



# **NIAGARA POWER PROJECT POWER ALLOCATIONS, RATES, AND OPPORTUNITIES**

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**Volume 1:  
Public**

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## **Niagara Power Project FERC No. 2216**

*Prepared for:*

New York Power Authority

*Prepared by:*

The Brattle Group

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NPP POWER ALLOCATIONS, RATES, AND OPPORTUNITIES**

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**ABBREVIATIONS**

**Agencies**

ENCRPB      Erie and Niagara Counties Regional Planning Board

FERC          Federal Energy Regulatory Commission

FPC            Federal Power Commission

NYISO        New York Independent System Operator

NYPA          New York Power Authority

PASNY        Power Authority of the State of New York

**Units of Measure**

cfs            cubic feet per second

fps            feet per second

G              giga (prefix for one billion)

GW            gigawatt

GWh          gigawatt-hour

k              kilo (prefix for one thousand)

kV            kilovolt

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kVA	kilovolt-ampere
kW	kilowatt
kWh	kilowatt-hour
M	mega (prefix for one million)
mgd	million gallons per day
MV	megavolt
MVA	megavolt-ampere
MW	megawatt
V	volt
W	watt
Wh	watt-hour

**Regulatory and Legal**

CFR	Code of Federal Regulations
FPA	Federal Power Act
PAA	Power Authority Act
PAL	Power Authority Law

**Miscellaneous**

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DEIS	Draft Environmental Impact Statement
EA	Environmental Assessment
EIS	Environmental Impact Statement
FSCR	First Stage Consultation Report
IOU	Investor-Owned Utility
MEUA	Municipal Electric Utilities Association of New York
NMPC	Niagara Mohawk Power Corporation
NYSEG	New York State Electric & Gas
RG&E	Rochester Gas and Electric



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### **EXECUTIVE SUMMARY**

This report describes the legal and institutional framework that governs allocations of Niagara Project power, explains ratemaking methodologies and outcomes, and discusses current and future opportunities for utilizing project power. The Niagara Redevelopment Act authorized the New York Power Authority (NYPA) to build a hydroelectric project that would use the United States share of water made available for power generation under the 1950 Niagara River Water Diversion Treaty. The allocation of this power is governed primarily by Federal and State law, as administratively and judicially interpreted, with discretion given to NYPA regarding allocation and contracts once legal requirements are met.

Niagara Project power is divided among four basic types of allocations – Preference Power, Replacement Power, Expansion Power and contract sales to three upstate investor-owned utilities for resale to residential customers. As currently allocated, 50% of Firm Power (940 MW) is allocated to Preference customers, which are municipal electric and rural cooperative utilities (40% in New York and 10% out-of state), 445 MW to Replacement Power, 250 MW to Expansion Power, and the remaining power to investor-owned utilities. The allocation has remained fairly constant throughout the term of the project, with the primary exception being the Preference Power allocation rising to serve the growing needs of eligible municipal and rural cooperative systems, while the allocation to investor-owned utilities fell.

The customer base that ultimately uses the power provided by the Niagara Project varies considerably – both geographically and in uses of the power – depending upon the class of power and the entity purchasing the power from NYPA. Preference Power provides the most geographically distributed benefit of Niagara Project power, but also is quite concentrated in terms of the relatively small proportion of customers and loads that it serves within those broad geographic regions. The share of residential retail sales to total retail sales for the New York Preference customers averages 40%, and Preference Power serves about 2% of New York State residential customers. Replacement Power and Expansion Power serves only industrial customers that are heavily concentrated in Niagara County (Replacement Power) or in Niagara, Erie, and Chautauqua counties (Expansion Power). Power deliveries to three upstate investor-

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owned utilities are dedicated to residential customers, which together serve 2.4 million customers in 54 of New York's 62 counties.

The rates on Niagara power remained constant from 1961 to 1981, when court decisions mandated a change to cost based rate making. Preference Power and energy sold to upstate investor owned utilities for residential customers are sold at cost, while Replacement and Expansion Power are sold at below market rates. The cost-based rates are determined using a unique version of the "Trended Original Cost" method of rate regulation in which the rate of return on capital is not included.

Due to statutory, judicial and contractual restraints, opportunities for new utilizations of project power are limited. The Niagara project is fully allocated, except for quantities of Replacement and Expansion Power that are underutilized, voluntarily relinquished by or withdrawn from recipients. There are established procedures for eligible business applicants to apply for and receive an allocation from the blocks of unallocated Replacement and Expansion Power. The New York State Legislature on June 23, 2005 passed legislation that provides a state statutory basis for the continued sale of 445MW of Replacement Power to businesses within 30 miles of the Project. (S5866/A8960). The legislation, which will be sent to the Governor for his approval, also provides for the use of a portion of unallocated Replacement Power for the purpose of Energy Cost Savings Benefits to be granted by the New York State Economic Development Allocation Board, consistent with current contractual obligations.

The contracts with the upstate investor-owned utilities for resale to residential customers expire at the end of the current license (August 31, 2007). Except for the general priority for residential use under state law, there are no statutory restrictions that prohibit this portion of Niagara Project Power from being reallocated to other recipients. However, there are no requirements on the power authority to alter the existing arrangements. Finally, the Niagara Project Upgrade will provide an estimated 35 MW of additional firm power, of which one-half will be made available to preference customers as required by the NRA. The other half will be used as a source for a portion of the power to be allocated for the benefit of the Host Communities.

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## **1.0 INTRODUCTION**

This report addresses the historic, current, and potential future allocation and pricing of power from the Niagara Power Project. The report describes the legal and institutional framework that governs allocations of Niagara Project power, explains ratemaking methodologies and outcomes, and discusses current and future opportunities for utilizing project power.

The power allocation and ratemaking issues addressed by The Brattle Group in this report span the era from before the project's inception to the post-relicensing phase. The report reviews the historic statutory framework and the relevant case law and contracts to explain how that legal and contractual framework has impacted and will continue to impact power allocation and rates. The report presents several opportunities for power allocations that are possible in the context of the existing legal framework.<sup>1</sup>

### **1.1 Brief History of the Niagara Power Project**

The Niagara River has been utilized for hydroelectric power generation since the first privately-owned facility was built in 1881. Transmission lines to Buffalo were built in 1896, and additional privately-owned generating stations were built during the early 20<sup>th</sup> Century, with the largest – the 365 MW Schoellkopf Power Plant – built at the turn of the Century by the Niagara Mohawk Power Company. Because the Niagara River serves as a border between the U.S. and Canada, the allocation of water rights is a matter of international treaty. Among other things, the Niagara River Water Diversion Treaty of 1950 provides a minimum daytime water flow over Niagara Falls during the tourist season and allocated the water rights for hydroelectric power production equally between the U.S. and Canada.

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<sup>1</sup> While we believe that the legal framework described is accurate, it is important to recognize and appreciate that The Brattle Group is a firm of economic consultants and not lawyers and that nothing herein is intended to provide, nor should any stakeholder infer that the report provides, legal advice regarding such opportunities identified.

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While Congress was debating the proper way to develop the U.S. share of hydropower rights on the Niagara River, a rockslide effectively destroyed the Schoellkopf Power Plant on June 7, 1956, an event which threatened disruption in power supplies for industry in Western New York. In response, the U.S. Congress passed the Niagara Redevelopment Act (NRA) in 1957, directing the Federal Power Commission to issue a hydropower license to the Power Authority of the State of New York (PASNY) for a facility large enough to utilize the U.S. share of the Niagara River water resource. PASNY, now conducting business as the New York Power Authority (NYPA), was created in 1931 by the New York Power Authority Act (PAA) for the purpose of developing hydropower in the state, and NYPA was, in fact, building the Saint Lawrence-Franklin D. Roosevelt project in the St. Lawrence River when the NRA was signed into law.<sup>2</sup> The 50-year project license for the Niagara Power Project, incorporating the power allocation and other requirements of the NRA, became effective September 1, 1957, and expires on August 31, 2007. Construction commenced in 1958, and the plant began operation in February 1961.

The legal basis for power allocations and rates – primarily the Niagara Redevelopment Act and the Power Authority Act – provided an exceptionally stable platform for power allocations and rates for the first two decades of the plant’s operation. However, the profound changes in energy and power markets that occurred during the 1970s, such as higher fossil energy costs, cost overruns in nuclear construction programs, and the impact of stricter environmental regulations, combined with rising demands from eligible Preference customers, spawned a significant series of legal actions in the 1980s that challenged the established allocations and ratemaking procedures. The resolution of these protracted legal struggles altered allocations and rate-setting and will continue to influence power delivery and prices. As power markets in New York and the eastern U.S. continued to evolve during the 1990s, the establishment of the New York Independent System Operator (NYISO), the deregulation of the wholesale generation market and the introduction of retail customer choice further altered the relationship between the physical provision of power and the financial terms under which customers received electric supply.

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<sup>2</sup> This report will use NYPA to designate the Power Authority, except for historical references and quotations (such as statutory references and legal decisions) that explicitly refer to PASNY.

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**1.2 Description of the Niagara Power Project**

**1.2.1 Physical Description**

The primary project components are the twin intakes located 2.6 miles above Niagara Falls, the conduits that carry water to the 1.8 billion gallon forebay on the east bank of the Niagara River, the Robert Moses Niagara Power Plant (RMNPP) – the main generating plant – housing 13 Francis-type turbines, the Lewiston Pump Generating Plant (LPGP), housing 12 Francis-type reversible pump-turbines, the 22-billion-gallon Lewiston Reservoir, and the switchyard that conveys the electrical power to the state electrical grid.

The Niagara Power Project integrates two different types of hydroelectric facilities – the RMNPP run-of-river diversion type plant and the LPGP pumped-storage peaking facility. Hydroelectric plant capacity measures vary substantially under assumed water flow conditions; the current Net Dependable Capacity under adverse flow conditions has been established at 2,400 MW. As discussed later, measures of physical capability also can differ somewhat from the amount of capacity allocated under regulation as well as contractual obligations for Project Power. The current capacity of the Niagara Power Project for the purposes of establishing allocations under federal law was set by the FERC at 2,280 MW (1,880 MW of firm power and 400 MW of firm peaking power).

**1.2.2 Economic and Operational Description**

The project is designed specifically to generate power when most valuable, within the constraints of legally and physically available water flows. The project operates on dual weekly and daily cycles designed to maximize the amount of energy produced during the periods of peak demand while minimizing the waste of water available for power production. The dual cycles achieve these goals by storing water that would otherwise be lost for generation in the Lewiston Reservoir when dispatch by the NYISO is less than the generating capacity of the project and by utilizing the stored water when flow is insufficient to serve the generation called for by NYISO.

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The daily cycle compensates for the variation between demand in the daytime and the nighttime and includes four distinct periods: the daytime, the nighttime change-over, the nighttime, and the morning change-over. During the daytime period – particularly in tourist season – demand is usually greater than the energy generated from the allowable flow through the Robert Moses Plant. Thus, in order to generate the necessary contracted energy, water is released from the Lewiston Reservoir, flowing through both the Lewiston and Robert Moses plants. When load is reduced sufficiently to allow the Robert Moses Plant to meet load without the additional flow from the Lewiston Reservoir, generation at the Lewiston Plant ceases and pumping begins. This is the nighttime change-over. During tourist season the nighttime change-over coincides with the Niagara River Water Diversion Treaty reduction in mandated flow over Niagara Falls from 100,000 cfs to 50,000 cfs at 10 p.m. (between April 1 and September 15) or 8:00 pm (between September 16 and October 31).

Following the nighttime change-over is the nighttime period which is characterized by the pumping of excess flow into the Lewiston Reservoir for use in the daytime. The pumps are powered by surplus energy from the Robert Moses Plant except under low flow conditions in which case the energy for the pumps are supplied by open market purchases. The nighttime period is followed by the morning change-over in which pumping at the Lewiston Plant is stopped and generation recommences. During tourist season, the morning change-over occurs at 8 a.m. when the Niagara Falls flow returns to 100,000 cfs. Otherwise, the morning change-over occurs when the load exceeds the generating capacity without additional releases from the Lewiston Reservoir – typically occurring between 7 and 8 a.m.

In addition to the daily cycle, the weekly cycle further compensates for the variation between demand on weekdays and weekends. Weekday power demands are sufficiently large so that nighttime pumping is inadequate to fully replace the water released during the weekday time period. However, on weekends load is significantly lower than weekdays and can be met from the Robert Moses Plant alone, allowing additional pumping into the Lewiston Reservoir during the daytime period on weekends. Thus, the gradual drawdown of the Lewiston Reservoir during the week is compensated by the complete replenishment on the weekends. The reservoir is completely filled at the Monday morning change-over, is gradually drawn down to a minimum level at the Friday nighttime change-over, and is refilled over the weekend.

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**2.0 LEGAL AUTHORITIES GOVERNING NIAGARA POWER PRODUCTION AND ALLOCATION**

**2.1 1950 Niagara River Water Diversion Treaty**

The 1950 Niagara River Water Diversion Treaty between the U.S. and Canada dictates the amount of water available for hydroelectric development for each country. It supercedes the allocations set forth in the 1909 Boundary Waters Treaty (between the U.S. and Great Britain).

The preamble to the treaty cited the need for greater utilization of water for hydroelectric purposes on both sides of the border, but the parties recognized “their primary obligation to preserve and enhance the scenic beauty of the Niagara Falls and River and, consistent with that obligation, their common interest in providing for the most beneficial use of the waters of that River.” By its terms, therefore, the treaty balances the need to expand hydroelectric utilization with the obligation to preserve a substantial natural resource.

Article III of the treaty defines the water available for hydroelectric power. Article IV of the treaty reserves “sufficient amounts of water in the Niagara River for scenic purposes” by establishing minimum flows over Niagara Falls at 100,000 cubic feet per second (cfs) between 8:00 AM and 10:00 PM (EST) each day during the period April 1 through September 15; 100,000 cfs between 8:00 AM and 8:00 PM each day during the period September 15 through October 31; and 50,000 cfs during any other time.<sup>3</sup> Article V simply states “all water specified in Article III of this treaty in excess of water reserved for scenic purposes in Article IV may be diverted for power purposes.” Article VI divides the water available for power purposes equally between the U.S. and Canada.

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<sup>3</sup> The 50,000 cfs rate can be increased when additional water is required for flushing ice above the Falls or through the rapids below the Falls.

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The Treaty was signed on February 27, 1950, and ratified by the Senate on August 9, 1950. However, in ratifying the Treaty, the Senate expressed the following reservation:

The United States on its part expressly reserves the right to provide by Act of Congress for the redevelopment, for the public use and benefit, of the United States' share of the waters of the Niagara River made available by the provisions of the Treaty, and no project for redevelopment of the United States' share of such waters shall be undertaken until it be specifically authorized by Act of Congress.

President Truman signed the Treaty, incorporating the above reservation, on October 30, 1950. The Senate reservation meant that the Power Authority of the State of New York could not pursue hydroelectric development on the Niagara River without first obtaining specific authorization by the U.S. Congress.<sup>4</sup> This situation sparked the Congressional debates of the 1950s, which were effectively interrupted by the destruction of the Schoellkopf Plant in June 1956.

### **2.2 The Niagara Redevelopment Act**

The demise of the Schoellkopf Plant created an immediate need to resolve the issues surrounding the development of the Niagara River for hydroelectric power.<sup>5</sup> This need was met with the Niagara Redevelopment Act (NRA; Public Law 85-159; 16 USC § 836), enacted on August 21, 1957. Section 836 (a) provides:

The Federal Power Commission is expressly authorized and directed to issue a license to the Power Authority of the State of New York for the construction and operation of a power project with capacity to utilize all of the United States share of the water of the Niagara River permitted to be used by international agreement.

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<sup>4</sup> In Exhibit E of the initial license application, the General Counsel of the Power Authority opined that the Senate reservation had no force of law, and did not impede the Power Authority from applying for a license under Section 4(e) of the Federal Power Act prior to explicit Congressional authorization.

<sup>5</sup> The Power Authority of the State of New York submitted an initial license application for the Niagara Project to the Federal Power Commission on August 20, 1956, less than three months after the Schoellkopf Plant disaster.

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This gave the Power Authority the right to build a hydroelectric project that would use the entire water resource made available under the 1950 Treaty. In addition to the requirements for hydroelectric facility license normally required under Section 4 (e) of the Federal Power Act (FPA), the NRA established certain requirements concerning the disposition of project power. These rules reflected Congressional concerns regarding how the benefits of publicly-owned hydropower might be realized and distributed among various classes of customers in New York and other states.

Three sections of the NRA govern the licensee's obligations to allocate power to specific classes of customers. Section 836 (b) (1) creates a preference for public power entities for 50 percent of the project output in order to serve "domestic and rural consumers" at "the lowest rates reasonably possible." Section 836(b) (2) ensures that a "reasonable portion" of the preference power defined above is made available to consumers in neighboring States "within reasonable economic transmission distance;" this provision, however, "shall not be construed to require more than 20 per centum of the project power subject to preference provisions to be made available for use in such States." Section 836(b) (3) allocates 445 MW of the project power to Niagara Mohawk Power Corporation for resale to customers formerly served by the Schoellkopf Plant. The entire NRA language was incorporated into the FPC license for the Niagara Power Project (no. 2216) in Articles 20 – 26.<sup>6</sup> Although part of the existing license, the provisions of the NRA control, and will continue to control, the terms under which the re-licensed project will operate. Because these statutory provisions have figured prominently in subsequent legal actions, they are reproduced in their entirety below, with emphasis added on phrases that have been subject to specific disputes.

### 2.2.1 NRA Preference Power

Section 836 (b) (1) states:

In order to assure that *at least 50 per centum* of the project power shall be available for sale and distribution primarily for the benefit of the

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<sup>6</sup>The 50-year project license was approved on January 30, 1958, with an effective date of September 1, 1957.

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*people as consumers, particularly domestic and rural consumers, to whom such power shall be made available at the lowest rates reasonably possible and in such manner as to encourage the widest possible use, the licensee in disposing of 50 per centum of the project power shall give preference and priority to public bodies and nonprofit cooperatives within economic transmission distance. In any case in which project power subject to the preference provisions of this paragraph is sold to utility companies organized and administered for profit, the licensee shall make flexible arrangements and contracts providing for the withdrawal upon reasonable notice and fair terms of enough power to meet the reasonably foreseeable needs of the preference customers.*

Several observations are warranted regarding this section. First, the emphasis on “domestic and rural” consumers was common language from earlier statutes and now refers generally to the class of residential customers.<sup>7</sup> However, the notion that 50 percent of the Project Power be available for sale to residential customers has been construed as a Congressional expectation, not a mandate.<sup>8</sup> Second, the section grants preference and priority to “public bodies and nonprofit cooperatives” within “economic transmission distance” but does not define those terms. Third, to the extent that project power that qualifies for such preference status is instead marketed through traditional investor owned utilities (IOUs), there must be sufficient flexibility in those marketing arrangements to reallocate those sales to public bodies and nonprofit cooperatives if and when the need arises to satisfy the preference obligation.

### **2.2.2 NRA Preference Power Out of State**

Section 836 (b) (2) states:

*The licensee shall make a reasonable portion of the project power subject to the preference provisions of paragraph (1) of this subsection available for use within reasonable economic transmission distance in neighboring States, but this paragraph shall not be construed to require*

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<sup>7</sup> The “rural” aspect of this language has been diminished over time, as it originally signified rural customers who did not have access to electric power. However, it was still an important concept when the NRA was enacted.

<sup>8</sup> In particular, there is no restriction on the type of customer to which public bodies and nonprofit cooperatives can resell Niagara power. See *Power Authority of the State of New York v. FERC*, 743 F.2d 93,104 (2d Cir. 1984).

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more than 20 per centum of the project power subject to such preference provisions to be made available for use in such States. The licensee shall cooperate with the appropriate agencies in such States to insure compliance with this requirement. In the event of disagreement between the licensee and the power-marketing agencies of any of such States, the Federal Power Commission [now Federal Energy Regulatory Commission] may, after public hearings, determine and fix the applicable portion of power to be made available and the terms applicable thereto: Provided, That if any such State shall have designated a bargaining agency for the procurement of such power on behalf of such State, the licensee shall deal only with such agency in that State. The arrangements made by the licensee for the sale of power to or in such State shall include observance of the preferences in paragraph (1) of this subsection.

This section ensures that a limited portion of the benefits of this Congressionally-mandated project utilizing the U.S. share of an international resource is realized outside the State of New York. The “reasonable portion” in this section applies to the 50% of project power made available to preference customers established in Section 836 (b) (1), but no more than 20% of the 50% (or 10%) of total project power is required to be allocated to out-of-state recipients, who also must conform to the preference criteria outlined in the previous section.

