New York City Water Board

Report on the Cost of Supplying Water to Upstate Customers for the 2009 Rate Year

May 2008

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To the Members of the New York City Water Board:

The Amawalk Consulting Group LLC is pleased to submit its Report on the cost of supplying water to upstate customers of the City of New York's water system. The Report presents our findings on the cost of service and identifies the unit rate for Fiscal Year 2009 that is necessary to recover the anticipated cost of water supply service.

The Report presents the actual cost of water supply service for Fiscal Years 2005 through 2007. The methodology used to develop the cost of service for these years is consistent with that used in previous years. In addition, the anticipated cost of service is presented for Fiscal Years 2008 through 2012 (the "Projection Period").

The Report shows that the cost of water supply service will increase in each year of the Projection Period. The increases are primarily attributable to rising operating expenses, particularly in the property taxes levied on watershed properties and the cost of labor, together with capital investments in water supply infrastructure. Significant investments have been made in the water supply system in recent years to protect the quality of the water supply, to enhance the integrity of the system and to achieve other water supply objectives. Additional capital investments will be made during the Projection Period. In addition to the projected increases in the cost of service, the unit rate for water supply service is impacted by the expectation that system-wide water consumption will decline over the long-term.

We appreciate the opportunity to be of assistance to the Board and would be pleased to answer any questions you may have regarding the study methodology or findings. We also wish to acknowledge the assistance provided by representatives of the Office of Management and Budget, the Office of the Comptroller, the Department of Environmental Protection, the Board, and the New York City Municipal Water Finance Authority in the preparation of this Report.

Should you have any questions or comments, please do not hesitate to contact the undersigned at (212) 361-0050.

Very truly yours,

Edward J. Markus
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1.0 Introduction

1.1 Purpose

The purpose of this Report is to summarize the results of the study performed by the Amawalk Consulting Group LLC ("ACG") of the cost of providing water supply service to communities north of New York City (hereinafter, "the City"). The Report presents the proposed regulated rate for Fiscal Year 2009 to recover the cost of service. The Report also presents the calculated cost of service and rates for Fiscal Years 2005 through 2007; the anticipated cost of service and rate for 2008, the current year; and the projected cost of service and rates for 2010 through 2012.

1.2 Scope

The Report presents the findings of ACG regarding the revenue requirements for water supply service as well as water consumption by customers and a unit rate for calculating charges to upstate customers. The revenue requirements take into consideration the operation and maintenance expenses, principal and interest on bonds and other financial needs related to facilities north of the City. The Fiscal Year 2009 cost of service and unit rate are based, in part, on the calculated cost of service for the current Fiscal Year and prior years, which is presented herein. All years referred to in the Report reflect the fiscal year of the City that begins July 1 and ends June 30.

ACG has reviewed, to the extent practicable, the books, records, financial reports, and statistical data of the City, the New York City Water Board (the "Board') and the New York City Municipal Water Finance Authority (the "Authority"), and has conducted such other investigations and analyses as deemed necessary to assemble and analyze the cost of water supply service and rates. We have performed various financial tests and analyses necessary to support our findings and conclusions.

In analyzing the projection of future operations summarized in this Report, ACG has reviewed certain assumptions with respect to conditions, events and circumstances which may occur in the future. We believe that these assumptions are reasonable and attainable, although actual results may differ from those in the forecast as influenced by the conditions, events and circumstances which actually occur.

1.3 Background

The City, through its Department of Environmental Protection (hereinafter, "DEP" or the "Department"), is responsible for developing and maintaining dependable sources of water supply and for providing drinking water to communities north of the City and to in-City consumers. The Department operates and maintains the water supply system and is responsible for planning, designing and constructing capital improvements to the System. The Capital Improvement Program (the "CIP") of DEP identifies planned commitments for design,

construction and construction-related work for the Water System by category of project in each year of the ten-year planning period.

1.3.1 The Water Supply System

Water for the System is derived from three upstate reservoir systems (Croton, Catskill and Delaware) and a system of wells in Queens that were acquired as part of the City's acquisition of the Jamaica Water Supply Company. The three regions include 18 reservoirs and 3 controlled lakes with a storage capacity of approximately 550 billion gallons. The water collection systems in each region were designed and built with various interconnections to permit the exchange of water from one system to another. This feature helps mitigate the effects of localized droughts and takes advantage of excess water in any of the three watersheds. An overview of the three watershed systems and the aqueducts is shown in Figure 1 and described herein.

1.3.1.1 The Croton System

The Croton System consists of 12 reservoirs and 3 controlled lakes that are located on the Croton River, its 3 branches and 3 other tributaries. The watershed is divided into three subsystems: the West Branch, Croton Falls, and Muscoot. The watershed that supplies the Croton System has an area of 375 square miles. It lies almost entirely within the State of New York, approximately 45 miles north of lower Manhattan. A small portion of the watershed is located in the State of Connecticut. The Croton System typically provides 10% of the water supplied by the City's water system. In 2005 and 2006, the Croton System provided less than 2% of the City's daily water supply due to repairs that were being made to the Croton Aqueduct. The Croton System can provide a substantially higher percentage of the daily supply during normal operating conditions and drought conditions.

1.3.1.2 The Catskill System

The Catskill System occupies sparsely populated areas in the central and eastern portions of the Catskill Mountains and normally provides approximately 40% of the City's daily water supply. Water in the Catskill System comes from the Esopus and Schoharie Creek watersheds, located approximately 100 miles north of lower Manhattan and 35 miles west of the Hudson River. The Esopus Creek flows naturally into the Hudson River and drains an area of about 257 square miles. The Schoharie Creek flows into the Mohawk River and drains an area of 314 square miles. The greater part of the water from these two watershed areas is stored in the Ashokan Reservoir and the balance in the Schoharie Reservoir.

1.3.1.3 The Delaware System

The Delaware System is located approximately 125 miles north of lower Manhattan and typically provides about 50% of the City's daily water supply. Three Delaware System reservoirs collect water from a sparsely populated region on the branches of the Delaware River: Cannonsville Reservoir, Pepacton Reservoir, and Neversink Reservoir. Water from these reservoirs is conveyed eastward through separate rock tunnels: West Delaware, East Delaware, and Neversink; to Rondout Reservoir where the Delaware Aqueduct begins.

Figure 1 Map of the Water Supply System

The Delaware System may be augmented by a standby pump station at Chelsea, New York (the "Chelsea Pump Station") that draws from the Hudson River. The Chelsea Pump Station has a

capacity of 100 million gallons per day (mgd) and is connected to the Delaware Aqueduct. The Station pumped approximately 82 mgd of water from the River for almost five months during the 1985 drought and approximately 90 mgd in May of 1989.

1.3.1.4 The Well System

Wells in Queens typically provide less than 1% of the City's daily water supply. The wells could be used to supply more water during drought conditions. Unlike the rest of the City's water supply, which is a surface and gravity-supplied system originating in the network of reservoirs north of the City; well water is pumped from extensive underground aquifers. The acquisition of wells in Queens from Jamaica Water in 1996 represented the first new water supply source for the City since the 1960s when the Delaware surface water system initially came on line. DEP is currently planning improvements to the groundwater system which will augment the supply of water from underground aquifers.

1.3.1.5 The Catskill Aqueduct

The Catskill Aqueduct, which conveys water by gravity, is 92 miles long and extends from the Ashokan Reservoir to the Kensico and Hillview Reservoirs. The delivery capacity of the Catskill Aqueduct from the Ashokan Reservoir to the Kensico Reservoir is about 610 mgd. From Kensico Reservoir to the Hillview Reservoir, the Aqueduct has a capacity of approximately 800 mgd. The Catskill Aqueduct passes under the New Croton Reservoir. At this point it is possible to transfer water from Ashokan Reservoir to New Croton Reservoir.

1.3.1.6 The Delaware Aqueduct

The Delaware Aqueduct similarly carries water by gravity from Rondout Reservoir to West Branch Reservoir, in the Croton System, and from West Branch Reservoir to Kensico Reservoir and then on to Hillview Reservoir. Water entering the Aqueduct can be taken from the Rondout, Neversink, Pepacton, and Cannonsville Reservoirs. The capacity of the section that delivers water from Rondout Reservoir to West Branch Reservoir is about 890 mgd. The delivery capacity of the Delaware Aqueduct from West Branch Reservoir to Kensico Reservoir is about 1,045 mgd. The Aqueduct has a capacity of approximately 1,450 mgd from Kensico Reservoir to the Hillview Reservoir.

1.3.1.7 Long-Term System Capacity

Current demand and flow projections show that if conservation programs, including metering, toilet replacement, hydrant locking, leak detection and public information, remain effective there will be no immediate need for the City to find additional long-term water supply sources to meet normal demand. However, as described herein, the Water Supply System currently requires and will continue to require capital improvements to maintain and enhance the long-term quality and reliability of the System.

1.3.2 Condition of the Water Supply System

The Water Supply System (the "System") has reliably served the City since 1842. Many additions and improvements have been made over the years to develop the system that exists today. On an overall basis, the condition of the water and wastewater system of the City has been rated "Adequate", the highest rating of three categories, by Metcalf & Eddy of New York, Inc., the consulting engineer to the New York City Municipal Water Finance Authority ("the Authority"). Nonetheless, given the age of the system, circumstances that are specific to certain components of the system, and modern perspectives on reliability, security and other matters, DEP is pursuing a number of initiatives in the water supply system to enhance the long-term integrity of the system. An overview of two of these initiatives is presented in this part of the Report.

1.3.2.1 The Rondout-West Branch Tunnel

DEP regularly assesses the condition and integrity of the System's tunnels and aqueducts to determine the extent and effect of water loss. In particular, since the early 1990s, DEP has monitored the condition of the Rondout-West Branch Tunnel portion of the Delaware Aqueduct. The Rondout-West Branch Tunnel is 44.7 miles long and conveys water under the Hudson River and into the West Branch Reservoir. It normally conveys about 50% of the City's water supply. It is unique in that it has the highest pressures and the highest velocities in the System. In addition, a portion of the tunnel crosses a fractured rock formation, which is potentially subject to greater stress than the deep rock tunnels located in the City.

As a result of DEP's flow tests, visual observations and other analyses, it has been determined that approximately 15 mgd to 36 mgd of water is being lost from the tunnel and is surfacing in the form of springs or seeps in the area. The losses amount to approximately 4% of the daily volume of water provided by the tunnel under peak flow conditions. DEP has initiated the engineering work to determine the nature and extent of the repairs which may be necessary to remedy the water loss. DEP has also determined that the situation in the tunnel and the amount of water loss is stable. In the opinion of the professional engineering firm retained by DEP in conjunction with that investigation, there is very little immediate risk of failure of the tunnel. DEP intends to make the necessary repairs. The costs to perform such repairs could be substantial depending on the nature of the required repair. To perform the repair work, the tunnel will probably have to be shut down and de-watered. During any such period, it will be necessary for the City and its water supply customers north of the City to increase their reliance on other water supplies and to implement more stringent measures to encourage conservation and decrease demand. Under an extended shutdown of this tunnel, water quality in the remaining reservoirs could potentially suffer as storage volumes are drawn down. In general, the Delaware System continues to demonstrate a high degree of reliability after 55 years of continuous service. Nevertheless, DEP considers it prudent to conduct regular tunnel and aqueduct inspections and surveys to detect problems that might arise so that corrective actions can be taken if needed.

1.3.2.2 The Gilboa Dam

Gilboa Dam, part of the Catskill water supply system, is comprised of an earthen dam and a concrete gravity dam, with the concrete portion also acting as the spillway. The dam impounds

the waters of Schoharie Creek, creating Schoharie Reservoir. In 2005, an engineering analysis of the dam showed that the spillway had lost some mass over time and that the dam did not meet New York State Department of Environmental Conservation ("NYSDEC") safety guidelines applicable to the reconstruction of existing dams. In December 2006, DEP completed a series of interim steps to bring the dam into compliance with NYSDEC safety guidelines for the reconstruction of existing dams.

Although there is no evidence that the dam is facing imminent risk of failure, DEP has determined that the rehabilitation of the dam should be advanced. Work on the crest gates, which will increase DEP's ability to monitor the Schoharie Reservoir and maintain it at proper levels is scheduled to begin in Fiscal Year 2009. Site preparation work is scheduled to begin in Fiscal Year ("FY") 2010, and full reconstruction, which is anticipated to bring the dam up to compliance with NYSDEC safety guidelines for new dams, will begin in FY 2011. The estimated cost to complete the rehabilitation is $678 million, $663 million of which is currently included in the CIP.

1.3.3 The Dependability Program

The City's Water Supply System has evolved over a period of more than 150 years since the Croton supply was first put on line in the 1840s. That evolution had been driven in the past by the need to expand the System to provide more water for the growth of the City. The evolution of the System is now about to enter the next phase; however, this time it will be driven by the need for long-term rehabilitation and enhancement of the System's existing facilities. The next phase is termed the Dependability Program.

The existing System provides some amount of flexibility to take more water from one component part and less from others when reservoir levels or water quality so warrant; or even to take the smallest part of the System (the Croton System) out of service for extended periods of time. Nevertheless, there are some parts of the System that can only be taken out of service for brief periods of time. Although the City's water supply planners purposely built durability into many of the City's facilities, some of these critical, yet aging, parts of the System will have to be taken out of service for rehabilitation and/or upgrading to modern design standards. In order to take such facilities out of service without jeopardizing the Department's ability to deliver water, alternative sources of water supply must be found.

