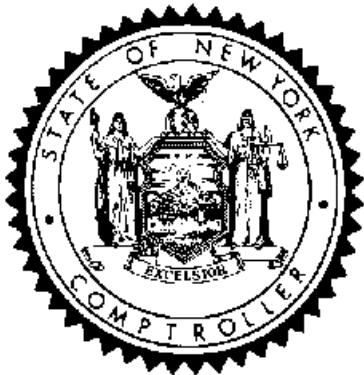


*State of New York*  
*Office of the State Comptroller*  
*Division of Management Audit*

**NEW YORK POWER AUTHORITY**  
**MANAGEMENT AND OPERATIONS**

**REPORT 95-S-110**



*H. Carl McCall*  
*Comptroller*



# State of New York Office of the State Comptroller

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## Division of Management Audit

### Report 95-S-110

Mr. Clarence D. Rappleyea  
Chairman  
New York Power Authority  
One Commerce Plaza Suite 1950  
99 Washington Avenue  
Albany, NY 12210

Dear Mr. Rappleyea:

The following is our report on the management and operations of the New York Power Authority.

The audit was done according to the State Comptroller's authority as set forth in Chapter 469 of the Laws of 1989. The Liberty Consulting Group of Baltimore, Maryland, a utility industry consulting firm, assisted us in a cooperative public/private partnership to conduct this audit. We list major contributors to this report in Appendix A.

*Office of the State Comptroller  
Division of Management Audit*

July 31, 1996

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# Executive Summary

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## New York Power Authority Management And Operations

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### Scope of Audit

The New York Power Authority (NYPA) is the largest non-federal public power utility in the country. Its original charter of developing the hydroelectric resources on the Niagara and St. Lawrence rivers has evolved over the last four decades. NYPA provides about one-quarter of the electricity consumed in the State, more than any other utility. NYPA owns and operates hydroelectric, nuclear and fossil fuel power plants, as well as the largest part of New York State's electric transmission system. NYPA also funds energy efficiency, conservation, research and development, natural resource and land development, and economic development programs.

Our audit focused on four main areas: (1) NYPA's ability to meet its revenue requirements; (2) NYPA's effectiveness in administering its economic development program; (3) the propriety of NYPA's economic evaluation of its nuclear power plants; and (4) the adequacy of NYPA's staff planning and work management practices. The audit of these areas provided us the ability to comment on NYPA from an overall perspective. This is particularly important in light of the impending restructuring of the electric utility industry.

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### Audit Observations and Conclusions

The electric utility industry is moving toward open competition in the generation part of the business. The roles, activities and assets that constitute NYPA, and the declarations and constraints set forth in NYPA's enabling legislation, are not in full accord with the evolving competitive market. The State needs to complete a reassessment of its direct role, through NYPA, in the electric utility industry. The time is right to address important questions about what the State should own, what it should operate, what services it should provide, what it should fund, and what it should do in a competitive electric business. (See pp. 7-11)

NYPA's net revenues from its hydroelectric plants, profits on sales of purchased power, and earning on investments subsidize losses at its nuclear and fossil facilities, which have been losing money in the recent past and are expected to lose money in the future. Without some change, these losses will total \$2 billion between 1995 and 2004. Elimination or substantial reduction of the losses on these facilities would free up funds and thus increase NYPA's value to the State. Cumulative losses over the past five years, caused principally by nuclear plant problems, resulted in reductions of NYPA's cash reserves to below target levels. Other programs and activities that benefit the State, unrelated to NYPA operations, add to the drain on cash. NYPA's allocation practices for costs, investment income, and repricing purchased power

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distort the actual operating results of individual facilities. Reports showing financial performance and projections for individual facilities are not adequate and are potentially misleading. (See pp. 13-20)

NYPA's Poletti power plant may be necessary to meet electric needs in New York City, but NYPA's continued ownership and operation of the plant may not be in the best interests of the State. NYPA's ownership and operation of Poletti may be more for the benefit of Consolidated Edison than for the benefit of NYPA customers. If NYPA were not required to operate Poletti, the ten-year savings could be \$300 million or more. (See pp. 21-25)

Losses at the two-year old Flynn plant, which NYPA built and runs for the exclusive benefit of Long Island Lighting Company, are caused by two costly contracts: a long-term gas supply contract and the plant operating agreement. Unless changes are made, the Flynn plant will continue to lose money. (See pp. 26-28)

NYPA's program for sales of electricity for economic development purposes has wide ranges in pricing and qualifying commitments among the various categories related to economic development. The allocation and pricing of power through NYPA's programs may not provide maximum economic value to the State, and may not be optimum in what is likely to become a competitive market for electric generation. (See pp. 31-35)

NYPA's nuclear plants have been plagued by problems in recent years. Both have suffered from management problems and experienced extended shutdowns in the past five years. Improvements are evident at FitzPatrick. However, Indian Point 3 only recently returned to service and remains on the Nuclear Regulatory Commission's Watch List of troubled plants. NYPA analyzed the economics of its nuclear plants and reportedly relied upon this analysis in deciding to continue to operate both plants. However, NYPA's analysis had serious flaws and should not be relied upon for determining the future of the nuclear plants. Also, NYPA's plans for managing continued operations may not be consistent with the overall needs of the State. (See pp. 37-51)

NYPA's efforts to reduce costs by optimizing employee workforce levels and improving work processes require continued attention. NYPA does not have the staffing policies, procedures and tools necessary to minimize the size of its employee workforce. While investor-owned utilities have significantly reduced staffing levels, overall staffing at NYPA is at the same level it was five years ago, in spite of two initiatives to reduce the workforce and cut costs. (See pp. 53-64)

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## **Comments of NYPA Officials**

NYPA officials agree with some of our recommendations and disagree with others. They comment on a number of matters covered by the report, but their comments have not caused us to alter our basic findings and recommendations.

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## **Appendix A**

Major Contributors to This Report

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# Introduction

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## Background

The New York Power Authority (NYPA) was created by the State Legislature in 1931 to develop hydroelectric power on the Niagara and St. Lawrence Rivers. The St. Lawrence plant began operation in 1958 and the Niagara plant began operation in 1961. Over the years, the State Legislature has increased NYPA's responsibilities. As a result, NYPA owns and operates seven major power generating plants, five smaller hydroelectric power plants, and a majority of New York State's high-voltage electric transmission lines, as follows:

Type of Facility	Name of Facility	Year Started	Rated Capacity
Hydroelectric Power Facilities	St. Lawrence-Franklin D. Roosevelt Power Project	1958	800.0 mw
	Niagara Power Project	1961	2,400.0 mw
Nuclear Power Facilities	James A. FitzPatrick Nuclear Power Plant	1975	800.0 mw
	Indian Point 3 Nuclear Power Plant	1976	980.0 mw
Fossil Fuel Power Facilities	Charles Poletti Power Project	1977	825.0 mw
	Richard M. Flynn Power Plant	1994	135.6 mw
Pumped Storage Facilities	Blenheim-Gilboa Pumped Storage Power Project	1973	1,040.0 mw
Small Hydroelectric Power Facilities	Ashokan Project	1982	3.3 mw
	Kenisco Project	1983	2.4 mw
	Gregory B. Jarvis Project	1985	4.0 mw
	Crescent Project	1986	9.9 mw
	Vischer Ferry Project	1986	9.9 mw
Control Center	Frederick R. Clark Energy Center	1980	
Transmission Facilities	34 circuit miles of 115 kv transmission lines 329 circuit miles of 230 kv transmission lines 841 circuit miles of 345 kv transmission lines 157 circuit miles of 756 kv transmission lines 61.8 miles of underground/submarine lines		

NYPA's functions also now include sale of electricity for economic development purposes, funding research and development for electro-technologies, and energy conservation.

NYPA's charter and constraints are set forth in legislation collectively referred as the Power Authority Act. The enabling legislation has been amended over the years as NYPA has been called upon to expand its role.

NYPA is a public benefit corporation and owns its properties. While NYPA receives no State appropriations, the Governor and the Legislature are ultimately responsible for assuring that NYPA's assets, functions and roles serve the needs of New Yorkers.

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NYPA management has operated with a high degree of autonomy. NYPA is overseen by a five member Board of Trustees. However, the Chairman or CEO has historically set the direction and priorities at NYPA. The Trustees establish NYPA's policies based on recommendations of NYPA's senior executives who serve on its Senior Management Committee.

After exclusively operating the Niagara and St. Lawrence plants, in 1968 the State Legislature authorized NYPA to develop additional power plants to meet the State's anticipated future electricity demands. In the mid-1970s, NYPA opened a pumped storage hydroelectric facility (Blenheim-Gilboa) and a nuclear plant (James A. FitzPatrick), and it planned to develop additional power generating facilities. Also in the mid-1970s, NYPA was authorized to purchase a partially-completed nuclear power plant (Indian Point 3) and a fossil-fueled power plant (Astoria 6, later renamed Charles B. Poletti) from the then financially-troubled Consolidated Edison (Con Ed). NYPA also built major new transmission lines, including the State's largest line to import hydroelectric power from Canada. In the early 1980s, NYPA shifted emphasis, abandoning plans to build new large plants and focused on development of small hydroelectric facilities and on energy conservation. Additional transmission capacity was also added. In the early 1990s, NYPA helped with electricity problems on Long Island. First, it installed the Long Island Sound Cable, a new and much needed transmission link, to bring new supplies of electricity to Long Island. It then built New York's first competitively bid power plant, the Richard M. Flynn plant, in Holtsville, New York, which began service in 1994.

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## **NYPA Today**

NYPA is the largest non-federal public power entity in the United States, providing about one-quarter of the electricity consumed in New York. It produces more energy than any of the private utilities in the State. NYPA sells electricity to the State's investor-owned utilities, 110 government entities in New York City and Westchester County, 47 municipal and four rural cooperative electric systems in New York State, municipal utility service agencies in New York City and Nassau, Suffolk and Westchester Counties, other public customers, and public agencies in seven neighboring states.

Energy sales peaked in 1986 at 47 million kilowatt hours (kWh) but then declined through 1992 to 38.5 million kWh. Sales have increased again to reach 40 million kWh in 1995.

NYPA does not have a franchise territory as do investor-owned, municipal and cooperative utilities. So NYPA has had to sell its electricity on a contract basis. The investor-owned utilities receive a substantial amount of power from NYPA. In fact, half of NYPA's electric sales in 1995 were to investor-owned utilities. The municipal and cooperative utilities also receive a substantial amount of power from NYPA.



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NYPA's financial condition has worsened in recent years to the point that in 1995 NYPA incurred an operating loss of about \$43 million. Considering extraordinary expenses, NYPA suffered net financial losses twice in the past five years, in 1993 and 1995. The losses occurred while NYPA's Indian Point 3 nuclear plant was in an extended shutdown.

The large hydroelectric plants have been running well. Upgrades at the Niagara Projects are increasing capacity and improving efficiency. Relicensing activities at the St. Lawrence project are intensifying. NYPA's two nuclear plants, both having suffered extended shutdowns in the past five years, are now striving to meet Nuclear Regulatory Commission safety performance expectations and higher performance levels. Plans have been made to put NYPA's largest fossil fuel plant, Poletti, in economic reserve shutdown to save money. NYPA's newest fossil fuel plant on Long Island, Flynn, was running well in its second year of operation.

Until the 1980s, NYPA and the investor-owned electric utilities were, for the most part, able to coexist in a fairly synergistic fashion, notwithstanding ideological debates about public versus private power. Then, the monopoly status of the integrated electric utility was put at risk with the emergence of growing pressures for competition in the generation sector of the business. Decreasing rates of demand growth, overbuilding and the promotion of independent power in New York contributed to substantial excess electric generating capacity, compounding the problem.

The electric industry is now moving toward a restructuring that will make the electric generation sector an openly competitive business. The Public Service Commission issued an Opinion and Order Regarding Competitive Opportunities for Electric Service on May 20, 1996. The Public Service Commission regulates the investor-owned utilities and has no authority with respect to NYPA's role, mission or objectives. Yet, NYPA is a critical building block in just about any decision about the future structure of the electric industry, since it owns and controls such a large portion of electric industry infrastructure in New York. Changes in NYPA's role require legislative action.

NYPA's management has recently proposed to own and operate all of the State's transmission facilities as a single system. Legislation has also been proposed which would seek to sell all of NYPA's non-hydroelectric facilities.

Whatever NYPA's future role, reducing costs has become a priority. In 1993 and 1994, NYPA took a number of cost cutting measures, including offering incentives to employees who voluntarily left NYPA, reorganizing departments, and reducing the number of contractors. NYPA also implemented a program to modernize its work management processes at non-nuclear facilities and to reduce the total workforce through attrition.

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Economic realities and technological innovation are challenging the very fabric of the electric utility industry. Changes in the electric power industry affect NYPA in many ways. The process of change forces reexamination of longstanding policies, practices and beliefs. This audit comes at a time of change in the industry, and a time of change at NYPA. The audit findings and recommendations should be considered a part of the process of change.

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## **Scope, Objectives and Methodology**

We audited selected NYPA program, financial and operating practices for the period August 1, 1991 through July 31, 1996. We used the services of a utility industry consulting firm, The Liberty Consulting Group (Liberty) of Baltimore, Maryland in conducting this audit. Although Liberty and the Office of State Comptroller conducted this audit by cooperating in a public/private partnership, the Office of the State Comptroller retained the position of managing partner and ensured compliance with relevant auditing standards and reporting requirements.

The objectives of this performance and financial-related audit were to determine: (1) NYPA's ability to meet its revenue requirements; (2) NYPA's effectiveness in administering its economic development program; (3) the propriety of NYPA's economic evaluation of its nuclear power plants; and (4) the adequacy of NYPA's staff planning and work management practices. Chapter 469 of the Laws of 1989 directs the Comptroller to conduct a management and operations audit of NYPA every five years.

To accomplish our audit objectives, we reviewed key events in NYPA's history and the financial performance of each of its major facilities. We also tested the reliability and accuracy of data NYPA managers use to make decisions and reviewed the impact of decisions that were made. Further, we measured the impact of nuclear operations on NYPA's operational and financial stability and assessed NYPA's ability to be competitive in a changing electric utility industry. In addition, we examined NYPA's workforce management practices by reviewing staff planning methods, NYPA's means of gathering and measuring relevant workforce performance information and any steps it has taken to improve workforce productivity. Finally, audit team members visited each of NYPA's major electricity generating facilities and reviewed many documents provided in response to over 500 data requests.

We conducted our audit in accordance with generally accepted government auditing standards. Such standards require that we plan and perform our audit to adequately assess those NYPA operations that are included within the audit scope. Further, these standards require that we understand the NYPA's internal control structure and compliance with those laws, rules and regulations that are relevant to operations which are included in our audit scope. An audit includes examining, on a test basis, evidence supporting transactions recorded in the accounting and operating records and applying such other auditing procedures as we consider necessary in the circumstances. An audit also includes assessing the estimates, judgments, and decisions made by management. We

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believe that our audit provides a reasonable basis for our findings, conclusions and recommendations.

We use a risk-based approach when selecting activities to be audited. This approach focuses our audit efforts on those operations that have been identified through a preliminary survey as having the greatest probability for needing improvement. Consequently, by design, finite audit resources are used to identify where and how improvements can be made. Thus, little audit effort is devoted to reviewing operations that may be relatively efficient or effective. As a result, our audit reports are prepared on an “exception basis.” This report, therefore, highlights those areas needing improvement and does not address activities that may be functioning properly.

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## **Response of NYPA Officials to Audit**

We provided NYPA officials with drafts of matters addressed in this report for their review and comments. Their comments have been considered in preparing this report and are included as Appendix B. The response of NYPA officials to this report asserts that this audit is not consistent with the intent of the authorizing legislation. However, we disagree and note that the law gives the State Comptroller authority to conduct a program, management and operations audit of NYPA. This audit was conducted following the State Comptroller’s standard procedures for the conduct of such audits in accordance with generally accepted government auditing standards.

We further note NYPA officials were involved throughout the process including reviewing our risk assessments and participating in the RFP process to select a consultant to partner with us. They only objected when they saw the results of the audit.

Within 90 days after final release of this report, as required by Section 170 of the Executive Law, the Chairman of NYPA shall report to the Governor, the State Comptroller, and the leaders of the Legislature and fiscal committees, advising what steps were taken to implement the recommendations contained herein, and where recommendations were not implemented, the reasons therefor.

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# **NYPA's Role in a Changing Industry: Need for Reappraisal**

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Since the late 1960s, NYPA has added steadily to its assets, functions and roles in New York State's electric utility industry. As a result, New York State government is a critical component in the physical and organizational infrastructure of the electricity business to a degree unparalleled in any other state. Over the last decade, however, the electric generation sector has become increasingly influenced by competitive pressures. Within the next several years, the industry will move toward open competition. In this context, NYPA has proposed a major expansion of its role, as it seeks to own and operate New York State's entire electrical transmission network. This proposal may prove meritorious. However, in light of the changes in the industry, we believe a fundamental reassessment of NYPA is necessary, potentially leading to significant changes in NYPA's assets and operations. In an increasingly competitive environment, we believe it is essential to question whether NYPA, in its present form, will maximize its value to New Yorkers.

