh.
 St. Lawrence Seaway Development Corp. and N.Y.S. Office of Parks,
 Recreation and Historic Preservation - 10 mills/kwh.

Blenheim-Gilboa Project - \$1.90/kw/month

a) Nonfirm pumped-storage energy transfers - 5.5 mills/kwh (Jan. 1-
 June 30); 10 mills/kwh (July 1-Dec. 31).
 b) Economy energy sales - Power Authority and buyer share equally
 in net savings.

James A. FitzPatrick Plant

Investor-owned utilities⁽¹⁾ and municipal and cooperative systems:
 \$13.40/kw/month and 9.65 mills/kwh.
 Industrials - \$13.40/kw/month and 9.65 mills/kwh (Jan. 1-Feb. 29);
 \$7.50/kw/month and 19.49 mills/kwh (Mar. 1-Dec. 31).

(1) Sales to investor-owned utilities include firm and residual energy. Reserve
 energy is sold at a rate equal to the investor-owned utility's avoided cost.

Poletti Project/Indian Point 3 Plant

Rates for power and energy sales to customers depend on the service
 provided as follows:

Service Class	\$/kw/Month	Mills/kwh*
General Small		67.93
Commercial & Industrial Redistribution	8.40	33.58
Electric Traction Systems	6.82	38.48
Westchester Street Lighting		60.34
Multiple Dwellings-Redistribution	7.84	36.43
General Large	6.22	36.68
N.Y.C. Street Lighting	7.42	38.77
N.Y.C. Transit Authority Substation	7.37	35.58
N.Y.C. Transit Authority Plant	7.22	39.64
World Trade Center	8.06	36.53
N.Y.C. Public Buildings	6.35	38.67
Con Edison	15.39	20.1

*Subject to a monthly energy charge adjustment, base energy cost is 21.394
 mills/kwh.

Reserve energy sales are made to Con Edison at a rate equal to its fuel-cost
 savings.

Residual energy sales are made to Con Edison at a rate equal to the Power
 Authority's cost of fuel and maintenance.

New York Power Authority has implemented time-of-day production
 rates for certain of the largest Poletti/Indian Point 3 public agency
 accounts with monthly demands of 3 mw or above. These rates are
 as follows:

Service Class	\$/kw/Month	On-Peak Mills/kwh	Off-Peak Mills/kwh
Commercial & Industrial Redistribution	7.14	47.64	26.35
Multiple Dwellings Redistribution	6.66	52.04	28.50
General Use-Large	5.29	51.19	26.67
World Trade Center	6.85	49.07	26.92
N.Y.C. Public Buildings Light & Power	5.40	55.35	27.06

Notes:

- (1) The on-peak period is weekdays from 8 a.m. to 10 p.m. including holidays.
- (2) The off-peak period is all other hours.
- (3) Demand rates are applicable to the peak demand occurring during the
 on-peak period.
- (4) In addition to the indicated energy rates, the conventional energy charge
 adjustment will be applied on a monthly basis.
- (5) Rates to be effective with the April 1988 billing cycle for service rendered after
 March 4, 1988.

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