### **2.2.3 NRA Replacement Power**

Section 836 (b) (3) states:

The licensee shall contract, with the approval of the Governor of the State of New York, pursuant to the procedure established by New York law, to sell to the licensee of Federal Energy Regulatory Commission project 16 for a period ending *not later than the final maturity date of the bonds initially issued to finance the project works* herein specifically authorized, *four hundred and forty-five thousand kilowatts of the remaining project power*, which is equivalent to the amount produced by project 16 prior to June 7, 1956, *for resale generally to the industries which purchase power produced by project 16* prior to such date, or their successors, in order as nearly as possible to restore low power costs to

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such industries and for the same general purposes for which power from project 16 was utilized...<sup>9</sup>

This establishes the basis for what has become known as “Replacement Power” *i.e.*, the terms and conditions under which the former recipients of power (and their successors) from the Schoellkopf and Adams plant receive power from the Niagara Power Project. The allocation level here is quite specific (445 MW) to be resold by the former licensee of Project 16 (Niagara Mohawk Power Corporation) “generally to the industries” that purchased power from the Schoellkopf and Adams Plants, at rates “in order as nearly as possible to restore low power costs to such industries.” Because the final maturity date of the bonds initially issued to finance the project is December 31, 2005, both the NRA and the conforming license provide a terminal (or “sunset”) date for this requirement.<sup>10</sup> The New York State Legislature on June 23, 2005 passed legislation that provides a state statutory basis for the continued sale of 445MW of Replacement Power to businesses within 30 miles of the Project. (S5866/A8960). The legislation, which will be sent to the Governor for his approval, also provides for the use of a portion of unallocated Replacement Power for the purpose of Energy Cost Savings Benefits to be granted by the New York State Economic Development Allocation Board, consistent with current contractual obligations.

### 2.2.4 Modifications to the Original NPP License

Several amendments and revisions to the project license have occurred. The most important of these was the proposed upgrade and expansion of both the RMNPP and the LPGP submitted to the FERC on November 29, 1984. The upgrade of the RMNPP and the upgrade/expansion of the LPGP were approved in an Order Amending License issued on March 31, 1989. However, the Power Authority later

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<sup>9</sup> Additional clauses related to the surrender of license (“project 16”) for the Schoellkopf (365 MW) and Adams (80 MW) plant, which in fact occurred, are not included here. Although the Adams Plant was not damaged in the rockslide, it was obsolete by 1956, and thus abandoned in favor of the NPP, bringing the total Replacement Power allocation to 445 MW. A legislative history of the replacement power provision is reported in Occidental Chem. Corp. v. Power Auth. of N.Y., 786 F. Supp. 316 (W.D.N.Y. 1992).

<sup>10</sup> Members of the New York State Legislature have introduced bills to ensure that such allocations survive as a matter of state law, as discussed later.

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decided to abandon the plans to expand and upgrade the LPGP, and FERC approved the proposed license amendment on April 5, 1995, incorporating only the RMNPP upgrades.

### 2.3 New York State Law: Power Authority Act (PAA)

#### 2.3.1 Introduction and Purpose of PAA

On April 7, 1931, Governor Franklin D. Roosevelt signed the Power Authority Act (PAA) into law, creating the Power Authority of the State of New York to develop hydropower on the St. Lawrence river. The original elements of the PAA and subsequent amendments, including the addition of the Niagara Project authorization in 1951, are reflected in the New York Public Authorities Law (PAL). PAL § 1001 declares: “those parts of the Niagara and St. Lawrence rivers within the boundaries of the state of New York are hereby declared to be natural resources of the state for the use and development of commerce and navigation in the interest of the people of this state and the United States.” In order to implement the policies outlined in Section 1001, PAL § 1002 (1) creates the Power Authority of the State of New York as “a corporate municipal instrumentality of the state” and as “a body corporate and politic, a political subdivision of the state, exercising governmental and public powers, perpetual in duration, capable of suing and being sued...”

#### 2.3.2 Preference Power under PAL § 1005

PAL § 1005 outlines the powers and duties of the authority, creates the legal framework for constructing facilities, producing and delivering electricity from Power Authority projects and establishes certain principles for charging rates. PAL § 1005 (5) authorizes the Power Authority to develop, maintain, manage and operate hydroelectric projects (meaning both the St. Lawrence-FDR and Niagara Projects) and that:

...in the development of hydro-electric power there from such projects shall be considered primarily as for the *benefit of the people of the state as a whole and particularly the domestic and rural consumers* to whom the power can economically made available, and accordingly that *sale to and use by industry shall be a secondary purpose*, to be utilized

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principally to secure a sufficiently high load factor and revenue returns to permit *domestic and rural use at the lowest possible rates* and in such manner as to encourage increased domestic and rural use of electricity. In furtherance of this policy and to secure a wider distribution of such power and use of the greatest value to the general public of the state, the authority shall in addition to other methods which it may find advantageous make provision so *that municipalities and other political sub-divisions of the state now or hereafter authorized by law to engage in the distribution of electric power may secure a reasonable share* of the power generated by such projects, and shall sell the same or cause the same to be sold to such municipalities and political subdivisions *at prices representing cost of generation, plus capital and operating charges, plus a fair cost of transmission, all as determined by the trustees, and subject to the conditions which shall assure the resale of such power to domestic and rural consumers at the lowest possible price*, provided, however, that in disposing of hydro-electric power pursuant to and in furtherance of the aforementioned policy and purposes, appropriate provision may also be made to *allocate a reasonable share of project power to agencies created or designated by other states and authorized to resell the power to users* under the same terms and conditions as power is disposed of in New York state.

PAL § 1005 (5) contains no percentage requirement for the allocation of St. Lawrence and Niagara Project hydropower to either residential consumers or municipal and rural cooperative systems. There is a general direction that power is intended primarily for direct consumer use and that “sale to and use by industry shall be a secondary purpose, to be utilized principally to secure a sufficiently high load factor and revenue returns to permit domestic and rural use at the lowest possible rates and in such manner as to encourage increased domestic and rural use of electricity.” Moreover, that same provision of law allows for the provision of a “reasonable share” of the power from such projects for “municipalities and other political sub-divisions of the state now or hereafter authorized by law to engage in the distribution of electric power.” As discussed later, this definition of preference customers under PAL § 1005 (5) is somewhat broader than the definition used in the NRA.

### **2.3.3 Power Rates under PAL § 1005**

PAL § 1005 (5) provides additional guidance on Preference Power rates by defining prices as reflective of costs and giving the Trustees authority to calculate the costs. Sales are made “at prices representing cost of generation, plus capital and operating charges, plus a fair cost of transmission, all as

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determined by the trustees, and subject to the conditions which shall assure the resale of such power to domestic and rural consumers at the lowest possible price.” Notwithstanding the “lowest possible price” for domestic and rural customers, contracts for the sale, transmission and distribution of power from the NYPA projects shall provide for “(a) payment of all operating and maintenance expenses of the project [and] (b) Interest on and amortization and reserve charges sufficient within fifty years of the date of issuance to retire the bonds of the power authority issued for the project.”

In addition, PAL § 1005 (5) gives the Power Authority the right to stipulate the conditions of resale of the power in its contracts without review by the New York Public Service Commission:

g. That the rates, services and practices of the purchasing, transmitting or distributing public agencies shall be governed by the provisions and principles established in the contract, and not by the regulations of the public service commission or by general principles of public service law regulating rates, services and practices and that in the event that any public agencies or companies which purchase power from the authority shall sell any such power for resale, such sale for resale shall be made at rates no higher than those at which the power was purchased from the authority.

h. The rate structures agreed upon in such contract may provide different rates for different localities, classes of consumers, and amounts of current consumed, and for changes in the rates resulting from variation in operating costs and fixed charges.

These statutory provisions give NYPA substantial authority to set rates, negotiate contracts, and otherwise determine the terms and conditions under which project power is resold to ultimate customers.

#### **2.3.4 Expansion Power under PAL § 1005**

In addition to the 445 MW of Replacement Power defined by the NRA, PAL § 1005 (13) allocates 250 MW of Niagara project power to businesses located generally within 30 miles of the Niagara Project switchyard. This “Expansion Power” is designed to retain and expand business in the Niagara Frontier region of western New York. The Expansion Power provisions of PAL § 1005 (5) were

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added in 1987, preserving allocations to customers in Chautauqua County that lie outside of the 30 mile limit.<sup>11</sup> The current statutory definition and eligibility criteria are found at PAL § 1005 (13) [as amended]:

Notwithstanding any other provision of law to the contrary but subject to the terms and conditions of federal energy regulatory commission licenses, to allocate or reallocate directly or by sale for resale, two hundred fifty megawatts of firm hydroelectric power as “expansion power” to businesses within the state located within thirty miles of the Niagara project provided that the amount of power allocated to businesses in Chautauqua county on January first, nineteen hundred eighty-seven shall continue to be allocated in such county. Provided, however, the authority shall negotiate contracts on reasonable terms and conditions to renew or extend every permanent contract allocation of expansion power in effect on the effective date of this subdivision and provided further, to the extent consistent with such contracts, the authority shall negotiate contracts on reasonable terms and conditions to extend or renew all other allocations or allotments of such power in effect on such date. Contracts entered into pursuant to this subdivision shall be long-term and shall contain reasonable provisions providing for the partial or complete withdrawal of the power in the event the recipient fails to maintain mutually agreed levels of employment and power utilization.

The 250 MW allocation of Expansion Power is concentrated in Niagara and Erie counties. Additional language of PAL § 1005 (13) regarding relinquishment and criteria for re-allocation are discussed later.

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<sup>11</sup> Chapter 32, Laws of New York, “Allocation of Low-Cost Electric Power to Promote Economic Development” approved April 21, 1987.

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### **3.0 ALLOCATION AND DELIVERY OF NIAGARA POWER PROJECT POWER**

#### **3.1 Overview of Project Power Allocation and Energy Deliveries**

Niagara Project power is divided among four main types of allocations – Preference Power, Replacement Power, Expansion Power and power sold under contracts with three upstate investor-owned utilities (IOUs) for resale to residential customers. Preference customers are 51 municipal electric and rural cooperative utilities in New York and, through bargaining agents, such entities in 7 neighboring states. Replacement and Expansion Power is sold to upstate IOUs for resale to business customers.

The firm allocations from the Niagara Power Project are expressed in capacity terms (megawatts), while energy delivered is measured in megawatthours.<sup>12</sup> Neither power generation nor demand is constant over time, and thus contracts must account for these fluctuations by establishing “load factors” to describe the percent of total potential energy actually delivered over a given time period. In actual operation, delivered power does not always perfectly match contractual load factors. For example, firm peaking power is sold at 12.5% load factor (corresponding roughly to the capacity factor of LPGP), but averages 11.9% load factor as delivered.

In addition to capacity and energy, the NPP produces and sells “ancillary services” into the NYISO, such as voltage support and various types of operating reserves. Prior to wholesale market restructuring, these services used to be bundled into various contracts, but now are sold separately (“unbundled”) and are procured by load-serving entities from the NYISO. The Power Authority

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<sup>12</sup> A megawatt (MW) is a measure of instantaneous electric power or demand. Generating capacity and allocations are measured in MW. A megawatt-hour (MWh) is a measure of energy equal to one MW continuously supplied or consumed over one hour. Electricity sales are often expressed in MWh or gigawatt-hours (GWh, equal to 1,000 MWh). A load factor is the percentage of MWh delivered over a period of time compared to the maximum amount of MWh under a capacity allocation. A capacity factor measures the percentage of MWh generated compared to the maximum MWh generated from a given plant based on its measured generating capacity. A megawatt is 1,000 kilowatts (kW) and a megawatt-hour is 1,000 kilowatt-hours (kWh).

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conducts ancillary service transactions with the NYISO in accordance with market rules as is the case with other wholesale generators.

### 3.1.1 Allocations, Contracts and Energy Delivery of Project Power by Type

Preference Power can be subdivided into in-state preference customers (municipal electric and rural cooperatives) and out-of-state preference customers. Firm contracts with three upstate New York investor-owned utilities (Niagara Mohawk, New York State Electric and Gas and Rochester Gas & Electric) account for the remaining firm power sales. Project Power allocations are either “Firm Power” generally at the customers’ load factors or “Firm Peaking Power” at much lower load factors. Finally, at any point in time, due to underutilization, recapture or relinquishment of allocations, sales of Replacement and Expansion Power to business users are typically somewhat lower than the full allocation (445 and 250 MW, respectively). [Table 3.1.1-1](#) summarizes the 2003 allocations, contracts and deliveries by each of these classifications. It also displays the various measurements of Niagara Project Power relevant to measuring power allocation and energy deliveries. In the first two columns, the table shows the Project Power as established by the Federal Energy Regulatory Commission at 1,880 MW of Firm Power and 400 MW of Firm Peaking Power for total Project Power allocations of 2,280 MW.<sup>13</sup> As allocated, 50% of Firm Power is allocated to Preference customers (40% in New York and 10% out-of-state), 37% of Firm Power is allocated to Expansion and Replacement Power and the remaining 13% is allocated to upstate IOUs for resale to residential customers. Only investor-owned utilities and out-of-state Preference customers receive Firm Peaking allocations (360 MW and 40 MW, respectively).

The next set of columns show the overall power allocations available for contract, which total 2,336 MW. The difference between this total and the 2,280 MW total is comprised of an additional 56 MW of Firm Power contracts with the upstate IOUs. The next set of columns show actual contracts for power as of December 31, 2003, which total nearly 2,252 MW. These figures reflect the fact that not all Replacement and Expansion Power allocations are fully subscribed by eligible business customers at any

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<sup>13</sup> These totals were established in Vt. Pub. Serv. Bd. v. Power Auth. of N.Y., 55 F.P.C. 1109 (May 15, 1975).

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given moment. At year-end 2003, 90% of Replacement Power was under contract and 87% of Expansion Power was under contract. All together, about 77 MW of Replacement and Expansion Power was available at the end of 2003 (a figure that has increased slightly to 115 MW by July 1, 2004 due to relinquishments exceeding reallocations in the first half of 2004).

Finally, the “Contract Sales” columns in the table show actual sales under each contract category and the associated (as-delivered) load factors for each type of Project Power. About 41% of the project’s energy sales go to Replacement and Expansion Power while the remaining 59% goes to the Preference Power customers and upstate IOUs for residential customers. Because load factors for Preference customers are somewhat lower than Replacement and Expansion power customers in terms of energy delivery, Preference customers (in New York and out-of-state) received about 43% of total energy delivered from the Niagara project in 2003.

Generation from the Niagara Power Project does not always perfectly coincide with hourly contractual demands. When NPP generation exceeds contract demand NYPA sells excess generation into the ISO spot markets, and when generation is insufficient to cover firm contract demand NYPA purchases electricity from the ISO market. During calendar year 2003, sales from the Niagara Power Project were roughly 12.4 million megawatt hours, while generation was only 11.9 million megawatt hours. The contract sales in excess of generation were made up by 507,148 MWh of net system purchases.

The net purchase position reflects lower than average water flows in recent years. The resulting decline in energy production was greater than the reduced contract load from unallocated power. Until water flows return to normal, the present level of unallocated power will not provide a sufficient basis for net energy sales over contract demands from the Niagara Project.

When project output is reduced due to low-water flows NYPA provides recipients of reduced project power with the option of purchasing substitute power. Substitute power is *not* a NPP product, but rather ISO market power purchased through the ISO by NYPA that is resold at cost as a substitute for power normally delivered under firm hydroelectricity contracts received in years without low-flow

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restrictions. Alternately, in years when water flow conditions are favorable, NYPA makes available interruptible energy as required by contract to certain purchasers from the Project.

### 3.1.2 Allocation and Energy Delivery of Project Power by Region

Each class of power allocation has a different customer base and thus geographic distribution of power. As such, the benefits of Niagara power are concentrated in distinct geographic areas depending on the power class as shown in [Table 3.1.2-1](#) and [Table 3.1.2-2](#).

All Replacement and Expansion Power is delivered into Western New York. The most geographically concentrated power is Replacement Power: 76% of Replacement Power is allocated within the host communities of the City of Niagara Falls, the Town Niagara, and the Town of Lewiston and 99% is allocated within the Niagara Frontier region of Niagara and Erie Counties.<sup>14</sup> Expansion Power is similarly concentrated, although the benefits are diffused somewhat more broadly in Western New York. 34% of Expansion Power allocations are to businesses in the host communities, and 41% to firms in Niagara County. 50% of Expansion Power allocations are given to firms in Erie County.

In contrast to the allocations of both Replacement and Expansion Power, Preference Power is distributed throughout New York and to neighboring states. About 2% of Preference Power is allocated to two municipal agencies in the Niagara Frontier region – the Villages of Akron and Springville in Erie County. About 16% of Preference Power allocations (18% of energy sales) are in Western New York, with 77% of allocations and 79% of sales in New York State. Out-of-state municipals and cooperatives receive 20% of Firm Power Preference allocations and account for 21% of Preference Power energy deliveries. Contracts with three upstate investor-owned utilities also distribute Project Power to residential customers throughout Upstate New York, with 17% of power going to Niagara and Erie Counties and 22% to Western New York, with the remainder going to mid- and upstate counties in New York.

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<sup>14</sup> There is a small allocation of Replacement Power for a firm located in western Orleans County, within the 30-mile zone from the Niagara switchyard.

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**3.1.3 Allocation and Energy Delivery of Project Power to Domestic and Rural Customers**

The customer base that ultimately uses the power provided by the Niagara Project varies considerably depending upon the class of power and the entity purchasing the power from NYPA for resale to ultimate customers. Expansion Power is resold exclusively to industrial and commercial customers as is nearly all Replacement Power.<sup>15</sup>

Sales of Project Power (exclusive of Replacement and Expansion Power) to the three upstate investor-owned utilities are designated for residential customer use. These energy deliveries account for an average of 12% of the three utilities' total residential customer kWh sales. Municipal electric and rural cooperative utilities who receive Preference Power serve residential, commercial and industrial customers in varying proportions, and are not obligated to flow the entire benefit of preference power to domestic and rural (i.e. residential) customers. Residential sales as a percentage of total retail sales for the New York Preference customers ranges from 12% to 98%, averaging 40% (based on 2002 figures). Using the actual residential customer sales proportions for each New York Preference customer to estimate geographic delivery of Preference Power to residential customers, we can estimate the geographic distribution of energy sales of Preference Power to domestic and rural customers. Combining this with an estimate of county-by-county residential sales from the three IOUs, we estimate the total Niagara Project Power energy sales that flow to domestic and rural customers. [Table 3.1.3-1](#) shows this estimate, and provides a geographic breakdown of all energy sales to domestic and rural customers.

According to this estimate, 5,500 gigawatt-hours (GWh) of electric energy was supplied to domestic and rural customers, or 44% of overall Niagara sales of 12,446 GWh in 2003. It is worth noting that this percentage is wholly determined by factors outside of NYPA's range of control, i.e. the percentage of residential sales by the preference customers. In total, the amount of electricity supplied to residential customers by Preference Power recipients in New York and out-of-state (2,719 GWh) was

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<sup>15</sup> The portion of Replacement Power energy sold to Niagara Mohawk (at 95% load factor) that is in excess of the energy requirements of the industrial customers is distributed by Niagara Mohawk to residential customers. For the years 1999, 2000, 2001, 2002 and 2003 this excess amounted to 623,957 MWh, 626,383 MWh, 427,694 MWh, 1,320,596 MWh and 648,451 MWh, respectively.

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nearly identical to the amount supplied to the upstate IOUs under contracts (2,781 GWh). Niagara County received about 2% of the Project deliveries to residential customers, while Erie County received about 9%. Because both Preference customers and the three upstate IOUs serve loads across the state, Niagara Project Power for residential customers is not concentrated in Western New York, where only 19% of Project Power for residential customers is delivered. About 82% of Project Power that flows to residential customers flows to New York households and 18% flows to out-of-state residential customers.

### 3.2 Preference Power Allocation

Throughout the history of the Niagara Power Project – including during the Congressional debates of the mid 1950s – the role of Preference Power has engendered the most controversy and contention. The history of the NPP is intertwined with the history of public power, federal hydropower, and rural electrification in the U.S. during the 20<sup>th</sup> Century. Allocations of Preference Power have increased over time – in part through design – but also as a result of a series of legal challenges which have increased the power allocated to municipal electric and rural cooperative customers (both in New York and out-of-state). The increase in Preference Power allocation and sales has been accompanied by a reduction in the amount of power marketed to the upstate IOUs. This can be seen in [Table 3.2-1](#), which shows the difference in allocations between 1982 and 2003 among various types of power customers.

As the table demonstrates, the Preference Power allocation for New York municipals and cooperatives increased 63% from 461 MW in 1982 to 752 MW in 2003, while power sales from the Niagara Project to investor-owned utilities (exclusive of Replacement and Expansion Power) dropped 50% from 600 MW in 1982 to 301 MW in 2003.<sup>16</sup> Smaller shifts occurred as the amount of firm peaking power to IOUs fell 40 MW between 1982 and 2003, with 5 MW of firm peaking power and 43 MW of firm power added to out-of-state preference power customers during that time.

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<sup>16</sup> A portion of the reduction was restored by sales of St. Lawrence-FDR hydropower to the investor-owned utilities.