DEP has begun to evaluate additional strategies and projects for improving the dependability of water supplies, which could entail the development of additional or interim supplies to meet demands during periods of extended facility outages due to planned or unplanned inspection, repair or rehabilitation. DEP has retained a consultant to develop a long-term dependability plan. DEP intends to evaluate various alternative projects which, when combined, could allow for any portion of the System to be taken out of service for a period of up to one year. Elements of that plan may include: interconnections with other neighboring jurisdictions; increased use of groundwater supplies; storage and recovery of existing supplies within underground aquifers;

increased storage at existing reservoirs; withdrawals and treatment from other surface waters; hydraulic improvements to existing aqueducts; and additional tunnels.

1.3.4 Water Quality and Treatment

Pursuant to the Safe Drinking Water Act (the "SDWA"), the United States Environmental Protection Agency ("USEPA") has promulgated nationwide drinking water regulations which specify the maximum level of harmful contaminants allowed in drinking water and which govern the construction, operation, and maintenance of the System. USEPA has also promulgated filtration treatment regulations, known as the federal Surface Water Treatment Rule ("SWTR"), that prescribe guidelines concerning studies to be performed, programs to be implemented, timetables to be met and any other actions necessary to insure compliance with the regulations' terms. Enforcement of SDWA and its related regulations, except for the SWTR, was delegated by USEPA to the New York State Department of Health ("NYSDOH"). USEPA has delegated primary enforcement responsibility for the SWTR to NYSDOH for all systems in the State of New York (the "State") other than the Catskill and Delaware Systems. With respect to the Catskill and Delaware systems, the City believes that under the SWTR promulgated by the USEPA it will continue to be able to meet the criteria for non-filtered supplies.

1.3.4.1 Filtration in the Croton System

Because of the quality of the System's water and the long periods of retention in the reservoirs, it has not been necessary to filter water from the System to reduce the bacterial content and the turbidity. The only treatment procedures routinely employed by DEP are screening, detention, disinfection, flouridation, and the addition of caustic soda and phosphoric acid for corrosion control. Additions of copper sulfate for algae control and alum for turbidity control are made only when needed. Historically, this level of treatment proved to be more than sufficient to maintain water quality standards throughout the entire Water System. However, more stringent federal standards for surface water treatment in the 1980s and 1990s led to a 1992 stipulation with NYSDOH, which has been superseded by a 1998 federal court consent decree, as supplemented in 2002 and 2005 (the ''Croton Filter Consent Decree''). The Croton Filter Consent Decree mandates the construction of a full scale water treatment facility to filter Croton System water.

After an extensive study, DEP identified the Mosholu Golf Course in the Bronx as its preferred site for the treatment facility and began work at the site in late 2004. The Croton Filter Consent Decree sets forth milestones, including commencement of operations of the facility on October 31, 2011 which, if not met by the City, require the payment of penalties to the State and federal governments.

From time to time, the Croton System has failed to meet the water quality standard for haloacetic acids, a disinfection by-product regulated by USEPA. Pursuant to a USEPA Administrative Order issued in June 2003, DEP has evaluated feasible and cost-effective interim measures that could be taken to reduce haloacetic acid levels in Croton water until the Croton filtration plant is

completed. It is anticipated that, pending completion of the Croton filtration plant, the Croton System will be off-line for extended periods in order to rehabilitate and upgrade the New Croton Aqueduct. As such, DEP has determined that implementation of such interim measures is not needed at present.

1.3.4.2 Watershed Protection/Filtration Avoidance in the Catskill and Delaware Systems

On January 21, 1997, the City and the State executed a Watershed Memorandum of Agreement with the communities in the Catskill, Delaware, and Croton watersheds, USEPA, and several environmental groups. The Watershed Memorandum of Agreement supplemented the City's existing watershed protection program with approximately $400 million in additional funding for economic-environmental partnership programs with upstate communities. Most of this funding has been provided through the issuance of Authority bonds. As provided under the Watershed Memorandum of Agreement, the State has issued a land acquisition permit to the City to acquire water quality sensitive land in the watershed until January 2012, and has approved the City's revised rules and regulations governing certain aspects of land use in the watershed.

Since 1993, USEPA has been issuing Filtration Avoidance Determinations ("FADs") pursuant to which the City is not required to filter water from the Catskill and Delaware Systems. If the City were to have to filter water from the Catskill and Delaware Systems, the current estimate of the construction costs to provide for such filtration is between $6 billion to $8 billion. In July 2007, USEPA issued a new FAD (the "2007 FAD") which supersedes previous determinations and has a term of 10 years, divided into two five-year periods. The 2007 FAD requires that the City to take certain actions to protect the Catskill and Delaware water supplies. These actions include the continuation and enhancement of certain environmental and economic partnership programs established under the Watershed Memorandum of Agreement, and the creation of new programs.

The 2007 FAD requires that the City continue to solicit property from owners of vacant land in the watershed and actually acquire (with certain limited exceptions) title to or conservation easements on any land used to satisfy the solicitation goal where the owner accepts the City's purchase price. The 2007 FAD also requires the City to allocate a total of $300 million for land acquisition during its ten year term, including approximately $59 million of unspent funds remaining from moneys set aside or land acquisition under the Watershed Memorandum of Agreement and the previous FAD and $241 million in new funding. In addition, the City is obligated to develop and implement a strategy to augment its land acquisition efforts through increased participation of land trusts and other non-governmental organizations in identifying and helping the City acquire eligible lands. As of March 31, 2008, title to or conservation easements on approximately 86,900 acres of land in the Catskill and Delaware watersheds at a cost of approximately $246 million have either been acquired or are under contract for acquisition. The current NYSDEC land acquisition permit allowing the City to continue its watershed land acquisition program expires in early 2012. It will be necessary for DEP to obtain a new permit in order to continue acquiring watershed land during the second five years of the 2007 FAD. Under the 2007 FAD, DEP must apply for the new permit in early 2010. Other stakeholders will have the opportunity, as part of the permitting process, to oppose the issuance

of the permit or to request the inclusion of conditions or limitations on such permit. A failure to obtain such a permit will impact DEP's ability to comply with the 2007 FAD.

The 2007 FAD also calls for the continuation, during its first five years, of many of the City's other successful watershed protection programs that were part of the previous FAD, with additional enhancements to several programs including the Community Wastewater Management Program and the Stream Management Program. Prior to commencement of the second five years of the 2007 FAD, the City will need to reach agreement with USEPA and NYSDOH on which of such programs should be further continued into the second five-year period, whether and how any such programs to be further continued should be modified, and/or whether additional programs are needed to justify continuation of the 2007 FAD into the second five years of its term. To assist in making these decisions and reaching an agreement, DEP will prepare a Revised Long Term Watershed Protection Program, to be submitted to USEPA/ NYSDOH by December 15, 2011.

In addition, the City is pursuing other approaches to protect Kensico water quality including investigating whether local governments in the basin can provide assistance in acquiring and preserving open space for watershed protection and whether, in cooperation with USEPA and local property owners, a non-regulatory program can be developed to encourage additional actions to protect water quality beyond the requirements of the City's watershed regulations. The City has already devoted substantial efforts aimed at protecting the Kensico Reservoir, including the installation of stormwater best management practices on numerous parcels of land adjacent to the reservoir.

The City believes that its regulatory efforts to protect its water supply will preserve the high quality of the water in the Catskill and Delaware watersheds and, together with the other elements of the City's watershed protection program, will avoid the need for filtration of these water systems. Current and future calculations of the cost of water supply service and water rates will reflect investments made in the watershed through increasing operating expenses and debt service on bonds of the Authority, the proceeds of which will be used to pay for land acquisition and other capital improvements in the watershed. The resulting costs and impacts on water rates will be significantly less than what would be required if the City were directed to provide filtration for the Catskill and Delaware Systems.

1.3.4.3 Disinfection Requirements

In January, 2006, USEPA issued final versions of two drinking water supply regulations, developed pursuant to the SDWA: the Long Term 2 Surface Water Treatment Rule ("LT2") and the Stage 2 Disinfection/Disinfectant-Byproducts Rule ("DBP2"). Compliance with these regulations may require additional capital costs, not all of which are currently included in the CIP.

The purpose of LT2 is to reduce the incidence of water borne disease by mandating certain levels of inactivation and/or the removal of certain microorganisms from water supply systems,

including the Catskill and Delaware Systems. DEP anticipates achieving compliance with such levels through the construction and operation of its planned ultraviolet treatment facility (the "UV Facility"). The UV Facility will provide treatment for Catskill and Delaware water by achieving certain levels of inactivation of cryptosporidium. The 2002 FAD, as initially issued, called for the UV Facility to be operable by September 2009. There have since been a number of delays attributable to design changes and permitting issues. In January 2007, DEP entered into an Administrative Order on Consent ("UV Order"), with USEPA, pursuant to USEPA's authority under LT2. The UV Order establishes a revised schedule of milestones for the construction of the UV Facility including a final completion date of October 29, 2012. The milestones in the UV Order have been incorporated into the 2007 FAD.

At DEP's request, USEPA extended the milestone in the UV Order for issuance of a notice to proceed on such contract from October 31 to December 31, 2007. In December 2007, DEP notified USEPA that it would miss the December 31, 2007 milestone for issuance of the notice to proceed. The notice to proceed was issued on January 31, 2008. The next milestone under the UV Order is October 31, 2008. DEP has advised USEPA that within six months of the notice to proceed, it will be able to confirm whether or not it will be able to meet that subsequent milestone. While the UV Order does not provide for stipulated penalties, DEP can be assessed penalties of up to $37,500 per day for each missed milestone under the SDWA. Violations of the UV Order could also affect DEP's standing under the terms of the FAD. The cost to complete the UV Facility is expected to be $1.4 billion all of which included in the CIP.

The UV Facility will be located in Westchester County and will provide benefits for both in-City and upstate customers. As a result, the costs associated with the UV Facility will be included in the cost of water supply service and the computation of the regulated rate as such costs are incurred.

LT2 also mandates that uncovered finished water storage facilities, which include the Hillview Reservoir, be covered or that water from such facilities be treated. In March 1996, DEP entered into the Hillview Administrative Order with NYSDOH which, as modified in 1997 and 1999, required, among other things, the City to cover Hillview Reservoir by December 31, 2005 to reduce the possibility of E. coli bacteria entering the System.

The City has not commenced construction of a cover for Hillview Reservoir and therefore did not meet the December 31, 2005 milestone set out in the Hillview Administrative Order. On February 22, 2008, DEP entered into a revised Hillview Administrative Order which requires the City to cover the Hillview Reservoir by October 31, 2016 while also allowing the City to pursue an evaluation of other strategies to protect the reservoir. The revised order also requires DEP to pay NYSDOH $2 million in stipulated penalties for failing to meet the December 31, 2005 milestone date and to spend the entire balance of $3.4 million in an escrow account, which was established under the Order, on water quality projects. Currently, the cost of a Hillview Reservoir cover is expected to be $1.6 billion. This cost is not included in the CIP. DEP intends to seek a variance from the LT2 requirement that Hillview Reservoir be covered as a finished water storage facility, but there can be no assurance that such variance will be obtained.

The purpose of DBP2 is to reduce the potential health risks associated with disinfection byproducts, which are chemical compounds formed when disinfectants such as chlorine are added to drinking water. Based on preliminary assessments, DEP believes that the mandated level of disinfection byproducts set forth by DBP2 may be exceeded in certain parts of the System. A study is currently underway and a technical workshop to review the preliminary findings will be held this summer. A final report with recommendations is expected in August 2008.

1.3.5 Water Quality Monitoring

DEP has historically monitored key locations in its distribution system for over 40 individual water quality parameters, including lead. The monitoring program meets or exceeds federal and State requirements and has the capability to meet potentially more stringent requirements. The System has six laboratories employing approximately 250 bacteriologists, engineers, chemists, hydrologists and limnologists to monitor water quality. Over 65,000 samples per year are collected and 800,000 analyses are performed annually. Routine checks are made for more than 60 different substances, including heavy metals and trace organics. In addition to the monitoring program, DEP watershed inspectors run sanitary surveys and maintain surveillance of the watersheds.

The SDWA requires that utilities prepare and distribute to their consumers a brief annual water quality report, referred to as the Consumer Confidence Report (the "CCR"). The City's 2006 CCR covering the calendar year 2006, the most recent such report, demonstrates that the quality of the City's drinking water remains high. The CCR noted several exceedences of standards of naturally-occurring elements iron and manganese, as well as a treatment technique violation, violation of State monitoring requirements in the Groundwater System and pH exceedences in the Catskill and Delaware Systems. None of these exceedences are considered by DEP to be harmful to public health. DEP issued a public notification about the treatment technique violation and has taken steps to address the cause of the violation.

1.3.6 Governmental Regulation

The System is subject to federal, state, interstate and municipal regulation. Water quality standards are enforced within the watershed areas through a network of overlapping jurisdictions. Participating in the network, among others, are NYSDEC and NYSDOH, county, municipal and district police, engineers and inspectors, and City personnel from DEP.