In responding to this report, NYPA officials suggest that the audit ignored ongoing discussions on NYPA's role in the restructuring of the electric utility industry in New York State. On the contrary, the audit fully recognized the ongoing discussions, proposals and concerns with respect to the movement toward a competitive electric utility industry in New York State.

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## **Internal and External Changes**

NYPA's current assets and functions represent a conglomerate of different objectives, each having clearly discernible priorities at the time they were initiated. NYPA has been called upon to do things that the traditional utilities could not do (for example, participation in the financial rescue of Consolidated Edison in 1974). In addition, NYPA's priorities have changed under different leadership appointed by the Governor and, in the case of the Chairman, approved by the Legislature. Under Richard Flynn, who was Chairman of NYPA between 1985 and 1994, NYPA began to push its energy conservation and electro-technologies programs. However, Chairman Flynn's main focus was still on expanding NYPA's role in generating and delivering electricity. NYPA thus continued to add new electricity generation and transmission facilities.

S. David Freeman became CEO and President in 1994. He believed that NYPA was just another electric generation and transmission company, there was no reason for NYPA to exist. As such, President Freeman substantially increased NYPA's commitment of resources to energy efficiency, conservation, renewable energy development, and electro-technologies programs. NYPA's Ten Year Capital Plan issued in 1995 predicted expenditures of nearly \$800 million for these programs,

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representing approximately one-half of NYPA's expected capital expenditures through the year 2004.

After 16 months under President Freeman, NYPA's corporate compass changed again when Clarence Rappleyea took over as Chairman and CEO on July 25, 1995. Chairman Rappleyea questioned the extent of NYPA's planned expenditures on some of the initiatives advanced under President Freeman, including energy conservation and new electro-technologies. Chairman Rappleyea is focusing on how NYPA could spur economic development by helping to create or maintain jobs. NYPA's principal economic development tool is selling electricity to qualifying businesses at a price lower than what is available from other electricity producers.

Most significantly, NYPA's external environment has changed greatly since the late 1980s when competitive forces began to impact the industry. Today, it is clear that the electric utility industry will be restructured. New York State's investor-owned electric utilities have until October 1, 1996 to present to the Public Service Commission their plans for operating in a competitive market. When restructuring is complete, electric generation will be a competitive business.

In a competitive market, NYPA enjoys certain advantages from being a public entity. In particular, NYPA is free from taxation of almost any kind and has a lower cost of capital than investor-owned utilities. Sales under the present economic development program could also be viewed as an advantage, since NYPA has an exclusive ability to sell to certain qualified customers within the franchise territories of the investor-owned utilities. On the other hand, NYPA is uniquely constrained in certain aspects of its pricing and other requirements unique to being part of State government.

In the changing environment, some people have questioned whether NYPA, or at least some of its assets, should be privatized. NYPA's executives recognize that privatization is logical to consider. In an internal memorandum of January 23, 1993, Robert Schoenberger, then an Executive Vice President and now President and Chief Operating Officer of NYPA, stated:

“As the electric utility [industry] in the United States evolves, the question must be asked: what is the purpose of a government-owned utility if its only claim to uniqueness is that it is competitive and financially self-reliant.

“There is no compelling argument against the privatization of NYPA. Even if NYPA could be as efficient as its private counterparts (and this remains to be seen), the question remains why government should be in the electric utility business at all. As the purpose of public power diminishes, the State could consider monetizing all or some of NYPA's assets.

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“Based on this analysis, if one takes a completely dispassionate view, New York State would have to seriously consider privatizing NYPA. The state would receive a significant up front payment plus state and local taxes each year. Moreover, the state would get out of a business that the private sector can clearly operate. If government is to downsize (and I think it must), it must do so by getting out of businesses that the private sector can operate certainly as efficiently as the public sector does.”

NYPA’s management saw questions about privatization as the reason for NYPA to improve efficiency and effectiveness. They did not advocate privatization because they viewed higher electric rates for some customers as a likely consequence.

In 1993 and 1995 NYPA reported net losses, primarily because of problems with its Indian Point 3 nuclear plant. Even when NYPA reported revenue surpluses in 1992 and 1994, we found its nuclear, fossil power plants and transmission operations annually lost money. Investment income, profits on purchased power re-sales, and net revenue from the hydroelectric power plants covered operating losses at the nuclear, fossil fuel and transmission facilities.

In November 1993, a group established by the Governor to review and report on NYPA’s plans and efforts to resolve its nuclear problems described NYPA as “a troubled organization whose fundamental mission must be modified in light of new realities.”

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NYPA has proposed to the Public Service Commission that it become the owner and operator of New York State's entire electric transmission system. While this proposal does provide for the independently operated transmission system needed for a truly competitive electric market, and also provides a possible solution to high-cost independent power contracts, it leaves open questions about the disposition of NYPA's generating facilities. The Public Service Commission noted that "NYPA... did not propose to divest its generation assets, which raises other concerns about market power and independence." NYPA suggested "functional separation" of generation and transmission, but the Public Service Commission is not convinced that this would be sufficient. The Commission concluded that "NYPA's proposals need careful consideration, and require the development of additional detail."

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## **Need for an Assessment of NYPA's Future Role**

NYPA's charter and operations are not consistent with a fully competitive environment in the electric utility industry. NYPA's enabling legislation was not crafted to recognize a competitive industry structure, and parts of the legislation and other constraints may actually hinder NYPA's ability to compete. NYPA's management finds itself with the dual challenge of being public stewards and competing to protect revenues. While intended to promote competition and ultimately benefit all energy users, NYPA's actions to compete may not benefit all New Yorkers, unless they are consistent with a cohesive and integrated State plan.

The Public Service Commission has no authority over NYPA. It does not have authority over NYPA's roles, mission or objectives, and does not set or approve the rates NYPA charges. As such, the Public Service Commission's order on competition in the electric utility business sets forth the basic elements of a competitive market, but necessarily does so without treatment of NYPA's critical role in the State's electric industry. The State therefore is still faced with important questions.

- ! What role should the State play in a restructured electric utility industry?
- ! Should the State continue to play a role in the generation of electricity? ... from sources other than hydroelectric?
- ! Should the State be the single transmission utility in New York, as proposed by NYPA's management?
- ! Should a single State agency have functional (generation and/or transmission) roles as well as responsibility for funding research and development activities?
- ! How should economic development programs involving low priced electricity be structured in a competitive electric industry?
- ! What will be the best way to serve the energy needs of governmental and other public customers in the future?



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- ! Should the State continue to be involved in the operation of nuclear facilities?

The forum for addressing these questions appears to rest in the Executive and Legislative branches of State government. If NYPA is to be a real competitor in a fully competitive market place, changes may be necessary in statutes, structure and governance.

### **Recommendation**

1. The Governor and the Legislature need to reassess the roles, functions and assets of NYPA, and in the context of the restructuring of the electric utility industry, evaluate anew what the State should own, what it should operate, what services it should provide, what it should fund, and what it should do in the electric business.



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# NYPA's Ability to Meet its Revenue Requirements

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As the electric utility industry becomes more competitive, particularly in the generation sector, utility managers need accurate information concerning the revenues and expenses that are associated with individual facilities. In the absence of such information, managers may not be able to properly assess the financial performance and future economics of their facilities. Such assessments are necessary if managers are to make informed decisions and succeed in a competitive market. Accurate representations of facility financial performance are also necessary if public accountability is to be maintained for NYPA.

However, we found that NYPA managers do not use appropriate methods to account for certain revenues and expenses in the development of internal financial reports for individual facilities. As a result, losses incurred by the nuclear plants, the fossil fuel plants and the transmission facilities are greatly understated, and the net revenues generated by the Niagara and St. Lawrence hydroelectric plants are greatly understated. Because potentially misleading data are incorporated into NYPA's long-range plans, financial forecasts, and economic analyses, the decisions made by NYPA managers may not be as effective as they could be and complete information about NYPA's financial performance is not disclosed to the public.

We analyzed NYPA's financial records and made adjustments which, in our opinion, more accurately reflect operating results on a plant-by-plant basis. Specifically, we adjusted NYPA's plant-by-plant financial data by deducting interest earned from the investment of various reserve funds and profits earned from the sale of internally-transferred and outside-purchased power.

In reviewing the operations of individual NYPA facilities, we focused on three facilities where significant losses have been incurred. We identified actions that could be taken to address the losses at these facilities.

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## NYPA's Financial Condition

NYPA reported an operating loss of about \$43 million in 1995. Including extraordinary expenses, the 1995 loss totaled \$48.5 million. This was the third such annual loss since 1988. In the eight years ended December 31, 1995, NYPA's net losses after extraordinary items totaled \$81 million. However, this cumulative loss represented only about 5 percent of NYPA's equity capital prior to this period, and NYPA's bond rating at the end of 1995 remained Aa from Moody's and AA- from Standard & Poors. NYPA's Accumulated Net Revenues Employed in the Business (net book value) stood at \$1.414 billion at December 31, 1995,

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and NYPA's sources of operating revenue have been steady at approximately \$1.4 billion annually for the period 1993 through 1995.

NYPA's reported losses (after considering the effect of extraordinary items) of \$64.9 million in 1993 and \$48.5 million in 1995 were mainly caused by the poor operating performance and higher costs at NYPA's nuclear plants. The poor cumulative results for the past eight years were also caused by losses at all of NYPA's nuclear and fossil fuel plants, and in the transmission business. Our analysis of NYPA's financial records revealed that most of NYPA's power production and transmission facilities operate with ongoing financial losses, and that only the hydroelectric plants have been profitable.

NYPA prepares financial information for the following six accounting units:

- ! Niagara/St. Lawrence
- ! Blenheim-Gilboa
- ! Southeast New York (SENY)
- ! FitzPatrick
- ! Flynn
- ! Transmission

(SENY includes the Indian Point 3 plant, the Poletti plant and two small hydroelectric units.)

NYPA combines the financial information for the Niagara and St. Lawrence plants because of their many similarities. These hydroelectric plants were constructed in the same era, share some of the same customers, and generally have similar cost structures.

Power was first produced at the Blenheim-Gilboa pumped-storage hydroelectric plant in 1973. This plant has different operating characteristics and cost structures than the Niagara and St. Lawrence plants.

The Indian Point 3 and Poletti plants were acquired from Con Ed in accordance with 1974 legislation. NYPA also began service to southeastern New York governmental customers who were formerly Con Ed customers as part of this transaction. Because these customers and the two plants were acquired together, NYPA has accounted for the southeastern New York operations in the same accounting unit.

The FitzPatrick nuclear plant, which began operation in 1975, was originally dedicated to serving high-load industrial customers. The FitzPatrick plant has specific pricing and contracting restrictions on its power sales. The Flynn plant, which started operation in 1994, was built to exclusively serve the Long Island Lighting Company (LILCO) and its customers.

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NYPA's transmission facilities are functionally grouped together for accounting purposes. The hydroelectric (upstate) transmission facilities, the Marcy North line, the Marcy South line, the Long Island Sound Cable and the Clark Energy Center are all part of NYPA's extensive power transmission network.

While it may appear that NYPA's accounting units are focused on specific facilities, NYPA emphasizes that the categories also relate to the customer groupings served by these specific facilities, some of which are linked by legislation, contract or operations. The financial information for the six groupings is not audited, as NYPA's external auditors do not review the facility financial statements. Consistent with standard practice, NYPA's external auditors limit their financial statement review to the overall financial statements which are published in NYPA's annual report. The financial statements for the six groupings are used primarily for management information purposes by NYPA management and its Trustees.

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## **Selected Accounting Issues**

Good management practice dictates the need for accurate financial information with respect to NYPA's operating facilities. Analyzing the performance of individual facilities is consistent with the movement toward a competitive market in the electric generation sector.

We identified weaknesses in the accounting treatment used by NYPA to (1) allocate indirect overhead expenses to different facilities, (2) allocate investment income to different facilities, and (3) account for the costs and revenues associated with externally purchased power as well as power transferred among NYPA facilities. As a result of the accounting treatments, the losses incurred by the nuclear plants, the fossil fuel plants and transmission facilities are greatly understated, and the profits generated by the Niagara and St. Lawrence hydroelectric plants are greatly understated.

We question whether NYPA's accounting system provides NYPA officials with accurate, reliable and meaningful information on individual power generating plants. We did not evaluate NYPA's use of accounting information to establish the electricity rates that NYPA charges its customers.

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## **Indirect Overhead Expenses**

In any large business organization with different operating units, the costs of general and administrative activities that benefit the entire organization (such as central management, legal services and financial services) are typically allocated to each of the operating units. Whenever practical, support activities should be directly charged to the benefitting operating unit. However, direct charging is not practical for all indirect costs. Therefore, some indirect costs that cannot be traced to a specific activity must be allocated. According to the Cost Accounting Standards

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Board, indirect costs should be allocated to the operating units in a way that fairly reflects the extent to which each unit benefits from the general and administrative activities. The standards do not require that specific cost allocation methods be used, only that the methods used fairly reflect the relationship between the administrative activities and the operating units.

The extent of allocated costs and allocation method can have a profound effect on the financial data reported for individual operating units. We found that NYPA does not directly charge all costs that could be treated in that manner. As a result, NYPA's pool of indirect costs that need to be allocated (more than \$75 million in 1995) is larger than necessary. We also found that NYPA's allocation method lacks empirical support.

After initially allocating a portion of indirect overhead to construction projects and demand-side management programs, NYPA uses a two-stage process to allocate the balance of its indirect overhead expenses to its six accounting units. NYPA first allocates the expenses between the transmission facilities (which comprise one accounting unit) and the production facilities (which comprise five accounting units) in the same proportion as labor costs are divided between the two types of facilities. However, instead of allocating indirect costs among the generating facilities on the same basis, NYPA allocates indirect costs among the five production units in the same proportion as generating capacity is divided among the units. NYPA officials state that they view generating capacity as a surrogate for peak demand, which some utilities use to allocate indirect costs.

NYPA's method for allocating indirect costs among generating facilities is not based on a NYPA-specific study. NYPA has not performed any studies to determine if its method reasonably approximates the relationship between indirect costs and the power plants. The method has not been audited by NYPA's internal or external auditors. This method was originally established in 1975, when NYPA operated far fewer plants and the mix of the electric plant operating costs was significantly different. Different cost allocation methods can materially affect reported financial results. We question whether the current method provides NYPA managers with the best available information for making strategic decisions concerning the financial performance of individual facilities.

We do not believe that allocating indirect costs on the basis of generating capacity fairly reflects the causal relationship between NYPA's administrative activities and NYPA's power plants. For example, there is no direct relationship between a plant's generating capacity and the amount of legal or central office financial services that are needed or used by the plant.

We conclude that the lack of sufficient direct charging of costs, which results in them being classified as indirect costs, is inconsistent with

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today's need for accurate information concerning the financial performance of individual facilities.

In addition, we conclude that the method for allocating indirect costs among generating facilities does not assure that costs are allocated in a manner that accurately reflects the relationship between support activities and the power plants. Costs are not adequately following cause in NYPA's allocation practices. We also conclude that the level of indirect costs and the allocation method have a material effect on the internal financial management data developed for individual facilities.

NYPA officials do not take issue in their response to this report with the need to maximize direct charging of costs, which would substantially reduce the level of allocated cost. Their response deals solely with the methodology for the allocation of indirect overhead costs, and in particular from the perspective of ratemaking. Notwithstanding NYPA official's apparent concerns with regard to ratemaking, nothing in their response would cause us to alter our finding with respect to the allocation of indirect overhead costs for managerial accounting purposes.

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## Investment Income

NYPA's investment income is generated by the investment of various reserve funds, many of which were set up pursuant to bond covenants and statutory requirements. At December 31, 1995, NYPA's reserve funds totaled \$1.242 billion. In 1995 NYPA reported investment income of \$92.7 million.

In reporting and evaluating a facility's performance, generally investment income should remain unallocated and be classified as overall institutional income. If investment income is allocated, it should be allocated to individual operating units only when the allocation is based on the extent to which funds are generated for investment by each operating unit. NYPA allocates investment income to its operating units, but the allocation is not based on the extent to which funds are provided for investment by each operating unit. Rather, the allocation is based on a number of methods that are not based on the source of investment principal. On the basis of these methods, for 1995, the SENY, FitzPatrick, and Transmission accounting units were allocated \$83.1 million of the total \$92.7 investment income.