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### 3.2.1 Relevant Legal and Regulatory Precedents on Preference Power Allocation

The legal history of Preference Power involves concepts dating back to the early 20<sup>th</sup> century political movements and jurisprudence. Many principles in the NRA and PAL have been tested in the courts with respect to Preference Power allocations, and resulting case law defines the discretion that NYPA has to alter Preference Power allocations.

#### 3.2.1.1 Withdrawn Power and “Reasonably Foreseeable Needs”

When the original contracts for preference power were signed with the investor-owned utilities in 1961, they provided for some power to be withdrawn over time (from the portion designated for domestic and rural customers served by the IOUs) to meet the “reasonably foreseeable needs” of expected load growth of the Preference customers as per the NRA.<sup>17</sup> The projections that estimated the likely amount of withdrawable power were made through 1985, but the contracts with IOUs themselves extended through the end of 1989. However, resulting demand growth (primarily non-residential) in municipal and cooperative systems proved to be higher than expected, in part due to the low rates they charged commercial and industrial customers. By 1978, all of the withdrawable power was already transferred from IOUs to Preference customers. From the late 1950s, prior to the operation of the Niagara Project, some power from the St. Lawrence-FDR project was used to satisfy NPP preference customers’ requirements. Later, the St. Lawrence Power was replaced with equal amounts of Niagara Preference Power.

On May 12, 1978, the Municipal Electric Utilities Association of New York (MEUA) filed a complaint against the Power Authority at FERC, beginning a series of legal actions that culminated in a 2<sup>nd</sup> Circuit decision issued on August 15, 1984.<sup>18</sup> In the interim, several FERC decisions were issued,

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<sup>17</sup> In the original 1961 Niagara Mohawk contract (NS-1) the 447 of firm power designated for residential use was divided into 250 MW of non-withdrawable power and 197 MW of withdrawable power.

<sup>18</sup> Power Auth. of N.Y. v. FERC, 743 F.2d 93 (2d Cir. 1984), aff’g and modifying 23 FERC ¶ 61,031 (Apr. 6, 1983) (Opinion 151A), modifying 21 FERC ¶ 61,021 (Oct. 13, 1982) (Opinion 151).

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and appealed to the courts. The initial ALJ decision found that the Power Authority had failed to provide for the reasonably foreseeable needs of Preference Power customers when it entered into contracts with the IOUs, declared the contracts void and ordered the Power Authority to revise the contracts to comply with the NRA and the Project license.<sup>19</sup> On hearing, the FERC issued Opinion 151, which found that preference customers were entitled to receive all their current needs up to 40% of the project output, and thus upheld the voiding of the contracts.<sup>20</sup> However, upon rehearing, the Commission partially reversed itself and limited the remedy to the 1985 – 1990 period, ordering the Power Authority to increase the preference allocation from its current level of 586 MW to 697 MW.<sup>21</sup> These orders were appealed to the Circuit Court in *PASNY v. FERC*. The Court generally agreed with the imposed remedy, but allowed NYPA to fulfill the increase with identically-priced power from the St. Lawrence-FDR project. If it failed to accomplish this requirement, the contracts with IOUs were to be voided and reallocations demanded (including reallocation from Expansion Power if necessary).<sup>22</sup> The contracts were not voided and new contracts with IOUs were entered into as of February 22, 1989.

### 3.2.1.2 Requirements and Criteria for Receiving Preference Power

Under the NRA, Preference Power recipients are “public bodies and nonprofit cooperatives within economic transmission distance” while PAL § 1005 identifies “municipalities and other political sub-divisions of the state now or hereafter authorized by law to engage in the distribution of electric power” as having priority for receiving a “reasonable share” of project power at the “lowest possible price.” These eligibility criteria are not identical.

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<sup>19</sup> Mun. Elec. Utils. Ass’n v. Power Auth. of N.Y., 13 FERC ¶ 63,020 (Oct. 22, 1980) Birchman Decision (Phase I).

<sup>20</sup> 21 FERC ¶ 61,021 (Oct. 13, 1982) (Opinion 151).

<sup>21</sup> 23 FERC ¶ 61,031 (Apr. 6, 1983) (Opinion 151A). In re Mun. Elec. Utils. Ass’n, No. 85-3027 (2d Cir. June 10, 1985)

<sup>22</sup> Power Auth. of N.Y. v. FERC, 743 F.2d 93 (2d Cir. 1984); also, In re Mun. Elec. Utils. Ass’n, No. 85-3027 (2d Cir. June 10, 1985) .

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In 1985, NYPA began to sell Niagara Preference Power to “municipal distribution agencies” (MDAs), which various jurisdictions established under State Law in order to qualify for allocations of Preference Power, under the presumption that such entities were “public bodies” within the meaning of NRA § 836 (b) (1) and thus entitled to preference and priority in NPP power allocations.<sup>23</sup> MDAs (sometimes called “paper munis”) were public agencies that purchased power at wholesale and then distributed it to retail customers of investor-owned utilities through “lease and operating agreements” (LOAs) that gave them limited rights to the utilities’ distribution network. When these arrangements were challenged, New York courts upheld the position of the Power Authority that these MDAs complied with the legal requirements and qualified as public bodies under New York State law.<sup>24</sup> However, a series of subsequent FERC and Federal court cases eventually determined that none of these entities qualified as public bodies under the NRA, and therefore that they were not entitled to receive Preference Power. The FERC and Federal Courts found that such agencies were not equivalent to municipal and cooperative (M&C) systems that owned and controlled the distribution network, which traditionally were understood to furnish “yardstick competition” in the electricity market. These decisions had the effect of limiting Preference Power to municipal electric and rural cooperative distribution utilities.

The theory of yardstick competition emerged in the 1930s, and the theory was implemented through various tax advantages for cooperatives and a preference for municipal electric and rural cooperative systems to receive Federal hydropower. The primary goal of yardstick competition was to provide an alternative form of utility organization, one that would enjoy inherent cost advantages and challenge the rate structures and practices of the investor-owned utilities. This created a way to discipline IOU costs and rates through the threat of losing large customers to existing M&C systems or even communities organizing their own power delivery systems by purchasing IOU assets (“municipalization”). As the matter was brought before FERC, the issue regarding whether MDAs were public bodies under the NRA focused on whether an MDA could perform as a yardstick competitor,

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<sup>23</sup> In addition, NYPA sold preference power from the St. Lawrence-FDR project to the Metropolitan Transit Authority and to the Vermont Department of Public Service at preference rates.

<sup>24</sup> See *Vaisey v. Power Auth. of N.Y.*, No. 16497/85 (Sup. Ct. N.Y. Co. Oct. 17, 1985) (unreported decision), *aff’d*, 120 A.D.2d 996, 502 N.Y.S.2d 316 (1st Dep’t 1986).

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rather than simply pass on savings to IOU customers. FERC found that MDAs were not capable of performing a yardstick competition function, and voided the allocations.<sup>25</sup>

### 3.2.1.3 Out-of-State Preference Power Allocations

Niagara project power is sold to Preference customers outside of New York under the NRA. However, the actual amount has risen over time as a result of litigation, and as a wider area came within “economic transmission distance.” In a 1975 case, the Federal Power Commission (now FERC) decided that the NRA does not require allocation of a full 10 percent of project power to out-of-state entities, and that preference power is not limited to firm power.<sup>26</sup> A later decision noted that FERC has the authority to review the Power Authority’s determination of what constitutes a “reasonable portion” of project power allocated to out-of-state entities.<sup>27</sup> In 1985, however, FERC stated in a footnote that the full 10% should be allocated to out of state preference customers, as there was sufficient demand within economic transmission distance to satisfy the Congressional intent that up to 20% of Preference Power be allocated out of state.<sup>28</sup> In the same decision, FERC ruled that the most reasonable method of apportioning Project power among out-of-state preference customers is based on the number of residential customers served by each preference customer.<sup>29</sup>

The entities receiving out-of-state Preference Power has also changed over time, as transmission costs declined (and became more economic relative to electricity generation) and as allocation formulas were clarified. Recently, the composition of out-of-state Preference Power changed as a result of the

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<sup>25</sup> See Mun. Elec. Utils Ass’n, 42 FERC ¶ 63,018 (Feb. 16, 1988) Leventhal Decision and Mun. Elec. Utils. Ass’n v. Power Auth. of N.Y., 48 FERC ¶ 61,124 (July 28, 1989) Opinion No. 329.

<sup>26</sup> Vt. Pub. Serv. Bd. v. Power Auth. of N.Y., 55 F.P.C. 1109 (May 15, 1975).

<sup>27</sup> Mass. Mun. Wholesale Elec. Co. v. Power Auth. of N.Y., 14 FERC ¶ 61,128 (Feb. 13, 1981), on reh’g, 18 FERC ¶ 61,217 (Mar. 4, 1982).

<sup>28</sup> MMWEC, 32 FERC ¶ 61,194 at 61,452 n.16 (1985) (“*Opinion No. 229-A*”)

<sup>29</sup> Mass. Mun. Wholesale Elec. Co. v. Power Auth. of N.Y., 22 FERC ¶ 63,087 (Mar. 9, 1983) Lewnes Decision.

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Buckeye Cooperative in Ohio qualifying to receive Niagara Project power. This has caused NYPA to re-allocate some preference power from other states' allocations.

Although delivered to specific municipal electric and rural cooperative systems in the neighboring states, both the NRA and PAA envision and permit such states to designate a single bargaining agent to represent the preference customers in that state, which can include a preference customer, the Public Utility Commission, or other body. NYPA's contract is with the bargaining agent; however, that agent does not resell the power (or its portion of the power) at retail unless it also is a municipal or cooperative distribution utility.<sup>30</sup>

### 3.2.1.4 Preference Power and Domestic and Rural Customers

Several cases have addressed Preference Power resales to domestic and rural (i.e. residential) customers. Nothing in the NRA or PAL prohibits a municipal or cooperative preference customer from selling preference power to industrial or commercial customers. Although the general intent of the preference provisions is to favor domestic and rural consumption, an allocation of preference power does not restrict resale to any particular type of customer.<sup>31</sup>

### 3.2.1.5 Geographic Allocation of Preference Power and Energy Deliveries

Although Preference Power is the most spatially distributed benefit of Niagara project power – reaching 51 municipal electric and rural cooperative utilities across New York and additional systems in 7 neighboring states – it is also quite concentrated in terms of the relatively small proportion of customers

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<sup>30</sup> Several decisions relating to MDAs also addressed the eligibility of the Vermont Public Service Board as a Preference customer, declaring it a wholesaler and not a retail entity (it now serves as the bargaining agent for the State of Vermont). See Mun. Elec. Utils. Ass'n v. Power Auth. of N.Y., 48 FERC ¶ 61,124 (July 28, 1989) Opinion No. 329 and Allegheny Elec. Coop., Inc. v. FERC, 922 F.2d 73 (2d Cir. 1990), aff'g 48 FERC ¶ 61,124 (July 28, 1989).

<sup>31</sup> Power Auth. of N.Y. v. FERC, 743 F.2d 93 (2d Cir. 1984); also, Mun. Elec. Utils. Ass'n v. Power Auth. Of N.Y., 23 FERC ¶ 61,302 (May 27, 1983).

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and loads that it serves within those broad geographic regions. When the Niagara Power Project began delivering power in 1961, not all municipal and cooperative systems had a need for power or were within “economic transmission distance,” and, therefore, allocations gradually were made available to all municipal electric and rural cooperative utilities in New York and increased to initial Preference Power recipients. Jamestown, currently the largest Preference customer, only received its allocation in 1971 (to augment its own coal-fired generation), and three municipalities in Long Island began receiving Preference Power in 1976. [Appendix A](#) shows a summary of New York Preference Power allocations and kWh sales for 2003, and [Table 3.2.2-1](#) shows the geographic allocation of preference power for 2003.

Two percent (2%) of Preference Power is delivered into Niagara and Erie Counties. Western New York receives 18% of overall Preference Power, or roughly 22% of Preference Power delivered into New York. Out of state Preference customers receive 21% of Preference Power.

### 3.2.2 Out-of-State Preference Power

As seen in [Table 3.2.2-1](#), 228 MW of Niagara Project Power was allocated to out of state recipients in 2003, with 1,149 GWh of energy delivered. [Table 3.2.3-1](#) provides a breakdown of these allocations and deliveries by recipient state. In 2003, Massachusetts received the most – about 34% – of out-of-state Preference Power energy deliveries, with Ohio and Pennsylvania following with 28% and 20%, respectively.

Although out-of-state Preference Power allocations have remained steady at a total of 228 MW of Firm and Firm Peaking Power, the composition of state recipients can change as new entities become eligible to receive power. Recently, the inclusion of the Buckeye Electric Cooperative in Ohio as an eligible recipient has caused out-of state allocations to shift to Ohio from the other six neighboring states, roughly in proportion to their current allocations. [Table 3.2.3-2](#) shows the shift in allocations that occurred in the Spring of 2004 in both Firm and Firm Peaking Power.

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In order to increase the overall Ohio allocation, other states' allocations were reduced by roughly 20%-30%. Owing to this re-allocation, Ohio now receives the most out-of-state Preference Power – at 46% of the total, with Massachusetts' share declining to 23% and Pennsylvania falling to 17%.

### 3.2.3 Preference Power to Domestic and Rural Customers

[Appendix B](#) shows the 2002 energy deliveries to Preference customers in New York, combined with data on their number of residential customers and residential kWh sales from the Energy Information Administration (2002 is shown because that is the most recent EIA data available on retail electricity suppliers). In 2002, the 51 municipal electric and rural cooperative utilities in New York received 4,340 GWh of Niagara Project Power, and sold 4,566 GWh at retail to all customers (residential, commercial and industrial).<sup>32</sup> The share of residential retail sales to total retail sales for the New York Preference customers ranges from 12% to 98%, with an average of 40%. All together, these M&C Preference customers served 153,000 residential retail customers. [Table 3.2.4-1](#) allocates Preference Power deliveries in 2003 between residential and other (industrial & commercial) sectors, by region, using factors derived from the 2002 data.<sup>33</sup>

This estimate shows that 50% of Preference Power is allocated to domestic and rural customers. About 20% of Preference Power sales attributed to domestic and rural customers in New York are in Western New York, and, thus, 80% of the benefit of Preference Power that flows to residential customers in New York accrues to areas outside of the western region. Two percent (2%) of the residential customer benefit from Preference Power deliveries remains in the Niagara Frontier region.

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<sup>32</sup> Project sales can exceed retail sales as a result of transmission losses to the recipient and distribution losses to retail customers.

<sup>33</sup> Customer sales share data is fairly stable over time, so applying the 2002 share factors to 2003 data does not create any material distortion in the figures.

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### **3.3 Replacement Power Allocation**

Replacement Power allocation has not varied since its inception, with 445 MW of firm power granted to Niagara Mohawk for sales to industrial customers on the Niagara Frontier. As of July 1, 2004, there were 68 companies receiving Replacement Power with a total contract demand of 378 MW (23 of these also received Expansion Power allocations). [Appendix C](#) shows the list of industrial customers receiving Replacement Power and their kW allocations as of July 1, 2004. (It also shows the allocations as of December 31, 2003, which provide Replacement Power contract totals used in calculations based on calendar 2003 data.)

#### **3.3.1 Requirements and Criteria for Receiving Replacement Power**

All of the NPP replacement power is sold through Niagara Mohawk pursuant to Niagara Contract NS-1 under service tariff NP-F1.<sup>34</sup> In the original NS-1 (February 10, 1961) Replacement Power was defined in Article I (h) as “Project firm power made available by Authority to Contractor [Niagara Mohawk] pursuant to Public Law 85-159 [NRA] to replace power formerly produced by Contractor in its Adams and Schoellkopf plants. The industrial customers to whom such power is sold by Contractor and the amounts sold to each shall be approved by Authority.” Although the NRA § 836 (3) provided for 445 MW of Niagara Project Power “*for resale generally to the industries which purchase power produced by project 16 prior to such date, or their successors, in order as nearly as possible to restore low power costs to such industries and for the same general purposes for which power from project 16 was utilized,*” the NMPC originally allocated the full 445 MW to local industries, even though some were not formerly recipients of power from Project 16. NS-1 Article IV (1) states: “Contractor shall resell the replacement power made available to it to industrial customers in accordance with Public Law 85-159.” There were no specific references to the method by which the Power Authority or NMPC should reallocate any replacement power that might be made available due to the original recipients closing or downsizing

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<sup>34</sup> Customers who received a Replacement Power allocation after May 1, 1994 are billed at the Expansion Power rate, which currently is about 17% higher (at 80% load factor) than the current Preference Power rate. See “New York Power Authority Operations Data for 2003” and later discussion on ratemaking.

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industrial facilities. Finally, NS-1 Article II (1)(b)(i) gives the Power Authority the right to restrict energy deliveries below 95% load factor to Replacement Power customers. The delivered energy that represents the difference between actual Replacement Power load factor and 95% load factor is credited to the residential customers of Niagara Mohawk.

The New York State Legislature on June 23, 2005 passed legislation that provides a state statutory basis for the continued sale of 445MW of Replacement Power to businesses within 30 miles of the Project. (S5866/A8960). The legislation, which will be sent to the Governor for his approval, also provides for the use of a portion of unallocated Replacement Power for the purpose of Energy Cost Savings Benefits to be granted by the New York State Economic Development Allocation Board, consistent with current contractual obligations. The bill treats reallocations of Replacement Power in the same manner and under the same criteria as currently apply to the allocation of Expansion Power. (PAL §1005(13))

### 3.3.2 Relinquished and Re-Allocated Replacement Power

By the late 1970s, about 110 MW of the Replacement Power allocation had been relinquished by the original recipients as they discontinued or reduced operations, and NMPC was using the relinquished power for general system requirements.<sup>35</sup> Several customers filed a breach of contract suit against the Power Authority and NMPC to restore power allocations that they believed should be granted to industrial customers. (the “Airco” case).<sup>36</sup> The Airco case was settled with the parties to the dispute agreeing to an allocation of relinquished Replacement Power and a method for allocating future relinquishments among industrial customers. Another case soon followed, with Bethlehem Steel suing

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<sup>35</sup> The term “general system requirements” is from the Airco decision. The *Report of the Temporary Commission on Allocation of Power Authority Hydroelectric Power* (February 29, 1984; the “Millonzi Commission”) indicates that 1.7 million kWh out of 3.7 million kWh (46%) of Replacement Power was distributed to Niagara Mohawk residential customers. In an attached dissent (no attribution) a table of Replacement Power customers indicates only 367 MW were allocated in 1983, with 75 MW awaiting allocation contingent on planned facility expansions.

<sup>36</sup> See *Airco Alloys Div., Airco, Inc. v. Niagara Mohawk Power Corp.*, 76 A.D.2d 68, 430 N.Y.S.2d 179 (4th Dep’t 1980).  
(footnote continued)

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the Power Authority and NMPC.<sup>37</sup> In that case, the court concluded that (a) Niagara Mohawk and NYPA had broad discretion to select those entities that would receive initial Replacement Power allocations, with no specific company entitled to receive an allocation; (b) Replacement Power relinquished during the term of the contract (NS-1) had to be reallocated to the industries as a group but no specific company was entitled to a portion of such relinquished power; and (c) while Niagara Mohawk (but not NYPA) breached the contract when it refused to allocate relinquished Replacement Power, plaintiff had not proven its contractual right to a specific allocation of relinquished Replacement Power or damages for the failure to allocate that power. The Bethlehem case was settled with all parties agreeing to additional allocations of relinquished Replacement Power and a method for allocating future relinquishments.

The current framework for re-allocations of relinquished Replacement Power is an outgrowth of a process established by a 1988 Settlement Agreement between NYPA, Niagara Mohawk and the industrial customers.<sup>38</sup> Under the settlement, relinquished Replacement Power was held by Niagara Mohawk until it reached 10 MW, or 18 months have expired, whichever occurs first. The availability of Replacement Power was published in local newspapers and industry then submits requests based on their expansion needs. Customers receive Replacement Power allocations under criteria similar to those for Expansion Power, including the number of jobs created per MW and the level of new investment. Recently, Niagara Mohawk, NYPA, and Western New York economic development entities streamlined the reallocation procedures to ensure that there is a continuing allocation process as Replacement and Expansion Power becomes available for reallocation. This new process provides greater opportunity to match available power with a prospective customer.<sup>39</sup> Note that the new state legislation concerning Replacement Power, discussed above, would replace any inconsistent allocation methods established by the Airco and Bethlehem settlements, which expire on January 1, 2006.

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<sup>37</sup> Bethlehem Steel Corp. v. Niagara Mohawk Power Corp., No. H-10963 (Sup. Ct. Erie Co. Oct. 30, 1989) (unreported decision), aff'd no opinion, 179 A.D.2d 1095, 580 N.Y.S.2d 902 (4th Dep't 1992).

<sup>38</sup> "Agreement for allocation and transfer of Replacement Power pursuant to Niagara Contract NS-1, dated April 4, 1988"

<sup>39</sup> "Memorandum of Understanding Regarding Western New York Hydropower" dated October 22, 2003.