1.3.7 Drought Management

To ensure adequate water supply during drought conditions, DEP, in conjunction with other City, State, and interstate agencies, maintains a Drought Contingency Plan. The Drought Contingency Plan defines various drought phases that trigger specific management and operational action.

The three defined drought phases are: "Drought Watch," "Drought Warning," and "Drought Emergency." A Drought Emergency is further subdivided into three stages based on the projected severity of the drought and provides increasingly stringent and restrictive water conservation measures.

A Drought Watch was last announced in late December 2001, followed by the declaration of a Drought Warning in late January 2002 and a Drought Emergency (Stage I) in March 2002. In November 2002, the City downgraded the Drought Emergency to a Drought Watch and in January 2003 the Drought Watch was lifted. Subsequent rainfall and snow alleviated the drought condition. At the time of this Report, the water supply system was operating under normal conditions and no extraordinary expenses due to drought conditions are included in the projected 2008 and 2009 cost of water supply service. As of April 25, 2008, the System's reservoirs contained approximately 96.8% of capacity. Normal levels at this time of year would be approximately 99.0% of capacity.

1.3.8 Pending Litigation

The following paragraphs describe certain legal proceedings and claims against the Water Supply System. The ultimate outcome of these proceedings and other claims is unpredictable and could result in substantial judgments that would have to be borne by all customers of the System.

As a result of federal litigation resulting in a determination that a SPDES permit is required for water transfers such as the City's transfer of water through the Shandaken Tunnel, DEP applied for and obtained a SPDES permit for the Shandaken Tunnel. The SPDES permit issued by NYSDEC requires, among other things, that DEP submit a report for approval indicating what short-term and long-term structural measures it intends to undertake to achieve compliance with the permit's temperature and turbidity limits. DEP submitted its report in December 2006, which analyzed several alternatives including construction of a multiple level intake (with an estimated cost of between $74 million and $360 million depending on location), and modification of existing operations at Schoharie Reservoir (from which water is diverted into the Shandaken Tunnel), using a highly sophisticated water simulation tool (with an estimated cost of $6.2 million). The report recommends that DEP implement the latter alternative.

On September 22, 2006, the plaintiffs in the March 2000 lawsuit against the City and DEP commenced a proceeding against NYSDEC and DEP under Article 78 of the Civil Practice Law and Rules, in State Supreme Court in Ulster County, seeking to overturn the SPDES permit issued by NYSDEC on September 1, 2006. The motion of the State and the City to transfer to the case to Appellate Division was denied on May 18, 2007. The matter is fully submitted.

Complaints representing approximately 160 plaintiffs have been filed against the City due to flooding allegedly caused by the City's operation of certain upstate dams in April 2005. The complaints in aggregate seek compensation of more than $8 million associated with alleged property damage. The trial court dismissed one of the complaints in January 2007 which was

affirmed by the Appellate Division for the Third Department in March 2008. Plaintiffs have moved in the Appellate Division, Third Department, for reargument or, alternatively, leave to appeal to the Court of Appeals. In April 2007, another group of plaintiffs filed an amended complaint in the United States District Court for the Southern District of New York. The amended complaint adds claims under the Endangered Species Act and the Clean Water Act. The City is vigorously defending all of these actions.

On September 12, 2007, the Coalition of Watershed Towns and three individual towns in the watershed filed a petition for review in the Federal Circuit Court of Appeals for the Second Circuit, challenging the USEPA's issuance of the 2007 FAD on both procedural and substantive grounds. An adverse determination on the procedural claim could invalidate the 2007 FAD and require that a new FAD be issued by NYSDOH. An adverse determination on the substantive claim could invalidate the 2007 FAD and prevent either USEPA or NYSDOH from issuing a new FAD. The matter is fully submitted. The Second Circuit has indicated that oral argument is likely to be heard in the spring of 2008. The same petitioners also filed a proceeding in State Court against the City and the State challenging the environmental review of the 2007 FAD. That litigation has been suspended pending settlement discussion.

On September 26, 2007, the Delaware County Supreme Court ruled in Worcester Creameries Corp. v. City of New York that the City is responsible for all costs associated with equipment required solely by the City's Watershed Regulations and not otherwise required under State or federal law at certain private wastewater treatment plants in the watershed. The court also held that Section 1105 of the Public Health Law entitles ''any property owner to recover damages caused by the City's enforcement of its Watershed Regulations.'' The City believes that this broad reading of Section 1105 conflicts with three recent Second Department decisions. The City is appealing the Worcester Creameries decision. The City's appeal of the Worcester Creameries decision will be argued on May 28, 2008. On November 7, 2007, the Greene County Supreme Court issued a decision in Amy's Take Away, Inc. v. City of New York, another case involving the scope of the City's obligations under Section 1105 of the Public Health Law. In contrast to the court in Worcester Creameries, the Greene County court agreed with the City's and the Second Department's narrow interpretation of Section 1105. Greene County and Delaware County are both in the Third Department. If the Worcester Creameries decision is ultimately affirmed upon appeal, the City could incur substantial costs in connection with the administration and enforcement of the City's Watershed Regulations.

1.3.9 Court-Appointed Monitor

In August 2001, DEP pled guilty to a criminal violation of the Clean Water Act and a criminal violation of the Toxic Substances Control Act in connection with the operation of the water supply system. The Clean Water Act violation is based on the discharge of water containing low levels of mercury from a DEP facility in Sullivan County. The Toxic Substances Control Act violation is based on DEP's use of flow control equipment that contains PCBs in other than a totally enclosed manner in Westchester County. The federal government, NYSDOH and DEP

have all indicated that the water supply remains safe with regard to mercury, PCBs and lead. DEP has been and continues to be engaged in programs to remediate mercury, PCBs, lead and other constituents of concern from the affected facilities. In addition, pursuant to the plea agreement, DEP is developing a comprehensive environmental, health and safety ("EH&S") compliance program with respect to the water supply system and its upstate wastewater treatment plants, aimed at detecting and preventing violations of environmental health and safety laws. A federal monitor has been appointed to oversee DEP's compliance with the plea agreement, including the development and implementation of the aforementioned EH&S compliance program. DEP's operation and management of the System will not materially change as a result of the plea.

On August 14, 2003, the City (along with major portions of the northeastern United States) experienced a massive power blackout. With the loss of electrical power during the blackout, DEP's North River and Red Hook water pollution control plants were unable to treat wastewater being conveyed to those facilities, resulting in the outflow of untreated wastewater into the waters of New York Harbor. The United States Attorney's Office for the Southern District of New York conducted an investigation into operations at the two plants in connection with the blackout. On January 13, 2006, DEP entered into an agreement with the United States Attorney's Office, whereby DEP admitted that it had violated the terms of probation by failing to properly maintain emergency back-up generators at the Red Hook plant, in violation of its SPDES permit for the plant. It further agreed to an extension of probation for three years, ending February 6, 2009, with a possible further extension until December 31, 2009 upon motion by the United States Attorney's Office. Finally, DEP agreed to expand its environmental, health and safety compliance program to the balance of the agency's operations, and to extend the monitor's oversight to include DEP's in-City wastewater treatment operations. On February 7, 2006, the United States District Court for the Southern District of New York entered an order extending probation and the monitor's oversight, and directing DEP to expand its compliance program, as contemplated by the agreement.

In recognition of progress made by DEP in developing and implementing its compliance program, and based on an agreement reached among DEP, the United States Attorney's Office and the federal monitor, the court issued orders releasing DEP's Bureau of Water and Sewer Operations, Bureau of Water Supply ("BWS"), and DEP's risk management and process safety management programs at the four DEP facilities where drinking water is chlorinated for disinfection, from the monitor's day-to-day supervision.

From time to time, the United States Attorney's Office requests additional information from DEP concerning the System, and issues subpoenas for additional documents. DEP cooperates with the office and provides information and documents in response to such requests and subpoenas.

1.4 Water Conservation

Drought situations have necessitated measures to reduce water use by all customers and, at times, have required the use of the Hudson River as an alternative source of supply. DEP has initiated

programs to reduce water use to achieve several goals, including the avoidance of the cost and implementation considerations associated with developing new sources of water supply.

The Department initiated a universal metering program in 1988; presently approximately 93% of customer accounts in the City are billed on a metered basis. Certain other accounts are billed on the basis of a series of flat rate charges but water consumption is being monitored through meters that have been installed in such properties. The Department also promotes water audits with the objective of identifying opportunities to reduce water consumption. DEP completed a program in the 1990s to replace older toilets in the City using 5 to 7 gallons per flush with low-flow toilets using 1.6 gallons per flush. DEP committed $310 million to this program to reimburse homeowners up to $240 for each toilet they replaced. Over 1.3 million toilets were replaced. Significant long-term reductions in water use have been achieved due to both the metering and toilet retrofit programs.

As indicated previously, the Dependability Program will be examining additional long-term water supply sources as well as further measures to enhance water conservation. A new toilet rebate program is currently being considered by DEP; however, no funds are included in the projected cost of service for such a program or other new conservation initiatives that may be developed under the Dependability Program. Additional information concerning water conservation initiatives is provided in 4.8.2 of this Report.

1.5 The Roles of the Authority, the Board and the City in the Water Supply System

Through mid-1985, capital improvements to the water and sewer system of the City were financed through general obligation bonds of the City. In 1984, State law authorized the creation of the Authority and the New York City Water Board ("the Board"). The Authority's function is to issue revenue bonds, the proceeds of which are used to finance capital improvements to the water and sewer system, including the water supply system. The Board sets rates and charges to meet the annual revenue requirements of the water and sewer system. The revenue requirements include debt service (principal and interest) on outstanding bonds of the City and the Authority as well as the operation and maintenance expenses of the City. Under an agreement between the Authority, the Board and the City, the City continues to operate and maintain the water and sewer system and is responsible for implementing capital improvements to the system.

The Authority issued its first revenue bonds in December 1985. As of the date of this Report, the Authority has over $10.8 billion in principal outstanding for its First Resolution revenue bonds and $7.5 billion in principal outstanding for its Second Resolution revenue bonds for the water and sewer system of the City. Included within the Second Resolution debt are loans obtained by the Authority at below market interest rates from the State Revolving Fund ("SRF"). The SRF Program is administered by the New York State Environmental Facilities Corporation ("NYSEFC").

A portion of the proceeds of the Authority's bonds and the SRF loans has been used to finance capital improvements for water supply projects in upstate regions. Section 4.2.2 of the Report provides information concerning previous capital investments in the water supply system. Under the CIP, additional capital improvements are ongoing and planned for the future to preserve the water supply system for all customers.

2.0 The Sale of Water to Customers North of the City

2.1 Background

The New York State Water Supply Act of 1905 ("The Act") and subsequent amendments granted the City permission to develop the Catskill and Delaware watershed systems. In return for these development rights, the City was required, upon request, to furnish supplies of fresh water to municipalities and water districts in northern counties in which City water supply facilities and watersheds are located. The Act limits the quantity of water that may be taken or received to the quantity calculated by multiplying the number of inhabitants in the municipality or water district as shown by the last United States, state or official municipal census by the daily per capita consumption in the City.

Water is supplied to customers north of the City (hereinafter, "upstate customers") on a wholesale basis, i.e., the City delivers water to one or more central locations and the customers (typically municipalities or water districts) are responsible for distributing the water to individual users such as residential buildings and commercial properties. For the period of 1985 through 2007 inclusive, the City provided an average of 43,914 million gallons per year of water to upstate customers, or 120.2 mgd. This represented approximately 8.66% of all water supplied to both in-City and upstate customers. The percentage of the water supply being used by upstate customers has generally been increasing in recent years, averaging 9.89% in 2005 through 2007.

Upstate consumption is affected by the continuing expansion of the areas served by City water as other changes occurring within the service area. Among the changes are the increases in water consumption in the vicinity of Stewart International Airport to accommodate commercial development at the Airport.

2.2 Rates and Charges for Upstate Customers

The regulated rate for water service to upstate municipalities and water districts is determined on the basis of the actual total cost of water to the City after deducting the capital and operating costs incurred within the City limits in connection with the distribution and delivery of water within the City. In no event may the regulated rate exceed the rate charged to customers within the City. The Board implemented rate increases for upstate customers starting in 1993. Prior to that increase, the upstate water rates had not been changed since 1973. The historical water rates charged to upstate customers for the period 1973 through 2008 are provided in the table on the following page. The final NYSDEC determination and approval has been made for the rates for fiscal years 1993 through 1995. In response to a request for a review of the regulated rate for water service by upstate petitioners led by the Village of Scarsdale, the NYSDEC Administrative Law Judge stated that he will consider the petitioners' request for a review of the 2005 regulated rate. The upstate petitioners have reserved their right to appeal this determination with respect to the rates for FY 1997 through 2004.

Fiscal Year	Rate per Million Gallons (MG) (a) Billed to Upstate Customers[1]	Computed Cost to the Board
1973-1992	76.87 or 103.72	
1993 (b)	143.84	198.33
1994 (b)	165.23	211.60
1995 (b)	174.18	229.87
1996	174.18	247.28
1997	227.95	309.55
1998	274.93	338.79
1999	342.97	348.31
2000	383.78	385.25
2001	414.37	414.88
2002	448.83	462.24
2003	485.71	522.99 (c)
2004	542.36	529.85 (c)
2005	591.21	591.91 (d)
2006	617.79	623.47 (d)
2007	691.91	691.83
2008 (current)	798.62	776.66

(a) From 1973 to 1992, customers using Croton water were charged $76.87 per million gallons and customers using Catskill/Delaware water were charged $103.72 per million gallons. Prior to the 1993 rate increase, communities using water from the Croton System were billed at a different regulated rate than communities using water from the Catskill/Delaware System. Since 1993, a uniform rate has been used for all upstate customers.