As a result of this accounting treatment of investment income, the losses incurred by the nuclear plants, the fossil fuel plants and the transmission facilities were understated. Between 1987 and 1994, significant positive was generated only by NYPA's investment of reserves and the operations of the Niagara and St. Lawrence plants. In comparison, during this period, SENY, FitzPatrick, and Transmission used \$1.115 billion of NYPA's revenues to cover losses from their operations. Nonetheless, in its ten-year forecast for 1995 to 2004, NYPA allocates these same

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facilities about \$810 million of the \$938 million in projected investment income, as follows:

	Investment Income Allocation <u>(\$ millions)</u>
SENY	\$399.5
FitzPatrick	328.9
Transmission	<u>81.7</u>
Subtotal	810.1
Niagara/St. Lawrence	98.3
Flynn	15.9
Blenheim-Gilboa	5.9
Small Hydroelectric	<u>8.0</u>
Total	<u><u>\$938.2</u></u>

We conclude that NYPA's method for allocating investment income is inappropriate for evaluating the financial performance of individual facilities as it causes substantial distortions in reported results for the facilities. We do not believe investment income should be allocated among facilities for managerial accounting purposes.

NYPA officials disagree. However, we believe their response to this report does not support their assertion that reserve funds are generated by the individual facilities which are credited with the investment income. In their response, NYPA officials infer that the intended "use" of the reserve accounts is synonymous with the "source" of funds which make up the reserve accounts. In addition, NYPA's response ignores the fact that facilities that lose money receive a substantial allocation of investment income. Investment income should not be merged with operational results for purposes of evaluating facility financial performance. In our opinion, there is a need to separate accounting for operating results from accounting for the sale of purchased or transferred power.

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## Support and Purchased Power

NYPA frequently transfers power generated by one plant to another plant, where the power is ultimately sold. Such power is called support power. NYPA also purchases a substantial amount of power from external sources and re-sells the power to its customers. NYPA credits the net revenues from these support power and purchased power sales to the accounting unit that "sells" the power.

The Electric Power Research Institute recommended in a report issued in 1993, that transfers between business units be accounted for at the



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market value of the goods or services transferred. However, NYPA makes such transfers at cost. As a result, the plant that ultimately sells the power realizes the profit, even though that plant did not produce the power for NYPA.

Moreover, since most of the support power transferred to NYPA facilities is produced by the Niagara plant, NYPA's accounting treatment understates the revenues from hydroelectric plants and further reduces the reported losses incurred by the nuclear and fossil fuel plants. For example, after removing investment income and re-priced purchased and transferred power, the SENY accounting unit shows a projected total loss of \$707 million from 1995 through 2004. However, in NYPA's forecast this loss should be partially offset by profits of \$591 million from the sale of support and purchased power sold through the SENY accounting unit. During this same period, after removing investment income and re-priced purchased and transferred power, the FitzPatrick plant shows a total loss of \$504 million. However, in NYPA's forecast this loss is partially offset by profits of \$203 million from the sale of support and purchased power sold through the FitzPatrick unit. We conclude that NYPA's accounting treatment of support and purchased power is inappropriate for the purpose of evaluating the financial performance of individual facilities.

NYPA's response to this report does not directly address this conclusion. Rather, NYPA officials focus on the method of accounting for internally transferred power. NYPA officials disagree with the use of market value prices for this purpose. Their concern appears to relate to ratemaking matters, while our audit finding deals with financial information related to individual facility performance. In addition, NYPA officials believe it is not practical to use market value prices for internally transferred power, though they acknowledge that it may be possible at some point in the future. We believe that, if NYPA officials are to meet the demands of a rapidly changing electric utility industry, they must strive to account for their operations as accurately as possible. While it may not be easy for NYPA to deviate from its cost-based thinking, such a change can be made.

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## **Reducing Losses at Certain Facilities**

As shown by the following table, once facility performance as reported by NYPA is adjusted for allocated investment income for the eight years ended December 31, 1994, a positive cash flow was not generated by any facility except the Niagara and St. Lawrence plants:

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Facility	Net Contributions/(Usage) of General and Operating Reserves	Less: Cash from Investment Income	Net Facility Cash Flow
Niagara/St. Lawrence	\$694.8	\$184.7	\$510.1
FitzPatrick	(337.8)	164.2	(502.0)
Transmission	(196.9)	158.6	(355.5)
SENY	(12.6)	244.7	(257.3)
Flynn	(20.6)	0.8	(21.4)
Blenheim-Gilboa	12.8	15.9	(3.1)
Small Hydroelectric	(12.5)	5.6	(18.1)
Other	(14.2)	--	(14.2)
Total	<u>\$113.0</u>	<u>\$774.5</u>	<u>(\$661.5)</u>

Total cash losses on the facilities other than Niagara and St. Lawrence during this period were \$1.172 billion.

The non-hydroelectric facilities are not expected to do better in the future. NYPA forecast the financial performance of its facilities for the ten-year period 1995 through 2004. We adjusted this forecast to remove the investment income and the profits from the sale of support and purchased power. (We believe such adjustments enable the expected operating performance of the facilities to be portrayed with greater accuracy.) We found that, for this ten-year period, the Niagara and St. Lawrence plants are expected to produce net operating revenue of \$894 million, while the FitzPatrick nuclear plant is expected to lose \$844 million and the SENY operations (which consist primarily of the Indian Point 3 nuclear plant and the Poletti plant) are expected to lose \$1.16 billion.

It is therefore clear that, together with NYPA's investment income, the net operating revenue generated by the Niagara and St. Lawrence plants has been used and, unless changes are made, will continue to be used to cover operating losses incurred by the nuclear and fossil fuel plants. Without some change, these operating losses will total \$2 billion between 1995 and the end of 2004. Elimination or substantial reduction of these facility operating losses would free up funds and thus increase NYPA's value to the State. In the following three sections, we suggest efforts that can be made to reduce operating losses at three non-hydroelectric plants. (In addition, the section on Nuclear Power Plant Economics includes recommended actions related to the future operation of the nuclear plants.)

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## Poletti Fossil Plant

The Charles Poletti plant, which is located in Queens, is powered by fossil fuels (oil and natural gas) and has a net dependable capability of 825 megawatts. NYPA acquired the Poletti and Indian Point 3 power

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plants from Con Ed pursuant to legislation enacted on May 17, 1974. Con Ed was in severe financial trouble at the time, and the purchase by NYPA helped to ensure the stability of the power supply in New York City. As part of this transaction, NYPA was also given the ability to serve southeastern New York governmental customers and, at its discretion, to sell the two plants.

Con Ed regained financial health even before the final transfer of Indian Point 3 on December 31, 1975. The first commercial power from the Indian Point 3 plant was generated in August 1976. The Poletti plant first produced commercial power in March 1977.

The Poletti plant is important to power reliability in New York City because the plant has a direct transmission link to Manhattan. This link is very important because it allows the plant to be used as if it were situated in the Manhattan load center.

In 1989, NYPA and Con Ed negotiated an agreement called The Planning and Supply Agreement. The obligations of NYPA and Con Ed regarding Indian Point 3 and Poletti were redefined in the Agreement.

The Planning and Supply Agreement allows NYPA to temporarily shut down the Poletti plant for economic reasons as long as this action does not violate Con Ed's "operating criteria" for reserve shutdowns. However, Con Ed's operating criteria are not specified in the Agreement, and the Agreement is silent regarding the option of selling the Poletti plant. The terms of the Agreement therefore may limit NYPA in choosing the most cost-effective option for meeting NYPA's own power supply needs in southeastern New York.

The Poletti plant is NYPA's most expensive source of electric generation, even though its electricity costs less than Con Ed plants located in New York City. Moreover, our analysis indicated that the Poletti plant has incurred and will continue to incur substantial operating losses. (We were unable to precisely determine Poletti's losses since NYPA subsumes Poletti's costs and revenues in the SENY accounting unit.) NYPA's forecasts and studies indicate that other power sources are far less expensive than Poletti.

NYPA has studied various alternatives with respect to the future of Poletti. For example, in a study published in May 1994, NYPA analyzed the economics of mothballing (temporarily shutting down with provisions for restarting) Poletti from 1995 through 1999. The study stated that without Poletti's generating capacity, NYPA would need to buy a significant amount of power for southeastern New York customers during summer peak load periods. The study determined that the break-even price for this purchased power in comparison to keeping Poletti operational for 1995 through 1999 was about 3.2 cents per kilowatt hour (levelized price over the five-year period). The study concluded that the

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best way to determine whether this price was available was to issue an RFP (request for proposal) to power suppliers. Despite the study's recommendation that an RFP be issued for replacement power, we found no indication that such an RFP was ever issued. We noted that NYPA purchased a great deal of power in 1994 and 1995 when the Indian Point 3 plant was out of service. NYPA's total average cost for all purchased power in 1994 was 2.0 cents per kilowatt hour (kWhr). NYPA's average purchased power cost in 1995 was 1.9 cents per kWhr.

The study estimated that NYPA would need to buy 600 to 730 megawatts of power annually during the summer peak load period in 1995 through 1998 for SENY customers. NYPA claims that Con Ed's transmission system would allow the importation of only 230 to 300 megawatts annually during this period to meet SENY needs.

However, NYPA officials were not consistent in responding to our questions concerning the precise nature and degree of these transmission constraints. In response to our inquiries during the audit, different NYPA officials cited differing limitations with respect to the transmission constraints. Past events suggest that Poletti could be removed from service without compromising the needs of SENY customers, as Poletti was out of service for extended periods of time for upgrades and repairs during summer and winter peak load periods in 1992 and 1994.

NYPA also analyzed long-term options for Poletti for the years 2000 through 2025. NYPA evaluated repowering Poletti (with either combined cycle gas turbines or hot wind box modifications), and closing or selling Poletti and replacing its generation with purchased power. (NYPA received an offer to purchase Poletti for \$100 million in 1994, and this price was used in the sale analysis.) NYPA also considered the possibility of selling steam and/or hot water from the plant.

NYPA concluded that repowering the plant was the preferable long-term option. NYPA concluded that selling Poletti at \$100 million was not cost-effective, and purchasing power to replace Poletti's generation was more expensive than continued operation. NYPA assumed that purchased power would cost between 6.1 cents and 16.7 cents per kilowatt hour over the 2000 through 2025 period. These assumed costs, which are apparently based on replacing Poletti's power with purchases from expensive Con Ed sources, may be high in light of recent experience and expectations for a competitive generation market. Transmission constraints are a key factor in developing replacement power estimates. We believe that NYPA did not adequately test the uncertainty in its key assumptions.

NYPA has decided to place Poletti in stand-by economic reserve shutdown status during the spring and fall seasons, and operate the plant during the peak summer and winter seasons. This plan was to have been implemented in the fall of 1995, but it has not yet been put into practice

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because Indian Point 3 was off-line during the fall of 1995 and a scheduled maintenance shutdown at Poletti occurred during the spring of 1996. It is expected that Poletti will be placed in reserve shutdown beginning in the fall of 1996.

NYPA's plan to run Poletti only during peak seasons is a move in the right direction, as it will result in significant cost savings. However, we believe that the question of whether NYPA should continue to own and operate Poletti has not been satisfactorily addressed.

NYPA's experience and financial forecasts indicate that power available from other sources is less expensive than power generated by Poletti. For example, NYPA's financial forecast in 1995 estimated Poletti operations, maintenance and fuel expenses to range from 5.4 cents to 7.7 cents per kWhr during the period 1996 through 2004. The cost of purchased power for SENY was estimated by NYPA at 3.0 cents to 4.5 cents per kWhr for the same period. NYPA's actual purchased power costs for 1995, which we escalated at an assumed rate of 3 percent per year, would suggest an even lower range, from 2.2 cents to 2.9 cents over the period 1996 through 2004.

NYPA could potentially use even lower cost power, for example from its Blenheim-Gilboa and Niagara plants. Potentially available power from Blenheim-Gilboa could cost only 1.3 cents to 1.7 cents per kWhr over the same period, and any power available from Niagara would cost even less. We note that NYPA appears to have substantial underutilized capacity available on its transmission lines, but this requires more in-depth review of specific transmission line connections to determine if additional power can be imported into the SENY area.

Transmission limitations in the Con Ed system, and also at certain points in the NYPA system, have been cited by NYPA as obstacles to the realization of cost savings in replacing Poletti generation. However, the precise extent of these limitations is not clear and the potential savings that would result from the use of lower cost power warrant an objective and comprehensive reexamination of the limitations and investigation into how they might be addressed.

We conclude that power provided by Poletti may be necessary to meet the electric needs in New York City, but NYPA's continued ownership and operation of the plant may not be in the best interests of the State. NYPA's ownership and operation of Poletti may be more for the benefit of Con Ed than for the benefit of SENY customers. If NYPA were not required to operate Poletti because of Con Ed system requirements, our analysis shows that NYPA could potentially reduce its SENY power costs by \$300 million or more over the 1995 through 2004 period by replacing Poletti generation with other sources. (Monies received from an outright sale plus avoided capital expenditures would increase the benefit to NYPA.)

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We note that the Planning and Supply Agreement, which governs NYPA's operation of Poletti to a large extent, was negotiated before the movement to a competitive generation market was clear. Such movement now seems certain. If NYPA continues to own and operate Poletti, the restructuring of the electric utility industry in New York may provide an opportunity to revise the Agreement to ensure that its terms adequately benefit NYPA for the benefits derived by Con Ed.

NYPA executives acknowledged during the audit that it is appropriate to revisit whether NYPA should continue to own and operate Poletti.

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## FitzPatrick Nuclear Plant

The James A. FitzPatrick nuclear power plant is located at Scriba, New York, on the south shore of Lake Ontario. The FitzPatrick plant became operational in July 1975, and has a net dependable capability of 800 megawatts.

The FitzPatrick plant has lost money over the past nine years, and we found that it is expected to lose over \$800 million from 1995 through 2004. While FitzPatrick power can be sold to certain business customers through NYPA's economic development program, FitzPatrick does not have a dedicated geographic market, and does not enjoy the low-cost advantages of the hydroelectric plants. FitzPatrick power is also subject to key marketing constraints on pricing, type of customer and customer geographical location that puts NYPA at a disadvantage compared to other regional power producers. The excess generating capacity in the State and in the region makes it difficult for NYPA to sell FitzPatrick power at a price that fully covers total generation costs.

FitzPatrick was built under Internal Revenue Service regulations that allowed the financing to be tax-exempt as long as NYPA limited sales to taxable customers to 50 percent of the plant's output. However, refinancing of the original FitzPatrick bonds in the 1990s makes FitzPatrick power sales subject to the 1986 Federal Tax Reform Act. This requires that 90 percent of FitzPatrick's power under long-term contracts be sold to tax-exempt entities, if FitzPatrick's financing is to remain tax-exempt. As a result, FitzPatrick is severely restricted in the amount of power that may be sold to taxable entities under contracts longer than one year. NYPA has signed contracts with taxable entities that are cancelable after one year to partially mitigate this restriction. However, the impact of the restriction still remains; i.e., a limitation on NYPA's ability to market FitzPatrick's power.

The Power Authority Act requires NYPA to sell FitzPatrick power to industrial, business, and economic development customers "at a uniform non-discriminatory rate." As a result, NYPA cannot price FitzPatrick power differently for the varying needs of these retail customers. For example, a computer company would require uninterruptible power and be willing to pay a higher price for such service. A different type of

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company would tolerate interruptions in exchange for the lowest rate possible. Without the ability to offer flexible prices, FitzPatrick has trouble meeting the needs of both types of companies. This “one size fits all” pricing will likely be an even bigger constraint in a competitive marketplace.

NYPA restricts its sales of FitzPatrick power to customers within the State. However, there is no legislation that mandates this restriction, which may have arisen because NYPA’s power has been viewed as “low-cost power” to be used for benefit of New York customers. However, FitzPatrick power has not been low-cost as compared to available market supplies in a surplus power market. NYPA can, at least in theory, sell FitzPatrick power out-of-State in the wholesale market. FitzPatrick power could be sold to out-of-State customers at prices higher than the prices charged to in-State investor-owned utilities.

While NYPA can market FitzPatrick power out-of-State, certain changes are needed if the other two marketing constraints are to be overcome. Changes in NYPA’s enabling legislation would be required to eliminate the “one-price” restrictions on FitzPatrick retail power sales. To enable more long-term sales to taxable entities, NYPA would have to pay off and refinance all outstanding tax-exempt FitzPatrick-related bonds with more expensive taxable debt. However, even if these changes were made, NYPA would still be left with the challenge of marketing FitzPatrick power in an excess capacity market, which will be difficult for the foreseeable future.

Another possible course of action would be for NYPA to sell FitzPatrick to an entity free of all the marketing constraints affecting NYPA while retaining the benefits of tax-exemption. NYPA could then buy only the power it needed to serve its customers. We believe this is a straightforward and low-cost solution.

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## Flynn Plant

The Richard M. Flynn plant in Holtsville is NYPA’s newest generating facility. The Flynn plant began commercial operation in May 1994. Flynn is a gas-fired, combined-cycle plant that is fueled primarily with natural gas, with oil as a backup fuel. Flynn was the first power facility completed under New York’s competitive bidding system for new electric generating capacity. All electrical output of Flynn is sold to Long Island Lighting Company (LILCO). Flynn has a net dependable capability of 135.6 megawatts.

Flynn’s operations, net of NYPA’s allocated investment income, lost \$5.9 million in 1994 and \$6.7 million in 1995. NYPA projects that Flynn’s operations will have a total negative cash flow of \$54.8 million from 1995 through 2004.