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**3.3.3 Geographic Distribution of Replacement Power Allocations and Associated Energy Deliveries**

Because of its historic association with the Schoellkopf and Adams plants, Replacement Power is geographically concentrated in the Niagara Frontier region. Although not specifically stipulated in the NRA or the PAL, Contract NS-1 requires that all of the Replacement Power recipients be located within 30 miles of the Niagara switchyard. The new legislation changes the radius for Replacement Power to be 30 miles from the Project. [Appendix D](#) provides a breakdown of current Replacement Power customers by the investor-owned utility serving those customers and region. [Table 3.3.3-1](#) shows the geographic distribution of Replacement Power allocations and associated energy deliveries by the Host Communities and the counties of Niagara and Erie.<sup>40</sup> Over three-quarters (76%) of all Replacement Power is allocated to industries located in the Host Communities, with nearly all of the remainder in Erie County

**3.3.4 Expiration of Replacement Power Allocation**

Under the NRA the Replacement Power requirement and allocations expire on December 31, 2005.<sup>41</sup> The new legislation mentioned above that has passed both houses of the New York State Legislature, and which is expected to be signed by the Governor (S5866/A8960) operates to provide a statutory base for replacement power sales independent of the Niagara Redevelopment Act. The bill would extend the Replacement Power allocations as a matter of state law by amending PAL § 1005 (13), and basically merge Replacement Power with Expansion Power allocation rules.

The remainder of PAL § 1005 (13) is largely unchanged except for additional investment criteria added to the allocation methods. Expansion Power Allocation

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<sup>40</sup> Energy deliveries are assumed at the average Replacement Power load factor.

<sup>41</sup> Technically, NS-1 expires at 12:01 AM January 1, 2006. The agreement was extended by agreement of NYPA and Niagara Mohawk until the end of the current Niagara Project license on August 31, 2007.”

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Up to 250 MW of firm Project Power has been allocated to three load-serving entities: Niagara Mohawk (174.7 MW) New York State Electric and Gas (38.7 MW) and City of Jamestown (3.1 MW). As of December 31, 2003 there were only 217 MW actually under contract, with the rest available for allocation under the rules outlined in PAL § 1005 (13); by July 1, 2004 there were 202 MW of Expansion Power contracts with 68 companies. [Appendix C](#) also shows the industrial customers served by the current allocation of Expansion Power and their kW allocations.

### 3.3.5 Requirements and Criteria for Receiving Expansion Power

Expansion Power is defined by New York State law, and designed to elicit new or expanded business in the Niagara Frontier region. As outlined in PAL § 1005 (13), the requirements for receiving Expansion Power are business customers within 30 miles from the Niagara Power Plant switchyard (or Chautauqua County allocations as of 1987). The trustees of the Power Authority have authority to determine which customers receive Expansion Power and the amount of any such allocation. Actual customer's allocations are decided by the trustees under the criteria outlined in PAL § 1005 (13).

The rules regarding Expansion Power are explicit regarding relinquished and re-allocated power. PAL § 1005 (13) states:

Expansion power relinquished or withdrawn after the effective date of this subdivision shall be allocated directly or by sale for resale by the authority to businesses within the state located within thirty miles of the Niagara project provided, that the amount of power allocated to businesses in Chautauqua county on January first, nineteen hundred eighty-seven shall be allocated in such county. These allocations shall be made in accordance with criteria established by the trustees. Such criteria shall address the expansion of industry and employment pursuant to paragraph (a) of this subdivision and the revitalization of existing industry pursuant to paragraph (b) of this subdivision.

The criteria for allocating relinquished power are the same as eligibility for Expansion Power, and were furnished by the 1987 Expansion Power law:

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(a) Criteria for eligibility for expansion power. Each application for an allocation for expansion power shall be evaluated by the trustees under criteria which shall include but need not be limited to:

(1) the number of jobs created as a result of an expansion power allocation;

(2) the business` long term commitment to the region as evidenced by the current and/or planned capital investment in business` facilities in the region;

(3) the ratio of the number of jobs to be created to the amount of expansion power requested;

(4) the types of jobs created, as measured by wage and benefit levels, security and stability of employment;

(5) the type and cost of buildings, equipment and facilities to be constructed, enlarged or installed;

(6) the extent to which expansion power will affect the overall productivity or competitiveness of the business and its existing employment;

(7) the extent to which an allocation of expansion power may result in a competitive disadvantage for other business;

(8) the growth potential of the business facility and the contribution of economic strength to the area in which the business facility is or would be located;

(9) the extent of the business` willingness to make jobs available to persons defined as eligible for services under the federal job training partnership act of nineteen hundred eighty-two and the extent of the business` willingness to satisfy affirmative action goals;

(10) the extent to which an allocation of expansion power is consistent with state, regional and local economic development strategies and priorities and supported by local units of government in the area in which the business is located; and

(11) the impact of the allocation on the operation of any other facilities of the business, on other businesses within the region, and upon other electric ratepayers.

(b) Revitalization. In addition to the criteria provided in paragraph (a) of this subdivision the trustees shall establish special criteria for the evaluation of applications for power allocated for the revitalization of industry. Such criteria shall include, but need not be limited to:

(1) that the business is likely to close, partially close or relocate resulting in the loss of a substantial number of jobs;

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(2) that the business is an important employer in the community and efforts to revitalize the business are in long-term interests of both employers and the community;

(3) that a reasonable prospect exists that the proposed allocation of expansion power will enable the business to remain competitive and become profitable and preserve jobs for a substantial period of time;

(4) that the applicant demonstrates cooperation with the local electricity distributor and other available sources of assistance to reduce energy costs to the maximum extent practicable, through conservation and load management; and

(5) that the allocation will not unduly affect the cost of electric service to customers of the local electricity distributor.

The new legislation affecting Replacement Power amends these criteria in minor respects regarding capital investment.

### 3.3.6 Geographic Distribution of Expansion Power Allocations and Energy Deliveries

[Appendix D](#) shows the geographic allocation of Expansion Power by utility. [Table 3.4.2-1](#) shows the geographic distribution of Expansion Power and the associated energy deliveries (assuming average load factors apply across geographic boundaries). As in Replacement Power, all Expansion Power is delivered into Western New York, but Expansion Power is less concentrated in the Host Communities, where 34% is currently allocated. Expansion Power customers in Erie County account for half of the current allocation, and about 10% of Expansion Power allocation goes to customers in Western New York outside of Niagara and Erie Counties.

### 3.4 Upstate Investor-Owned Utilities

Project Power designated for domestic and rural (i.e. residential) customers and sold at Preference rates is delivered under contract with three upstate investor-owned utilities: Niagara Mohawk (NMPC) New York State Electric and Gas (NYSEG) and Rochester Gas and Electric (RG&E). Contracts for 310 MW of Firm Power (and 360 MW of Firm Peaking Power) are allocated to IOUs, with the Firm Power allocated as: 126 MW to NMPC, 110 MW to NYSEG and 65 MW to RG&E.

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These three IOUs collectively serve almost 2.4 million residential accounts in all or parts of 54 counties in New York (out of 62 counties), and Niagara Project Power accounted for 12% of total their residential sales in 2002.<sup>42</sup> [Table 3.5-1](#) displays the power delivered to these IOUs in 2002, and shows that Niagara Project Power accounted for 21% of RG&E retail residential sales, 14% of NYSEG's residential sales, and 9% of NMPC's residential sales.

The geographic distribution of this power is shown on [Table 3.5-2](#), which allocates residential power deliveries based on approximate numbers of households in the counties served by the three IOUs (also see [Appendix E](#)). This power is broadly distributed through Upstate New York, with 22% in Western New York and 78% in the remainder of the state, although none is allocated to the downstate urban counties.

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<sup>42</sup> The service territories of the three upstate IOUs encompass all or part of 54 counties.



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**TABLE 3.1.1-1  
NPP SCHEDULE OF DEMAND AND ENERGY SALES, YEAR ENDED DECEMBER 31, 2003**

Customer Type	Allocated Power		Power Available for Contract		Contracted Power		Contract Sales		Load Factor
	kW	% of Total	kW	% of Total	kW	% of Total	MWh	% of Total	
<b>Firm Power</b>									
Investor Owned Utilities	245,000	13.0%	301,000	15.5%	301,000	16.2%	1,757,526	15%	66.7%
In-State Preference	752,000	40.0%	752,000	38.8%	752,000	40.4%	4,232,694	35%	64.3%
Out-of-State Preference	188,000	10.0%	188,000	9.7%	188,000	10.1%	1,107,123	9%	67.2%
Replacement Power	445,000	23.7%	445,000	23.0%	401,749	21.6%	3,494,739	29%	99.3%
Expansion Power	250,000	13.3%	250,000	12.9%	216,522	11.6%	1,436,069	12%	75.7%
Subtotal Firm Power Sales	1,880,000	100.0%	1,936,000	100.0%	1,851,905	100.0%	12,028,151	100.0%	74.1%
<b>Firm Peaking Power</b>									
Investor Owned Utilities	360,000	90.0%	360,000	90.0%	360,000	90.0%	376,722	90.2%	11.9%
Out-of-State Preference	40,000	10.0%	40,000	10.0%	40,000	10.0%	41,585	9.8%	11.9%
Subtotal Firm Peaking Sales	400,000	100.0%	400,000	100.0%	400,000	100.0%	418,307	100.0%	11.9%
Total Sales							12,446,458		
Purchases							(507,148)		
Generation	2,280,000		2,336,000		2,259,271		11,939,310		60.3%

Source: 2003 Report on the Sale and Distribution of Niagara Power and NYPA.

Data underlying table include substitute energy sales. Substitute energy sales are not a Niagara Power Project product. Substitute energy accounts for approximately 1% of sales and does not substantially affect project allocations.

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**TABLE 3.1.2-1**  
**2003 GEOGRAPHIC SUMMARY OF PROJECT POWER**

Region	Preference Power		Replacement Power		Expansion Power		Upstate IOU's Residential		Total Project Power	
	MW	% of Total	MW	% of Total	MW	% of Total	MW	% of Total	MW	% of Total
<b>Western New York &amp; Subregions</b>										
Host Communities	0	0%	304	76%	73	34%	7	1%	384	17%
Remaining Niagara County	0	0%	1	0%	15	7%	16	2%	32	1%
<i>Niagara County Subtotal</i>	0	0%	305	76%	88	41%	23	3%	417	18%
Erie County	17	2%	94	23%	107	50%	95	14%	313	14%
<i>Niagara Frontier Subtotal</i>	17	2%	399	99%	195	90%	118	18%	730	32%
<i>Western New York Subtotal</i>	160	16%	402	100%	217	100%	155	23%	933	41%
<b>State Regions</b>										
New York	752	77%	402	100%	217	100%	661	100%	2,031	90%
Out-of-State	228	23%	0	0%	0	0%	0	0%	228	10%
<b>Total</b>	980	100%	402	100%	217	100%	661	100%	2,259	100%
<i>Percent of Project Power</i>	43%		18%		10%		29%		100%	

Sources: "2003 Report on the Sale and Distribution of Niagara Power" and NYPA.

Capacity figures include firm and firm peaking allocations. Niagara Frontier includes Niagara and Erie Counties; western New York includes Niagara, Erie, Genesee, Orleans, Wyoming, Chautauqua, Cattaraugus, and Allegany Counties. Includes both firm and firm peaking power. Replacement and Expansion totals reflect power contract levels as of 12/31/03 and are thus lower than total statutory allocations.

**NIAGARA POWER PROJECT (FERC NO. 2216)  
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**TABLE 3.1.2-2  
2003 GEOGRAPHIC SUMMARY OF NPP ENERGY SALES**

Region	Preference Sales		Replacement Sales		Expansion Sales		Upstate IOU's Residential		Total Energy Sold	
	GWh	% of Total	GWh	% of Total	GWh	% of Total	GWh	% of Total	GWh	% of Total
<b>Western New York &amp; Subregions</b>										
Host Communities	0	0%	2,646	76%	485	34%	22	1%	3,153	25%
Remaining Niagara County	0	0%	11	0%	100	7%	47	2%	159	1%
<i>Niagara County Subtotal</i>	0	0%	2,657	76%	585	41%	69	3%	3,311	27%
Erie County	98	2%	816	23%	711	50%	289	14%	1,914	15%
<i>Niagara Frontier Subtotal</i>	98	2%	3,473	99%	1,297	90%	358	17%	5,225	42%
<i>Western New York Subtotal</i>	946	18%	3,495	100%	1,436	100%	476	22%	6,352	51%
<b>State Regions</b>										
New York	4,251	79%	3,495	100%	1,436	100%	2,134	100%	11,316	91%
Out of State	1,149	21%	0	0%	0	0	0%	0%	1,149	9%
<b>Total</b>	5,400	100%	3,495	100%	1,436	100%	2,134	100%	12,465	100%
<i>Percent of Project Power</i>	43%		28%		12%		17%		100%	

Percentages for subregions are of Project total.

Niagara Frontier includes Niagara & Erie Counties; Western New York includes Niagara, Erie, Genesee, Orleans, Wyoming, Chautauqua, Cattaraugus, and Allegany Counties. Includes both firm and firm peaking.

Data underlying table include substitute energy sales. Substitute energy sales are not a Niagara Power Project product. Substitute energy accounts for approximately 1% of sales and does not substantially affect project allocations.

**NIAGARA POWER PROJECT (FERC NO. 2216)**  
**NPP POWER ALLOCATIONS, RATES, AND OPPORTUNITIES**

**TABLE 3.1.3-1**  
**GEOGRAPHIC DISTRIBUTION OF 2003 DOMESTIC AND RURAL SALES**

Region	Preference Sales to Domestic & Rural Customers (GWh)	Replacement Sales to Domestic & Rural Customers (GWh)	Upstate IOU's Sales to Domestic & Rural Customers (GWh)	Total Sales to Domestic & Rural Customers (GWh)	Percent of Domestic & Rural Sales in Region
<b>Western New York &amp; Subregions</b>					
Host Communities	0	15	22	37	1%
Remaining Niagara County	0	16	47	63	1%
<i>Niagara County Subtotal</i>	0	31	69	100	2%
Erie County	37	144	289	470	9%
<i>Niagara Frontier Subtotal</i>	37	176	358	570	10%
<i>Western New York Subtotal</i>	352	221	476	1,048	19%
<b>State Regions</b>					
New York	1,735	646	2,134	4,516	82%
Out-of-State	984	0	0	984	18%
<b>Total</b>	2,719	646	2,134	5,500	100%

Sources: “2003 Report on the Sale and Distribution of Niagara Power,” “New York Power Authority Operations Data for 2003,” and NYPA.

Niagara Frontier includes Niagara & Erie Counties; Western New York includes Niagara, Erie, Genesee, Orleans, Wyoming, Chautauqua, Cattaraugus, and Allegany Counties. Includes both firm and firm peaking power. Out-of-State preference domestic and rural sales are calculated as the percentage of in-state preference domestic and rural sales times out-of-state preference sales.

Data underlying table include substitute energy sales. Substitute energy sales are not a Niagara Power Project product. Substitute energy accounts for approximately 1% of sales and does not substantially affect project allocations.

**NIAGARA POWER PROJECT (FERC NO. 2216)**  
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**TABLE 3.2-1**

**NIAGARA POWER PROJECT SCHEDULE OF DEMAND, 1982 AND 2003**

Class	1982		2003	
	Demand (MW)	Percent of Total	Demand (MW)	Percent of Total
<b>Firm Power</b>				
Investor Owned Utilities	600	32%	301	16%
In-State Preference	461	24%	752	39%
Out-of-State Preference	145	8%	188	10%
Replacement Power	445	23%	445	23%
Expansion Power	250	13%	250	13%
Subtotal Firm Power	1,901	100%	1,936	100%
<b>Firm Peaking Power</b>				
Investor Owned Utilities	400	92%	360	90%
Out-of-State Preference	35	8%	40	10%
Subtotal Firm Peaking	435	100%	400	100%
<b>Total</b>	2,336		2,336	

Sources: "Report of the Temporary Commission on Allocation of Power Authority Hydroelectric Power" and "2003 Report on the Sale and Distribution of Niagara Power."

**NIAGARA POWER PROJECT (FERC NO. 2216)**  
**NPP POWER ALLOCATIONS, RATES, AND OPPORTUNITIES**

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**TABLE 3.2.2-1**  
**PREFERENCE POWER GEOGRAPHIC ALLOCATION AND SALES**

Region	Preference Power Allocation (MW)	Preference Sales (GWh)	Region Percent of Preference Sales
<b>Western New York Subregions</b>			
Host Communities	0	0	0%
Remaining Niagara County	0	0	0%
<i>Niagara County Subtotal</i>	0	0	0%
Erie County	17	98	2%
<i>Niagara Frontier Subtotal</i>	17	98	2%
<i>Western New York Subtotal</i>	160	946	18%
<b>State Regions</b>			
New York	752	4,251	79%
Out-of-State	228	1,149	21%
<b>Total</b>	980	5,400	100%

Sources: "2003 Report on the Sale and Distribution of Niagara Power" & "New York Power Authority Operations Data for 2003."

Data underlying table include substitute energy sales. Substitute energy sales are not a Niagara Power Project product. Substitute energy accounts for approximately 1% of sales and does not substantially affect project allocations.

**NIAGARA POWER PROJECT (FERC NO. 2216)  
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**TABLE 3.2.3-1  
OUT-OF-STATE 2003 PREFERENCE ALLOCATIONS AND SALES**

Entity	Preference Power Allocation (kW)	Preference Sales (GWh)	Percent of Preference Sales
Allegheny Electric Cooperative, Pennsylvania	47,900	228.5	19.9%
City of Cleveland, Ohio	63,800	317.9	27.7%
Connecticut Municipal Electric Energy Coop.	15,500	82.7	7.2%
Public Power Association of New Jersey	13,800	63.9	5.6%
Massachusetts Department of Telecommunications and Energy	72,200	385.2	33.5%
Rhode Island Public Utilities Commission	800	4.1	0.4%
Vermont Department of Public Service	14,000	66.5	5.8%
<b>Total</b>	<b>228,000</b>	<b>1,149</b>	<b>100%</b>

Sources: "2003 Report on the Sale and Distribution of Niagara Power" and "New York Power Authority Operations Data for 2003."

Data underlying table include substitute energy sales. Substitute energy sales are not a Niagara Power Project product. Substitute energy accounts for approximately 1% of sales and does not substantially affect project allocations.

**NIAGARA POWER PROJECT (FERC NO. 2216)  
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**TABLE 3.2.3-2  
NPP OUT-OF-STATE PREFERENCE POWER, JANUARY 1, 2004, AND APRIL 1, 2004**

Entity	January 1, 2004 Allocation		April 1, 2004 Allocation	
	NPP Allocation (kW)	Percent of NPP Out-of-State Allocation	NPP Allocation (kW)	Percent of NPP Out-of-State Allocation
Connecticut Municipal Electric Energy Coop.	15,500	6.8%	10,500	4.6%
Massachusetts Department of Telecommunications and Energy	72,200	31.7%	53,000	23.2%
Public Power Association of New Jersey	13,800	6.1%	9,600	4.2%
City of Cleveland, Ohio	63,800	28.0%	104,400	45.8%
Allegheny Electric Cooperative, Pennsylvania	47,900	21.0%	38,700	17.0%
Rhode Island Public Utilities Commission	800	0.4%	600	0.3%
Vermont Department of Public Service	14,000	6.1%	11,200	4.9%
<b>Total</b>	<b>228,000</b>	<b>100%</b>	<b>228,000</b>	<b>100%</b>

Sources: NYPA.

**NIAGARA POWER PROJECT (FERC NO. 2216)**  
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**TABLE 3.2.4-1**

**GEOGRAPHIC DISTRIBUTION OF 2003 DOMESTIC AND RURAL PREFERENCE SALES**

Region	Preference Sales to Domestic and Rural Customers (GWh)	Preference Sales to Non-Rural and Domestic Customers (GWh)	Total Preference Sales
<b>Western New York Subregions</b>			
Host Communities	0	0	0
Remaining Niagara County	0	0	0
<i>Niagara County Subtotal</i>	0	0	0
Erie County	37	61	98
<i>Niagara Frontier Subtotal</i>	37	61	98
<i>Western New York Subtotals</i>	352	594	946
<b>State Regions</b>			
New York	1,735	2,516	4,251
Out-of-State	984	165	1,149
<b>Total</b>	2,719	2,681	5,400

Sources: "2003 Report on the Sale and Distribution of Niagara Power," "New York Power Authority Operations Data for 2003," and NYPA.

Niagara Frontier includes Niagara & Erie Counties; western New York includes Niagara, Erie, Genesee, Orleans, Wyoming, Chautauqua, Cattaraugus, and Allegany Counties. Out-of-State preference domestic and rural sales are calculated as the percentage of in-state preference domestic and rural sales times out-of-state preference sales.

Data underlying table include substitute energy sales. Substitute energy sales are not a Niagara Power Project product. Substitute energy accounts for approximately 1% of sales and does not substantially affect project allocations.