(b) The rates approved by NYSDEC were: $137.73 per million gallons for 1993, $158.31 for 1994 and $175.69 for 1995.

(c) The computed cost to the Board as shown above for 2003 and 2004 does not take into consideration the upstate share of the costs of defeasance of certain Authority bonds. The costs of defeasance were not included in the projected cost of service and regulated rate at the time of rate-setting. Including the effects of the cost of defeasance, the rate per million gallons is $549.32 in 2003 and $560.58 in 2004. The City reserves the right to include such costs in the cost of service and the regulated rate. The basis for these costs is explained in Section 4 of the Report.

(d) The rates shown above for 2005 and 2006 include the costs of defeasance in those years.

As illustrated above, the unit rates in Fiscal Years 1997 and 1998 significantly understated the unit cost to the Board of supplying water to customers. This occurred because the unit rates for 1997 and 1998 were based on historical costs and did not reflect the increasing actual cost of service. In order to develop a rate that more appropriately reflected the cost of water supply, the 1999 through 2008 unit rates were developed based on the anticipated cost of service in the upcoming fiscal years.

[1] NYSDEC revised the rate per million gallons for the years 1993 through 1995 as noted in (b) above

As of the date of this Report, the estimated 2008 unit rate that is needed to recover the cost of water supply service is $776.66 per MG. This rate is lower than the rate currently being charged. The actual cost of service for 2008 will not be known until the Fall of 2008.

3.0 Cost of Service Methodology

3.1 Overview

This Section of the Report provides a summary of the steps that were followed to calculate the cost of service for water supply. The cost of service is calculated in accordance with the cash basis methodology used by and approved by the NYSDEC in 1972 and 1995. The methodology is also consistent with that used to calculate the regulated rates which were adopted for 1993 through 2008. Pursuant to the Act, the cost of service methodology excludes all capital and operating costs incurred for transmission and distribution mains, repair yards, tunnels, shafts, and related facilities within the City in connection with the distribution and delivery of water within the City. The cost of service takes into account offsetting revenues from hydropower and permit fees.

3.2 Procedures for Calculating the Cost of Service

Several steps are required to calculate the total cost of providing water to upstate customers and the regulated rate. These steps account for the many types of costs incurred by the City in establishing and maintaining reliable sources of drinking water. The approach that is used in this Report, as required by the 1905 Act, specifically excludes costs incurred within the City that are associated with the transmission and distribution of water in the City.

The six (6) steps that were followed in developing the cost of service and the proposed regulated rate for upstate water supply are outlined herein. The first five steps relate to the computation of the cost of service and regulated rate for 2005 through 2007. The sixth step includes the development of the projected cost of service and regulated rates for 2008 (the current year) and 2009. In addition, this Report includes a preliminary projection of the regulated rate for water supply service for the years 2010 through 2012. The projections are preliminary and subject to change. Reductions in system-wide water consumption as well as assumptions concerning increased costs for property taxes, watershed protection, required capital improvements and other factors have been taken into consideration in developing the projected cost of service and rates. Nonetheless, rising commodity prices and other factors affecting operating expenses and capital costs may result in a larger increase in the cost of water supply in future years than is currently reflected in the 2009 projection and the preliminary projections for 2010 through 2012. The water supply system costs, offsetting revenues and related information corresponding to each of the steps can be found in Section 4.0 and the Appendix of this Report.

3.2.1 Step A

The initial step includes the determination of all direct costs and offsetting revenues that relate solely to facilities located north of the City.

The components of this analysis include the following:

1. Other Than Personal Services (OTPS)
2. Debt Service
3. Judgments and Claims
4. Miscellaneous Revenue
5. Personal Services (PS), which include:
   a. Field Personnel
   b. Executive and Administrative Personnel

3.2.2 Step B

The second step includes the calculation of the allocation percentages to be used in Steps C and D. The allocation percentages are based upon personnel headcount, or total salaries or expenses, depending upon which allocation methodology is most appropriate to the costs being allocated. The methodologies used in the allocation process have previously been accepted by the USEPA and the NYSDEC in connection with the federal and state grant program for wastewater treatment facilities. The methodology was also accepted by NYSDEC in its 1995 decision and upheld by the Appellate Division of the Third Department concerning the regulated rates of $137.73 and $158.31 per million gallons for 1993 and 1994, respectively.

3.2.3 Step C

The next step in the cost of service process is to determine the costs of DEP support services and other essential functions that must be allocated to the cost of supplying water. These costs fall into two categories:

1. Personal Services (PS)
2. Other Than Personal Services (OTPS)

The cost of support services and related functions of the DEP must be shared by all customers who benefit from its services. Therefore, the costs must be allocated to facilities located north of the City using the appropriate allocation percentage calculated in Step B.

3.2.4 Step D

The fourth step involves the identification of the City's Central Service costs that must be allocated to the cost of water supply. The City's Central Services provide services and benefits to the water supply system as well as to DEP as a whole and to other City agencies. Therefore, these costs are allocated first among all City departments. The DEP share (calculated using an allocation percentage developed in Step B) is then allocated to facilities located north of the City.

3.2.5 Step E

The total cost of supplying water to both in-City and upstate customers, exclusive of in-City distribution costs, is determined by adding the cost of service elements which are calculated in Steps A, C and D. Dividing the total cost of service by total water consumption determines the unit cost per million gallons (MG) related to the supply of water. The upstate water consumption times the unit cost or regulated rate per MG results in the total costs attributable to upstate customers.

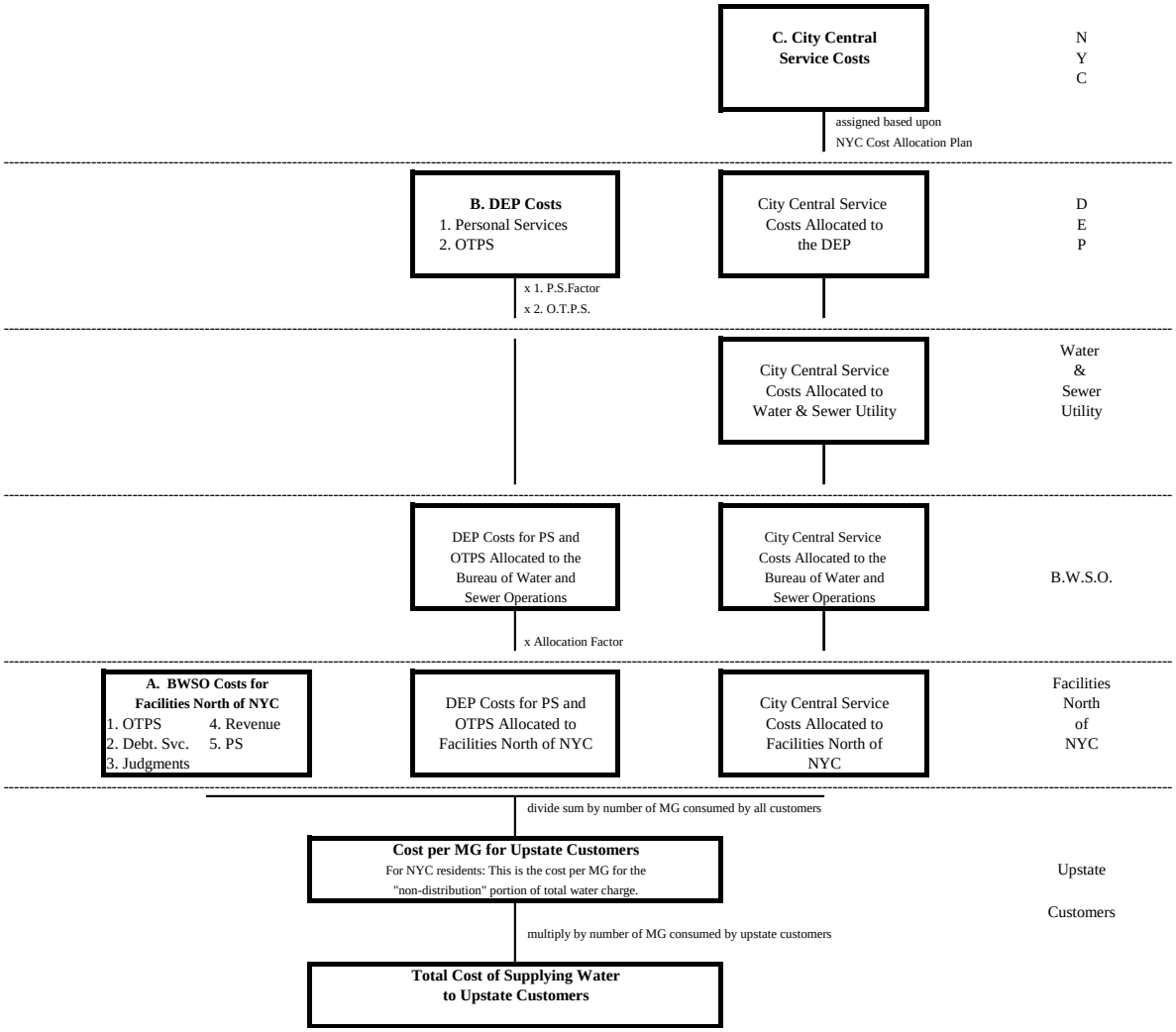
3.2.6 Step F

Steps A through E are primarily used to develop the actual cash basis cost of service for 2005 through 2007. To develop the projected cost of service for 2008 (the current year) and 2009, known debt service costs are added to anticipated future debt service plus anticipated operation and maintenance expenses, less expected offsetting revenues. Projections of future expenses and revenues are based on historical experience as well as known changes in programs and costs that are expected in 2008 and 2009. This is a standard and accepted practice in the industry and is consistent with the methodology used to develop water and sewer rates for in-City customers. The projected cost of service is divided by the estimated water consumption to determine the regulated rate. Step F is carried out simultaneously with the work performed in Steps A through E.

3.2.7 Graphical Overview

Figure 2 on the following page provides a graphical presentation of how various components of the cost of service are allocated in the development of the cost of providing water to upstate customers.

Figure 2 Diagram of Calculation



3.3 Computation of the Regulated Rate

The regulated rate per million gallons of water use is computed on the basis of the total cost of service divided by the total water consumption:

Total Cost of Service *divided by* Total Water Consumption = Unit Cost of Service or Regulated Rate

The costs, and thus the revenue requirements, attributable to upstate customers are computed on the basis of the total annual quantity of water use by upstate customers multiplied by the unit rate per million gallons:

Upstate Consumption *multiplied by* Unit Cost of Service or Regulated Rate = Upstate Cost of Service

The total cost of service for water supply, or revenue requirements, would be allocated between upstate and in-City customers as follows:

Upstate: **Total Cost of Water Supply Service *multiplied by*:** $\frac{\text{Upstate Consumption}}{\text{Total System Consumption}}$

In-City: **Total Cost of Water Supply Service *multiplied by:*** $\frac{\text{In-City Consumption}}{\text{Total System Consumption}}$

3.4 Sources of Data and Basis of Presentation

Information presented in this report was obtained from records of the City. The City utilizes a modified accrual basis of accounting for its costs. Operation and maintenance expense information including cost allocation factors was provided by the Bureau of Management and Budget of DEP. Debt service information was obtained from the Office of the Comptroller and from the Authority. Pension and fringe benefit cost factors were provided by the New York City Office of Management and Budget. Water consumption information was provided by DEP.

4.0 Computation of the Cost of Service and the Regulated Rate

4.1 Introduction

This Section of the Report describes the individual elements of the cost of service and presents the computed cost of service and regulated rate for 2005 through 2007. The 2007 Fiscal Year is the most recent year for which complete information is available. The anticipated cost of service for 2008 and 2009 is presented using the following components of cost: actual debt service for these years, the anticipated debt service from additional bonds of the Authority, and projections of operating expenses and all other components of the cost of service. Additional bonds reflect the expected issuance of debt by the Authority in 2008 and 2009, the proceeds of which will be used, in part, to fund capital improvements in the water supply system. The projected debt service reflects the expected portion of the bond proceeds that will be used for the water supply system. The findings of each significant step of the analysis are presented in this Section and the basis for projecting the cost of service for 2008 and 2009 is also provided. Where appropriate (e.g., watershed protection expenses, property taxes, and debt service), we have normalized the cost of service to take into consideration one-time or recurring increases or decreases in costs. Supporting tables for each step of the analysis are referenced in this Section and presented in detail in the Appendix to the Report.

4.2 Bureau of Water Supply Costs Related to Facilities Located North of the City - Step A

The Bureau of Water Supply (the "Bureau" or "BWS") of DEP has the responsibility to operate and maintain the water supply system of the City. This responsibility also includes the development and implementation of capital improvements to the system so that a reliable supply of quality water can be maintained for customers both within the City and in upstate communities.