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NYPA signed a long-term gas-supply contract with Enron Corporation for the gas needs of the Flynn plant on October 24, 1990. The contract was restructured as of April 27, 1994, shortly before the opening of Flynn. The Enron contract runs until the spring of 2014.

NYPA and LILCO signed an exclusive contract for the sale of Flynn power to LILCO on December 13, 1991. The contract was substantially amended as of May 19, 1994, at the approximate time of the plant's opening. Under the contract, the generation of power by the Flynn plant is at the discretion of LILCO. LILCO pays NYPA through a variety of payment formulae that are defined in the contract.

Under NYPA's contract with LILCO, NYPA's gas costs under the Enron contract are not fully reimbursed by LILCO. NYPA is currently reimbursed for Flynn gas costs in a variety of ways. According to the contract with LILCO, the gas burned at the Flynn plant falls into three basic categories: contract gas, shared savings gas and base cost gas. NYPA is fully reimbursed by LILCO only for contract gas. The reimbursement price for shared savings gas applies when LILCO can generate electricity at its own gas-fired plants less expensively than Flynn on an incremental basis. In this case, LILCO is obligated to reimburse NYPA only for the cost of the gas used to fire the LILCO unit plus one-half of the difference between the LILCO gas price and the Flynn gas price. The shared savings formula has been used during most of Flynn's operations since June 1994.

LILCO can also divert gas originally scheduled for Flynn to other usages. NYPA is reimbursed for the cost of such gas using a "base cost" formula, which is driven primarily by the average of the closing New York Mercantile Exchange gas price for the last three days of the current gas delivery month. These prices have been below those that NYPA pays to Enron for this gas. NYPA has no control over LILCO's diversion of gas for these purposes.

The difference between the gas prices that NYPA paid to Enron and the amounts reimbursed by LILCO for the same gas averaged over \$620,000 a month during 1994, or about \$7.4 million for the year. Comparable data were not provided by NYPA for 1995; however, the contract terms and operating conditions of 1994 were still in effect during this period.

NYPA is committed to purchase all of Flynn's gas requirements from Enron. The price in 1994 was \$4.19 per million BTUs, including all transportation charges; the base gas cost in 1994 was \$2.78 per million BTUs, with a 3.5 percent increase each year through 2002. The plant used shared savings gas 91 percent of the time from June 1994 through February 1996. During 1994, the unreimbursed portion of shared savings gas averaged \$1.12 per million BTUs, or more than 25 percent of NYPA's purchase price. The conditions which led to this reimbursement gap will likely continue for the life of the gas contract.



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The State has embarked on a plan to acquire LILCO and break up its functional operations. If the plan goes forward, NYPA's contracts with LILCO and Enron would be affected and possibly reopened. The takeover of LILCO creates both risk and opportunity for NYPA. In light of the unfavorable contract terms, we expect there might be more opportunity than risk.

NYPA management acknowledges that, in hindsight, mistakes were made in contracting for gas supplies and recovering gas costs at the Flynn plant. NYPA's strong interest in winning the bid to build the plant for LILCO and its lack of experience in dealing with risk-based pricing decisions were likely contributors to the mistakes. NYPA prices its electricity based on the recovery of costs over the life of the assets used to provide the service. No profit factor is included, as NYPA is a not-for-profit public authority. Such a cost-recovery model is appropriate if the plant owner has a monopoly franchise for power sales, and if there is no risk that the ownership and operating costs will not be recovered. NYPA, however, used this monopolistic, risk-ignoring pricing mechanism in markets and situations that entailed significant risk.

Business entities that are exposed to market and other business risks include risk premiums in their prices in order to be compensated for the assumption of risk. These premiums also effectively provide a cushion so that minor business setbacks do not result in losses. Since NYPA's cost-based pricing is implicitly based on the assumptions of unassailable customer retention and no risk, resulting losses are likely where market competition and risk are present.

As long as LILCO is able to buy spot market gas at a lower price than NYPA pays for its fixed-price gas from Enron, the losses will continue. In a North American natural gas market where supply is plentiful, this situation is expected to persist for the foreseeable future.

In their response to this report, NYPA officials indicate that gas prices have risen in recent months resulting in break-even financial results for Flynn in 1996 to date. However, they fail to note that this is a best case scenario and does not recognize the impact of NYPA's allocation practices on these results. In the end, NYPA officials do not disagree with the need to pursue all possible means to eliminate future losses at Flynn.

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## **Recommendations**

2. Maximize the direct charging of administrative and support costs to reduce the level of allocated costs. Develop a method for allocating remaining indirect costs based on an empirical study that demonstrates the casual relationship between the indirect activities and the operating units.
3. Treat investment income as institutional income and do not allocate it to individual operating units for purposes of reporting and evaluating the financial performance of individual facilities.
4. For purposes of reporting and evaluating the financial performance of individual facilities, do not allocate net revenues from purchased power sales. Instead, separately account for purchased power costs and revenues. Account for the transfer of support power at the market value of the power to credit the “producing facility” with the realized revenues.
5. Serious consideration should be given to the option of selling Poletti. If NYPA continues to own and operate Poletti, NYPA should seek to renegotiate the Planning and Supply Agreement to reflect changes in circumstances and obtain equitable compensation for the value of the services provided to Con Ed.
6. Seek optimal changes in FitzPatrick’s ownership structure or its financial structure and NYPA’s enabling legislation that would eliminate the constraints on FitzPatrick’s pricing and customers. Also, market uncommitted FitzPatrick power out-of-State.
7. Pursue all possible steps to limit the losses associated with operation of the Flynn plant, including additional contract renegotiations with Enron and LILCO. Also, seriously consider options to the continued ownership of the Flynn plant.

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# Sales of Electricity for Economic Development Purposes

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In NYPA's economic development program, businesses that meet the criteria for participating in the program may receive lower-priced electricity from NYPA. In exchange for this lower-priced power, businesses are expected to retain or create jobs in New York State.

We identified significant differences in the prices NYPA charges businesses for power and in the extent to which businesses are expected to create or retain jobs. In fact, some businesses are not expected to retain or create any jobs in exchange for low-cost hydroelectric power. We also identified weaknesses in the procedures for monitoring the extent to which commitments are met by businesses participating in the program. We recommend that NYPA's economic development program be subject to a fundamental reassessment by a party independent of the program. NYPA officials believe that ongoing discussions are adequate to address the future of electricity sales for economic development purposes. We believe an independent assessment would be valuable.

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## Background

NYPA has six categories of power sales that are apparently related to "economic development." Three of the categories are from hydroelectric power and three of the categories are from the FitzPatrick nuclear plant. The prices for these six categories vary from 1.09 cents to 4.54 cents per kilowatt hour. This wide variation in pricing is due to differences in objectives, purpose, and circumstances at different points in time.

The first category is Replacement Power. The original recipients of Replacement Power were Niagara Mohawk Power Corporation (Niagara Mohawk) customers who received electricity from a hydroelectric plant, on the Niagara River, which was destroyed by a 1956 rock slide. Since the return of low-cost power to these Buffalo-area industries was considered to be crucial, the 1957 Niagara Redevelopment Act required NYPA to send 445 megawatts of replacement power to Niagara Mohawk for resale to those businesses. In 1961, NYPA entered into a contract with Niagara Mohawk to provide Replacement Power for resale to industries within a 30-mile radius of the Niagara Project switchyard. All 445 megawatts were allocated in 1961.

No job commitments were associated with this initial allocation of power. However, the Replacement Power contracts, which were to expire in 1990, were later renegotiated. The 1988 Replacement Power Settlement Agreement included provisions for job retention associated with existing

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allocations of this power and established a minimum job creation criterion for all new allocations of Replacement Power.

The second category of power related to economic development is Expansion Power. In 1960, NYPA reserved an additional block of 250 megawatts of Niagara Project power to encourage industries to expand in the Buffalo area. The initial contracts for Expansion Power were to terminate on January 1, 1990, and had no job commitments associated with them. However, 1987 legislation directed NYPA to renew these contracts and establish eligibility criteria. The contracts were extended to 2007 or 2013 and the terms of the contracts were renegotiated to include job commitments. All contracts entered into after 1987 for Expansion Power have job commitments as part of each company's eligibility criteria.

The third category is Direct Service Industrial Power from the St. Lawrence plant. This power is allocated to three companies that are located close to the plant: ALCOA, Reynolds, and General Motors. The original contracts for ALCOA and Reynolds were signed in the early 1960s, and then renegotiated in 1981. The contracts extend to 2003. ALCOA and Reynolds are aluminum producers that are highly dependent upon abundant, reliable, and low-cost power to compete in world aluminum markets. Each company receives an allocation of 239 megawatts of power under these contracts. Neither has any associated job or investment commitments. The current General Motors contract for 12 firm megawatts became effective in 1992. GM commits to 200 jobs under this contract.

The remaining three categories of economic development power are provided by the FitzPatrick nuclear plant. They are: high load factor, municipal distribution agencies, and Economic Development Power. In the mid to late 1980s, NYPA was having difficulty marketing FitzPatrick power in the New York marketplace. NYPA's utility and industry customers for FitzPatrick power were turning the FitzPatrick power back to NYPA in increasing amounts. In 1985, NYPA allocated 50 megawatts of power to downstate municipal distribution agencies (MDA) for sale to specific companies approved by NYPA. (This power had originally been allocated to high load factor industrial customers.) NYPA currently allocates 73 megawatts to the MDAs.

NYPA's difficulties in marketing FitzPatrick power became acute in 1987. At that time, legislation was approved allowing NYPA to sell power to a much wider range of companies, and established the specific category of Economic Development Power. NYPA's economic development power is offered at a lower price to the customers than investor-owned utilities' PSC-approved rates, but at a higher price than NYPA can receive in the wholesale market.

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The current limitation on Economic Development Power is 211 megawatts. (The Governor has recently proposed legislation increasing NYPA's FitzPatrick Economic Development category to 411 megawatts.) While this power is priced lower than the power available to businesses from investor-owned utilities, the Economic Development Power rate is the second highest-priced power that NYPA sells (only SENY government customers pay more) and more than four times as expensive to customers as NYPA's Replacement Power (4.54 cents per kilowatt hour versus 1.09 cents per kilowatt hour), because nuclear power costs far more to produce than hydroelectric power.

Under the economic development program, NYPA is the only organization that, with only limited exceptions, can and does provide power directly to retail customers within the franchise territories of the investor-owned utilities. If NYPA's economic development criteria are met, and if the investor-owned utility is not permitted or able to meet or beat NYPA's rate, NYPA can serve a qualified customer. This advantage will vanish with the implementation of retail competition, as set forth in the PSC's recent Opinion and Order concerning competition in the electric industry. NYPA's exclusive ability to serve economic development customers at 4.54 cents per kilowatt hour for energy may change in the near future.

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## Meeting Program Objectives

Each of the six categories related to economic development is intended to expand or at least sustain economic activity. However, there are significant inconsistencies in the pricing, availability, and "job commitment" requirements among the categories. For example, recipients of Replacement and Expansion Power, many of whom have had low-cost power allocations in large volumes since 1961, do not have significant job commitments, especially as compared to the more recent recipients of Economic Development Power from FitzPatrick.

NYPA's allocation of hydroelectric power is based on past circumstances and considerations that may no longer be relevant. The distinction of upstate (or western) New York versus downstate New York has been a key factor in power allocations in the past. In 1981, NYPA sought to change the allocation of power from its hydroelectric units. NYPA was not successful. The allocation of hydroelectric power should be revisited. This is particularly important in light of the movement toward a restructured electric utility industry.

NYPA's programs, policies and processes for allocating and pricing economic development power sales should be designed with the intent of "maximizing economic value to the State." Regional and local considerations, and pressing issues of the time, were significant factors in the initial bases for allocating and pricing NYPA's power. The fact that NYPA's six categories were established to meet different needs at different times causes the programs to be inconsistent. There has been

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no recent attempt to determine if NYPA's allocation and pricing of power for economic development purposes maximizes the economic development impact for the State.

Even after full implementation of competition in the electric generation sector, there will likely be a need and role for low-priced electricity for economic development purposes. However, the structure of the program, providers of services, criteria for eligibility, pricing considerations, length of power allocation, and commitments of the recipient will likely require modification to fit the new environment.

The discussion of hydroelectric power allocations and pricing is a very sensitive and litigious subject. Contractual commitments and federal legislation bound the latitude for change. Nevertheless, the need for reassessment must be addressed. An objective assessment is required to develop a long-term strategic plan for the most beneficial use of allocable power. Such reassessment must be made in light of the restructuring of the electric utility industry.

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## **Monitoring Program Performance**

NYPA officials are responsible for monitoring the job retention and creation efforts of the companies that receive power under the economic development program. NYPA has taken steps to improve its monitoring program. However, we found that NYPA's controls are insufficient to provide assurance that the objectives of economic development programs are achieved.

For example, we found that important documents were not available to support certain power allocation decisions. Moreover, important customer information may be known only by the account executives. NYPA does not require any documentation to substantiate existing employment levels reported in a company's application for Economic Development Power. Without appropriate support to validate base employment levels, there is no way to determine whether applicants have understated current employment. This could lead to a reduction or elimination of the expected economic impact of the proposed allocation, or otherwise ineligible companies may be allocated low-priced power.

We also determined that some companies were well below their job commitment levels, but NYPA allowed more time for them to meet their commitments. There were at least four companies whose employment levels were less than 70 percent of their contractual commitments for three consecutive years, and each year NYPA chose to give them time extensions to meet their job commitments.

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## **Recommendations**

8. Establish a State task force or employ an independent expert to evaluate programs, policies and procedures related to NYPA's sale of electricity for economic development purposes, including the allocation and pricing of allocable hydroelectric power. Ensure that the economic development programs maximize benefits to the State.
9. Develop and implement appropriate controls, including adequate documentation, over the economic development program to ensure that companies allocated lower cost power meet program criteria and achieve program goals.





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# Nuclear Power Plant Economics

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NYPA owns and operates two nuclear power plants—Indian Point 3, a 980 megawatt plant in Buchanan, NY, and James A. FitzPatrick (FitzPatrick), an 800 megawatt plant in Scriba, NY. The two nuclear plants have recently been among NYPA's poorest performers from a financial perspective and, according to data from NYPA's own forecasts, are expected to incur additional losses. Nonetheless, NYPA's executive management has decided to continue to operate both nuclear plants because they believe that continued operation is the lowest cost alternative. We have reached no conclusions about whether NYPA should continue to operate either or both of the nuclear plants. We believe, however, that NYPA's most recent economic analysis of its nuclear plants was faulty. We also examined NYPA's efforts to improve the financial performance of these plants, and we found that progress has been made.

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## Background

In December 1968, NYPA filed its application to build FitzPatrick adjacent to a Niagara Mohawk nuclear facility, Nine Mile Point. FitzPatrick first produced power in February 1975. In 1977, NYPA assumed full operating responsibility for FitzPatrick which had been operated by Niagara Mohawk on a cost-reimbursable basis while NYPA recruited and trained its own staff.

NYPA's Indian Point 3 Plant was originally designed and built as part of a two-unit facility by Con Ed. Indian Point 2 and 3 were very similar units with substantial common facilities. Legislation was enacted in 1974 to have NYPA purchase Indian Point 3 from a then-financially troubled Con Ed. Indian Point 3 first generated power in April 1976. Initially, Con Ed personnel operated the plant. NYPA assumed full responsibility for operating Indian Point 3 in March 1978.

Through 1989, FitzPatrick's lifetime capacity factor was slightly above the national industry average of about 61 percent. (Capacity factor is the ratio of the actual electrical production in a given time period to the maximum production capability.) Indian Point 3 did not fare as well, having a lifetime capacity factor of about 50 percent through 1989.

Nevertheless, NYPA's nuclear plants periodically performed exceptionally well, achieving relatively high capacity factors in some years. In addition, both of the plants received generally favorable reviews from the Nuclear Regulatory Commission (NRC) through the end of the 1980s. However, beginning in 1991 and persisting into 1996, NYPA's nuclear plants have had significant performance problems and suffered extended outages. FitzPatrick was shut down from November 1991 through January 1993. Indian Point 3 was shut down in February 1993, was

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restarted in July 1995, shut down again in September 1995, and then restarted in April 1996. NYPA reportedly spent more than \$100 million for improvements alone during the 14-month outage at FitzPatrick. NYPA's total expenditures at FitzPatrick in 1992 were \$171.9 million, nearly twice the budget for that year. NYPA spent over \$400 million at Indian Point 3 during the three-year period that began with the shutdown in February 1993, at least \$100 million more than would have been expected before the performance problems led to the extended shutdown.

Both of the plants were placed on the NRC's Watch List of troubled plants requiring increased regulatory scrutiny. (Of the 100 nuclear units in the United States, there are typically only a handful of units on the Watch List at any one time.) FitzPatrick was placed on the Watch List in February 1992 and removed in January 1994. Indian Point 3 was placed on the Watch List in July 1993, and remains on the list at this time. The NRC found that management performance problems led to a decline in safety-performance. Between 1992 and 1996, NYPA was assessed substantial fines for violations of NRC rules at its nuclear plants.