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**TABLE 3.3.3-1**

**2003 REPLACEMENT POWER GEOGRAPHIC ALLOCATION AND SALES**

Region	Replacement Power (MW)	Replacement Sales (GWh)	Region Percent of Replacement Sales
<b>Western New York &amp; Subregions</b>			
Host Communities	304	2,646	76%
Remaining Niagara County	1	11	0%
<i>Niagara County Subtotal</i>	305	2,657	76%
Erie County	94	816	23%
<i>Niagara Frontier Subtotal</i>	399	3,473	99%
<i>Western New York Subtotal</i>	402	3,495	100%
<b>State Regions</b>			
New York	402	3,495	100%
Out-of-State	0	0	0%
<b>Total</b>	402	3,495	100%

Sources: "2003 Report on the Sale and Distribution of Niagara Power" and NYPA.

Data underlying table include substitute energy sales. Substitute energy sales are not a Niagara Power Project product. Substitute energy accounts for approximately 1% of sales and does not substantially affect project allocations.

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**TABLE 3.4.2-1**  
**2003 EXPANSION POWER GEOGRAPHIC ALLOCATION AND SALES**

Region	Expansion Power (MW)	Expansion Sales (GWh)	Region Percent of Expansion Sales
<b>Western New York Subregions</b>			
Host Communities	73	485	34%
Remaining Niagara County	15	100	7%
<i>Niagara County Subtotal</i>	88	585	41%
Erie County	107	711	50%
<i>Niagara Frontier Subtotal</i>	195	1,297	90%
<i>Western New York Subtotal</i>	217	1,436	100%
<b>State Regions</b>			
New York	217	1,436	100%
Out-of-State	0	0	0%
<b>Total</b>	217	1,436	100%

Sources: "2003 Report on the Sale and Distribution of Niagara Power" and NYPA.

Data underlying table include substitute energy sales. Substitute energy sales are not a Niagara Power Project product. Substitute energy accounts for approximately 1% of sales and does not substantially affect project allocations.

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**TABLE 3.5-1**  
**DISTRIBUTIONS TO DOMESTIC AND RURAL CUSTOMERS FROM UPSTATE IOU'S 2002 SALES**

Entity	Power Contracted (MW)	Niagara Sales (GWh)	Residential Customers	Retail Sales to Residential Customers (GWh)	Niagara Sales as Percent of Residential Sales
Niagara Mohawk Power Corp	301	941	1,369,959	10,120	9%
New York State Electric & Gas Corp	260	836	715,299	5,544	15%
Rochester Gas and Electric Corporation	100	466	281,565	2,156	22%
<b>Total</b>	<b>661</b>	<b>2,243</b>	<b>2,366,823</b>	<b>17,820</b>	<b>13%</b>

Sources: 2002 EIA Form 861, Tables 14 - 17, "New York Power Authority Operations Data for 2002," and "2003 Report on the Sale and Distribution of Niagara Power."

Power contracted includes both firm and firm peaking power. Data underlying table include substitute energy sales. Substitute energy sales are not a Niagara Power Project product. Substitute energy accounts for approximately 1% of sales and does not substantially affect project allocations.

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**TABLE 3.5-2**

**2003 UPSTATE IOU'S GEOGRAPHIC RESIDENTIAL POWER AND SALES**

Region	Upstate IOU's - Residential Power  (MW)	Upstate IOU's - Residential Sales  (GWh)	Region Percent of Upstate IOU's - Residential Sales
<b>Western New York Subregions</b>			
Host Communities	7	22	1%
Remaining Niagara County	16	47	2%
<i>Niagara County Subtotal</i>	23	69	3%
Erie County	95	289	14%
<i>Niagara Frontier Total</i>	118	358	17%
<i>Western New York</i>	155	476	22%
<b>State Regions</b>			
New York	661	2,134	100%
Out-of-State	0	0	0%
<b>Total</b>	661	2,134	100%

Sources: US Census, NYPA, "New York Power Authority Operation Data for 2003," and 2002 EIA Form 861, Table 17.

Data underlying table include substitute energy sales. Substitute energy sales are not a Niagara Power Project product. Substitute energy accounts for approximately 1% of sales and does not substantially affect project allocations.



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**4.0 RATE-SETTING METHODOLOGY AND IMPACT OF RELICENSING COSTS**

**4.1 History and Overview of Ratemaking Principles Applicable to Niagara Power Project**

The initial rates for firm power for the Niagara Power Project were established when the plant went into operation in 1961. This initial rate included a one dollar per kilowatt per month demand charge and a 2.67 mills per kWh energy charge applicable to all firm power deliveries – Preference, Replacement, Expansion and power delivered to IOUs. These rates remained steady through 1981 when the Trustees decided to retire the remaining bonds issued under the Authority’s 1954 Bond Resolution for the St. Lawrence and Niagara hydro projects. At that time, the Trustees decided to conduct a comprehensive study to determine an appropriate rate level. A decision by the New York Supreme Court in the Auer et al v. Dyson et al case in 1981 addressed how project costs and revenues were to be handled in the rate setting process. Specifically, the court said that revenues from the Niagara and St. Lawrence hydro projects could not be diverted to finance other projects until the statutory obligation to provide domestic and rural customers with the lowest possible rate was met. The court went on to state that in setting the “lowest possible rate:”

...the Authority has broad discretion, in setting such rates, to determine the components of its costs, and it is not required to guarantee any specific rate. It may include a reasonable charge for depreciation of the Niagara and St. Lawrence projects and such other factors which the exercise of business accounting principles would allow.

Following this decision, the trustees adopted a five percent rate decrease for the domestic and rural customers on June 29, 1982 retroactive to January 1, 1982. Also, rates were to be based on a 1982/1983 cost-of-service study including only those costs tied to the hydro projects. Costs to be considered included operating and maintenance expenses, administrative and general expenses, indirect overhead costs, depreciation, and inflation compensation. Indirect overhead costs were to be allocated according to generating capacity. These indirect costs include headquarters office administrative expenses, debt service expenses related to non-revenue producing facilities and research & development expenses.

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NYPA is required to provide service from its hydroelectric facilities at cost to “preference rate customers,” which include municipalities, cooperatives and investor-owned electric utilities.<sup>43</sup> In addition to the Auer Decision, Section 1005 (5) of the New York Power Authority Act provides a general guideline that, in determining hydroelectric rates the New York Power Authority: “shall sell the same or cause the same to be sold to such municipalities and political subdivisions at prices representing cost of generation, plus capital and operating charges, plus a fair cost of transmission, all as determined by the trustees, and subject to conditions which shall assure the resale of such power to domestic and rural consumers at the lowest possible price.”<sup>44</sup> The Power Authority Act, in Section 1005 (5) (h), allows varying rates based on “different localities, classes of customers, and amounts of current consumed” and allows for rate adjustments as a result of changes in operating costs and fixed charges. However, from the inception of the Niagara project through 1981 uniform and constant rates were charged for all customer classes ([Figure 4.1-1](#)).

The Auer Decision also explicitly stated that preference customers are not entitled to rates below cost as a result of revenues from other project energy sales:

There is nothing in Subdivision 5 of Section 1005 of the Public Authorities Law which requires or authorizes the furnishing of hydroelectric power to rural or domestic users at less than cost. In fulfilling its statutory requirements that the rate to domestic and rural customers be the lowest possible rate, the Authority has broad discretion, in setting such rates, to determine the components of its costs, and it is not required to guarantee any specific rate. It may include a reasonable charge for depreciation of the Niagara and St. Lawrence projects and such other factors which the exercise of business accounting principles would allow.

Once the lowest possible rate for domestic and rural consumers of the Niagara and St. Lawrence projects has been established excess revenues derived from the sale of power from the Niagara and St. Lawrence projects may be added to the general fund of the authority.<sup>45</sup>

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<sup>43</sup> IOUs receive power at the preference rate for distribution to residential customers.  
<sup>44</sup> Power Authority Act of the State of New York Section 1005 (5)  
<sup>45</sup> Auer v. Dyson, 110 Misc. 2d 943, 444 N.Y.S.2d 513 (Sup. Ct. Oswego Co. 1981)

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**4.1.1 Auer I Decision**

The plaintiffs in this case sued the Power Authority, claiming that the 1974 bond resolution, known as the General Purpose Bond Resolution and the Ninth Supplemental General Purpose Bond Resolution were in violation of sections 1001 and 1005 of the Public Authorities Law, the Niagara Redevelopment Act and the Federal Power Commission license of St. Lawrence. The General Purpose Bond Resolution provided that NYPA revenues from all projects, including the hydroelectric projects, be used to pay off the 1974 series bonds as well as any new bond series issued after the retirement of the Niagara and St. Lawrence bonds and the refinancing of the Fitzpatrick and Blenheim-Gilboa projects (the 1970 bonds). Plaintiffs argued that the use of hydroelectric revenues to pay off bonds associated with capital investments in other projects throughout the state would result in an illegal rate for the domestic and rural customers and thus violate subdivision 5 of section 1005 of the Public Authorities Law. NYPA argued that such an interpretation would lead to NYPA default on the bonds as this narrow interpretation of the Public Authorities Act would not be consistent with the Bond Covenant.

The court focused on several sections of the Public Authority Act in its decision. First, under subdivisions 5 and 6 of section 1005 of the Public Authority Law, the hydroelectric projects are to benefit “the people of the state as a whole” and “particularly the domestic and rural consumers at the lowest possible rates.” Second, though there is no definition of “lowest possible rates” in the Act, the court asserted that “an interpretation that would permit the lowest possible rate to be less than cost would be absurd, and it must be presumed that the Legislature never intended such a result” where costs are defined as “cost of generation, plus capital and operating charges, plus a fair cost of transmission.” Further, the decision found NYPA’s duty in sales to industry as “the responsibility of the authority to seek contracts of sale to industry as a secondary purpose “to secure a sufficiently high load factor and revenue returns” to facilitate [the lowest possible rate].” Therefore, once it is established that preference customers are receiving the lowest possible rate there is nothing in the Public Authority Act preventing hydroelectric revenues from being included in a general fund.<sup>46</sup>

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<sup>46</sup> Auer v. Dyson, 110 Misc. 2d 943, 444 N.Y.S.2d 513 (Sup. Ct. Oswego Co. 1981)

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**4.1.2 Auer II Decision**

Following the Auer I Decision, NYPA established a cost based rate that included a debt service charge from certain non-hydro projects. The plaintiffs argued that this was in violation of the initial court decision. In the second Auer Decision, the court stated that cost based rates used to establish the lowest possible rate must be set first, i.e., before NYPA could determine whether there would be excessive revenue to use in a general fund. Therefore, the decision required NYPA to remove the non-hydro project debt service charges and refund these to the domestic and rural customers.

The Auer II Settlement established several rules for the recovery of capital expenditures and debt charges. In addition to a charge for hydroelectric project depreciation (return *of* capital), NYPA could also include an adjustment for inflation. However, with the exception of debt interest, NYPA was not allowed to earn a return *on* capital through a real rate of return charge.<sup>47</sup>

**4.2 Treatment of Capital Cost**

Two key features of Auer in regard to capital charges were its treatment of inflation and the lack of a return on capital. Auer capital charges are based on a partial implementation of “Trended Original Cost” (TOC) method. As traditionally implemented, TOC is a cost-based method of rate regulation that tracks the cost of investment outlays for property, plant and equipment and gives the companies making those investments a fair opportunity both to (1) recover the capital they have invested, through subsequent depreciation and amortization charges, and (2) earn a fair rate of return on the capital while it remains unrecovered. In this, it is like the Original Cost (“OC”) method widely used to set rates for investor-owned utilities in North America. It differs from OC in that inflation compensation under TOC comes through an increase in the value of the assets employed, not through an inflation premium in the allowed rate of return on those assets. However, the starting present values of the capital charges are the same and

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<sup>47</sup> Auer v. Dyson, 125 Misc. 2d 274, 479 N.Y.S.2d 102 (Sup. Ct. Oneida Co. 1984), 112 A.D.2d 803, 491 N.Y.S.2d 1022 (4th Dep’t 1985)

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equal the initial amount invested.<sup>48</sup> Thus, both methods exactly recover the cost of the investment from customers over time, albeit in different patterns.

The second key feature of Auer in regard to capital recovery is that the method deviates from a normal application of TOC as it does not include the rate of return on capital. Under Auer, NYPA recovers less from its capital investments than a private firm or regulated IOU might expect to earn as it omits the return on capital. This makes the present value of the capital charges under this version of TOC less than that recovered under a traditional TOC methodology. For example, Figure 4.2-1 compares the cost recovery found under traditional OC and TOC, which have present values equal to a \$1,000 initial investment, with the Auer cost recovery method, which has a present value of only \$631. Since NYPA's assets have much longer lives than the example's assets, the actual present value from full cost recovery for NYPA will be a lower percentage of the initial investment than this. For example, with a 50-year asset and the assumptions otherwise unchanged, NYPA gets back only \$373 in present value under Auer-style TOC, well below half of the actual cost of the investment. As a result, the cost-of-service based rate is lower than would be expected under traditional capital charge recovery methods.

Despite earning no return on its capital investments, NYPA is bound by the principles under the Auer settlement, which does permit the collection of the interest expense on the debt NYPA issues for the new investments. Since the total cost of capital of those investments, debt and equity combined, will exceed the interest expense on the debt-financed part of the investments, this means NYPA charges less than standard TOC for the capital employed on behalf of preference rate customers on the new investments as well as the old ones.

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<sup>48</sup> "Capital charges" in this context equal the sum of depreciation and amortization plus the return on capital. Sometimes "capital charges" for privately owned rate-regulated companies are defined to include income taxes. However, NYPA does not pay income taxes.

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**4.3 Treatment of Operational Costs**

Variable costs included in rates are site O&M, Niagara roadwork, Headquarters overhead allocation and research & development expenses. The Niagara roadwork, completed between 1991 and 1996, is included as O&M for rate making purposes and is being amortized on a 15 year schedule for this purpose.<sup>49</sup> These annual variable expenses, in addition to capital costs associated with both new and existing investments, less revenue from demand charges, are then divided by forecasted annual generation (or the long term average) in order to determine an estimated energy production cost.

**4.3.1 Combining Costs of Niagara and St. Lawrence for Ratemaking**

Though the contracts distinguish between Niagara and St. Lawrence, the rate calculations track costs and output for both projects together. Total costs less revenue from demand charges are divided by the combined capacities of both Niagara and St. Lawrence projects in order to estimate the energy production charge. Total costs are a combination of variable costs and capital costs from both the projects and the portion of Headquarters allocated to the hydroelectric projects. The generation capacity is based on long term average water flows.

**4.4 NYPA Cost of Service Methodology for Setting Hydro Rates**

The cost of service method combines capital and variable expenses from both the Niagara and St. Lawrence hydroelectric projects in order to calculate an energy production cost. In addition, the component of headquarters capital costs allocated to Niagara and St. Lawrence is factored into the hydro cost of service model. Since depreciation rates and financing differ between the two hydro projects, Niagara and St. Lawrence capital expenditures are tracked separately. However, after depreciation, interest and the inflation component have been calculated these capital costs are combined for the final cost calculations. In this respect, Niagara and St. Lawrence are not tracked on a project-by-project basis.

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Likewise, the headquarters capital expenses are not allocated to Niagara and St. Lawrence individually but rather to the two projects as a whole. Finally, these total capital and variable expenses for the two projects are summed together. After subtracting out the demand charge revenues (from both preference and non-preference customers), the total costs are divided by the net generation capacity in order to determine the energy production cost.

#### **4.5 Ancillary Services**

The move to competitive generation markets and the start of operations by the New York Independent System Operator (“NYISO”, or “ISO”) have fundamentally changed the nature of the electric industry in the New York Control Area (“NYCA”). One change is that electric service has now been unbundled into separate component products. Prior to the new market structure, the incumbent utility provided customers with all aspects of electric power, bundling generation (capacity and energy) together with all of the network support services that are necessary to deliver it reliably. Now, the ISO’s new market structure distinguishes and charges separately for these network support services. The ISO acquires these support services from competitive suppliers, and passes the cost of each unbundled service or product through to customers, as an item separate from the cost of generation.

The embedded costs for these four ancillary services are not new costs, nor are the services themselves new. Rather, in the past all services and costs have been bundled together, but now the new market separates them. The total cost of service of the NYPA hydro facilities is first determined (which in total supports the provision of all electric services) and then the relevant costs associated with ancillary services are allocated in the appropriate portion. After deducting the costs of these ancillary services, the remainder of the total cost of service associated with generation is used to develop the cost-based generation rates for NYPA’s preference rate customers. The unbundling does not change NYPA’s total costs; it merely allocates these costs among energy and the ancillary services identified.

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<sup>49</sup> New York Power Authority Hydroelectric Production Rates 1998 Calendar Year Production Related Cost of Service Study & Rate Stabilization Reserve (RSR) Computation, pg 2 of Exhibit 1.

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### 4.6 Preference Power Rates

Section 1005 of the Public Authority Act states that preference customers are to receive power at the “lowest possible rate” consistent with the cost-reflective principles outlined therein. From 1961 through 1981 this meant a constant rate with a demand charge of one dollar per kilowatt per month and an energy charge of 2.67 mills per kWh. The Auer I decision prompted the move towards cost-based rate making which resulted in a decrease in the energy charge. The demand charge remained constant at one dollar per kW-month until May 2003 when annual increases began. The energy charge was set at 4.92 mills per kWh in May 1994 ([Figure 4.6-1](#)). Finally, in the case of *Village of Bergen v. Power Authority of New York*, the court ruled that labor ratios as opposed to capacity ratios were to be used in the allocation of indirect overhead in calculating a lowest possible rate.<sup>50</sup>

### 4.7 Expansion Power Rates

From the beginning of Niagara operations in 1961 through the end of 1987, expansion rates were the same as those for replacement power. Demand charges were one dollar per kW per month and energy charges were 2.67 mills per kWh (see [Figure 4.7-1](#)).

The 1987 amendments to the New York Power Authority Act specified that “net” revenues from the expansion power sales were to be used for “industrial incentive rewards.”<sup>51</sup> Expansion rates were negotiated during a period from 1987 through 1989 and were set at a uniform rate for all expansion customers. The rates were set above the preference power rate and are adjusted through time according to an industrial energy cost-based inflation index.

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<sup>50</sup> *Village of Bergen v. Power Auth. of N.Y.*, 249 A.D.2d 902, 672 N.Y.S.2d 595 (4th Dep’t 1998), leave to appeal dismissed, 92 N.Y.2d 940, 681 N.Y.S.2d 469 (1998).

<sup>51</sup> Allocation of Low-Cost Electric Power to Promote Economic Development, Laws of New York, 1987, Approved April 21, 1987.

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#### **4.8 Replacement Power Rates**

Replacement power was allocated initially to Niagara Mohawk for resale to the former customers of the Adams and Schoellkopf plants. The destruction of the Schoellkopf plant in 1956 threatened the industries which had developed in the region., These industries faced substantial increases in electricity costs resulting from the purchasing of power from Canadian hydro plants. Unlike preference power rates, replacement power rates need not be sold at the lowest possible cost. As is shown in [Figure 4.8-1](#), Replacement power had been sold at \$1.00 per kW per month and 2.67 mills per kWh up to 1990. At that point, NYPA increased the demand charge to \$1.47 per kW per month while the energy charge was decreased to 2.51 mills per kWh. NYPA wished to use these additional revenues for such projects as funding the Niagara expansion or retiring debt early. This brought about a legal challenge (the Occidental Chemical case) protesting that the Niagara Redevelopment Act did not allow for NYPA to increase replacement power rates above the cost of production.

In the Occidental Chemical case a number of industrial replacement power customers claimed that replacement power rate increases were contrary to the Niagara Redevelopment Act. The NRA called for power to be sold to previous customers of the destroyed Schoellkopf dam in order to restore “low power costs.” Plaintiffs felt this should be interpreted as to mean rates set at cost. In 1992, the court found that “costs” referred to the customers’ costs, not NYPA’s production costs. As a result, the court ruled that NYPA had the authority to set replacement power rates greater than the actual production cost:

...the phrase requiring PASNY to sell Replacement Power to Niagara Mohawk for resale "in order as nearly as possible to restore low power costs to such industries" meant that PASNY should provide low-cost power to these industries. The phrase "low power costs" means what it says: low-cost power. It does not mean "at cost" power.<sup>52</sup>

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<sup>52</sup> Occidental Chem. Corp. v. Power Auth. of N.Y., 786 F. Supp. 316 (W.D.N.Y. 1992), aff’d, 990 F.2d 726 (2d Cir. 1993), cert. denied, 510 U.S. 947 (1993).  
The NRA [16 U.S.C.A. § 836(b)(3)]

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#### **4.9 Retail Ratemaking Procedures of Project Power Recipients**

The three upstate IOUs receiving project power at preference rates are required to include these purchases to residential customers at the cost of service, in effect flowing through the benefit of lower-cost hydro resources only to that customer class.<sup>53</sup> Likewise, Replacement and Expansion Power allocated to specific industrial customers is passed through with no markup from the distribution utility (other than delivery charges). Thus, the benefit of low-cost hydropower is targeted to specific customers and classes.