The Bureau carries out its water supply responsibilities through personnel and equipment located at facilities throughout the watershed. Bureau personnel include engineers, laboratory technicians, security personnel, water quality experts, and management and support personnel.

The vast majority of the water supply costs presented in this Report relate solely to facilities located north of the City. In the subsequent parts of this Section, additional Department and City costs will be allocated to facilities located north of the City.

The individual categories of costs that relate solely to facilities located north of the City are listed below:

1. Other Than Personal Services (OTPS)
2. Debt Service
3. Judgments and Claims
4. Miscellaneous Revenue
5. Personal Services (PS)
   a. Field Worker Personnel
   b. Executive and Administrative Personnel

Each of the above categories is discussed further in the paragraphs that follow in this section of the report.

4.2.1 Other Than Personal Services Costs

By definition, Other Than Personal Services (OTPS) costs include all operating expenses other than labor including, but not limited to: supplies, equipment, contracted maintenance and repairs, power, chemicals, real estate taxes paid to upstate communities and other purchased goods and services. With the exception of 2004 when expenses relating to the Watershed Memorandum of Agreement declined significantly, direct OTPS costs have steadily increased over the years, as illustrated below:

Fiscal Year	OTPS Expense ($)	Annual Increase (%)
1992	54,391,121	
1993	57,132,786	5.0%
1994	59,533,840	4.2%
1995	64,767,041	8.8%
1996	69,176,240	6.8%
1997	81,763,877	18.2%
1998	83,248,590	1.8%
1999	85,308,061	2.5%
2000	96,400,404	13.0%
2001	100,559,467	4.3%
2002	105,285,931	4.7%
2003	112,322,431	6.7%
2004	104,373,092	-7.1%
2005	118,531,353	13.6%
2006	133,134,219	12.3%
2007	138,068,007	3.7%

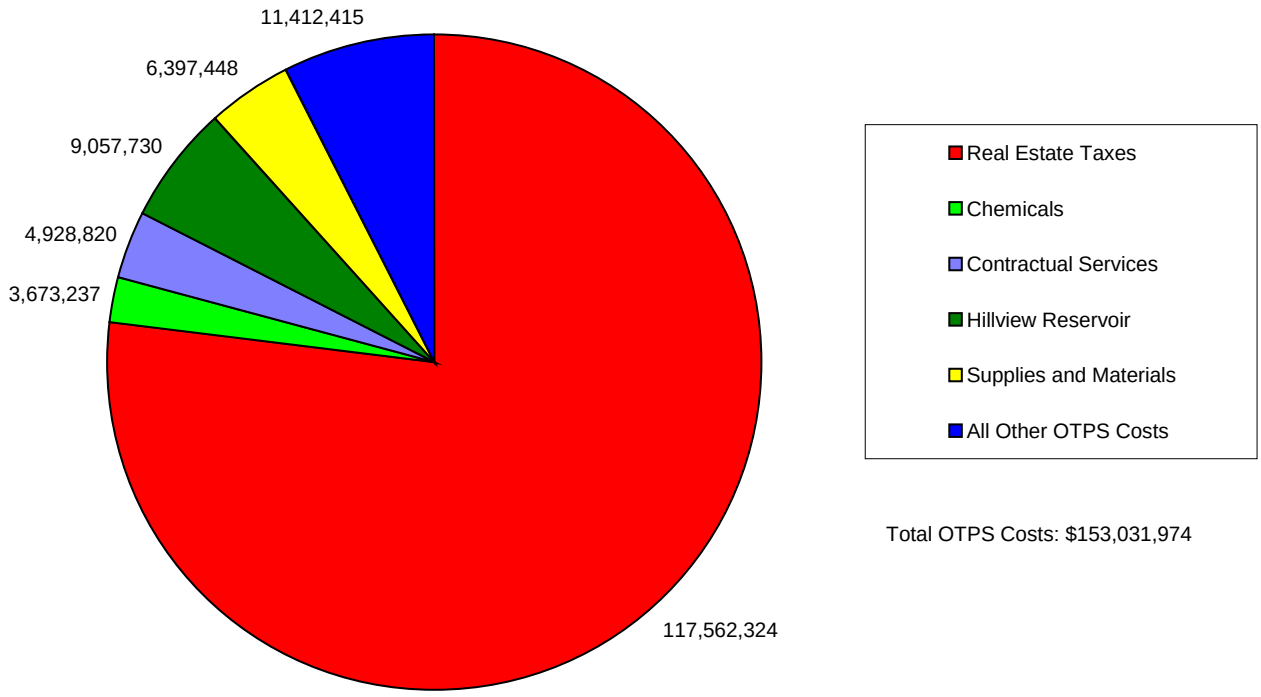
The average annual increase from 1992 to 2007 is 6.4%. The expenses in each of the above years include the estimated costs associated with Hillview Reservoir, which were approved by NYSDEC for inclusion in the cost of service in April 1997. In 1997, OTPS costs increased due to the beginning of the enhancements to the watershed protection program. Such enhancements were required pursuant to the Watershed Memorandum of Agreement between the City and upstate communities to protect water quality throughout the watershed. As noted previously, the decline in expenses in 2004 was primarily due to the completion of expenses related to the Watershed Memorandum of Agreement. The rate of increase from 2006 to 2007 was 3.7% due primarily to a smaller increase in property taxes compared to prior years. Such taxes have increased steadily each year and constituted about 76% of total OTPS costs in 2007. To protect water quality in the watershed, the City is required to significantly increase the number of acres of land that are either owned by the City or otherwise restricted in terms of land use. The annual increase in OTPS expenses is expected to continue in the future due to rising property taxes and increases in other costs.

Recent expenses and current and ongoing programs were considered in estimating the anticipated 2008 and 2009 OTPS expenses. The findings of the analysis are presented in the following categories:

1. Real Estate Taxes
2. Chemicals
3. Hillview Reservoir
4. Contractual Services
5. Rate Studies
6. Other OTPS Expenses
7. UV Facility

The analysis considered the historical experience in each of these categories together with current and expected future changes affecting these categories of costs so that such costs would be normalized to exclude unusual increases or decreases that may have affected recent experience. The expected 2009 components of OTPS costs may be found in Figure 3 on the following page.

Figure 3 Projected Fiscal Year 2009 Other Than Personal Services Costs



4.2.1.1 Real Estate Taxes

Real estate taxes have increased at the average annual rate of about 5.7% from 1993 to 2007. The rate of increase from 2002 to 2007 is much higher, averaging 8.1% per year. Historical property tax payments are shown in the table below.

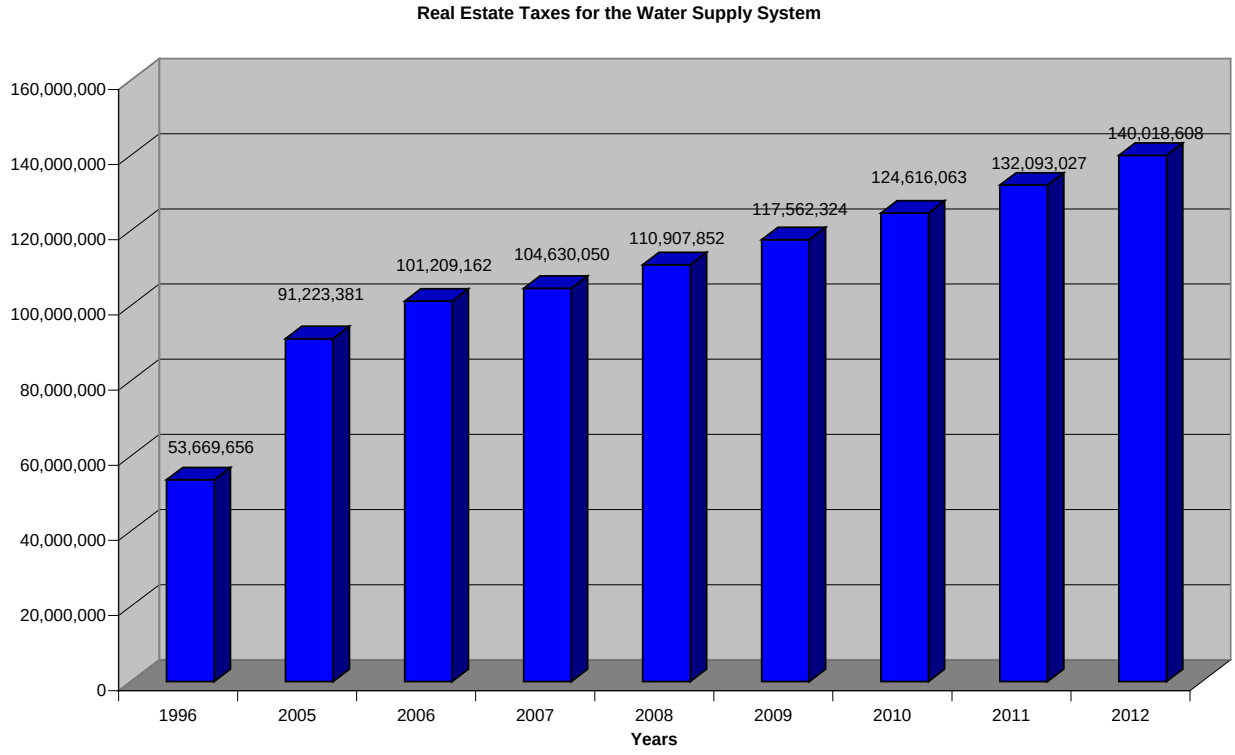
Fiscal Year	Property Tax Expense ($)	Annual Increase (%)
1992	45,523,172	
1993	47,168,247	3.6%
1994	49,778,593	5.5%
1995	52,415,756	5.3%
1996	53,669,656	2.4%
1997	54,995,223	2.5%
1998	57,165,589	3.9%
1999	60,277,681	5.4%
2000	63,127,985	4.7%
2001	66,579,445	5.5%
2002	70,729,378	6.2%
2003	77,703,889	9.9%
2004	84,239,835	8.4%
2005	91,223,381	8.3%
2006	101,209,162	10.9%
2007	104,630,050	3.4%

The increase in recent years reflects a combination of both increases in the local tax rates applied to water supply properties as well as taxes on newly purchased properties. Data prepared by DEP show that that the annual increases in the real estate tax rates are the primary cause of increasing property taxes.

The projected real estate taxes for 2008 and 2009 are $110.9 million and $117.6 million, respectively, based on estimates prepared by DEP. Both estimates reflect an allowance for the expected increases in property tax rates as well as the taxes on newly-purchased land and for newly-acquired hydroelectric facilities. In 2007, DEP began paying property taxes on the hydroelectric facilities at Grahamsville and Neversink. Since the revenues associated with these facilities will be considered in computing the cost of water supply service, the operating expenses, including property taxes, must also be considered in the computations.

A 6.0% annual rate of increase in the property taxes is assumed for 2010 through 2012. While the current rate adoption by the Board will only address 2009, projections for 2010 through 2012 are shown for illustrative purposes. Real estate taxes payable to upstate communities for watershed properties are summarized on the following page.

Figure 4 Real Estate Taxes



Real Estate Taxes for the years 2008 through 2012 are projected using assumed increases in tax rates and taxes on newly-purchased properties.

4.2.1.2 Chemicals

Several chemicals are used by the City to treat the water supply, including chlorine that is used for disinfection and other purposes. This part of the Report addresses the chemicals that are used in the watershed except for the chemicals used at the Hillview Reservoir, which are discussed separately. As illustrated by the following summary table, the total cost of chemicals can vary from year to year.

Fiscal Year	Chemical Costs ($)	Annual Rate of Change (%)	Chemical Costs as a % of Total OTPS
1992	2,625,000		
1993	2,351,440	-10.4%	4.1%
1994	2,766,850	17.7%	4.6%
1995	2,975,135	7.5%	4.6%
1996	3,463,427	16.4%	5.0%
1997	2,443,920	-29.4%	3.0%
1998	2,246,704	-8.1%	2.7%
1999	1,927,052	-14.2%	2.3%
2000	1,805,752	-6.3%	1.9%
2001	2,160,223	19.6%	2.1%
2002	2,087,173	-3.4%	2.0%
2003	1,716,477	-17.8%	1.5%
2004	2,047,475	19.3%	2.0%
2005	2,220,258	8.4%	1.9%
2006	3,290,291	48.2%	2.5%
2007	3,462,379	5.2%	2.5%

The cost of chemicals for water supply in a given year is dependent upon both the quantities of chemicals that must be used as well as the unit price per ton. The quantities of chemicals used and the applicable unit prices in recent years are summarized in the following tables.

Historical Chemical Use, in Tons

Fiscal Year	Chlorine	Fluoride
1992	3,313	2,741
1993	2,858	2,605
1994	3,192	2,696
1995	3,326	2,642
1996	4,601	2,646
1997	3,960	2,610
1998	3,245	2,516
1999	3,011	2,532
2000	2,847	2,496

2001	2,939	2,331
2002	3,325	2,178
2003	3,146	1,577
2004	3,109	1,451
2005	2,777	1,892
2006	2,854	1,731
2007	3,149	1,392

Historical Unit Prices, per Ton

Fiscal Year	Chlorine ($)[2]	Fluoride ($)[3]
1994	176.80, 223.60	797.00
1995	248.20, 327.40	797.00
1996	248.20, 327.40	797.00
1997	278.51	506.14
1998	300.00	506.00
1999	234.00	483.00
2000	233.44	457.25
2001	317.00	457.25
2002	317.00	457.25, 493.76
2003	298.07	493.71
2004	428.07	493.71
2005	448.07	515.81
2006	695.05	796.16, 934.78
2007	686.30	934.78

The projected rate of increase in chemical costs in 2008 through 2012 is 3% per year. Recently, certain chemical costs have increased significantly in the northeast U.S. It is not certain at this time whether prices will stay the same, increase or decline in future periods. Chemical addition that solely benefits in-City customers is excluded from this cost of service analysis.