Recovering from an extended shutdown and NRC's Watch List designation is a difficult challenge. In that regard, NYPA has had substantial success at FitzPatrick. After being shut down for all of 1992, FitzPatrick has demonstrated improvements in management, and in safety performance, as documented by the NRC. In terms of production, FitzPatrick achieved an average capacity factor of about 68 percent in the period 1993 through 1995, still short of its goal and less than the industry average in that period. NYPA's goal for 1995 was to achieve an 80 percent capacity factor at FitzPatrick; actual performance was less than 70 percent due to the extension of a planned refueling outage.

The key to economical operation is keeping the plants running at reasonably high capacity factors. It is the unit cost of electricity (i.e., the cost per kilowatt hour) that matters most. The high costs of nuclear plants, which are incurred whether or not a plant runs, make high capacity factors essential for economic viability. NYPA has not been able to sustain high capacity factors.

The data in NYPA's long range financial plan suggest that the nuclear plants will continue to lose money over the next nine years. This prediction is based on an average 70 percent capacity factor, which is higher than NYPA's historical lifetime performance at its nuclear plants, but lower than NYPA's goals for the both units.

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## **NYPA's Economic Analyses of FitzPatrick and Indian Point 3**

NYPA performed an economic analysis of its nuclear plants in 1995-1996. NYPA had prepared an economic analysis of the FitzPatrick plant in 1992 and of FitzPatrick and Indian Point 3 in 1994. These studies were the only formal analyses of the economics of the nuclear plants owned by NYPA that we found.

The 1992 analysis was not an evaluation of alternatives. Nor was it a detailed study of risks and uncertainties. It was a simple, straightforward analysis, and a good initial effort, aimed at defining the challenges to the economic viability of FitzPatrick. It did not specifically provide a conclusion or a recommendation with respect to whether to continue to operate FitzPatrick. This analysis suggested, however, that both the plant's performance and the market had to improve for FitzPatrick to be economically viable. The 1992 analysis resulted in a recommendation for additional studies in the following areas:

- ! The cost of alternatives to continued operation.
- ! Strategies to obtain maximum energy output.
- ! Available cost control strategies and potential impacts.
- ! Available opportunities for improved competitiveness and revenue enhancement.
- ! Limiting criteria for an acceptable "turn around" investment at FitzPatrick:
  - maximum amount of investment sustainable,
  - payback period required,
  - acceptable risk level, and
  - required return on investment (benefit/cost ratio).

Of the above recommendations, NYPA addressed the first four in various ways, though not necessarily in a documented study. However, we found no evidence that NYPA followed through on the last recommendation. This recommendation would have required NYPA management to define the criteria for a continued operation decision.

In an article in the June 1994 issue of the Empire State Report, NYPA's then-President Freeman was quoted as saying "...if we do not get the [Indian Point 3] plant back on line by early 1995, and if we do not show the kind of performance we're showing at FitzPatrick, then we have a very serious decision to make." The article indicated that President Freeman identified the possibility of inviting bids for a long-term power contract and comparing the price with the costs that would be avoided by shutting down Indian Point 3. NYPA did prepare analyses of FitzPatrick and Indian Point 3 during the late summer of

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1994. Indian Point 3 did not return to service in early 1995 as planned and did not achieve the same level of performance as FitzPatrick. As discussed earlier, Indian Point 3 continued to have difficulties through 1995 and well into 1996. However, NYPA did not solicit bids to test the market for a purchase power contract. We found no evidence of additional analyses, evaluations or decisions in early 1995, as might have been expected in light of President Freeman's mid-1994 words.

In early September 1995, NYPA's President (Robert Schoenberger) directed that an economic analysis of both nuclear plants be performed. NYPA took five months to perform and produce the analyses. The results of the analysis were first made available in February 1996. NYPA's executives described the analyses as updates to previous studies, stating that such analyses were routine and performed regularly.

As a result of these latest analyses, NYPA's executives have determined that continued operation of both FitzPatrick and Indian Point 3 is economically justified. We have not reached any conclusion with respect to whether NYPA should continue to operate either plant. However, we found that NYPA's analyses did not provide sufficient information to confidently make or support such a determination. As explained below, NYPA's approach, methods, and assumptions do not, in our opinion, adequately address important questions.

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## **Evaluation of NYPA's Economic Analyses**

Based on our knowledge of utility planning and complex decision-making processes, an appropriate and reasonable economic analysis of NYPA's nuclear plants should have the following general attributes:

- ! A clear definition should be provided of the purpose, framework and use of the analyses at the outset. The expectations as to what is needed to support decision-making should be identified.
- ! Decision-factors should be defined and articulated in advance of producing analysis results.
- ! The framework for the analysis would be expected to include all reasonably available alternatives.
- ! The analysis should be "incremental," i.e., differences among alternatives should be the focus of the analysis.
- ! Multiple scenarios should be evaluated.
- ! Sensitivity analysis should be performed to determine which variables have the most impact on results.
- ! Assumptions should be tested for internal consistency and reasonableness.

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! Uncertainty should be addressed in some structured manner, e.g., assigning probabilities, use of multiple discount rates.

NYPA's most recent analyses do not meet many of these criteria. Moreover, NYPA has not been sufficiently objective or thorough in its approach to or its conduct of the analyses. The problems at NYPA's nuclear plants should have led to an objective and thorough analysis of alternatives to continuing to run the plants. Instead, the actions of management, the analysis process, certain assumptions, and the results show insufficient management attention to the analysis of alternatives, with the expectation that, in the long run, continued operation will ultimately make sense.

NYPA's analyses focused principally on long-term (e.g., 30-year) time frames. The significance of the long-term versus short-term perspective deserves some explanation. Utility analyses and decision-making with respect to whether to build or operate power plants were traditionally based primarily on the long term. This approach makes sense in the context of regulated monopolies. The premise behind this approach was that the financing costs and the depreciation would be recoverable over a 30 or 40 year period.

Today, the electric generation sector is becoming a competitive business; electricity is becoming a commodity. In this environment, the economic analysis of alternatives should not focus exclusively on the long term. Importantly, the long term is far less certain than the short term. The uncertainty of the long term needs to be explicitly recognized in analyzing alternatives and making decisions using the results of such analyses.

NYPA's analyses were also less than comprehensive. The analyses do not sufficiently consider alternatives or scenarios. For each plant, NYPA modeled only one shutdown scenario and then compared the results of that one scenario to a number of continued operational scenarios. NYPA's executives explained that a key purpose of the economic analysis was to determine how well the plants would need to run in order for continued operation to make sense. This may explain the approach to the analysis.

There was not adequate management attention aimed at completion of the economic analyses. NYPA's analyses required an extensive length of time for what we believe should have been a very high priority effort. We were surprised by the fact that completion of the analyses was not expedited when Indian Point 3 came back off line in September 1995. We found that NYPA lacked clear direction, goals or criteria at the outset of the analyses.

Prior to completion of the analyses, it was apparent through numerous meetings that NYPA was committed to continued operation, with a focus

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on determining how to manage and run the plants. There appeared to be much less focus on the analysis of whether the plants should continue to operate or be owned by NYPA. Executive management appeared to focus on finding a highly successful nuclear utility that would be willing to run NYPA's plants on a contract basis. Efforts were underway to find an independent operator before the results of the economic analyses were available to NYPA's senior management.

There were late changes in analytical approach, methods and assumptions. NYPA initially performed an analysis that focused on a nine-year period, at least for Indian Point 3. The nine-year period was based on the duration of contracts for the sale of electricity to the SENY customers. A draft report using that method was made available in early February 1996. However, NYPA subsequently changed its approach and developed a long-term life-cycle analysis.

NYPA's senior executives stated that the long-term life-cycle analyses were the basis for NYPA's evaluation of the nuclear plants, while the short-term incremental analysis was a "quick and dirty" study used to determine if Indian Point 3 should be shut down immediately. It was called the Indian Point 3 Shutdown Analysis.

The Indian Point 3 Shutdown Analysis evaluated the possibility of serving the SENY load using purchased power. The alternative was found to be feasible, but under the assumptions used, more expensive than continuing to operate Indian Point 3. However, the uncertainty inherent in the assumptions was never tested.

A key assumption in the Indian Point 3 Shutdown Analysis was the predicted escalation in the price of purchase power. NYPA used 2.6 cents per kilowatt hour in 1996, and then escalated the price to reach 3.8 cents per kilowatt hour in 2004. (These prices include energy and capacity charges.) NYPA's average purchase power cost in 1995 was 1.9 cents per kilowatt hour. Moreover, NYPA has not tested the market to see what price it could actually obtain for replacement purchased power. The 1996 starting point may be unnecessarily high, and the escalation rate may be higher than achievable.

NYPA produced the long-term life cycle analyses for Indian Point 3 and FitzPatrick in late February 1996. These life-cycle analyses considered the period through the expected decommissioning of the nuclear units. NYPA management reported that the results of the life-cycle analyses for Indian Point 3 and FitzPatrick showed that continued operation made economic sense. However, the results were heavily influenced by the assumption that no revenue would be received from the SENY government customers if Indian Point 3 were shut down. This assumption, which was not used in the Indian Point 3 Shutdown Analysis, is inconsistent with existing contracts and with what actually occurred over the period when NYPA served the SENY customers with purchased

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power while Indian Point 3 was out of service. NYPA did not provide a reasonable explanation for using this assumption in the life-cycle analysis. This assumption rendered the life-cycle analysis unreliable for decision-making purposes. The life-cycle analysis for FitzPatrick suffered from the same flaw as the Indian Point 3 analysis. It assumed the total loss of revenues if FitzPatrick were shut down, notwithstanding NYPA's capability to serve its customers with purchased power or internally transferred power.

Because of the lack of revenue neutrality, the results of the analyses are potentially misleading. When we questioned the loss of revenue assumption, NYPA executives claimed that the earlier Indian Point 3 Shutdown Analysis had addressed a revenue neutral scenario. However, the Shutdown Analysis had not been taken past the draft stage when that representation was made, and the uncertainty concerning assumptions therein had not been tested. Moreover, the fact that an earlier analysis had been revenue neutral fails to explain why an unsupportable assumption was used in the later analysis.

In our opinion, NYPA's analytical process was lacking in a number of respects. Examples include:

- ! The purpose, goals and objectives for the economic analyses of the nuclear units were not clearly defined. Expectations were not defined for what would be delivered in the context of what would be needed for decision-making. There was no clear definition of important decision factors in advance of the analyses. (It appears the lack of clear instructions and expectations was partially responsible for the long delay in completion of the analyses.)
- ! The analyses and evaluations were too simplistic. Keeping the analyses simple was apparently a guideline to the individuals performing the analyses. While this is a understandable sentiment, when the real world cannot be acceptably modeled with a simple analysis, this goal jeopardizes the quality of the analysis and, ultimately, the quality of decisions made.
- ! The treatment of uncertainty in the analyses was superficial. NYPA considered a range of values only for certain revenue assumptions and capacity factors, and in one case operating cost, in modeling the continued operation alternative. Uncertainty was not considered for any other variables. Probabilities were not evaluated for any assumptions or variables. There are no probabilities assigned to results, rendering the output insufficient for decision-making.
- ! NYPA's executives stated that short-term performance will influence their decisions about continued operation, even though they also say that the long-term economic analysis was the basis

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for their decision to continue operation. If short-term performance was a key factor in the decision, short-term performance measures should have been defined in advance. The relationship between the short and long term, in terms of NYPA decision-making, was not adequately explained.

- ! NYPA has not sufficiently analyzed different scenarios, (alternative and internally consistent views of the future). NYPA claims to use scenarios, but it really just uses alternative tests of a very limited number of forecast values.
- ! NYPA tested only one time period for the life-cycle in its analysis. The very long life-cycle period corresponds to the length of the license to operate each plant. This time period is arbitrary, and is not the only suitable time period to test.
- ! There was no consideration of alternative discount rates. This is a factor that can alter results and for which different values should be used.
- ! NYPA used Long Range Avoided Costs (LRACs) in its analyses as a proxy for the price it would receive for power in those cases where contract rates did not prevail. NYPA's use of LRACs in the nuclear economic analyses is inconsistent with assumptions in NYPA's long-term financial forecast. (In the short term, LRACs are actually lower than the price NYPA expects to receive. However, the LRACs escalate to very high levels over the mid to long term.)
- ! NYPA did consider a range of values for LRACs. NYPA's President indicated that he views the lower end of the range as a conservative proxy for the price NYPA would receive for power in a competitive generation market. However, the low end of the LRAC range may not be sufficiently low to capture the low end for a range of potential market prices. The use of LRACs for decisions in a competitive generation market is highly questionable, since they are tools that are premised on a regulated monopoly structure.

We conclude that the quality of NYPA's analyses was negatively affected by these deficiencies. Yet, NYPA's management relied on the analyses for its decision to continue to operate its nuclear plants. While we have reached no independent conclusion on the economic viability of NYPA's nuclear plants, we find that NYPA's analyses should not be relied upon for determining the future use and disposition of the nuclear units. We believe an independent analysis is necessary. In their response to this report, NYPA officials defend their analyses but do not object to having an independent analysis performed.



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We also conclude that the inability to complete the nuclear economic analyses in a reasonable manner and time frame is indicative of a significant weakness in NYPA's management and support capabilities. It is essential for NYPA to improve its ability to conduct reliable analyses to support complex decision-making; these skills are increasingly important in the rapidly changing electric utility business.

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## **Initiatives to Improve Plant Performance and Reduce Nuclear Operating Costs**

An essential attribute of an economically viable nuclear power plant is keeping the plant operating at high capacity factors, while successfully demonstrating to the NRC that plant operations are safe and effective. Historical performance, particularly in the last five years, does not justify optimism about NYPA's ability to operate its plants in a superior fashion.

We audited NYPA's efforts to improve performance and reduce the costs of production at its nuclear plants. We sought to determine if NYPA was taking reasonable steps in that regard. Our findings were mixed. We found that NYPA was taking appropriate steps to seek to improve capacity factor performance at FitzPatrick. However, commitment and follow-through on cost reduction initiatives need improvement. At Indian Point 3 the focus was exclusively on getting the unit back into operation. Efforts to improve capacity factor and reduce costs awaited resumed operation.

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### **Indian Point 3**

Because Indian Point 3 was shut down and still in regulatory difficulties with the NRC, NYPA's focus there was still on correcting deficiencies and restarting the plant. Indian Point 3 resumed operation in July 1995 after being shut down since February 1993. However, shortly after the NRC authorized NYPA to restart Indian Point 3, NYPA failed to follow appropriate procedures and operated the plant outside of approved specifications. Subsequently, the plant was again shut down in September 1995.

During the latter part of 1995 and the early part of 1996, NYPA made additional organizational changes, corrected deficient operating procedures, and took other steps to support restart. The most recent management personnel changes appear to have had a positive impact. The plant restarted again in April 1996.

A cause of the continuing problems at Indian Point 3 was, in our opinion, a history of inadequate accountability. Individuals and the organization were not held accountable for doing things right. The effect was extended outage time, higher costs and financial losses.

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### **FitzPatrick**

The effectiveness of the FitzPatrick organization was evident during this audit. There have clearly been significant improvements since the plant was restarted in January 1993. NYPA is implementing a variety of initiatives to improve performance and reduce production costs. We found that the management and plant staff recognize that improving plant capacity factor and lowering production costs will be necessary to achieve future economic viability. The focus there is clearly on improving capacity factor. NYPA is using budget cuts to attempt to

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hold down costs. However, most effort is directed at an increased capacity factor with an 85 percent department goal for 1996. This is a reasonable target, but well above what has been achieved in the recent past. Over the past three years, FitzPatrick has averaged just below 70 percent capacity factor.

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## Nuclear Plant Management Options

NYPA executives acknowledged that the nuclear plant performance problems during the past five years were caused, in large part, by ineffective management. NYPA has clearly made progress in that regard, particularly with respect to FitzPatrick. If the plants are to continue to operate, NYPA must take steps to improve management capability and effectiveness even further. Because of the magnitude of the challenges, the safety obligation and the economic risks involved in operating these plants, appropriate steps should be taken to provide the best available management talent and expertise.

In September 1995, President Schoenberger was not convinced that NYPA going it alone was the best option. In November 1995, he advised the Trustees that the performance problems indicated the need to seriously think about options for operating the nuclear facilities. President Schoenberger identified three alternatives: (1) NYPA would continue to operate the facilities on its own; (2) NYPA would form an operating company with other New York State nuclear utilities; and (3) NYPA would contract out for management of the nuclear facilities. He told the Trustees that he believed contracting for management or forming a nuclear operating company were both better than continuing to operate the facilities alone.