Ratemaking in municipal electric and rural cooperative utilities receiving Preference Power, whether by NYPA (for customers whose full requirements are served by NYPA) or the New York Public Service Commission (for systems whose needs are partially met from sources other than NYPA) is premised on the across-the-board distribution of the benefits of the hydropower to the various classes.

#### **4.10 Current Revenues and Usage**

As of 2002, Preference customers and the three upstate investor-owned utilities receiving electricity at preference rates from Niagara accounted for approximately 35% of New York residential customers. The average residential sales revenue per kilowatt hour for the upstate investor-owned utilities and preference customers is 12.2 and 4.8 cents, respectively. The state average is 13.2 cents per kilowatt hour (See [Table 4-10-1](#)). Of course, there are other factors which keep the rates low for the municipal power providers which make up the preference customer base. For example, these entities have access to tax exempt financing, do not require a return for shareholders and generally have lower overhead expenses. Nevertheless, the relatively low Preference Power rates charged help to keep these New York municipal providers' retail power rates below the national average for public power.

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<sup>53</sup> Section 1005.5.g of the New York Power Authority Act states that “in the event any such public agencies or companies which purchase power from the authority shall sell any such power for resale, such sale for resale shall be made at rates no higher than those at which the power was purchased from the authority.” Section 1005.5.h further states that contracts “may provide different rates for different localities, classes of consumers, and amounts of current consumed...”

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**4.11 Rate Setting and the Cost of Relicensing**

**4.11.1 Types of Relicensing Costs and Ratemaking Treatment**

Relicensing costs factored into the cost of service include procedural and administrative relicensing expenses (treated as capital expenditures) and potential capital and O&M expenses related to new license conditions. In addition to these expenses, other costs related to relicensing are factored into the cost of service through other such accounts as operating & maintenance variables expenses or “general plant” capital charge accounts. The relicensing account capital expenses are depreciated over a period of 50 years. As a result, the capital charges are calculated using both the original cost and trended original cost methodologies to determine depreciation, interest and inflation charges.

**4.11.2 Cost of Service Impact of Relicensing**

Once known and accounted for, the costs of relicensing will have a direct impact on the cost of service. Changes to variable and capital expenses will affect future energy production costs. This will include any changes to the estimated procedural and administrative expenses, expensed variable costs, and any future capital investments or increased operating & maintenance expenses resulting from the new license.



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**TABLE 4.10-1**  
**COMPARISON OF RESIDENTIAL SALES BY SELLER TYPE, 2002**

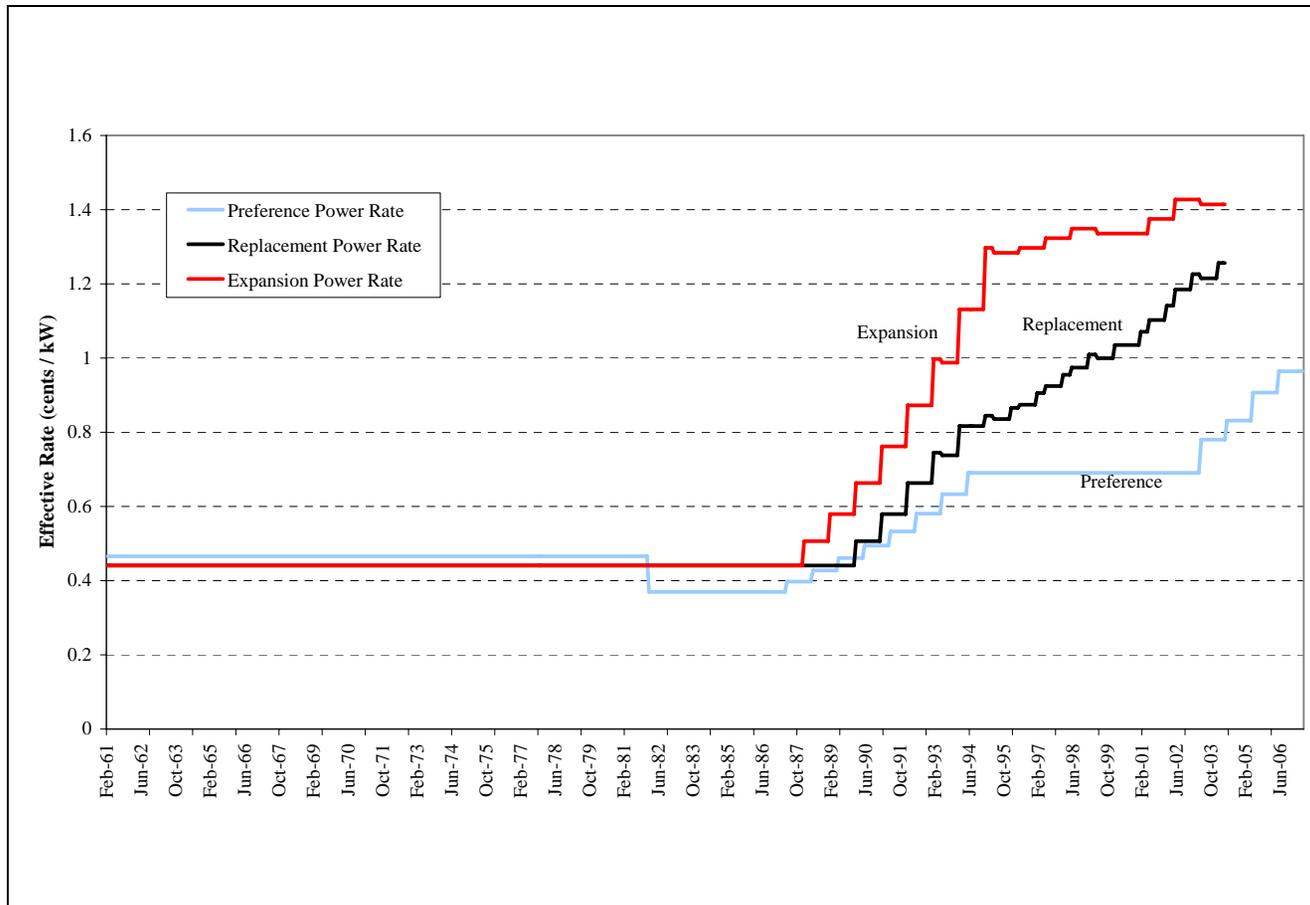
	<b>Number of Residential Customers</b>	<b>% of State Total</b>	<b>Residential Sales (MWh)</b>	<b>% of State Total</b>	<b>Residential Revenues (000 \$)</b>	<b>% of State Total</b>	<b>Average cents / kWh</b>	<b>Average kWh / Customer</b>
Investor Owned Utilities								
NIMO	1,369,959	19%	10,119,984	22%	\$1,254,200	21%	12.4	7,387
NYSEG	715,299	10%	5,544,411	12%	\$682,849	11%	12.3	7,751
RGE	281,565	4%	2,156,036	5%	\$228,753	4%	10.6	7,657
Upstate IOU Totals	2,366,823	33%	17,820,431	39%	\$2,165,802	36%	12.2	7,529
Other New York IOU's*	4,005,592	56%	24,007,859	52%	\$3,635,185	60%	15.1	5,994
New York State IOU Totals	6,372,415	88%	41,828,290	91%	\$5,800,987	95%	13.9	6,564
Preference Customers	153,253	2%	1,829,522	4%	\$86,957	1%	4.8	11,938
Retail Electricity Providers	675,003	9%	2,542,672	6%	\$194,115	3%	7.6	3,767
<b>New York State Totals/Averages</b>	<b>7,200,671</b>		<b>46,200,484</b>		<b>\$6,082,059</b>		<b>13.2</b>	<b>6,416</b>

Source: Energy Information Administration

\* Includes LIPA

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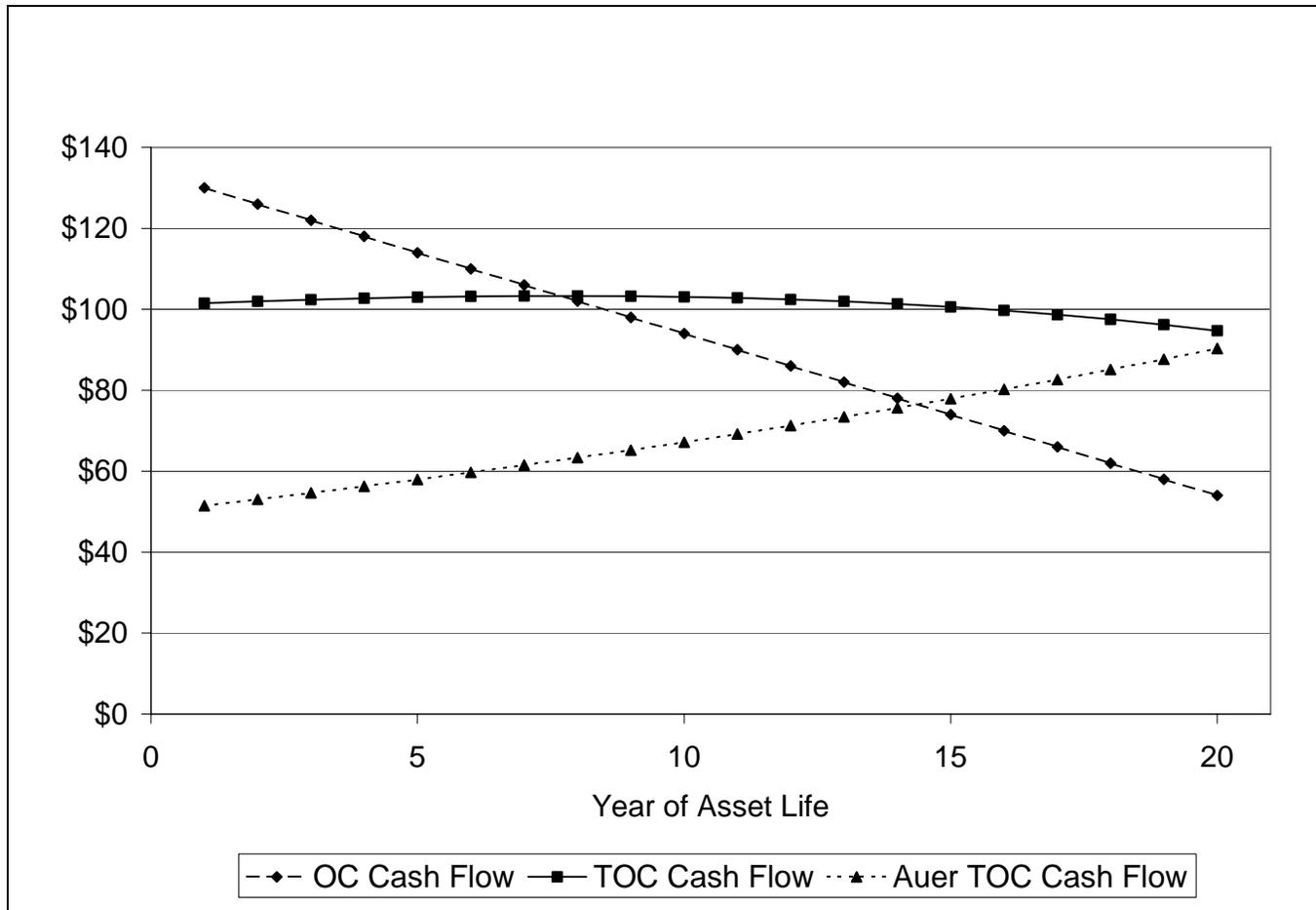
**FIGURE 4.1-1  
NIAGARA EFFECTIVE RATES BY CUSTOMER CLASS**



Notes: Load factors are from the New York Power Authority Operations Data for 2003 report. Preference load factor is assumed to be 70%. Replacement and expansion load factors are 80%.

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**FIGURE 4.2-1  
ANNUAL CASH FLOWS UNDER OC VS. TOC VS. AUER VERSION OF TOC**

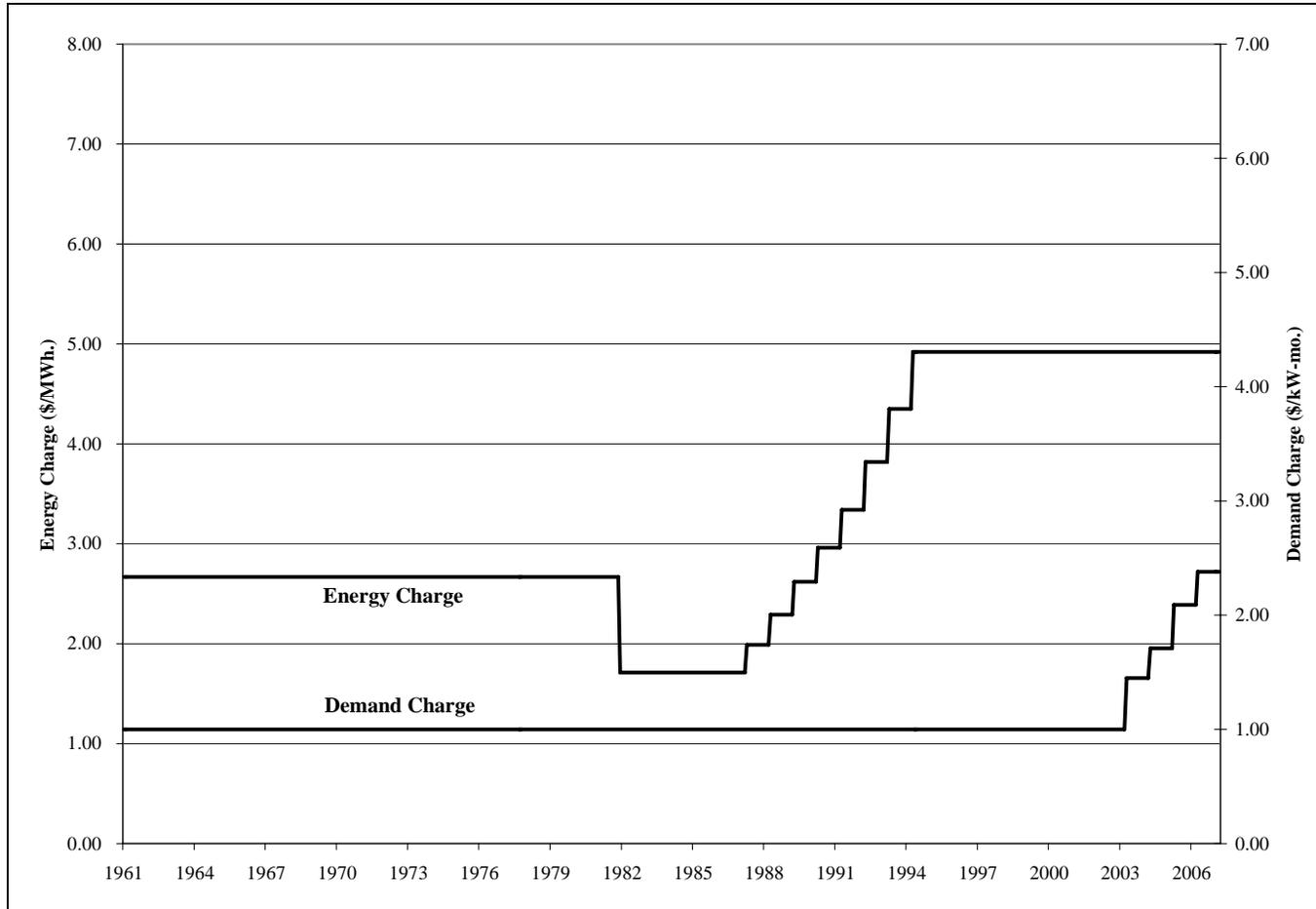


\$1,000 investment, 20-year life, 8% nominal cost of capital, 3% inflation

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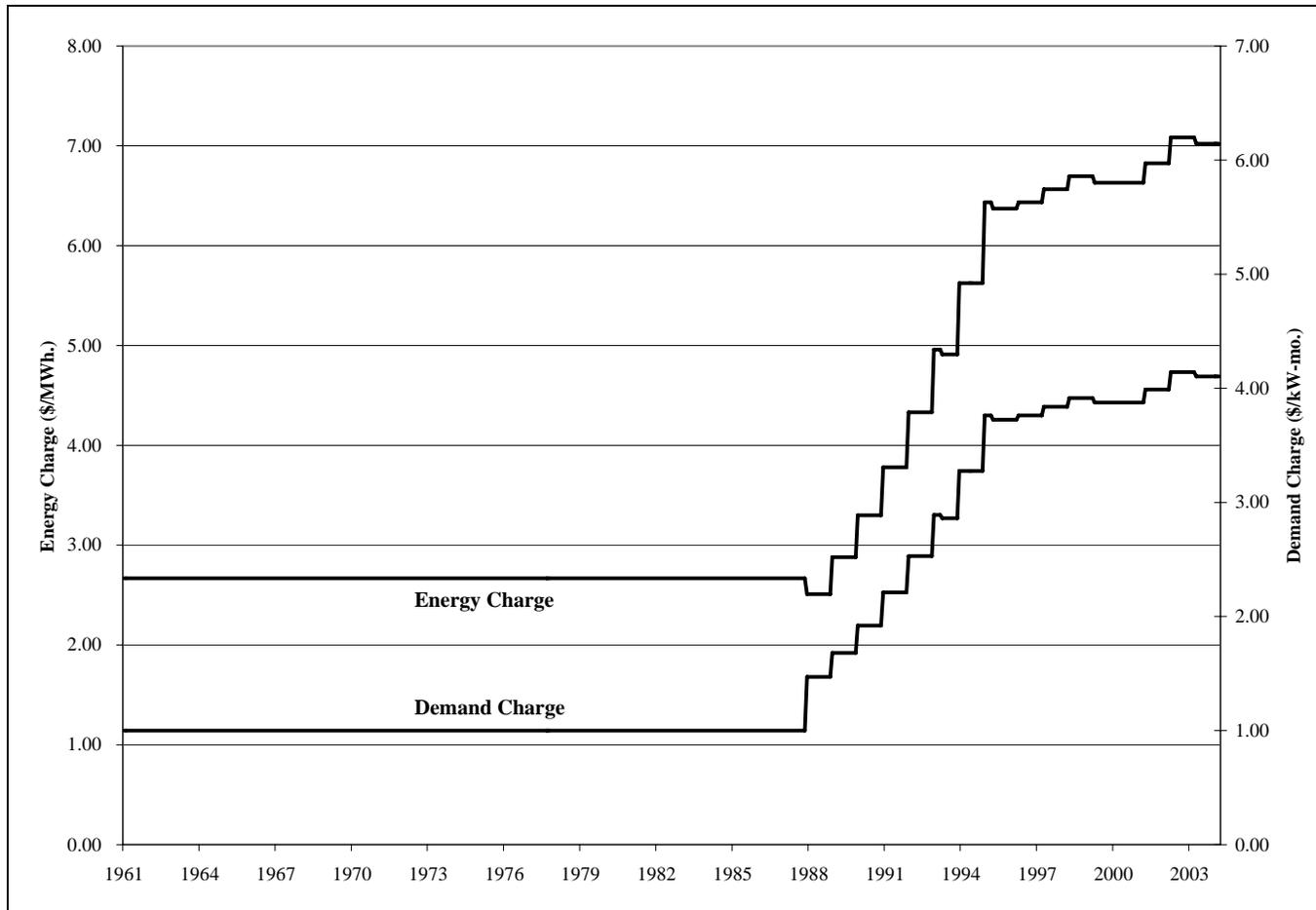
**FIGURE 4.6-1  
PREFERENCE CUSTOMERS DEMAND AND ENERGY CHARGES**