4.2.1.3 Operating Expenses Associated with Hillview Reservoir

The principal expenses incurred in the operation of Hillview Reservoir are associated with chemical addition and security. Caustic soda is added for water quality purposes to adjust the pH of the water entering Hillview. Orthophosphate is added for lead and copper control. In 2007, the costs for caustic soda and orthophosphate were $4.0 million and $3.1 million, respectively. The expenses other than labor that are attributable to Hillview Reservoir in Tables 4A and 4B in the Appendix to this Report are exclusive of property taxes which are included in the separate property tax line item that covers all water supply properties. Labor expenses include day-to-day

[2] Chlorine prices for 1994 through 1996 reflect two different delivery zones within the water supply system. Approximately 80% to 90% of all chlorine that was used each year was within the lower priced delivery zone.
[3] Fluoride prices for 2002 and 2006 reflect two different delivery zones within the water supply system.

operations, maintenance, and security. Security costs, in terms of both labor and non-labor expenses, have risen significantly in recent years as initiatives to protect the water supply system have been implemented. In 2009 through 2012, both labor costs and OTPS expenses at Hillview are assumed to increase 3% annually. Future increases at Hillview could be significantly affected by fluctuations in the price of chemicals, ongoing discussions regarding the potential covering of the Reservoir and other factors.

4.2.1.4 Contractual Services

The City was required by the Watershed Memorandum of Agreement to fund a number of capital projects and operating programs to support the protection of the watershed. Programs to be paid from operating funds began in 1997 and most of the operating expenses were classified under the Contractual Services line item. Beginning in 2004 the expenses related to the Watershed Memorandum of Agreement declined as the programs called for in the Agreement ended or were scaled down. The assumption of reduced future expenses for Agreement-related programs is reflected in the contractual services line item of the projected OTPS expenses. Beginning in 2005, Contractual Services also included certain costs associated with the development and implementation of environmental health and safety programs for the water supply system. Contractual Services expenses are assumed to increase at the rate of 3% annually.

4.2.1.5 Rate Studies

The annual costs associated with performing rate studies and related work for establishing the regulated rate for upstate customers, including, but not limited to, the distribution of documents, posting of notices and the rate hearing, are estimated at $75,000 per year.

4.2.1.6 Other OTPS Expenses

Other categories of expense are assumed to increase at the rate of 3% per year in 2008 through 2012. This rate of increase is consistent with the 3% annual increase in such costs which is assumed by the Authority and the Board in their forecasts of future expenses other than property taxes.

4.2.1.7 UV Facility

It is currently anticipated that the UV Facility will be completed by October 29, 2012 (Fiscal Year 2013). The projected costs of the Water Supply System in 2012 include allowances for personal services and OTPS expenses of the UV Facility although it is uncertain at this time whether operating expenses will be incurred beginning in 2012 or 2013.

4.2.2 Debt Service/Capital Improvement Financing

Capital improvements to the Water Supply System are financed principally through the proceeds from the sale of bonds. A portion of the capital improvements are financed on a cash basis using funds from revenues of the System. This part of the Report describes the methodology that is used to develop the annual debt service requirements (i.e., the principal and interest payments on bonds) of the water supply system as well as the annual amounts raised in cash for use in the CIP.

Table 5A in the Appendix provides a summary of the debt service/cash-financed construction/bond defeasance payments for fiscal years 2005 through 2007, as well as the projections for 2008 through 2012. These amounts are then reflected in Line 2 of Tables 1A and 1B which summarize the annual cost of water supply service and the regulated rate. Line 3 of Tables 1A and 1B presents the water supply portion of the amounts used to defease Authority bonds. The costs and benefits of defeasance are described herein.

4.2.2.1 Historical Investments in the Water Supply System

Prior to the formation of the Authority, the development, expansion and upgrading of the Water Supply System was carried out by the City with funds that were typically provided by the proceeds of General Obligation (G.O.) bonds issued by the City. The last major reservoir was completed in 1967, nearly 40 years ago. Within the last twenty years, significant investments have been made throughout the System principally through the proceeds of bonds issued by the Authority. A summary of a portion of the capital investments from fiscal year 1987 to the Spring 2007 is shown in the table below. The table is presented for informational purposes only; the capital costs are reflected in debt service on bonds of the Authority and NYSEFC which is a component of the cost of service and regulated rate.

Water Supply Capital Expenditures -Post 1986
All amounts in $000

	TOTAL
Filtration Avoidance Determination (FAD)	$ 371,364
Land Acquisition in the Watershed	$ 142,265
WW Treatment Plant Upgrades in Watershed Area	$ 201,394
Croton Filtration Plant Siting Expenditures thru FY 2004	$ 95,750
Hillview Reservoir Cover	$ 39,111
Work-in-Progress (Other Than Those Programs Listed Above)	$ 462,359
Completed Contracts (Other Than the WWTPs Listed Above)	$ 176,188
Total - Original Cost	**$ 1,488,431**

With regard to the preceding table, improvements to upstate wastewater treatment plants that are City-owned total approximately $201 million and are listed in the third row of the table while improvements to wastewater treatment plants that are not City-owned are included within the $371 million in FAD costs in the first row of the table. Costs for the Croton filtration plant prior to the approval of the in-City site are included in the table and are allocated to all water supply customers; costs incurred following the approval of the site are not included. Other investments that are either complete or in progress include improvements to: dams; reservoirs; reservoir roads and bridges; agricultural programs (i.e., pollution prevention for watershed protection); security and other capital needs including the Rondout-West Branch Tunnel investigations. Land purchases, improvements to wastewater treatment plants and other capital investments and operating expenses have been instrumental in maintaining the quality and reliability of the System including the avoidance of filtration for the Catskill and Delaware Systems.

4.2.2.2 Debt Service Related to the Water Supply System

Authority Bonds

Debt service on Authority bonds is computed based on the total net debt service payable for the Water and Wastewater System of the City in each year times the percentage attributable to the water supply portion of the capital improvements that have historically been financed with the proceeds of Authority and NYSEFC bonds. This approach provides benefits to all ratepayers resulting from the refundings of previously-issued bonds that were made to take advantage of the favorable interest rate environment in recent years. It also incorporates the impacts of the defeasance of certain future debt service obligations of the Authority.

The methodology for allocating debt service to the Water Supply System begins with the calculation of the percentage of the capital investments since 1986 that are attributable to the System versus other components of the water and sewer system of the City. Since improvements have been financed with the proceeds of both Authority bonds and bonds issued by NYSEFC, Tables 5C and 5D in the Appendix were prepared to illustrate the estimated proceeds of each bond issue and the upstate portion of such proceeds for Authority and EFC bonds, respectively. Since the Water Supply System percentage share will change from year to year, a percentage is computed in each year for 2007 through 2009. The computed percentage for 2009 is also used for 2010 through 2012.

Table 5B illustrates the current projections of debt service on outstanding bonds and anticipated future bonds of the Authority and NYSEFC for the Projection Period. Authority debt service is shown as First Resolution and Second Resolution. The Second Resolution debt of the Authority is subordinate to the First Resolution debt of the Authority. Table 5B also presents the estimated interest on Commercial Paper shown as Interest on Short-Term Debt. The Authority initially finances capital improvements through the proceeds of short-term Commercial Paper sales and then redeems the Commercial Paper with the proceeds of long-term bonds. Cash-financed construction is discussed in 4.2.2.3. Interest earnings on available funds (the Debt Service Fund, the Debt Service Reserve Fund, the Construction Fund and the Subordinate Debt Service Fund)

together with Authority expenses related to debt collectively form a net offset to a portion of the debt service. Authority expenses related to debt include administrative expenses charged by NYSEFC for the low-interest loan program, swap payments, arbitrage rebate payments and other expenses.

The water supply share of debt service and net offsets are computed by multiplying the System-wide totals for each category times the applicable percentage in each year to reflect, as applicable: 1) water supply capital costs funded through Authority bond proceeds as a percentage of total capital costs funded through Authority bond proceeds; 2) water supply capital costs funded through NYSEFC bond proceeds as a percentage of total capital costs funded through NYSEFC bond proceeds; and 3) water supply capital costs funded through both NYSEFC and Authority bond proceeds as a percentage of total capital costs funded through NYSEFC and Authority bond proceeds.

General Obligation (G.O.) Bonds

Tables 5E through 5I in the Appendix illustrate the estimated annual principal and interest payments on general obligation bonds of the City that were issued from 1981 through 1985 and whose proceeds were used, in part, for upstate facilities.

The methodology for computing debt service on outstanding G.O. bonds of the City issued during the above period remains the same as used in prior reports regarding the cost of water supply service and the regulated rate. The debt service figures used in computing the cost of service were based on an analysis of each outstanding G.O. bond issue of the City. Within the total debt service for each G.O. bond issue, there are schedules of maturity sub-divided according to 'periods of probable usefulness' (PPU), which are set by local finance law. These PPU schedules allow bond proceeds to fund projects with differing terms of usefulness in a fair and equitable manner. In this way, projects with longer life spans would have debt repayment schedules over a longer time period that reflected their longer expected life, whereas proceeds used for short-term projects would be repaid in a shorter duration of time. Water supply projects followed the debt service schedule of the longest PPU contained with each series of bonds issued by the City.

To calculate the debt service for G.O. bonds, all expenditures related to facilities north of the City are identified. These expenditures are divided by the total amount of principal contained within the long-term PPU schedule of the bond issue. The resulting ratio is multiplied by the annual debt service for that particular PPU schedule to arrive at debt service attributable to water supply facilities. The impact of the refunding of bonds on annual debt service has not been factored into the calculation of the annual debt service amounts for the City G.O. debt from 1981 to 1985. Since the remaining G.O. debt service is relatively small and refundings of G.O. bonds resulted in both a reduction in debt service and an extension of the term for repaying debt service, the estimated original amortization schedule has been maintained for purposes of calculating the water supply cost of service and regulated rate.

4.2.2.3 Cash-Financed Construction

Portions of the capital improvements to the Water Supply System may be financed through available cash in lieu of the proceeds of Authority revenue bonds or NYSEFC bonds. The Authority deposited $20 million for cash-financed construction needs in 2007. No cash-financed construction deposits are expected to be made in 2008. The deposits for cash-financed construction in future years are expected to be $90 million per year in 2009, $100 million in 2010, $80 million in 2011 and $100 million in 2012. Line 8 of Table 5B reflects the cash-financed capital assumptions identified above. The projected amounts for each year may increase or decrease in the future. Line 18 of Table 5B shows the upstate water supply share of such costs. The upstate share is based on the total cash-financed construction amount in each year times the water supply capital costs funded through both NYSEFC and Authority bond proceeds as a percentage of total capital costs funded through NYSEFC and Authority bond proceeds. The Board and the Authority may also decide to instead use the cash-financed allowance for the defeasance of outstanding bonds with a resulting reduction in future debt service based on the effects of the defeasance.

4.2.2.4 Cash Used for the Defeasance of Bonds

In 2005 and 2006, cash from the water and sewer system was used to pay future debt service in advance of the years in which such debt service was payable. The debt service on outstanding bonds of the Authority as illustrated in Table 5B in the Appendix is net of the prepayment amounts. Since all water supply customers share in the benefit of lower future debt service due to the defeasance, all water supply customers should share in the costs of the defeasance. The amounts used for defeasance in 2005 and 2006 are presented in Table 5J together with the calculation of the upstate water supply system share of such amounts. At the time of this Report, there were no plans for the defeasance of additional debt in 2008 or during the period of 2009 through 2012. However, as noted in 4.2.2.3, the Board and Authority may decide in the future to use part or all of the planned Cash-Financed Construction amounts for the defeasance of debt.

4.2.2.5 Ongoing and Future Capital Improvements

Ongoing capital improvements in the System to be funded through the proceeds of bonds in 2008 through 2012 include: rehabilitation of the Gilboa Dam; the UV Facility; Hillview cover-related work; purchases of land; upgrades to wastewater treatment plants in the watershed; reconstruction of other water supply infrastructure; the Dependability Program; and filtration avoidance measures north of the City.

4.2.2.6 Capital Cost Summary

While the debt service attributable to the bonds of the Authority is increasing as additional capital improvements are made, the debt service on bonds of the City is gradually declining. There will be an overall net increase in debt service/capital costs in the upcoming years to reflect the debt service for capital improvements being funded through the proceeds of Authority bonds and cash-financed construction. Table 5A summarizes the historical and expected future annual costs attributable to debt service and cash-financed construction.