While he says NYPA has not ruled out any option, President Schoenberger's actions and responses to auditor questions suggested that he favored employment of an independent operator as the best option. In November 1995, he and a consultant issued a joint paper entitled "Capturing Stranded Value in Nuclear Plant Assets - NYPA's Innovative Approach to an Industry Dilemma." (This paper was subsequently published in the June 1996 issue of "The Electricity Journal.") Stranded value was defined as "increased power generation and reduced costs while maintaining high levels of safe operation." The paper described the fact that a small cadre of nuclear operating organizations have obtained results that are consistently better than the industry average. President Schoenberger referred to these organizations as "Advanced Nuclear Enterprises" or ANEs. The paper set forth the concept of employing an Advanced Nuclear Enterprise to obtain and apply its expertise to NYPA's plants, so as to permit achievement of superior performance levels. Before the end of 1995, efforts were underway to determine whether there was interest on the part of experienced operators. At least one utility had already expressed interest at that time. Subsequently, NYPA focused on this option, while at the same time continuing efforts to restart Indian Point 3 and achieve improvements at FitzPatrick.

NYPA did not produce any documents concerning an analysis of the costs and benefits of the different management options. The ANE approach was aggressively pursued in parallel with completion of an economic analysis. Moreover, NYPA moved in the direction of contracting out for management services without equal pursuit of common management or resource sharing with

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other New York nuclear utilities. NYPA rejected Niagara Mohawk's offer to run FitzPatrick. NYPA's President refused to proceed with a scheduled meeting to discuss the proposal because Niagara Mohawk had reported its proposal in an internal newsletter. Con Ed had reportedly offered to help NYPA at Indian Point 3, but refused to be party to a competitive proposal process.

In May 1996, NYPA's executives indicated that they were in negotiations to contract with an organization capable of assuming management responsibility for both of NYPA's nuclear plants. No documentation concerning the selection of the firm or the nature of negotiations was available for review during the audit.

While there is no guarantee that it would be successful, the pursuit of the ANE approach is reasonable. However, without knowing the details of the arrangement it is impossible to judge if it would be cost-effective or in the State's best interest. It appears, however, that NYPA has rejected New York utilities as candidates to help run its nuclear plants, and prematurely abandoned the concepts of common management with neighboring nuclear utilities or for a common manager of all nuclear plants in the State.

We sought to determine why NYPA did not pursue the option of forming a nuclear operating company with the other New York State utilities. In June 1994, NYPA's former President Freeman had proposed the idea of forming a single operating company for all six of New York State's nuclear power plants. President Freeman noted in a report to the Trustees that "There would be considerable savings in consolidating the management, the security forces, the training and numerous other functions. These savings are uniquely available to the Power Authority, since our plants are next door to plants operated by Con Edison at Indian Point or Niagara Mohawk at Nine Mile Point near the site of our FitzPatrick plant." President Freeman went on to say that "...we are initiating discussions with our two neighbors to achieve savings that we estimate could be some \$15 million a year for NYPA alone. The initial focus will be on combining the security forces at Indian Point, which could save the Power Authority about \$1.4 million annually."

Although NYPA had advocated this idea, there were no signs during this audit of any NYPA effort to pursue it. This was the case in spite of the fact that NYPA's Chief Nuclear Executive, William Cahill, and President Schoenberger agreed that combining operations with the other nuclear utilities made good sense.

Mr. Cahill indicated that NYPA needed to move beyond having stand-alone single unit plants to help assure sustained, economical and safe operation. He believed that forming a nuclear operating company with other New York's nuclear plants would be in NYPA's best interest. He observed that this audit might serve a useful purpose by reporting any impediments to combining units at the different utilities. We learned that Con Ed is not currently in favor of a single operating company for New York State's nuclear plants. Indian Point 2 has been running well and its book value does not represent a significant portion of Con Ed's assets. We also learned that Niagara Mohawk would be

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in favor of combining plants. We understand that Rochester Gas and Electric is also not opposed to the idea.

We found that NYPA fell short on commitment and follow-through regarding initiatives to share resources with the two neighboring utilities. President Freeman spoke of “initiating” discussions in June 1994. In reality, “discussions” had been occurring from time to time for a number of years. However, the discussions did not lead to actions that produced substantial cost reductions for NYPA. In December 1992, Con Ed’s top nuclear officer wrote NYPA’s Resident Manager of Indian Point 3 to formally propose a meeting to develop “... joint strategies and actions to reduce the cost of operating and maintaining both units.” That initiative led to discussions about potential opportunities in security, maintenance, operations, engineering, material procurement/warehousing and quality assurance. Opportunities in security and material procurement/warehousing were explored extensively. In the end, however, NYPA’s performance problems at Indian Point 3 made it difficult to maintain momentum and continuity.

Even at FitzPatrick, where there has been a substantial amount of sharing of practices and lessons learned, and a few shared activities, the recent initiatives did not produce new resource sharing that reduced NYPA’s costs. In spite of the commendable efforts and successes to achieve safe operation and work toward excellence in nuclear operations, the successful initiatives between FitzPatrick and Nine Mile Point 1 have not included reducing NYPA’s costs.

We found NYPA’s management did not hold nuclear plant managers accountable for achieving savings through the sharing of resources with the neighboring utilities. As a result, potential cost savings were forgone. NYPA’s own estimates suggested that there was a potential to save millions of dollars at each plant. NYPA’s management blamed the continuing problems at Indian Point 3 for the lack of resource sharing and cost cutting initiatives at that plant. However, a similar explanation could not be used at FitzPatrick. We believe that management’s acceptance of “organizational inertia,” as well as its reluctance to deal with additional work force reductions, has prevented aggressive pursuit of resource sharing. Executives at the neighboring nuclear utilities also believe that NYPA has been reluctant to implement sharing initiatives that could lead to reductions in employee staffing levels.

There are other factors that limit the sharing of resources with the neighboring utilities. For example, there may be rules and policies unique to public authorities, such as compensation policies and procurement rules that apply to NYPA, that do not apply to Niagara Mohawk and Con Ed.

We found “institutional ego” to be another factor. The relationships between Con Ed and NYPA management and the respective plant staffs have not been conducive to the pursuit of what should be common interests. The relationship between NYPA and Niagara Mohawk has been good at the plant level, but riffs at the management level hindered what might have been productive discussions toward common management and/or resource sharing.

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## Conclusion

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Combining operations and management of NYPA's nuclear plants with the neighboring plants was originally NYPA's idea. NYPA's current executive management states that such a combination offers benefits and may eventually make sense, and that the pursuit of the ANE/contract management approach will not preclude such combination in the future. However, if an out-of-State firm is employed by NYPA, the potential for combining management or sharing resources may be reduced, particularly if the other New York nuclear utilities see the move as a competitive threat.

Committing to the contract management approach without fully exhausting the potential for a New York utility solution may not be in NYPA's or the State's best interest. By October 1, 1996, the investor-owned utilities in the State must submit plans to the Public Service Commission for implementing competition. In addressing restructuring, these plans should be expected to address issues related to the utilities' nuclear facilities. The Public Service Commission's restructuring order specifically addressed this issue:

"It is clear that the role of NYPA needs to be reconsidered as a competitive generation market emerges in New York. Part of this consideration should include treatment of nuclear plants generally (NYPA owns two of the state's six operating units). Any major changes in the role of NYPA will likely require legislation."

If combining management or sharing resources at the nuclear plants could benefit all electric consumers and the State, then NYPA actions that might preclude realization of such benefits should be delayed. Moreover, commitment to a contract management approach should await a clear determination that continued ownership and operation of both FitzPatrick and Indian Point 3 are in the State's best interest. In their response to this report, NYPA officials elaborate on their position with respect to the benefits to the ANE approach. However, NYPA officials do not disagree with our conclusion.

### **Recommendations**

10. Conduct an independent analysis and evaluation of options to maximize the value of NYPA's nuclear assets before October 1, 1996, when proposals for transitioning to a competitive market are due to the Public Service Commission.
11. Take steps to enhance capabilities and skills in performing economic analyses.

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### **Recommendations (Continued)**

12. Maintain the momentum to improve management and operating economies at Indian Point 3 and FitzPatrick.
13. Aggressively pursue opportunities for sharing resources with neighboring nuclear facilities, and hold managers accountable for achieving related cost savings or other benefits.
14. Complete an economic analysis of contracting out the management of NYPA's nuclear plants before engaging any company to perform such services.
15. Fully examine the potential efficiencies and other benefits that could result from the common management of New York's nuclear plants.

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# Staff Planning and Workforce Management

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## Background

This audit also addressed NYPA's staff planning and workforce management policies, procedures and practices. We sought to determine whether NYPA's approach, methods, procedures and tools were logical, appropriate to the type of work, useful, and effective in providing information for decision-making in the face of changes occurring in the electric utility industry.

Our evaluation takes into account the changes that are occurring in the electric industry and how they affect NYPA. The focus is to determine whether NYPA is taking reasonable and appropriate steps in light of these changes to ensure that staffing levels are appropriately determined and set, and that workforce management practices are consistent with the increasingly competitive business environment in which NYPA will be operating.

In recent years, in response to competitive pressures and in anticipation of deregulation of electric generation, many electric utilities in the United States have decreased staffing levels as a means of lowering costs. Labor is typically the one of the largest components of the cost of producing and delivering electric power. At NYPA, labor is the largest component of total costs.

Efforts to downsize and streamline organizations in the U.S. have been successful in improving profitability and competitiveness. These are a few examples of changes at investor-owned utilities reported in 1996:

- ! The Boston Edison Company reorganized into four distinct business units, effective November 1, 1995. The restructuring eliminated one-third of the Company's 200 upper and middle management positions. Boston Edison's employment level peaked at 4,800 jobs in 1990, and will decrease by 25 percent to about 3,500 jobs in 1996.
- ! American Electric Power implemented plans to reduce employment by 1,200 jobs at 16 fossil-power plants, beginning in October 1995 and continuing through 1996. Current employment at fossil-power plants is about 5,200 workers.
- ! Commonwealth Edison plans to cut 2,000 to 3,000 jobs, which represents about 16 percent of its work force, through attrition and retirement. Many of the cuts would be among union jobs.
- ! Commonwealth Edison had cut 1,500 mainly salaried workers in 1992 and in 1994; 700 employees accepted early retirement offers.



! Niagara Mohawk announced a \$195 million charge to earnings to absorb the cost of its employee reduction program. Niagara Mohawk estimated its labor-related savings at \$60 million for 1995. Staff reductions have exceeded 3,100 since downsizing plans were announced in early 1993.

These examples represent just a few of the many staff reduction efforts that have been taking place at electric utilities across the country. Change has been occurring at NYPA as well, but the pace appears to be slower.

As shown in Table 1, employee staffing levels at NYPA have changed little from 1991 to 1995. During this period, NYPA decreased bargaining unit employees by about 5 percent but increased management and non-management personnel, with the result that overall NYPA employee staffing levels increased by 0.4 percent. Over this period, there was a significant decrease in the number of contract workers used. NYPA did not provide data for 1991, but reported a decrease of over 300 in the number of contract workers used from 1992 to 1995.

	<b>1991</b>	<b>1992</b>	<b>1993</b>	<b>1994</b>	<b>1995</b>	<b>% Change</b>
Management	571	611	593	586	599	4.9%
Non-Management	1,319	1,465	1,416	1,346	1,378	4.5%
Bargaining Unit	1,444	1,511	1,459	1,390	1,371	(5.1)%
Totals	3,334	3,587	3,468	3,322	3,348	0.4%

NYPA's most recent efforts to reduce staffing costs were in 1993 and 1994. In 1994, the focus was also on achieving a budget cost reduction of \$64 million. These initiatives resulted in a 3 percent employee staffing reduction in the period from 1992-1993, and a 4 percent reduction from 1993 through 1994. But in the period from 1991 through 1995, NYPA's employment increased by about one-half percent, while other electric utilities in New York reduced their employee workforces by about 15 percent.

NYPA's 1993 program was actually a voluntary severance program much like those used by others in the industry to reduce staffing levels. The 1993 program resulted in 108 employees leaving the payroll. The second initiative was NYPA's "90-day restructuring" effort. It was initiated by NYPA's then newly appointed President and CEO, S. David Freeman. From this initiative, NYPA reduced its planned budget

expenditures by reducing: the number of planned capital improvement projects for its nuclear plants, the operating costs to reflect NYPA's plan to put Poletti on reserve shutdown (it is not yet in that operating mode), contract labor, and the number of authorized positions for NYPA staffing.

Over the past five years, the employee workforce has been reduced in some functions while in other areas staffing levels increased substantially (Table 2). As shown, some of the changes involved shifting staff among departments and the creation of new groups. For example, the Energy Efficiency and Transmission Business Groups were newly created in 1994.

	1991	1992	1993	1994	1995
<b>Headquarters Department</b>					
Executive	19	18	17	9	9
Marketing &	138	151	134	39	47
Human Resources	67	67	66	50	46
Business Services	303	308	267	261	270
Legal	49	51	49	45	47
Public Affairs	83	86	72	54	45
Appraisal & Compliance	97	108	100	99	146
Power Generation	191	195	192	137	135
Nuclear Generation	244	310	334	284	250
Energy Efficiency	0	0	0	65	82
Transmission	0	0	0	95	94
Internal Audits	14	16	12	11	12
Strategic Planning	4	5	3	5	5
Subtotals	1,209	1,315	1,246	1,154	1,188
<b>Sites</b>					
Niagara	305	310	292	281	280
St. Lawrence	257	267	256	238	237
Blenheim-Gilboa	144	149	145	136	137
FitzPatrick	547	610	606	612	613
Indian Point 3	593	656	640	642	634
Poletti	162	161	167	132	131
Flynn	0	0	0	29	29
Clark Energy Center	112	114	111	98	99
NY Power Pool	5	5	5	0	0
Subtotals	2,125	2,272	2,222	2,168	2,160
Totals	3,334	3,587	3,468	3,322	3,348

The lack of significant employee downsizing, by itself, is not proof that over staffing exists. However, the lack of significant employee staffing reductions at NYPA over the past five years raises the question of whether NYPA management has been taking sufficient actions to optimize the size of its workforce and minimize its cost of operations. Such actions would be expected for NYPA to be consistent with industry trends and also, to be consistent with NYPA's mission to provide lower-cost power. However, we found that NYPA has no comprehensive staff planning process in place today, based on quantified workload estimates.

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We believe that the absence of such comprehensive planning and related procedures could inhibit NYPA's ability to reduce costs in the future and perform successfully in a competitive electric power business.

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## **Review of NYPA Staff Planning**

Staff planning includes the set of policies, procedures, plans, practices and management tools necessary to determine the most efficient set of labor resources required to carry out the mission of an organization. It includes information requirements to define current and projected workload, evaluation processes to determine cost-effective labor resource requirements, and labor resource allocation methodologies to apply resources where they most cost-effectively advance the mission of the organization. The most effective staff planning requires accurate quantification of workload by measurable unit of work or activity on a continual basis, accurate knowledge of workforce utilization and productivity, and feedback of actual labor resource expenditures against work activities. It also requires companion policies which provide guidance in how the size of the workforce is to be determined and adjusted based on changes in workload and changes in productivity and utilization. It also requires that management periodically judge the effectiveness of the overall process. In short, effective staff planning matches supply and demand for labor resources in a way that results in the least cost for the organization consistent with its mission.

We found that NYPA does not have policies, procedures or staff planning tools necessary for quantifying workload, or for translating workload forecasts into required staffing levels.

NYPA uses a qualitative budget-based process to set the size of its workforce, and an individual and departmental performance appraisal process that compares performance to goals. Staffing at NYPA is set through an incremental budgeting process based on labor expended in the prior year, not on quantified projections of future workload. However, these processes fail to fully address NYPA's cost-effectiveness.

Individual sites and departments generate workload and backlog information of various sorts, but the process of integrating the data and information in a way that results in accurate and useful information for staff planning purposes does not exist. NYPA has plans in place at its non-nuclear sites and some supporting corporate functions to eventually achieve this result but, at present, implementation has not progressed to a point that staff planning activities can be considered effective. This is because NYPA lacks the structured staff planning procedures and analysis tools needed, and does not use activity-based accounting to categorically account for all time spent. Ultimately, this weakness in determining the most cost-effective size for its workforce is the result of a culture that, in our opinion, has not sufficiently emphasized accountability for efficient use of resources.

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NYPA's workforce managers have not been required to determine or maintain staffing levels that minimize the cost of operations. As a result, NYPA does not now know what its most cost-effective staffing levels should be, and is likely over-staffed in some areas. The replacement rate for employee voluntary separations was only 41 percent in 1995. This suggests that NYPA staffing has been higher than required, but provides little insight as to its extent. Nearly all of the executives and managers interviewed during this audit candidly reported their opinion that, overall, NYPA has a larger workforce than required to accomplish necessary tasks.

Consultant studies that identify low workforce utilization and productivity at NYPA's non-nuclear power generating facilities support this assessment, but the extent is difficult if not impossible to quantify because NYPA does not have the information or analysis tools in place to make the determination. Low workforce utilization and productivity translate directly into higher staffing levels.

Because information and data quantifying workload, productivity and workforce utilization does not widely exist in the organization, definitive conclusions on staffing levels are not possible. Based on our collective observations, we formed the opinion that NYPA's overall staffing was higher than essential.