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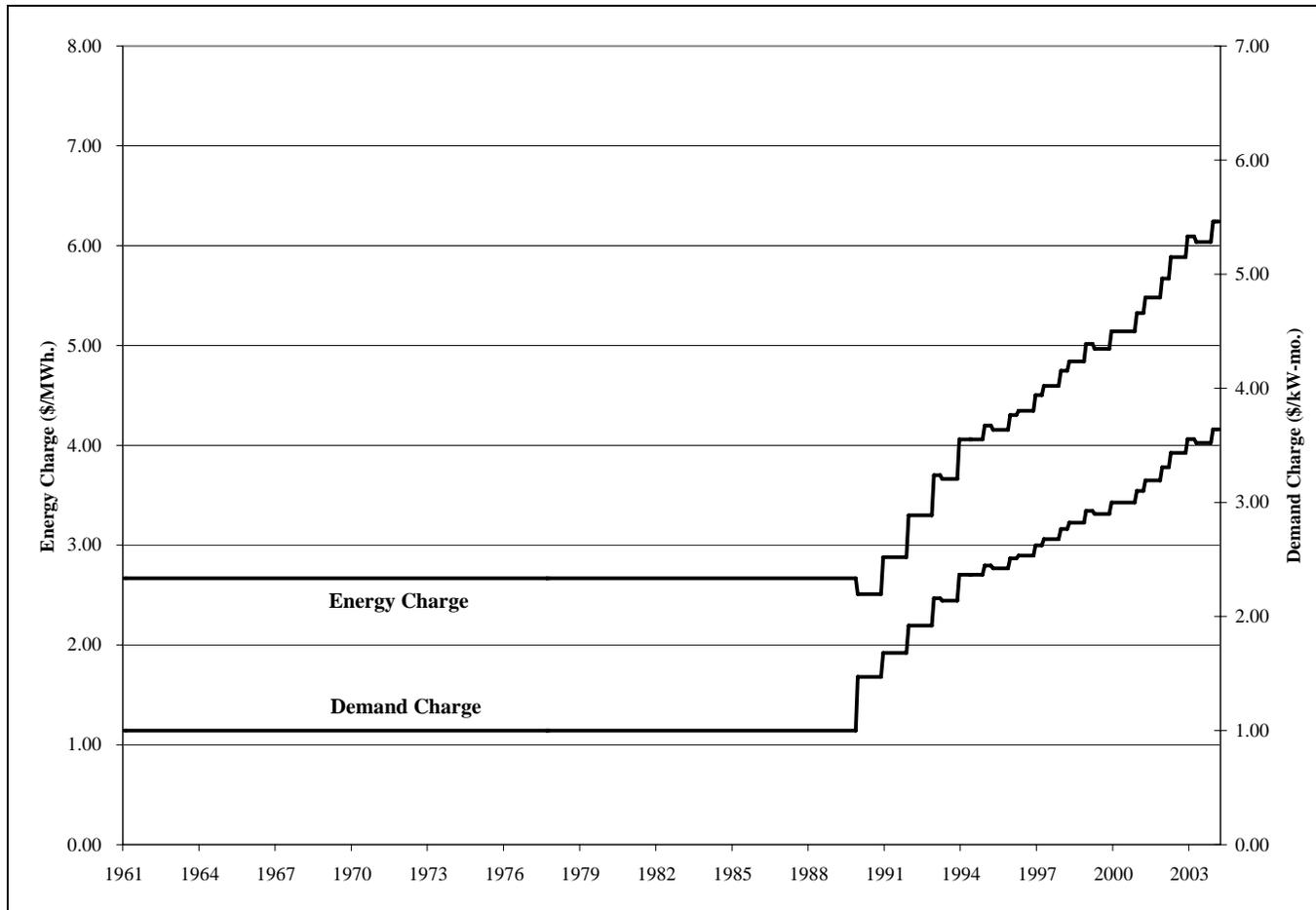
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**FIGURE 4.7-1  
EXPANSION CUSTOMERS DEMAND AND ENERGY CHARGES**



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**FIGURE 4.8-1  
REPLACEMENT CUSTOMERS DEMAND AND ENERGY CHARGES**



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**5.0 OPPORTUNITIES FOR UTILIZING PROJECT POWER**

Over a third of all New York residential customers receive some benefit from Niagara's supply of inexpensive power. Residential customers served by Preference Power recipients number about 153,000, or about 2% of the total New York State residential customer base. In 2002, the residential customers of Preference Power recipients used about 1.8 million MWh, 4% of the state total residential retail sales. In addition, another 2.4 million up-state investor-owned utility customers, or 33% of the state's residential customers, receive at least some portion of their electricity at preference power rates. They consumed 17.8 million MWh in 2002 (39% of total New York residential sales). All recipients of Niagara Project power receive power at prices well below New York State's average price thus providing an electricity cost advantage over competitors.

Niagara Project power provides a very inexpensive source of electricity for New York and the surrounding states, which understandably promotes interest in obtaining access to this resource. In any event, opportunities to obtain new allocations will continue to be governed and constrained by the NRA, state legislation, court rulings, and present contracts.

**5.1 Available Expansion and Replacement Power**

As Replacement and Expansion Power becomes available over time, allocations to qualified applicants are made according to legal and legislative requirements. As of July 2005 there are approximately 75 MW of Replacement Power and 44 MW of Expansion Power available for qualified recipients. While temporarily available, this power cannot be reallocated to alternative recipients on a long-term basis because it must be reserved for those industrial and commercial customers for whom it is intended under Federal and State law.

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**5.2 Expiring Power Contracts and Allocations**

The Replacement Power allocation requirement under the NRA will expire on December 31, 2005. However, many of the allocations are subject to extension to 2013 provided the Project is relicensed and NYPA is legally authorized to do so. See [Sections 3.3.1](#) and [3.3.4](#) above for a discussion of new state legislation expected to be approved which would govern the reallocation and use of unallocated RP.

Out-of-state preference contracts currently expire at the end of the current license on August 31, 2007. These contracts account for 10% of project power (228 MW). However, under the NRA (as currently interpreted by FERC and the courts) out-of-state preference customers will continue to be entitled to up to 10% of Project power, and thus no portion of this allocation would become available for alternative use within New York. In-State Preference Power and Expansion Power allocations are not due to expire until September 2025 and June 2013, respectively, provided the Project license is renewed on terms allowing such extensions.

The contracts with three upstate investor-owned utilities expire at the end of the current license on August 31, 2007. Currently, these contracts allocate 301 MW of firm power and 360 MW of firm peaking power to the residential customers of Niagara Mohawk, New York State Electric & Gas and Rochester Gas & Electric. Except for the general priority for residential use in the Power Authority Act, there are no statutory restrictions that prohibit this portion of Niagara Project Power from being reallocated to other recipients, nor are there any requirements on the Power Authority to alter the existing arrangements.

**5.3 RMNPP Upgrade**

There is presently a turbine upgrade program in process at the Niagara Project. However, this is not going to result in significant increased firm capacity. It is estimated that about 35 MW of new firm power will be available, one-half of which will have to be made available to Preference customers (in-

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state and out of state) under the NRA requirements. The other half has been earmarked for use by the Host Communities.



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**TABLE 5.4-1  
CONTRACTS FOR PROJECT POWER**

Power Type	Contract Number	Contract Date	Expiration Date	Power Available for Contract (MW)	Notes
In-State Preference	Multiple	11/24/1986	09/01/2025	752 Firm	<p>Contracts were executed 11/24/1986 with additional amendments executed 8/16/1991 and 3/30/2004. Service ending beyond NPP license expiration subject to FERC license renewal. Covers 40% of Project power.</p> <p>Power totaling 228 MW was supplied to Out-of-State preference customers beginning 7/1/1985. Covers 10% of Project power.</p> <p>Under NRA Replacement Power (445 MW) expires at the term of original project bonds. Bills in New York Legislature would extend the authority under PAL § 1005.</p> <p>Many of the allocations are subject to extension to 2013 provided the Project is relicensed and NYPA is legally authorized to do so.</p> <p>Allocation is 250 MW. Expiration date subject to renewal of NPP license.</p> <p>All sales passed on to domestic and rural consumers.</p>
Out-of-State Preference	Multiple	02/28/1990	08/31/2007	188 Firm 40 Firm Peaking	
Replacement	NS-1	02/10/1961	12/31/2005	445 Firm	
Expansion	NS-1 NS-11	02/22/1989	06/30/2013	250 Firm	
Upstate Utilities – Residential	NS-1 NS-11 NS-13	02/22/1989	08/31/2007	301 Firm 360 Firm Peaking	



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**APPENDICES**



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**APPENDIX A**

Table A-1 (next page) shows the allocations and sales of each New York municipal electric and rural cooperative utilities that receives preference power. The investigation area was determined from either U.S. Census data or the NYPA associated websites. The allocation and full/partial requirements data were reported in 2003 Report on the Sale and Distribution of Niagara Power while the sales data are compiled in New York Power Authority Operations Data for 2003.



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**Table A-1  
Summary of 2003 Municipal and Cooperative Power Agencies Preference Allocations and Sales**

<b>Entity</b>	<b>Investigation Area</b>	<b>Full Requirement or Partial Requirement Contract</b>	<b>Preference Power Allocation (kW)</b>	<b>Preference Sales (kWh)</b>
Bath Electric Gas & Water Sys	NY	PARTIAL	13,380	74,508,109
City of Plattsburgh	NY	PARTIAL	102,755	509,910,823
City of Salamanca	WNY	PARTIAL	12,820	75,894,552
City of Sherrill	NY	FULL	11,800	64,274,218
Delaware County Elec Cooperative, Inc	NY	FULL	9,520	53,237,396
Jamestown Board of Public Util	WNY	PARTIAL	72,280	450,444,000
Lake Placid Village, Inc	NY	FULL	28,750	144,645,626
Mohawk Municipal Comm	NY	PARTIAL	4,260	21,042,098
Oneida-Madison Elec Coop, Inc	NY	FULL	3,500	18,821,359
Otsego Electric Coop, Inc	NY	FULL	7,900	45,339,866
Steuben Rural Elec Coop, Inc	NY	FULL	12,600	70,635,289
Town of Massena	NY	PARTIAL	22,460	131,797,460
Village of Akron	EC	PARTIAL	7,730	42,592,096
Village of Andover	NY	PARTIAL	1,400	7,292,671
Village of Angelica	NY	PARTIAL	1,600	7,818,415
Village of Arcade	WNY	PARTIAL	25,030	131,218,130
Village of Bergen	WNY	PARTIAL	2,400	15,877,417
Village of Boonville	NY	PARTIAL	12,730	64,622,513
Village of Brocton	WNY	PARTIAL	2,840	13,918,353
Village of Castile	WNY	PARTIAL	1,500	7,369,065
Village of Churchville	NY	PARTIAL	3,540	17,192,460
Village of Endicott	NY	PARTIAL	9,220	51,298,780
Village of Fairport	NY	FULL	76,540	421,948,431
Village of Frankfort	NY	PARTIAL	3,495	19,570,995
Village of Freeport	NY	PARTIAL	37,910	226,678,000
Village of Green Island	NY	PARTIAL	2,500	13,870,835
Village of Greene	NY	PARTIAL	6,690	32,496,569
Village of Greenport	NY	FULL	5,240	29,512,282
Village of Groton	NY	PARTIAL	4,400	21,823,628
Village of Hamilton	NY	PARTIAL	10,670	58,666,974
Village of Holley	WNY	PARTIAL	4,300	24,702,027
Village of Ilion	NY	PARTIAL	12,720	62,540,988
Village of Little Valley	WNY	PARTIAL	3,800	21,795,307
Village of Marathon	NY	FULL	4,250	20,087,950
Village of Mayville	WNY	FULL	4,470	25,840,925

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Table A-1 (cont.)

Entity	Investigation Area	Full Requirement or Partial Requirement Contract	Preference Power Allocation (kW)	Preference Sales (kWh)
Village of Penn Yan	NY	PARTIAL	12,890	74,635,682
Village of Philadelphia	NY	PARTIAL	2,070	9,795,563
Village of Richmondville	NY	PARTIAL	2,670	14,129,226
Village of Rockville Centre	NY	PARTIAL	28,460	163,309,000
Village of Rouses Point	NY	PARTIAL	14,600	98,664,275
Village of Sherburne	NY	PARTIAL	13,180	66,372,842
Village of Silver Springs	WNY	PARTIAL	900	5,038,275
Village of Skaneateles	NY	PARTIAL	5,050	27,753,589
Village of Solvay	NY	FULL	54,260	401,940,694
Village of Spencerport	NY	PARTIAL	12,460	57,799,761
Village of Springville	EC	PARTIAL	9,240	55,083,630
Village of Theresa	NY	PARTIAL	1,500	6,906,925
Village of Tupper Lake	NY	FULL	19,070	90,665,798
Village of Watkins Glen	NY	FULL	6,140	44,291,857
Village of Wellsville	NY	PARTIAL	10,200	59,278,020
Village of Westfield	WNY	FULL	12,510	76,120,427
<b>Total</b>			<b>752,200</b>	<b>4,251,071,171</b>

Sources: "2003 Report on the Sale and Distribution of Niagara Power" and "New York Power Authority Operations Data for 2003."

Data underlying table include substitute energy sales. Substitute energy sales are not a Niagara Power Project product. Substitute energy accounts for approximately 1% of sales and does not substantially affect project allocations.

**NIAGARA POWER PROJECT (FERC NO. 2216)**  
**NPP POWER ALLOCATIONS, RATES, AND OPPORTUNITIES**

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**APPENDIX B**

Table B-1 (next page) uses retail sales data from EIA Form 861 and Niagara sales data from New York Power Authority Operations Data for 2003 to calculate the approximate percentage of Niagara power ultimately sold to residential customers. Using the EIA data, the percentage of residential to total retail sales for each municipal or cooperative agency is calculated. The percentage of residential sales is then multiplied by the entity's residential sales percentage to approximate the Niagara sales to residential customers. Accounting for the fact that the Niagara sales to residential customers cannot be larger than the actual residential retail sales, the proportion of Niagara sales to residential customers to total Niagara purchases approximates the percentage of Niagara sales sold to residential customers.



**NIAGARA POWER PROJECT (FERC NO. 2216)  
NPP POWER ALLOCATIONS, RATES, AND OPPORTUNITIES**

**Table B-1  
Distributions to Domestic and Rural (i.e. Residential) Customers from Municipal and Cooperative Agencies, 2002 Sales**

<b>Entity</b>	<b>Full or Partial Requirements</b>	<b>Niagara Sales (GWh)</b>	<b>Total Retail Sales (GWh)</b>	<b>Niagara Sales as a Percentage of Total Retail Sales</b>	<b>Number of Residential Customers</b>	<b>Retail Sales to Residential Customers (GWh)</b>	<b>Percent of Total Sales to Residential Customers</b>	<b>Estimated Percentage of Niagara Sales to Residential Customers</b>
Bath Electric Gas & Water Sys	PARTIAL	77.3	75.1	103%	3,767	39.1	52%	51%
City of Plattsburgh	PARTIAL	537.6	523.1	103%	7,814	142.9	27%	27%
City of Salamanca	PARTIAL	77.4	87.7	88%	2,963	39.4	45%	45%
City of Sherrill	FULL	65.7	67.2	98%	813	20.8	31%	31%
Delaware County Elec Cooperative, Inc	FULL	50.9	49.2	103%	4,781	40.2	82%	79%
Jamestown Board of Public Util	PARTIAL	472.8	523.6	90%	16,876	153.6	29%	29%
Lake Placid Village, Inc	FULL	148.8	147.8	101%	3,562	63.1	43%	42%
Mohawk Municipal Comm	PARTIAL	22.2	20.9	106%	1,217	12.8	61%	58%
Oneida-Madison Elec Coop, Inc	FULL	18.4	18.4	100%	1,725	18.0	98%	98%
Otsego Electric Coop, Inc	FULL	43.7	43.8	100%	3,932	38.7	88%	88%
Steuben Rural Elec Coop, Inc	FULL	67.0	61.2	109%	5,788	53.8	88%	80%
Town of Massena	PARTIAL	141.3	168.0	84%	7,985	89.6	53%	53%
Village of Akron	PARTIAL	45.4	52.1	87%	1,411	16.3	31%	31%
Village of Andover	PARTIAL	7.5	7.3	104%	491	4.8	66%	63%
Village of Angelica	PARTIAL	8.2	8.1	102%	632	5.7	71%	70%

**NIAGARA POWER PROJECT (FERC NO. 2216)  
NPP POWER ALLOCATIONS, RATES, AND OPPORTUNITIES**

**Table B-1 (cont.)**

<b>Entity</b>	<b>Full or Partial Requirements</b>	<b>Niagara Sales (GWh)</b>	<b>Total Retail Sales (GWh)</b>	<b>Niagara Sales as a Percentage of Total Retail Sales</b>	<b>Number of Residential Customers</b>	<b>Retail Sales to Residential Customers (GWh)</b>	<b>Percent of Total Sales to Residential Customers</b>	<b>Estimated Percentage of Niagara Sales to Residential Customers</b>
Village of Arcade	PARTIAL	136.8	144.7	95%	3,382	60.9	42%	42%
Village of Bergen	PARTIAL	17.2	28.9	59%	578	8.1	28%	28%
Village of Boonville	PARTIAL	67.4	68.6	98%	2,675	42.3	62%	62%
Village of Brocton	PARTIAL	15.0	15.1	99%	777	9.3	62%	62%
Village of Castile	PARTIAL	8.0	7.8	103%	514	5.4	69%	67%
Village of Churchville	PARTIAL	18.5	17.9	103%	775	9.5	53%	52%
Village of Endicott	PARTIAL	54.1	50.8	107%	2,770	20.0	39%	37%
Village of Fairport	FULL	411.5	402.3	102%	14,570	230.2	57%	56%
Village of Frankfort	PARTIAL	20.6	27.0	76%	1,495	13.8	51%	51%
Village of Freeport	PARTIAL	230.4	268.2	86%	13,015	115.9	43%	43%
Village of Green Island	PARTIAL	13.8	16.2	85%	1,325	8.5	53%	53%
Village of Greene	PARTIAL	34.5	35.3	97%	1,102	15.2	43%	43%
Village of Greenport	FULL	28.7	26.8	107%	1,645	11.5	43%	40%
Village of Groton	PARTIAL	23.3	23.2	100%	918	13.8	59%	59%
Village of Hamilton	PARTIAL	61.9	59.9	103%	1,202	19.9	33%	32%
Village of Holley	PARTIAL	25.9	25.7	101%	817	9.8	38%	38%
Village of Ilion	PARTIAL	65.0	59.2	110%	3,469	37.9	64%	58%
Village of Little Valley	PARTIAL	22.1	24.6	90%	1,055	11.4	46%	46%
Village of Marathon	FULL	19.5	17.9	109%	669	9.9	55%	51%
Village of Mayville	FULL	24.9	30.2	83%	901	14.7	49%	49%

**NIAGARA POWER PROJECT (FERC NO. 2216)**  
**NPP POWER ALLOCATIONS, RATES, AND OPPORTUNITIES**

**Table B-1 (cont.)**

<b>Entity</b>	<b>Full or Partial Requirements</b>	<b>Niagara Sales (GWh)</b>	<b>Total Retail Sales (GWh)</b>	<b>Niagara Sales as a Percentage of Total Retail Sales</b>	<b>Number of Residential Customers</b>	<b>Retail Sales to Residential Customers (GWh)</b>	<b>Percent of Total Sales to Residential Customers</b>	<b>Estimated Percentage of Niagara Sales to Residential Customers</b>
Village of Penn Yan	PARTIAL	77.8	76.8	101%	2,614	26.2	34%	34%
Village of Philadelphia	PARTIAL	10.3	9.5	108%	633	6.6	69%	63%
Village of Richmondville	PARTIAL	14.8	16.4	90%	865	10.3	63%	63%
Village of Rockville Centre	PARTIAL	167.4	185.1	90%	8,939	82.2	44%	44%
Village of Rouses Point	PARTIAL	103.3	131.2	79%	1,086	22.7	17%	17%
Village of Sherburne	PARTIAL	72.6	75.5	96%	1,619	26.9	36%	36%
Village of Silver Springs	PARTIAL	5.3	5.8	91%	358	3.2	55%	55%
Village of Skaneateles	PARTIAL	28.6	29.2	98%	1,217	14.2	49%	49%
Village of Solvay	FULL	381.4	440.0	87%	4,805	54.8	12%	12%
Village of Spencerport	PARTIAL	60.2	61.9	97%	2,299	40.2	65%	65%
Village of Springville	PARTIAL	57.0	57.2	100%	2,082	22.7	40%	40%
Village of Theresa	PARTIAL	6.9	5.9	118%	401	4.4	75%	64%
Village of Tupper Lake	FULL	90.9	88.2	103%	3,267	51.4	58%	57%
Village of Watkins Glen	FULL	42.5	51.2	83%	984	9.5	19%	19%

**NIAGARA POWER PROJECT (FERC NO. 2216)**  
**NPP POWER ALLOCATIONS, RATES, AND OPPORTUNITIES**

**Table B-1 (cont.)**

<b>Entity</b>	<b>Full or Partial Requirements</b>	<b>Niagara Sales (GWh)</b>	<b>Total Retail Sales (GWh)</b>	<b>Niagara Sales as a Percentage of Total Retail Sales</b>	<b>Number of Residential Customers</b>	<b>Retail Sales to Residential Customers (GWh)</b>	<b>Percent of Total Sales to Residential Customers</b>	<b>Estimated Percentage of Niagara Sales to Residential Customers</b>
Village of Wellsville	PARTIAL	63.5	62.5	102%	2,236	18.4	29%	29%
Village of Westfield	FULL	74.4	65.4	114%	2,437	29.5	45%	40%
<b>Total</b>		<b>4,340</b>	<b>4,566</b>	<b>95%</b>	<b>153,253</b>	<b>1,830</b>	<b>40%</b>	<b>40%</b>

Note: The column representing the “Estimated Percentage of Niagara Sales to Residential Customers” is calculated by multiplying the percentage of each entity’s residential sales compared to total sales (from EIA Form 861) by the total Niagara Sales (capped at Retail Sales to Residential Customers) divided by the total Niagara Sales. The cap is necessary in order to account for Niagara sales in some cases exceeding total retail sales possibly due to transmission losses or a variety of other possible reasons. Data underlying table include substitute energy sales. Substitute energy sales are not a Niagara Power Project product. Substitute energy accounts for approximately 1% of sales and does not substantially affect project allocations.