4.2.3 Judgments and Claims

Judgments and claims represent the amount of judgments rendered against the System or claims paid by the City for water supply-related matters in upstate areas. Actual and projected judgments and claims are illustrated in Table 6 in the Appendix. There are years in which no judgments or claims were paid in the upstate area. Payments made in other years (except for 2007) have ranged from $1,834 in 1999 to $536,000 in 1997. No payments were identified for 2005 or 2006. However, a payment of about $5.5 million was made in 2007 to settle litigation relating to the Shandaken Tunnel. There may be additional expenses related to this matter. The cost of service analysis assumes that the fourteen year (1995 through 2007) average of $459,244 will provide an allowance for judgments and claims in future years.

4.2.4 Miscellaneous Revenue

This category includes revenues received from upstate sources that can be used to offset the total cost of supplying water to both in-City and upstate customers. As indicated in Table 7 in the Appendix, miscellaneous revenues are derived from hydropower generated at upstate dams and from miscellaneous charges for permit use and related services provided in the water supply system. In addition, miscellaneous revenues can include tax refunds when such refunds are made.

Miscellaneous revenues have been inconsistent over the years, declining in some years and increasing in others. Hydropower revenues are shown for 2005 through 2007. Hydropower revenues in future years may differ from the historical experience due to the expiration of previous contracts between DEP and hydropower system operators. The City took ownership of the Grahamsville and Neversink hydroelectric facilities in October 2006 which may result in an increase in annual revenues from each facility as well as increased costs for capital improvements and operation and maintenance expenses including property taxes. The City also receives a relatively small amount of revenues from the operator of the West Delaware hydroelectric facility. No net revenues are considered in the calculations for the Ashokan and Kensico facilities. The estimated net revenues from hydropower facilities are presented in Table 14 of this Report. In 2008 and 2009, it is expected that such net revenues will be about $8.8 million and $9.0 million, respectively, which will be applied as a credit towards the cost of water supply service.

For purposes of estimating future miscellaneous revenues during the Projection Period, the fourteen-year average (1995 through 2007) of permit/services revenues has been used. DEP has indicated that there are matters pending regarding potential tax refunds but no imminent payments so the projections assume no refunds in future years at this time.

4.2.5 Personal Service Costs

Personal services expenses directly allocable to water supply services are shown in Tables 8 and 9 of the Appendix. These expenses represent salary, pension, and fringe benefit costs associated with all BWS field personnel working in water supply facilities located north of the City as well

as support and administrative personnel. Field personnel, for purposes of this report, are defined as DEP personnel with non-supervisory or non-management titles, working directly with the water supply system. Field personnel thus do not include personnel classified as management and/or administrative support. Irrespective of the "field" or "administrative support" designation, these costs are all entirely related to water supply. The methodology for classifying personnel between field personnel and support/administrative categories of cost is consistent with the City's indirect cost plan for federal and state grant programs. Prior indirect cost plans of the City which use this methodology have been approved by the NYSDEC and the federal government. Personal Services costs in Tables 8 and 9 are categorized based on location. The categories vary somewhat from previous year reports as locations have been consolidated or eliminated from a budgetary perspective. This does not necessarily indicate a physical change in location of the associated salaries.

The source documents for the above referenced costs include the position descriptions for the BWS personnel and the Revenue and Claims Reimbursement Reporting System which identified salary and related costs by employee name and work location. Pension and fringe benefit factors reflect city-wide percentages and were computed at 29.58% in 2005, 28.5% in 2006 and 35.0% of direct salary in 2007. Recent increases in costs for pension and fringe benefits have resulted in an increase in the pension and fringe benefit factor to 45% of direct salary in the current year (2008). This represents the largest factor affecting labor costs in 2008 compared to 2007. An allowance for salary and fringe benefit expenses of 45% of direct salary per year is included for 2009 through 2012 together with a 3% per year increase in labor costs.

4.3 Calculation of Allocation Percentages - Step B

The remaining elements of the cost of service, i.e., those not directly or fully allocable to facilities north of the City, must undergo one or a series of allocations before an appropriate assignment of costs can be made. Accordingly, allocation percentages are developed for the purpose of apportioning a fair share of costs incurred by one bureau, unit or location to the benefiting entity. For example, DEP incurs many costs in support of the BWS. The DEP cost burden must then be shared by the BWS through the use of an allocation percentage. Within the BWS, costs are also shared among water supply and wastewater employees. The allocation factors presented in Table 10 specifically exclude employees working within the City in the wastewater system. The computation of the allocation percentages used in this report is presented in Table 10 of the Appendix.

4.4 Allocation of Department of Environmental Protection Costs - Step C

Expenses of DEP that are covered by Step C represent personnel and other expenditures of the Department that are allocable to management, administration and support services needed to operate and maintain the water supply facilities located north of the City. Again, City water distribution system costs are specifically excluded.

Table 11 in the Appendix illustrates allocated personal services costs, while Table 12 presents the allocation of a portion of DEP OTPS costs to facilities north of the City. Examples of the services provided include motor vehicles, garage facilities, data processing and personnel recruiting and management. The total costs to be allocated are multiplied by headcount allocation percentages to obtain the amount that may be attributed to water supply within the BWS. The amounts attributable to water supply are then subject to an allocation percentage to relate the costs to facilities located north of the City.

Allocated DEP personal services costs in 2009 through 2012 reflect the same assumptions identified in 4.2.5. OTPS costs are assumed to increase at an annual rate of 3%.

4.5 Allocation of City Central Service Costs - Step D

The City incurs costs that must be distributed among all of its operating entities. Such costs include planning, budgeting, accounting, purchasing, legal services and other related activities. A cost allocation plan is developed to distribute the City-wide costs. The plan is subject to review by the federal government in connection with federal aid received by the City. After the City-wide allocation process, the DEP portion of the City's costs is divided further between non-utility and water and sewer utility components. The water and sewer utility-related costs are then distributed among the various Department water and sewer functions using head count allocation percentages. The BWS is one of the functions to which costs are allocated. This cost is then further allocated to relate to facilities located north of New York City. Central Service costs were $1,173,045 in 2007. Overall City support service costs to DEP are expected to be relatively constant in future years. Thus, such costs attributable to water supply are assumed to be $1,173,045 in 2008 and each year thereafter.

4.6 Cost of Service - Step E

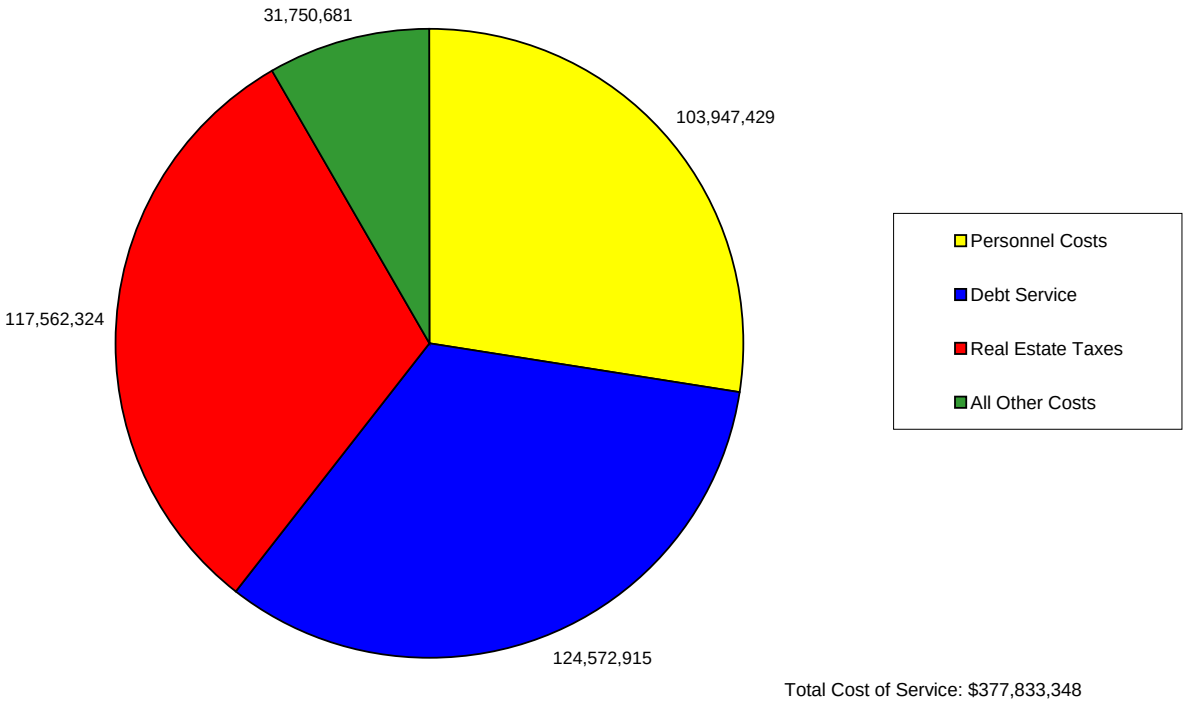
The calculation of the total cost of water supply and the cost of water supply attributable to upstate customers are presented for 2005 through 2007 in Table 1A and for 2007 through 2012 in Table 1B. Additional tables are referenced to support the various categories of costs and offsetting revenues. These additional tables provide a detailed breakdown of the components of each step of the cost of service analysis and are included in the Appendix.

The total cost of water supply as presented in Table 1B is $331,576,285 for 2008 and $377,833,348 for 2009. Of this amount, $234,799,546 in 2008 and $277,604,889 in 2009, or about 71% and 74%, respectively, of the total in each year, is for debt service/capital costs and direct out-of-pocket expenses (other than personal services costs) associated with operating and maintaining the water supply facilities located north of the City. As illustrated in Table 4B, the largest item of expense for the supply of water is real estate taxes paid to upstate communities for watershed properties. Upstate taxes will represent approximately 31% of all water supply costs in 2009. Direct salary, pension costs and fringe benefits for personnel directly and indirectly related to the water supply facilities located north of the City account for about $95.7 million in

anticipated 2009 system expenditures or about 25% of all costs. The remaining costs include allocated management, administrative and support services.

The chart on the following page illustrates the breakdown of the total cost of service for the 2009 rate year.

Figure 5 Projected Fiscal Year 2009 Cost of Service Components



4.7 Calculation of the Regulated Rate - Step F

Table 1B presents the calculation of the projected regulated rate and upstate cost of service. The regulated rate per million gallons of water use is computed by dividing the total cost of service, shown on Line 13 of Table 1B, by total water consumption shown on Line 14. The resulting unit rate, shown on Line 15, is $776.66 per MG in 2008 and $900.31 per MG in 2009.

The cost of service attributable to upstate customers is calculated by multiplying the unit rate by the average annual upstate water consumption shown on Line 16 of Table 1B. The resulting upstate cost is approximately $38.4 million for fiscal year 2009. The remaining cost of water supply, approximately $339.4 million would be recoverable from in-City water customers through rates and charges.

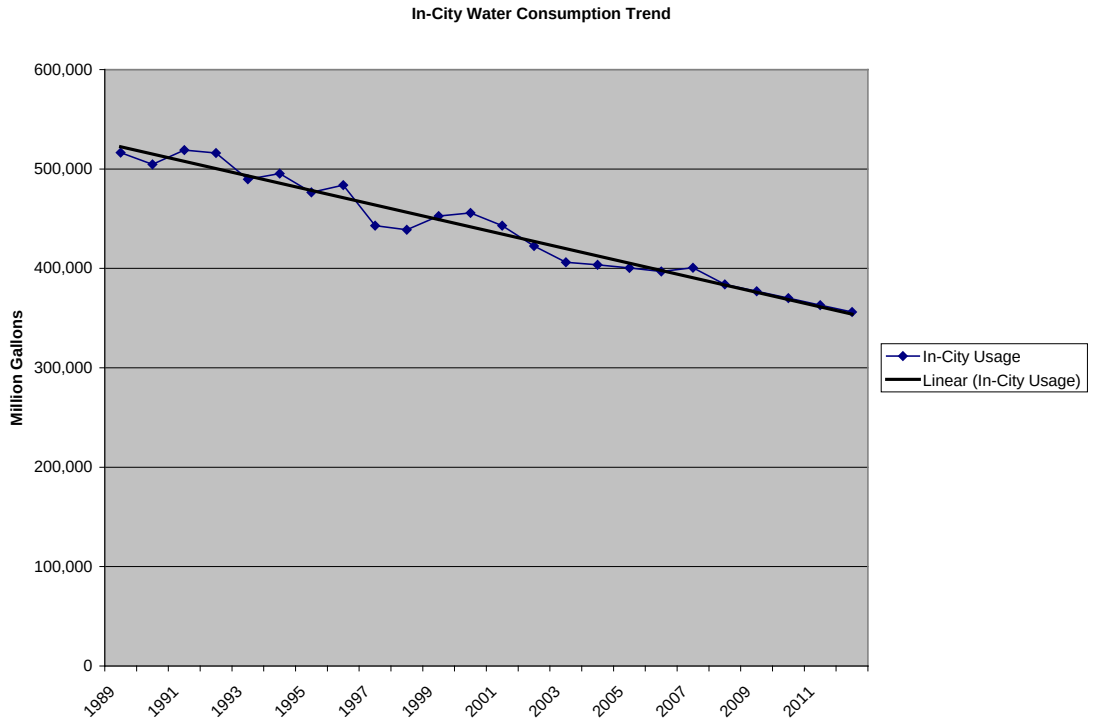
The water consumption used in calculating the regulated rate is based on a calculated decline in demand based on the results of a regression analysis. The regression analysis was requested by upstate customers in the 1990s. Water consumption data is presented in Table 13 of the Appendix. The table presents water consumption data beginning in 1985. However, given the many changes that have occurred due to metering within the City, the availability of water conserving fixtures and other factors, a 10-year regression analysis is used in estimating future water demand by both in-City and upstate customers.