With a few exceptions, NYPA does not have or use manpower planning tools to determine staffing levels. Information on job and task manpower requirements is also not rigorously defined. Exceptions include certain work at non-nuclear power production and transmission facilities where estimates of the labor component of work orders are part of NYPA's new Maintenance Resource Management (MRM) program. The MRM program is the centerpiece of NYPA's transition to more structured and efficient workforce management. NYPA has taken positive steps here to develop and implement structured work management practices with MRM. At this point, work estimates are essentially for job scheduling purposes and are not used directly for staff planning and the information needed to support a quantitative approach to staff planning is not yet available. However, NYPA has set goals for implementation of MRM workforce management practices at each facility where it applies, and is closely monitoring implementation. NYPA is also measuring its success by the extent to which it uses MRM practices.

NYPA's new MRM workforce management program has great potential. However, the value of MRM for staff planning purposes will be minimal until NYPA implements time recording systems that accurately account for all time worked in an activity-based work breakdown structure, implements more challenging work performance estimates and translates productivity gains into cost savings.

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In departments not affected by the MRM program, some NYPA executives stated that they do not believe that the use of structured manpower planning tools is necessary. Consequently, these executives have not acted to develop and implement policies and procedures to accurately quantify workload and determine minimum labor resource requirements. NYPA is currently planning to implement an activity-based accounting system in 1997, and use this system to record labor charges. Such a system, still in the early planning stages at NYPA, is only one element in a structured staff planning process.

The 90-day restructuring and cost-reduction effort in 1994 did not “reengineer” work practices as NYPA had originally intended. The broad-based restructuring effort provided an excellent opportunity to reexamine the value of each element of work performed and how efficiently it was accomplished. Results should have directly supported workload quantification and structured staff planning. However, the restructuring was basically a one-time cost cutting effort and a review of excess staffing and organizational redundancies.

The 1994 restructuring was not followed by a program to continually improve operational efficiency by reengineering work processes, developing an improved basis for evaluating staffing levels, or instituting a more structured approach to employee staff planning. Savings were reported by NYPA for both the 1993 and 1994 programs, but reported savings did not dramatically change total operations and maintenance expenses. Operations and maintenance expenses for nonnuclear activities increased slightly from \$222 million in 1993 to \$231 million in both 1994 and 1995. Total reported operations and maintenance expenses, including nuclear activities, went from \$437 million to \$450 million over the same time period.

NYPA’s efforts to reduce expenses through employee staff reductions have resulted in relatively small savings, and NYPA’s efforts to reduce costs by optimizing workforce levels are not keeping pace with industry trends.

We concluded that there are several contributing causes of NYPA’s apparent reluctance to be more aggressive in the area of employee staffing. At NYPA, the organizational culture in parts of the organization is still very much like that which existed throughout the electric utility industry before competitive pressures began to force change. The culture emphasizes job security and stability of the workforce. This focus has been characteristic of the utility industry, but it has changed dramatically over the past few years.

In order to prepare for competition and achieve improved financial results, many investor-owned utilities have been shedding unnecessary functions, eliminating duplication, streamlining work process and reducing staff levels. In spite of NYPA’s apparent recognition of the

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need to aggressively reduce costs, the reality of the challenge is not widely accepted in the organization. Incentives to optimize employee staffing levels have not existed.

Organizational inertia, a reluctance to change and a somewhat complacent acceptance of the status quo, also inhibit staffing changes. The culture has been in place so long, and is so deeply rooted, that real change will require extremely strong and persistent leadership. Efforts to reduce costs in 1993 and 1994 were signs that NYPA's executive leadership recognized the need for change in a changing marketplace. But continual change is required until NYPA demonstrates to itself and others that the size of its employee workforce matches workload as evidenced by quantifiable staff planning data.

NYPA's executive management may recognize that staff size optimization is essential for an enterprise operating successfully in a competitive marketplace. However, the fact is that NYPA's organization has been somewhat insulated from competitive pressures until just recently. NYPA is not subject to commercial accountability or regulatory scrutiny. NYPA also enjoys exemption from taxes and a lower cost of capital. However, such financial advantages can be diminished through organizational inefficiencies.

The relevant question for this audit is whether NYPA is making the internal adjustments necessary to assure that it minimizes costs in order to succeed in a competitive marketplace. We found inadequate incentives to minimize costs at NYPA. NYPA leadership has not implemented the staffing policies, procedures and tools necessary to minimize the size of its employee workforce.

In their response to this report, NYPA officials contend that counting authorized positions is an appropriate measure in evaluating changes in staff levels. However, this is not standard business practice and it is misleading. In NYPA's approach, the reduction of unfilled authorized positions would be a staffing reduction even though there would be no actual reduction in headcount or expenditures. NYPA officials also suggest that the audit did not properly deal with contractor staffing. However, our report recognizes NYPA's reduction in contract staff.

NYPA officials further disagree with the audit finding that employee staffing levels have not changed since 1991. However, this finding is based on data provided by NYPA. NYPA officials also assert that NYPA is already pursuing approaches to optimizing its workforce and they reject a more structured approach to staff planning. However, nothing in NYPA's response would lead us to alter our findings and conclusions in this area.

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## **Review of NYPA Workforce Management**

Work management includes all those activities necessary to ensure that work is performed on time, within budget and at the least cost consistent with quality requirements, safety, and any other quality or characteristic important to an organization's mission. In the context of this audit, work management is defined as the company policies, programs, procedures and practices that maximize time actually spent working (utilization), and how efficiently the time is applied (productivity). It includes the information necessary to measure and monitor employee performance in terms of utilization and productivity. It also includes the processes used to identify deficiencies and their root cause, implement corrective action and monitor results or progress toward improvement.

At NYPA, few groups use organized processes and procedures for forecasting workload, monitoring workforce utilization, and managing productivity. An integrated work management system does not presently exist in any NYPA business unit, nor does a structured approach to defining workload and monitoring productivity of the workforce. NYPA's executives cannot, at this time, determine how effectively and efficiently its workforce is being utilized and managed, in general, or in individual business units, groups or departments. Structured work management practices are used by the System Engineering Group at NYPA's FitzPatrick nuclear power plant. That group is pioneering work management practices with off-the-shelf software. The Power Generation Engineering and Project Management groups also employ elements of workload forecasting to help plan and manage their work. The Legal Department does a retrospective review of staff utilization and productivity on a periodic basis. These groups deserve recognition for their efforts. However, for the most part, work activities at NYPA are not discretely defined or quantified for work management or staff planning purposes.

It is appropriate to look at the NYPA organization in three parts to understand the state of affairs in work management. The three parts are: Power Generation (site and headquarters personnel for fossil fuel, hydroelectric and transmission facilities), Nuclear Generation (site and headquarters personnel), and all other headquarters personnel.

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### **Power Generation**

In the Power Generation business unit, much of the workforce performs routine and repetitive activities whose labor resource requirements can be defined and whose performance can be monitored. Productivity and utilization are not currently being measured, but NYPA is implementing more structured work management methods that will allow for performance and utilization monitoring, and eventually, efficiency improvement. The new initiatives are included in NYPA's MRM program.

Built around maintenance management system software, the MRM program includes all of the essential elements of a comprehensive

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program to manage resources effectively for plant maintenance and related capital improvement projects. Because the MRM program is so comprehensive, and NYPA's existing work management practices so ingrained and rudimentary, progress toward full implementation has been slow. The rate of progress has increased, however, since the fall of 1995. (We suggested specific steps to accelerate implementation which NYPA management accepted and acted upon.) Once all elements of the MRM program are in place and functioning as designed (including computer software, new work procedures, detailed work instructions, pre-planned materials, tool, and parts), NYPA will have a state-of-the-art work control system which will enable it to monitor work performance and improve productivity.

Workforce management improvements are already being reported by NYPA as part of the MRM program, but productivity gains have yet to be clearly demonstrated. The capability to monitor productivity on a task-by-task basis will eventually exist. However, cost savings will be limited by NYPA's natural attrition policy.

Staff at most of NYPA's facilities are now defining work activities on work orders and preparing estimates of labor resource requirements. Job and task plans are being improved with work instructions identifying how the work is to be performed, and the parts, tools and material requirements are being better defined to reduce time spent waiting or preparing for a job. The process has not been completed at any site. Some computer interface issues remain to be resolved to support integration with payroll and parts inventory databases, and although progress is being made, a significant amount of work remains to be done before MRM can be used to support management evaluations of workforce performance and implement changes in work practices to improve utilization and productivity.

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## Nuclear Generation

Work control at both nuclear plants is automated under the ROME (Reliable Online Maintenance Environment) system which provides automated processing and control of maintenance work requests and related planning and work control activities. The white collar work force, with some exceptions, does not plan and control its work activities with a similar system.

At the FitzPatrick nuclear plant, performance indicators and the drive to minimize outage time are providing incentives to improve productivity. The plant management team and plant manager are keenly aware of the importance of efficient operations, although cost savings through resource sharing have not been pursued as aggressively as they might have been. We believe the use of performance targets and performance monitoring serves as an effective workforce management tool. However, NYPA does not see workforce management performance issues as a significant risk to continued safe or profitable operation.



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At Indian Point 3, we found that workforce management issues and optimization were not principal among the plant's goals as it struggled to return to operation after an extended outage. The greater risk at Indian Point 3 is its ability to maintain safe and reliable operations for as long as is required to be removed from the NRC's Watch List of troubled plants. Optimization of work management practices at Indian Point 3 will come in time if the plant follows in FitzPatrick's path.

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## Headquarters Support

NYPA's executives do not believe that a structured approach to white collar workforce management is necessary. However, innovative utilities that are aggressively seeking to cut costs and improve profitability have implemented structured work management practices. In New York State, for example, New York State Electric and Gas had already implemented more structured work management practices for some of its white collar workforce five years ago. For NYPA's headquarters staff, workforce management practices are essentially unchanged since 1991.

NYPA currently has no plans to implement more structured workforce management policies in its headquarters operations or at its nuclear plants. NYPA has announced that it is planning to put in place at least one element of a structured workforce management process, activity-based time recording, in 1997.

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## Time Reporting

Time reporting procedures are a particularly weak link in NYPA's workforce management process. NYPA's White Plains and New York City headquarters staff are on a seven-hour day work schedule. Production facilities work an eight-hour day. NYPA does not currently record all time worked in a work breakdown structure that allows productivity and performance monitoring or determination of workforce utilization. Where time is being recorded against specific jobs at NYPA sites as a result of the MRM program, the data is not particularly useful because all work performed is not assigned to specific work activities for which quantified task performance time estimates exist. Time recording practices also do not include measurement of lost time, which is needed to monitor and improve workforce utilization. Even at facilities where MRM program activities have progressed to the point that comparison of estimated versus actual man-hour expenditures are possible, management is not yet managing the workforce any differently than before such data were available.

NYPA's managers generally do not have the information to evaluate workforce performance and productivity or to quantify how efficiently their departments are performing.

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## Overtime Practices

Overtime has not been managed in a way that ensures that labor costs are minimized. Although NYPA leadership is attempting to implement measures to reduce the use of overtime, and NYPA recognizes the need to ensure overtime expenses are cost-effective, it has not followed its own procedures to periodically determine the cost-effectiveness of its overtime expenditures. Instead, NYPA management issues quarterly reports of overtime payments in each department and at each facility, but does not require that the cost-effectiveness of overtime expenditures be quantified or alternatives explored.

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Fluor-Daniel, an independent workforce management consultant hired by NYPA, concluded that workforce utilization (time actually spent working) at NYPA was substantially below industry averages. This means that NYPA has sufficient staff resources to accomplish more required tasks during normal working hours. An increase in productivity should reduce the need for overtime.

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## Workforce Utilization and Productivity

Fluor-Daniel reported that workforce utilization was below reasonable expectations at all of NYPA's conventional power plants. NYPA's regional managers openly acknowledged the reported weaknesses in work management practices identified by Fluor-Daniel and said they came as no surprise. With this recognition, however, came an apparent acceptance of the status quo and a lack of aggressive action to deal with real issues in workforce management.

Workforce productivity at NYPA is not adequately monitored. H.B. Maynard Company, a work management consulting firm hired by NYPA, estimates that improved productivity of as much as 20 percent is possible with improved workforce management practices at NYPA's fossil fuel and hydroelectric power facilities. NYPA management estimates even greater gains but is not sure how or when they will be realized under current staffing policies. NYPA has not yet implemented more aggressive work performance standards to attempt to improve productivity.

NYPA's practices in workforce management lack the definitive processes and features needed to quantify and improve organization efficiency. There has been a general acceptance of the status quo among management in many parts of the organization with respect to workforce management. NYPA needs to more aggressively pursue productivity improvements and cost savings through strengthened workforce management policies and procedures.

### **Recommendations**

16. Implement staff planning policies that require quantification of workload, activity-based time recording, and the use of staff planning tools to accurately determine required staffing levels.

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### **Recommendations (Continued)**

17. Eliminate cultural barriers to structured workforce management policies and procedures in nonnuclear facilities.
18. Accelerate the implementation of NYPA's MRM program. Emphasize job planning and estimating, and include the independent development and implementation of challenging job performance standards.
19. Hold managers, supervisors and employees accountable for productivity and efficiency improvements, and provide adequate incentives for achieving real reductions in costs.
20. Implement work performance indicators that correlate directly with costs. Use these to identify actions which can result in real cost reductions.

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# Major Contributors to This Report

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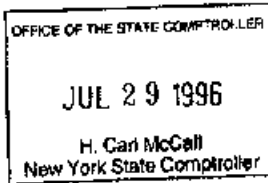
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Clarence D. Reppleyea  
Chairman and  
Chief Executive Officer

July 26, 1996

CLARENCE D. REPPLEYEA  
ROBERT R. ATTARDI  
DEPUTY COMPTROLLER

JUL 29 1996

ALBANY, NEW YORK  
OFFICE OF THE STATE COMPTROLLER

Honorable H. Carl McCall  
Office of the State Comptroller  
Alfred E. Smith Office Building  
Albany, NY 12236

Dear Comptroller McCall:

Pursuant to Chapter 469 of the Laws of 1989, as amended by Chapter 298 of the Laws of 1990, please find enclosed the response of the Power Authority of the State of New York to the Management Audit conducted by the Office of the State Comptroller.

In reviewing the audit findings, it seems clear that this audit fails to adhere to the intent of the authorizing legislation. Rather than provide an assessment of the ways in which the Power Authority's performance has conformed with policy established by the Legislature and the Executive, this audit is incorrectly based upon assumptions about what state energy policy should be.

I would like to bring to your attention the following with regard to the enabling legislation:

Section 4.1 second paragraph, explicitly states "Each such audit shall culminate with the issuance of a written report which shall include, but not be limited to, a detailed analysis of the authority's programs, management and operations, with specific findings and recommendations relating thereto, an assessment of internal controls and recommendations thereto, and, when applicable, a statement setting forth the status of the authority's implementation of recommendations from prior audits conducted pursuant to this or other sections of law."

Further, the Governor's approval memorandum indicates that "the operations of the Power Authority will be periodically reviewed to ensure conformance with State energy policy."

In addition, the sponsor's memorandum, in framing legislative intent, concludes that "this bill provides for periodic review of the Authority's management and operations to ensure that the Authority's performance is consistent with the energy policy of this state."

**NEW YORK POWER AUTHORITY  
MANAGEMENT RESPONSE TO  
THE RECOMMENDATIONS IN THE  
1996 MANAGEMENT AUDIT  
BY THE OFFICE OF THE STATE COMPTROLLER**

07/31/96



**New York Power Authority  
Response to 1996 Operations and Management  
Audit Recommendations**

<u>Number</u>	<u>Recommendation</u>	<u>Management Response</u>
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**NYPA's Role in a Changing Industry: Need for Reappraisal**

1. The Governor and the Legislature need to reassess the roles, functions and assets of NYPA, and in the context of the restructuring of the electric utility industry, evaluate anew what the State should own, what it should operate, what services it should provide, what it should fund, and what it should do in the electric business.

With this recommendation, the audit ignores the fact that the Governor and the Legislature are involved in such reassessment with the support and participation of NYPA. In fact, the Power Authority has actively participated and continues to participate in those forums which consider the restructuring of the industry, and the overall state presence in the electric business. The audit fails to assess the benefits to the state provided by NYPA generation and transmission facilities, NYPA energy efficiency services and research, and other ancillary public services. The audit also ignores the fundamental importance of providing a public power benchmark for service and price.

Further, in re-evaluating the role of the Power Authority, the executive and legislative branches of state government are reviewing the impact of restructuring in the full context of complying with federal guidelines while assuring a safe and reliable system within the state.

As an outcome of a management audit, it would be more appropriate to recommend the review of specific areas that the Authority should consider with respect to industry restructuring and to promote improvements in deficient areas, rather than offer policy directives to other government entities.