**NIAGARA POWER PROJECT (FERC NO. 2216)  
NPP POWER ALLOCATIONS, RATES, AND OPPORTUNITIES**

**Table B-2  
Out-of-State 2003 Preference Allocations and Sales**

<b>Entity</b>	<b>Preference Power Allocation (kW)</b>	<b>Preference Sales (GWh)</b>	<b>Percent of Out-of-State Preference Sales</b>	<b>Rule or Practice to Deliver Power to Domestic &amp; Rural Customers</b>	<b>Percentage for Domestic &amp; Rural Customers</b>	<b>Approximate Sales to Residential &amp; Domestic Customers (GWh)</b>
Allegheny Electric Cooperative, Pennsylvania	47,900	228.5	19.9%	Yes	100.0%	228.5
City of Cleveland, Ohio	63,800	317.9	27.7%	No	77.0%	244.7
Connecticut Municipal Electric Energy Coop.	15,500	82.7	7.2%	No	33.0%	27.3
Public Power Association of New Jersey	13,800	63.9	5.6%	No	46.5%	29.7
Massachusetts Department of Public Utilities	72,200	385.2	33.5%	Yes	100.0%	385.2
Rhode Island Public Utilities Commission	800	4.1	0.4%	No	53.8%	2.2
Vermont Department of Public Service	14,000	66.5	5.8%	Yes	100.0%	66.5
<b>Total</b>	<b>228,000</b>	<b>1,148.7</b>	<b>100.0%</b>		<b>85.7%</b>	<b>984.1</b>

Sources: "2003 Report on the Sale and Distribution of Niagara Power," "New York Power Authority Operations Data for 2003," and EIA. Sources for rule or practice columns from stakeholder comments and NYPA survey. New Jersey and Rhode Island percentage of domestic and rural customers calculated by dividing the sales to residential customers by the total sales by all publicly owned and cooperative systems in the state (energy sales from EIA). Data underlying table include substitute energy sales. Substitute energy sales are not a Niagara Power Project product. Substitute energy accounts for approximately 1% of sales and does not substantially affect project allocations.



**NIAGARA POWER PROJECT (FERC NO. 2216)**  
**NPP POWER ALLOCATIONS, RATES, AND OPPORTUNITIES**

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**APPENDIX C**

Table C-1 (next page) provides a list of expansion and replacement customers and their respective allocations, along with the area in which each customer operates based upon location data provided by NYPA.



**NIAGARA POWER PROJECT (FERC NO. 2216)  
NPP POWER ALLOCATIONS, RATES, AND OPPORTUNITIES**

**Table C-1  
Allocation of Replacement And Expansion Power by Customer, January 1, 2004**

<b>Customer</b>	<b>Replacement Power Allocation (kW)</b>	<b>Expansion Power Allocation (kW)</b>	<b>Total Allocation (kW)</b>	<b>Investigation Area</b>
3M		1,500	1,500	EC
ADM Milling	1,900	1,500	3,400	EC
Al-Ag Corp	500		500	HC
Allied Signal Inc	300		300	EC
American Axle & Manufacturing	3,200	3,000	6,200	EC
American Axle & Manufacturing - Tonawanda	3,900	3,250	7,150	EC
American Pharmaceutical Partners	1,500		1,500	EC
Avery	250		250	EC
Bioconvergence	1,250		1,250	HC
BOC Gases		11,250	11,250	EC
Bristol Myers Squibb	250	750	1,000	EC
Brunner Inc	2,500	1,800	4,300	WNY
Buffalo Color Corp	2,216		2,216	EC
Buffalo Newspress Inc		250	250	EC
Buffalo Tungsten Inc	2,050		2,050	EC
C&S Wholesale Grocers Inc		300	300	EC
Caplugs LLC		250	250	EC
Ceres Corp	4,600		4,600	HC
Client Logic		250	250	EC
Cliffstar Corp		500	500	WNY
Confer Plastics	550		550	NC
Coyne Textile Services		350	350	EC
Curtis Screw Co. Inc	650		650	EC
Dunkirk Specialty Steel LLC		6,800	6,800	WNY
Goodyear Dunlop Tire North America Ltd.	5,541	6,000	11,541	EC
EI Dupont DE Nemours & Co	2,475	1,800	4,275	EC
EI Dupont DE Nemours & Co	31,700	1,450	33,150	HC

**NIAGARA POWER PROJECT (FERC NO. 2216)  
NPP POWER ALLOCATIONS, RATES, AND OPPORTUNITIES**

**Table C-1 (cont.)**

<b>Customer</b>	<b>Replacement Power Allocation (kW)</b>	<b>Expansion Power Allocation (kW)</b>	<b>Total Allocation (kW)</b>	<b>Investigation Area</b>
Fairbank Reconstruction Co		700	700	WNY
Ferro Electronic Materials Inc	11,115	3,000	14,115	HC
Fieldbrook Farms Ice Cream		3,000	3,000	WNY
FMC Corp-Inorganic Chemical	6,250		6,250	EC
Ford Motor Company - Buffalo S		7,200	7,200	EC
Freezer Queen Foods Inc	360	1,050	1,410	EC
General Mills Inc	4,100	1,000	6,100	EC
General Motors Powertrain	2,725	15,700	18,425	EC
Gibraltar Metals	550		550	EC
Globe Metallurgical Inc	20,000	23,000	43,000	HC
Graphic Controls	250		250	EC
Habasit	250		250	EC
Hydro Air Components Inc		250	250	EC
I Squared R Element Co	500		500	EC
Ingram Micro Inc		900	900	EC
International Imaging Material	250	2,750	3,000	EC
International Steel Group-ISG Corp	25,750	9,650	35,400	EC
Invitrogen Corp	400		400	EC
IsleChem. LLC	325		325	EC
Ivaco	260		260	EC
Kanthal Globar	2,100		2,100	HC
Lockheed Martin	250		250	HC
MacNail Polymers		250	250	EC
Metallics Systems Co LP	1,000		1,000	HC
Nestle Purina Petcare		2,900	2,900	WNY
Niacet Corp	1,400		1,400	HC
Niagara Ceramics Corp	1,100		1,100	EC

**NIAGARA POWER PROJECT (FERC NO. 2216)  
NPP POWER ALLOCATIONS, RATES, AND OPPORTUNITIES**

**Table C-1 (cont.)**

<b>Customer</b>	<b>Replacement Power Allocation (kW)</b>	<b>Expansion Power Allocation (kW)</b>	<b>Total Allocation (kW)</b>	<b>Investigation Area</b>
Niagara Falls Wastewater Treatment	1,644		1,644	HC
Niagara Falls Water Treatment	2,000		2,000	HC
Niagara Lasalle Corp	700		700	EC
Norampac Industries Inc.		1,600	1,600	HC
North American Hoganas Inc	1,000	4,000	5,000	HC
Now-Tech Industries	250		250	EC
Nuttall Gear Corp		350	350	HC
Occidental Chemical Corp	65,400	38,700	104,100	HC
Olin Corp	77,160		77,160	HC
Olin Corp	2,290		2,290	HC
Outokumpu American Brass	10,460		10,460	EC
Praxair Inc	48,450		48,450	HC
Praxair Inc-Linde Div	2,750	4,450	7,200	EC
PrecIOU's Plate Inc	800		800	HC
Precision Electro Minerals Co	1,550		1,550	HC
Republic Engineered Products LLC	2,000	7,400	9,400	EC
Rich Products Corp	1,000		1,000	EC
Russer Foods - Div of Zemco I		2,250	2,250	EC
Saint-Gorbain Abrasives Co	2,200		2,200	HC
Saint-Gorbain Corp	3,070		3,070	EC
Saint-Gorbain Corp	3,750		3,750	HC
Saint-Gorbain Corp	1,850		1,850	HC
Saint-Gorbain Corp	900		900	HC
SGL Carbon	9,658		9,658	HC
Sherwood, Harsco Corp		400	400	HC
Sherwood, Harsco Corp - Lockport		240	240	NC
Sorento Lactalis Inc	250		250	EC

**NIAGARA POWER PROJECT (FERC NO. 2216)  
NPP POWER ALLOCATIONS, RATES, AND OPPORTUNITIES**

**Table C-1 (cont.)**

<b>Customer</b>	<b>Replacement Power Allocation (kW)</b>	<b>Expansion Power Allocation (kW)</b>	<b>Total Allocation (kW)</b>	<b>Investigation Area</b>
Special Metals Div Al Ludlum		1,000	1,000	WNY
Stollberg Inc		300	300	HC
Sun Orchard Fruits	700		700	NC
The Carriage House Companies		750	750	WNY
The Carriage House Companies, Inc		500	500	WNY
Treibacher Schleifrittel	750		750	HC
Trico Products Corp		250	250	EC
Tulip Corp	1,200	300	1,500	HC
Unifrax Corp	5000		5,000	EC
Viking Industries, LLC	1,000	500	1,500	EC
Viking Lockport, LLC		300	300	NC
Washington Mills Electro Miner	9,700		9,700	HC
Monofrax		2,082	2,082	WNY
Valeo Engine Cooling		1,000	1,000	WNY
American Axle		250	250	EC
Atlas Cold Storage America		500	500	EC
C&S Wholesale - Tops Markets		550	550	EC
Carleton Tech.		700	700	EC
Delphi Automotive Systems, LLC		14,300	14,300	WNY
International Multifoods		300	300	NC
LEICA, Inc.		450	450	EC
McGard		250	250	EC
Moog, INC.		4,250	4,250	EC
Motorola		4,600	4,600	EC
Quebecor Buffalo		5,000	5,000	EC
Rosina		400	400	EC

**NIAGARA POWER PROJECT (FERC NO. 2216)**  
**NPP POWER ALLOCATIONS, RATES, AND OPPORTUNITIES**

Table C-1 (cont.)

Customer	Replacement Power Allocation (kW)	Expansion Power Allocation (kW)	Total Allocation (kW)	Investigation Area
Servotronics Inc.		500	500	EC
Steuben Foods		5,750	5,750	EC
<b>Total</b>	<b>401,749</b>	<b>216,522</b>	<b>618,271</b>	
<b>Changes Between January 1, 2004 and July 1, 2004 Allocation</b>				
Buffalo Color Corp	700	0	700	EC
Certain Teed Corp†	0	3,500	3,500	EC
General Mills Inc	1,000	0	1,000	EC
GEICO†	0	1,600	1,600	EC
Gibraltar Metals	(550)	0	(550)	EC
Globe Metallurgical Inc*	(20,000)	(23,000)	(43,000)	HC
International Imaging Material	0	(500)	(500)	EC
Ivaco Steel Processing*	(260)	0	(260)	EC
Nestle Purina Petcare	0	500	500	WNY
NFB Carbon Products†‡	3,342	0	3,342	HC
Niacet Corp	0	500	500	HC
Niagara Ceramics Corp	(250)	250	0	EC
Niagara Lasalle Corp	700	0	700	EC
Norampac Industries Inc.	300	0	300	HC
Occidental Chemical Corp	(9,400)	0	(9,400)	HC
Outokumpu American Brass	1,100	0	1,100	EC
Plesh Industries, Inc†	200	0	200	EC
Praxair Inc	(2,400)	0	(2,400)	HC
Praxair Inc-Linde Div	0	(450)	(450)	EC
Sotek Inc/Beirlix Ind, Inc	100	0	100	EC
Sun Orchard Fruits*	(700)	0	(700)	NC
Sweeny Steel Services - Buffalo†	450	0	450	EC

**NIAGARA POWER PROJECT (FERC NO. 2216)**  
**NPP POWER ALLOCATIONS, RATES, AND OPPORTUNITIES**

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**Table C-1 (cont.)**

Customer	Replacement Power Allocation (kW)	Expansion Power Allocation (kW)	Total Allocation (kW)	Investigation Area
Sweeny Steel Services - Tonawanda†	1,750	0	1,750	EC
Time Release Sciences, Inc†	600	0	600	EC
Trico Products Corp*	0	(250)	(250)	EC
American Axle	0	800	800	EC
Upstate Farms†	0	1,000	1,000	EC
<b>Current (July 2004) Total</b>	<b>378,431</b>	<b>201,972</b>	<b>580,403</b>	

† New customer

\* Customer's allocations eliminated

‡ NFB Carbon acquired SGL Carbon's facility including replacement allocation

Source: NYPA.

Replacement and Expansion totals do not equal the total capacity set aside due to unallocated power.

HC: City of Niagara Falls, Town of Lewiston (includes Village of Lewiston), and the Town of Niagara.  
 NC: Niagara County. EC: Erie County. WNY: Western New York, including the counties of Niagara, Erie, Genesee, Orleans, Wyoming, Chautauqua, Cattaraugus, and Allegany Counties.

**NIAGARA POWER PROJECT (FERC NO. 2216)**  
**NPP POWER ALLOCATIONS, RATES, AND OPPORTUNITIES**

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**APPENDIX D**

Table D-1 (next page) combines NYPA data indicating the location of and the entity serving the contracted recipients of expansion and replacement power, and the replacement and/or expansion allocation data. Note, the allocations are cumulative for regions containing previously defined areas, *i.e.*, the allocation for Western New York includes the allocations for Niagara and Erie counties and thus, columns to not equal the sum of all listed allocations.

Table D-2 aggregates the Replacement and Expansion Power allocations from Table D-1 to provide a summary geographic distribution table of Replacement and Expansion Power.



**NIAGARA POWER PROJECT (FERC NO. 2216)**  
**NPP POWER ALLOCATIONS, RATES, AND OPPORTUNITIES**

**Table D-1**  
**2003 Expansion and Replacement Power Geographic Distributions**

Region	Replacement Power Allocation (kW)	Expansion Power Allocation (kW)	Total Allocation (kW)
<b>NIAGARA MOHAWK</b>			
<b>Niagara Frontier and Subregions</b>			
Host Communities	304,217	72,700	376,917
Remaining Niagara County	1,250	0	1,250
<i>Niagara County Subtotal</i>	305,467	72,700	378,167
Erie County	93,782	84,050	177,832
<i>Niagara Frontier Subtotal</i>	399,249	156,750	555,999
Remaining Western New York	2,500	17,950	20,450
<b>Niagara Mohawk Total</b>	<b>401,749</b>	<b>174,700</b>	<b>576,449</b>
<b>NEW YORK STATE ELECTRIC &amp; GAS</b>			
<b>Western New York Subregions</b>			
Host Communities	0	400	400
Remaining Niagara County	0	15,140	15,140
<i>Niagara County Subtotal</i>	0	15,540	15,540
Erie County	0	23,200	23,200
<i>Niagara Frontier Subtotal</i>	0	38,740	38,740
Remaining Western New York	0	0	0
<b>NYSEG Total</b>	<b>0</b>	<b>38,740</b>	<b>38,740</b>
<b>OTHER</b>			
<b>Niagara Frontier and Subregions</b>			
Host Communities	0	0	0
Remaining Niagara County	0	0	0
<i>Niagara County Subtotal</i>	0	0	0
Erie County	0	0	0
<i>Niagara Frontier Subtotal</i>	0	0	0
Remaining Western New York	0	3,082	3,082
<b>Total Other</b>	<b>0</b>	<b>3,082</b>	<b>3,082</b>
<b>TOTAL</b>	<b>401,749</b>	<b>216,522</b>	<b>618,271</b>

Source: NYPA. Niagara Frontier includes Niagara & Erie Counties. Western New York includes Niagara, Erie, Genesee, Orleans, Wyoming, Chautauqua, Cattaraugus, and Allegany Counties. Replacement and Expansion totals do not equal the total capacity set aside due to unallocated power. "Other" is 3,082 kw of power allocated to EP customers located in the City of Jamestown.

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**Table D-2**  
**Expansion and Replacement Power Geographic Distributions**

Region	Replacement Power Allocation  (kW)	Expansion Power Allocation  (kW)	Total Allocation  (kW)
<b>Western New York &amp; Subregions</b>			
Host Communities	304,217	73,100	377,317
Remaining Niagara County	1,250	15,140	16,390
<i>Niagara County Subtotal</i>	305,467	88,240	393,707
Erie County	93,782	107,250	201,032
<i>Niagara Frontier Subtotal</i>	399,249	195,490	594,739
Remaining Western New York	2,500	21,032	23,532
<b>Total</b>	<b>401,749</b>	<b>216,522</b>	<b>618,271</b>

Source: NYPA

Niagara Frontier includes Niagara and Erie Counties. Western New York includes Niagara, Erie, Genesee, Orleans, Wyoming, Chautauqua, Cattaraugus, and Allegany Counties. Replacement and Expansion totals do not equal the total capacity set aside due to unallocated power.

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**APPENDIX E**

Since county-by-county data for the distribution of Niagara power to Upstate IOUs is unavailable, the Table E-1 (next page) uses estimates based on U.S. Census, EIA, and NYPA data. The distribution of IOU residential customers was estimated using the U.S. Census, EIA data, and IOU maps of service territory. The share of each New York counties electric customers is approximated with the total approximating the total customers and population served and the percentage of each Upstate IOUs customers in each geographic region is approximated. These percentages are then multiplied by the allocations and the energy sales to create the geographic distribution of Upstate IOU sales to residential customers. Table E-2 aggregates the three IOU residential customer estimates from Table E-1 to provide a summary geographic distribution table of IOU residential customers served by Niagara Project Power.



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**Table E-1**  
**Geographic Distribution of Upstate IOU's - Residential Power & Sales by Upstate IOU**

Region	Number of Residential Customers	Upstate IOU's - Residential Power (MW)	Upstate IOU's - Residential Sales (GWh)
<b>NIAGARA MOHAWK</b>			
<i>Niagara Frontier and Subregions</i>			
Host Communities	32,281	7	22
Remaining Niagara County	34,236	8	23
<i>Niagara County Subtotal</i>	66,517	15	45
Erie County	305,463	67	205
<i>Niagara Frontier Subtotal</i>	371,980	82	249
Western New York	468,184	103	314
New York	1,369,959	301	919
<b>Niagara Mohawk Total</b>	<b>1,369,959</b>	<b>301</b>	<b>919</b>
<b>NEW YORK STATE ELECTRIC &amp; GAS</b>			
<i>Niagara Frontier and Subregions</i>			
Host Communities	0	0	0
Remaining Niagara County	22,623	8	24
<i>Niagara County Subtotal</i>	22,623	8	24
Erie County	77,918	28	84
<i>Niagara Frontier Subtotal</i>	100,540	37	108
Western New York	128,612	47	138
New York	715,299	260	770
<b>NYSEG Total</b>	<b>715,299</b>	<b>260</b>	<b>770</b>
<b>ROCHESTER GAS &amp; ELECTRIC</b>			
<i>Niagara Frontier and Subregions</i>			
Host Communities	0	0	0
Remaining Niagara County	0	0	0
<i>Niagara County Subtotal</i>	0	0	0
Erie County	0	0	0
<i>Niagara Frontier Subtotal</i>	0	0	0
Western New York	14,572	5	23
New York	281,565	100	445
<b>RG&amp;E Total</b>	<b>281,565</b>	<b>100</b>	<b>445</b>
<b>TOTAL</b>	<b>2,366,823</b>	<b>661</b>	<b>2,134</b>

Sources: US Census, NYPA, "New York Power Authority Operation Data for 2003," and 2002 EIA Form 861, Table 14.

Niagara Frontier includes Niagara and Erie Counties. Western New York includes Niagara, Erie, Genesee, Orleans, Wyoming, Chautauqua, Cattaraugus, and Allegany Counties.

Data underlying table include substitute energy sales. Substitute energy sales are not a Niagara Power Project product. Substitute energy accounts for approximately 1% of sales and does not substantially affect project allocations.

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**Table E-2**  
**Geographic Distribution of Upstate IOU's - Residential Power & Sales**

Region	Upstate IOU's - Residential Power (MW)	Upstate IOU's - Residential Sales (GWh)	Number of Customers
<b>Western New York &amp; Subregions</b>			
Niagara County Host Communities	7	22	32,281
Remaining Niagara County	16	47	26,858
<i>Niagara County Subtotal</i>	23	69	89,140
Erie County	95	289	383,380
<i>Niagara Frontier Subtotal</i>	118	358	472,520
Western New York	155	476	611,368
New York	661	2,134	2,366,823
<b>Total</b>	<b>661</b>	<b>2,134</b>	<b>2,366,823</b>

Sources: US Census, NYPA, "New York Power Authority Operation Data for 2003," and 2002 EIA Form 861, Table 17.

Niagara Frontier includes Niagara and Erie Counties. Western New York includes Niagara, Erie, Genesee, Orleans, Wyoming, Chautauqua, Cattaraugus, and Allegany Counties.

Data underlying table include substitute energy sales. Substitute energy sales are not a Niagara Power Project product. Substitute energy accounts for approximately 1% of sales and does not substantially affect project allocations.