**New York Power Authority  
Response to 1996 Operations and Management  
Audit Recommendations**

<u>Number</u>	<u>Recommendation</u>	<u>Management Response</u>
<u>NYPA's Ability to Meet its Revenue Requirements</u>	<p>2. Maximize the direct charging of administrative and support costs to reduce the level of allocated costs. Develop a method for allocating remaining indirect costs based on an empirical study that demonstrates the causal relationship.</p>	<p>The audit criticizes NYPA's methodology for indirect cost allocation but fails to identify any substitute methods which would more accurately assign these generalized administrative costs to each of its operating units. The fact is that NYPA's method for such allocation -- based on the generating capacity of its operating units -- is reasonable and well suited to its unique structure.</p>
		<p>Initially, NYPA agrees that indirect cost allocation is not an exact science and that even the experts, including the Cost Accounting Standards Board cited in the audit, articulate generalized objectives rather than prescribe specific allocation formulas. Thus, there is no single correct method for such allocation and in fact the Federal Regulatory Commission ("FERC") has recognized that labor ratios is not the only proper method for allocating such costs. The auditors themselves do not endorse or recommend one allocation method over the others.</p>
		<p>NYPA cannot, however, agree with the audit's unsupported conclusion that the methodology it chose "lacks a sound basis." As NYPA has previously explained in publicly available Staff reports, the use of capacity is appropriate given its separate projects and project specific rates and is not very different than an investor-owned utility's treatment of such costs. NYPA, like a regulated utility, functionalizes on the basis of labor ratios its overhead costs between the various components of plant (i.e.,</p>

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**NYPA's Ability to Meet its Revenue Requirements (continued)**

production, transmission, etc.). The regulated utility then allocates these costs among customer classes by the use of a demand allocator. For NYPA, whose customers buy power from particular plants at particular rates, the generating project which is the source of a customer's power effectively equates to a conventional utility's customer class. Thus, in NYPA's case the capacity of a particular plant (like a particular class of customers) is appropriately employed to allocate indirect costs.

In the final analysis, OSC's ultimate conclusion is a classic "ipse dixit". It first incorrectly asserts that NYPA's method of allocating indirect overhead is unproven and then inexplicably impugns this allocation method. OSC, however, never explains how it can invalidate NYPA's chosen allocation methodology when admittedly it has no basis for that claim.

In short, the NYPA's justification for its allocation methodology is considerably more satisfactory than OSC's reasons for rejecting it. NYPA has repeatedly explained to the public and its customers the basis for its method and is convinced it is appropriate and preferable to other techniques such as labor ratios.

NYPA believes its current allocation procedures for income fairly reflect NYPA's source of investment income. Of the \$938 million cited in OSC's report (forecasted investment earnings over the period 1995-2004) \$467 million is associated with

3. Treat investment income as institutional income and do not allocate it to individual operating units for purposes of reporting and evaluating the financial performance of individual facilities.

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4 .	For purposes of reporting and evaluating the financial performance at individual facilities, do not allocate net revenues from purchased power sales. Instead, separately account for purchased power costs and revenues.	earnings on nuclear plant decommissioning trust funds. Another \$98 million comes from earnings on the nuclear spent fuel liability reserve fund. Therefore, \$565 million, or 60% of total projected earnings are unequivocally associated with NYPA's two nuclear plants and their customers who provided the revenues and who ultimately get the benefit of the investment earnings. Similarly, \$91 million represents earnings on the General Reserve Account, which is just as unequivocally associated with NYPA's Niagara and St. Lawrence projects and is so allocated. The balance of projected earnings are principally associated with bond service and bond reserve accounts and are essentially allocated based on project-specific bond and debt service amounts. There is, therefore, a very clear connection in NYPA's view between investment income and specific facilities, and we disagree with OSC's conclusion that the methodology distorts facility financial information. If anything, OSC's wholesale and arbitrary adjustments of NYPA information within the report should be read with care.
4 .	For purposes of reporting and evaluating the financial performance at individual facilities, do not allocate net revenues from purchased power costs and revenues.	We disagree with the proposed use of so called "market value" prices, as suggested by OSC. The use of "market prices" requires a determination as to whether such a set of prices exist in a meaningful and useable form. The simple substitution of some arbitrary and as yet unidentified single or set of "market value" transfer prices for the current cost-based interproject pricing requires a clear demonstration both that a full set of such prices exists, and that they are superior to the cost-based prices

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**NYPA's Ability to Meet its Revenue Requirements (continued)**

now in use.

NYPA engages in the interproject transfers of four kinds of power and energy:

- 0 long term supported firm power and energy (including reserves),
- 0 long term firm capacity (without reserves or energy),
- 0 non-firm all hour support and economy, and
- 0 off-peak, non-firm pumping energy

These transfers are transfers of materially different power products and all are currently billed between projects using cost-based rates. Long term supported firm power and energy (including reserves), the highest quality product, is transferred from FitzPatrick to SENY in support of SENY public customer loads at a rate of about 47 mills/kwh. Long term firm capacity (without reserves or energy) is transferred from Blenheim-Gilboa to SENY, also in support of the SENY public customer loads at a rate of \$2.30/kw-mo. Non-firm all hour transfers of support and economy occur between the thermal projects at the cost of fuel plus incremental operating & maintenance costs, generally about 12-17 mills for nuclear energy and 22-23 mills for fossil energy. Off-peak, non-firm pumping energy, the lowest quality product, is supplied by the hydroelectric projects to Blenheim-Gilboa at the preference cost-based rate of 11 mills, adjusted for pumping losses.

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**NYPA's Ability to Meet its Revenue Requirements (continued)**

We would first point out that if the "market value" referred to is the 20 mill value cited in the report, then the auditors may be comparing apples to oranges. NYPA's total average cost of purchased power in 1994 and 1995 included substantial quantities of low quality non-firm energy, which is clearly inapplicable to measuring the value of long term firm power pricing, for example. However, if a 20 mill non-firm energy "market value" is assumed arguendo, then we would, secondly, point out that many interproject transfers of similar quality do in fact occur at close to this level, with lower and higher quality transfers occurring at below and above this level respectively, as would be expected in a quality adjusted "market value" based pricing system.

The problem with using "market value" based transfer prices is determining what these different quality power and energy products are worth in the "market." Today NYPA is unable to ascertain the value of these products absent an active, in-depth market for each type of product. The Audit Report leaves us with numerous questions, including: What should market value prices be based on? hourly? short term? intermediate term? long term? or some other, as yet unidentified indicator? Should each type of transfer be based on markets of a similar quality, respective duration and location? There are measures of the short term market price for delivery in the Western United States on the options exchanges. Unfortunately, there is not yet an active in-depth market for these short term transactions in New

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5	<p><u>NYPA's Ability to Meet its Revenue Requirements (continued)</u></p> <p>Serious consideration should be given to the option of selling Poletti. If NYPA continues to own and operate Poletti, NYPA should seek to renegotiate the Planning and Supply Agreement to reflect changes in circumstances and obtain equitable compensation for the value of the services provided to Con Ed.</p>	<p>York State.</p> <p>In summary, while it may in the future be possible to develop a set of "market value" prices, (a) the present transfer pricing is not deficient as costs are probably reasonably close to what market prices would be, and (b) such alternative pricing is not clearly superior or even as supportable as the present system of cost-based prices. Cost-based rates are far more ascertainable and supportable in the absence of a complete set of appropriate market value based prices.</p> <p>NYPA is unaware of any changes in circumstances that would provide a basis for renegotiating the Planning and Supply Agreement at this time. The 1989 Agreement recognized the need for NYPA and Con Ed to coordinate their future supply plans and the operation of their existing generating facilities within Con Edison's service territory. That need still exists since NYPA governmental customer load constitutes about 15 percent of the total load served through Con Ed's transmission and distribution system. OSC sees significant value in Poletti and so does NYPA.</p> <p>Poletti is NYPA's only source of in-city generation. As such, it benefits our in-city governmental customers as well as Con Edison's. If NYPA decides to permanently shut down the plant or sell it and rely entirely on sources outside New York City to meet its customer load requirements, we would seek to negotiate changes in the Planning and Supply Agreement to</p>

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**NYPA's Ability to Meet its Revenue Requirements (continued)**

provide the necessary delivery service. The available firm transmission capability on the Con Edison cable system into the franchise area is expected to be between 230 MW to 300 MW, insufficient to replace the output of this 825 MW plant. Also, this capacity is currently used by both parties to take maximum economic advantage of lower cost energy sources outside of New York City.

Poietti was placed in reserve shutdown status following completion of a planned maintenance in May and was returned to service in July to meet the summer peak load requirements of our customers.

6. Seek optimal changes in FitzPatrick's financial structure and NYPA's enabling legislation that would eliminate the constraints on FitzPatrick's pricing and customers. Also, market uncommitted FitzPatrick power out-of-State.

The OSC accurately notes that the FitzPatrick unit is burdened by an archaic legislative framework which imposes constraints on pricing and customer eligibility inconsistent with the State's economic development goals and NYPA's financial interests. In particular, the OSC observes that the provision of the Power Authority Act that FitzPatrick power be sold to business customers "at a uniform, non-discriminatory rate" ties NYPA's hands in tailoring the FitzPatrick pricing structure to meet different customer needs. Unfortunately, NYPA has been unsuccessful in convincing lawmakers that the pricing constraint be removed from the statute since it is viewed by some - incorrectly - as an appropriate limitation on NYPA's ability to compete with the investor-owned utilities.

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	<p><b>NYPA's Ability to Meet its Revenue Requirements (continued)</b></p>	<p>The OSC also refers to Internal Revenue Service rules that limit the ability to make long-term sales from the plant to taxable entities, such as utility and business customers. These constraints apply to other public power entities as well and are the "quid pro quo" for the lower capital costs derived from the use of tax-exempt bonds. NYPA has no control over the IRS restrictions.</p> <p>The OSC states that NYPA has restricted FitzPatrick sales to within New York State and suggests that more attractive markets might exist elsewhere. It is true that FitzPatrick is presently sold exclusively within New York, consistent with the development plan for the unit, articulated in the Power Authority Act. The current general surplus of capacity in the region, coupled with transmission constraints between New York and areas in New England experiencing short-term needs (e.g., Connecticut), have limited commercial opportunities for New York generation, including FitzPatrick. Output that becomes available for sale due to contract cancellations can and should be sold for business development and retention in New York. However, in the future, NYPA is prepared to sell plant output outside the State that cannot be sold in New York on appropriate terms.</p> <p>The OSC suggests, without explanation, that the marketing constraints on FitzPatrick could somehow be alleviated if the plant output were sold to an outside entity. This seems a</p> <p>(continued on next page)</p>

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**NYPA's Ability to Meet Its Revenue Requirements (continued)**

7 . Pursue all possible steps to limit the losses associated with operation of the Flynn plant, including additional contract renegotiations with Enron and LILCO. Also, seriously consider options to the continued ownership of the Flynn plant.

roundabout and expensive course when simple revisions to the Power Authority Act could remove all but the federal tax constraints now hindering the sale of power from the unit.

The 135 MW Flynn Combined Cycle Plant is the most efficient, cleanest electric generating plant on Long Island. Delivered cost of electricity to LILCO has averaged about 4.5 cents per kWh in 1995, significantly lower than that purchased pursuant to contracts between non-utility generators and N.Y. utilities entered into during the period in which our Power Sale Contract was negotiated. It is true that because of lower than expected natural gas prices, NYPA's revenues in 1994 and 1995 from the sale of this power have been insufficient to fully recover the cost of providing this service. However, nobody knows for sure what future prices will be; gas prices have risen in recent months, resulting in breakeven financial results in 1996 to date from the sale of this power.

As noted in the report, NYPA has already renegotiated its agreements with ENRON and LILCO and will continue to pursue all feasible ways to limit any future losses associated with plant operation that are consistent with the interests of NYPA and its customers.

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<b>8</b>	<p><b><u>Sales of Electricity for Economic Development Purposes</u></b></p> <p>8 . Establish a State task force or employ an independent expert to evaluate programs, policies and procedures development related to NYPA's sale of electricity for economic development purposes. Ensure that the economic development programs maximize benefits to the State.</p>	<p>Evaluation of NYPA's role in economic development is already underway as an integral part of New York's efforts to restructure the electric utility industry. Progress has already been made to increase NYPA's impact on the State's economy through Governor Pataki's "Power for Prosperity" legislation, which could stabilize over 40,000 additional jobs in New York. Additional discussions are underway as part of the Public Service Commission's Competitive Opportunity Proceeding that include identifying a NYPA role in the future of the industry - a role that will include an expanded presence and impact in the economic development arena. It would therefore seem redundant to establish a State task force or pay an independent expert to examine similar issues.</p>
<b>9</b>	<p>9 . Develop and implement appropriate controls, including adequate documentation, over the economic development program to ensure that companies allocated lower cost power meet program criteria and achieve program goals.</p>	<p>Even prior to the Audit, it became evident that better controls and monitoring of NYPA's Economic Development Programs were required. NYPA has already begun to act in this regard by taking the following steps:</p> <ul style="list-style-type: none"> <li>o Transfer of employment level audits to NYPA's Internal Audit Department</li> <li>o Development of EDP Procedures Manual</li> <li>o Development of new database to track allocations</li> <li>o Development of revised central filing system</li> </ul>

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<b>Nuclear Power Plants Economics</b>		
10 .	Conduct an independent analysis and evaluation of options to maximize the value of NYPA's nuclear assets before October 1, 1996, when proposals for transitioning to a competitive market are due to the Public Service Commission.	<p>NYPA believes that the economic analyses performed on its nuclear plants are valid and that the decisions based on them are justified. The OSC itself concluded in its report that "...we have reached no independent conclusion on the economic viability of NYPA's nuclear plants..." The criticisms in the report essentially focus on the contention that NYPA's analyses did not conform to a model that OSC considers appropriate for such analyses, the specifics of which are numerous and arguable or judgmental in many instances. Nevertheless, NYPA has no objection to conducting an independent analysis of its nuclear assets.</p>
11 .	Take steps to enhance capabilities and skills in performing economic analyses.	<p>This recommendation is primarily driven by the time period required to complete the nuclear economic analyses, which exceeded NYPA's internally-established deadline for the studies. NYPA believes it has the capabilities and skills to perform economic analyses, and the reasons for the delay were organizational and not skills-related. The primary organization responsible for the analyses was organizationally separate from other groups that were in an aligned or support role, causing certain inefficiencies in the process. During the latter stages of the analysis, these groups were reorganized and brought under common executive management, after which the analyses were completed in relatively short order.</p>
12 .	Maintain the momentum to improve management and operating economies at Indian Point 3 and FitzPatrick.	<p>NYPA agrees.</p>

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**Nuclear Power Plants Economics (continued)**

- 13 . Aggressively pursue opportunities for sharing resources with neighboring nuclear facilities, and hold managers accountable for achieving related cost savings or other benefits.
- 14 . Complete an economic analysis of contracting out the management of NYPA's nuclear plants before engaging any company to perform such services.
- 15 . Fully examine the potential efficiencies and other benefits that could result from the common management of New York's nuclear plants.

NYPA agrees.

**Response to Recommendations 14 and 15 follows:**

The OSC concludes in its report that "...the pursuit of the ANE approach is reasonable. However, without knowing the details of the arrangement, it is impossible to judge if it would be cost-effective or in the State's best interest." NYPA contends that such an arrangement would definitionally be cost-effective since it is envisioned to be primarily incentive-oriented, based on achieving substantially higher levels of performance. It is also clearly in the State's interest to improve performance at NYPA's nuclear facilities.

The central question seems to be whether this approach is preferable to common management of New York's six nuclear plants as part of a single operating company (an idea that, as the report indicates, was originally proposed by NYPA and which has received less than enthusiastic support from the investor-owned utilities)

NYPA believes that the greatest probability of achieving success, i.e., a prompt and sustained jump in achieving excellence, lies in the ANE ("advanced nuclear enterprise") approach. Notwithstanding the recent improvements at some

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**Nuclear Power Plants Economics (continued)**

		<p>of New York's nuclear plants, as a group (NYPA's plants excluded) they have run on average over the last five-year period at capacity factors significantly below the typical ANE, and at cost levels fully one-third higher while generally achieving poorer regulatory performance. This is not to diminish the achievements of the other New York utilities in this area, but the record shows that there is a clear and significant distinction between the larger, top-performing and highly specialized nuclear organizations and the rest of the industry. Few have been able to achieve top performance on a consistent and long-term basis. The ANE approach offers the benefit of introducing a proven management model and access to industry best practices in a relatively short time frame. Implementation of an operating company within New York would be substantially more time consuming and complex (the starting point would be the existence of four separate operating philosophies/regimens to be melded with no demonstrated ability to transfer performance to other plants). In addition, the ANE approach does not preclude sharing resources with other New York nuclear operators, or, potentially, extending the ANE approach to the other nuclear operators in the form of a state-wide operating company.</p>
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**Staff Planning and Workforce Management**

- 16 . Implement staff planning policies that require quantification of workload, activity-based time recording, and the use of staff planning tools to accurately determine required staffing levels.

The OSC states in its report that staffing levels at NYPA have been relatively unchanged in recent years. This conclusion is (continued on next page)