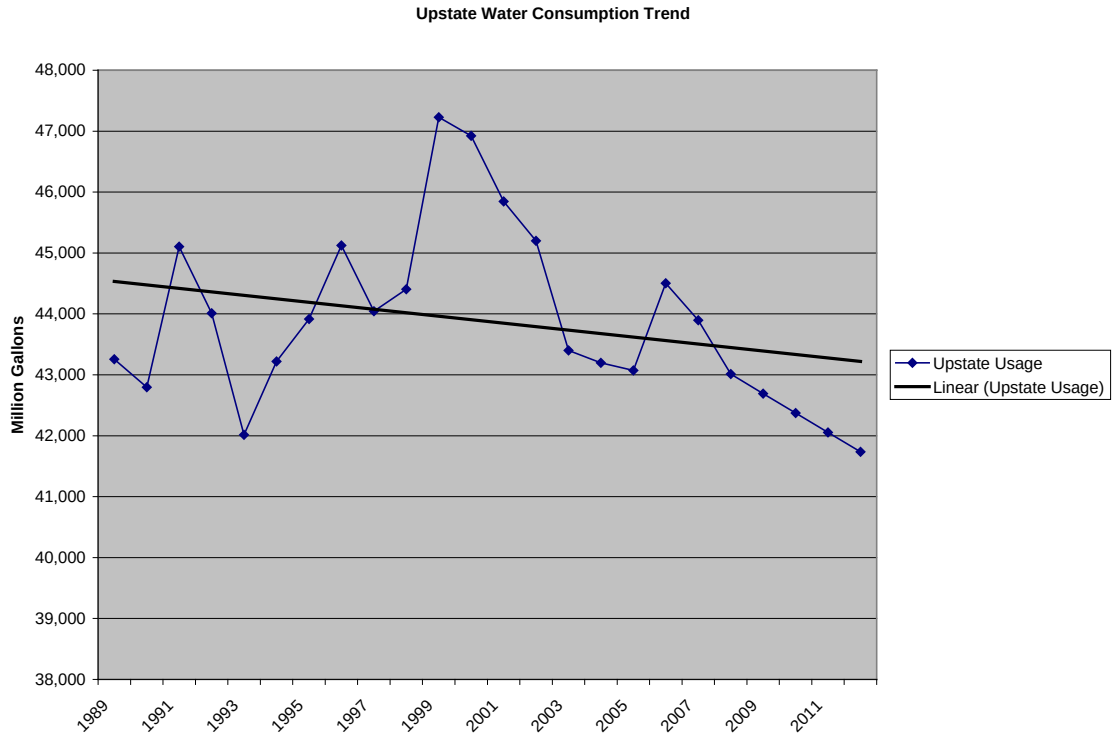
The results of the regression analysis show a gradually declining annual consumption by both in-City and upstate customers. The projected system-wide demand is used in developing the projected unit rate.

The results of the analyses provide an anticipated water consumption of 426,925 MG in 2008 and 419,669 MG in 2009. The upstate share of total water consumption using the regression analysis is estimated to be 43,012 MG in 2008 and 42,693 MG in 2009.

On the following page, a line graph illustrates the projected consumption for both in-City and upstate customers.

Figure 6 Comparison of Water System Consumption





4.8 Additional Issues Relating to the Cost of Service and the Regulated Rate

There are other issues relevant to the Board's deliberations on the establishment of a regulated rate for 2009. These issues are summarized herein.

4.8.1 Operating Risks

The cost of service computations are presented on the cash basis methodology as required by NYSDEC. The cost of service analysis and regulated rate as proposed for 2009 reflect no allowance for the risks being borne by the City as the owner and operator of the water system.

4.8.2 Water Conservation Initiatives

The Department has invested and continues to invest substantial amounts of money to meter all properties within the City. Through the toilet rebate program, DEP also assisted customers in the removal of old toilets and the installation of new low-flow toilets that require significantly less water. Both the meter installation and the toilet retrofit programs have produced savings in water use and will likely provide a significant long-term reduction in water use. The universal metering program brings the City into conformance with accepted industry practice. The toilet rebate program, while not unique, went beyond standard practice. Within the next few months, DEP expects to begin replacing a substantial number of meters within the City and to install an automated meter reading system. Examples of other programs currently being used by DEP include the following:

- Sonar Leak Detection Program
- Meter Slippage Testing
- Hydrant Locking Devices
- Residential Water Survey Program
- Water Conservation Classes for Building Managers (listed on the DEP website)
- School Programs on Water Conservation

The Board has also provided incentives for buildings to install comprehensive water reuse systems. The cost of service and regulated rate, as presented herein, do not include the costs of the toilet rebate program, nor do they include the funds invested in metering customers or the incentives to encourage reuse.

The conservation investments by the City will help to reduce the need to develop new supplies of water in the future (see the Dependability Program discussion in 1.3.3 of the report regarding alternative supplies).

4.8.3 Upstate Wastewater Treatment Plants

In addition to non-City owned plants, the City owns and operates wastewater treatment plants in the watershed and is responsible for capital improvements in those facilities. Given the absence of a mechanism to recover the operating and capital costs of these facilities, such costs are included within the cost of water supply service and the calculation of the regulated rate.

5.0 Impacts on Customers of the Proposed Regulated Rate

5.1 Customer Impacts

The proposed regulated rate for 2009 is $900.31 per MG. The current estimate of the unit cost of service for 2008 is $776.66, which is lower than the rate of $798.62 per MG that was calculated approximately one year ago based on information available at that time. The current estimate of the unit cost of service for 2008 will change by the end of the fiscal year, based on actual costs incurred and actual water consumption by customers. Figure 7 following this page outlines the anticipated percentage change in the unit cost of water supply, and the portions of the change that are attributable to increases or decreases in the cost of service and water consumption. If consumption continues to decline, the unit rate for water supply will have to increase in order to recover the estimated cost of service.

The proposed regulated rate for Fiscal Year 2009 represents an increase of $101.69 per MG from the current unit rate of $798.62, or a 12.7% increase in the current rate. Additional rate increases are anticipated in future years based on the need to protect the water supply for all customers and to avoid the very costly possibility of having to filter Catskill and Delaware water. Future changes in rates are significantly dependent upon whether or not the ongoing trend in consumption continues as well as debt service for capital improvements and the costs of watershed protection. The impact on a typical single family homeowner of the proposed increase in the unit rate would be modest. The increase in charges attributable to a single family residence using 100,000 gallons of water per year would be $10.17 for the entire year or about three cents per day.

The potential impact of the proposed revisions to the regulated rate on the actual rate schedules for upstate customers will depend to a large extent on the upstate suppliers' cost of purchased water in relation to the total cost of service experienced by these suppliers. To illustrate the potential effects on the overall charges to customers, Table 2 presents the rate structures of several upstate communities that purchase water from the City. The annual single family residential water charge is computed for each community using the 100,000 gallon per year allowance. Table 3 illustrates the computed single family charge and the estimated percentage increase in that charge that would occur with the proposed regulated rate for 2009.

The rates and charges of the Board that have been assessed to upstate customers for water supply service have generally been less than the actual cost to the City. Table 15 of the Appendix illustrates the charges to upstate customers versus the computed cost to the City of serving those customers.

Figure 7 Impact of Cost of Service and Consumption on Unit Rate

New York City Water Board
Cost of Supplying Water to Upstate Customers

	Projected				
	2008	***2009***	***2010***	***2011***	***2012***
Percentage Change in the Unit Rate due to Increase in Cost of Service	8.0%	14.0%	6.8%	8.3%	12.6%
Percentage Change in the Unit Rate due to Fluctuations in Consumption	4.3%	2.0%	1.9%	1.9%	2.1%
Percentage Change in the Calculated Unit Rate for Water Supply	12.2%	15.9%	8.7%	10.2%	14.6%

Report on the Cost of Supplying Water to Upstate Customers for the 2009 Rate Year

Appendices

Supporting Calculations for the Cost of Service and the Regulated Rate

Table 1A Historical Cost of Service

No.	Description		F.Y. 2005	F.Y. 2006	F.Y. 2007
	Bureau of Water Supply Direct				
	Costs for Facilities North of New York City				
1	Other Than Personal Services	- $	118,531,383	133,134,219	138,068,007
2	Debt Service / Capital Costs	- $	57,626,182	62,907,868	79,464,948
3	Cash Used for the Defeasance of Debt	- $	17,848,796	5,456,942	0
4	Judgment and Claims	- $	0	0	5,513,361
5	Less Miscellaneous Revenue	- $	(3,184,157)	(3,701,188)	(7,287,556)
	Personal Services				
6	Field Personnel	- $	44,545,262	48,351,832	65,303,055
7	Support and Administrative Personnel	- $	16,012,108	17,096,666	13,915,776
8	Total Costs Directly Related to Facilities North of NYC	- $	251,379,574	263,246,340	294,977,591
	Upstate Share of NYC DEP Costs				
9	Personal Services	- $	5,088,081	5,790,422	6,840,745
10	Other Than Personal Services	- $	4,920,417	5,071,099	4,563,977
11	Total NYC DEP Costs Allocated to Facilities North of NYC	- $	10,008,498	10,861,521	11,404,722
12	***Upstate Share of City Central Service Costs*** [(1)]		1,091,402	1,139,911	1,173,045
13	Total Costs Related to Facilities North of NYC	- $	262,479,474	275,247,772	307,555,358
	Cost of Service Rate				
14	System Usage	- MG	443,445	441,477	444,553
15	Unit Rate (Ln 13/Ln 14)	$/MG	591.91	623.47	691.83
16	Upstate New York Usage	- MG	43,072	44,504	43,895
17	Total Upstate Cost (Ln 15 x Ln 16)	- $	25,494,897	27,746,832	30,368,104

Notes:
(1) Based on factors allocating a portion of central city service costs.

Table 1B Cost of Service Projections

Line No.	Description		Actual F.Y. 2007	F.Y. 2008	Projected Years F.Y. 2009	F.Y. 2010	F.Y. 2011	F.Y. 2012
	Bureau of Water Supply Direct							
	Costs for Facilities North of New York City							
1	Other Than Personal Services	- $	138,068,007	145,346,591	153,031,974	161,147,553	169,718,212	199,870,299
2	Debt Service/Capital Costs	- $	79,464,948	89,452,955	124,572,915	139,212,501	160,812,188	175,636,813
3	Cash Used for the Defeasance of Debt	- $	0	0	0	0	0	0
4	Judgment and Claims	- $	5,513,361	0	459,244	459,244	459,244	459,244
5	Less Miscellaneous Revenue	- $	(7,287,556)	(10,017,035)	(10,193,182)	(10,372,851)	(10,556,114)	(10,743,043)
	Personal Services							
6	Field Personnel	- $	65,303,055	76,579,199	78,876,575	81,242,873	83,680,159	92,790,563
7	Support and Administrative Personnel	- $	13,915,776	16,318,670	16,808,230	17,312,476	17,831,851	18,366,806
8	Total Costs Directly Related to Facilities North of NYC	- $	294,977,591	317,680,379	363,555,756	389,001,796	421,945,538	476,380,683
	Upstate Share of NYCDEP Costs							
9	Personal Services	- $	6,840,745	8,021,965	8,262,624	8,510,502	8,765,817	9,028,792
10	Other Than Personal Services	- $	4,563,977	4,700,896	4,841,923	4,987,181	5,136,796	5,290,900
11	Total NYCDEP Costs Allocated to Facilities North of NYC	- $	11,404,722	12,722,861	13,104,547	13,497,683	13,902,614	14,319,692
12	***Upstate Share of City Central Service Costs***		1,173,045	1,173,045	1,173,045	1,173,045	1,173,045	1,173,045
13	Total Costs Related to Facilities North of NYC	- $	307,555,358	331,576,285	377,833,348	403,672,524	437,021,197	491,873,420
	Cost of Service Rate							
14	System Usage	- MG	444,553	426,925	419,669	412,413	405,158	397,902
15	Unit Rate (Ln 13/Ln 14) *	- $/MG	691.83	776.66	900.31	978.81	1,078.64	1,236.17
16	Upstate New York Usage	- MG	43,895	43,012	42,693	42,374	42,055	41,735
17	Total Upstate Cost (Ln 15 x Ln 16)	- $	30,368,104	33,405,738	38,436,879	41,475,613	45,361,952	51,592,015

Notes:

* Current rate for FY 2008 is $798.62 per million gallons

Table 2A Current Water Rates for Upstate New York Communities

	City of White Plains	Village of Scarsdale	New Rochelle United Water Company
Current Water Rates	$1.21/Ccf - 1st 50 Ccf $1.36/Ccf - Next 100 Ccf $1.52/Ccf - Next 200 Ccf $1.81/Ccf - Next 300 Ccf (Additional blocks for greater consumption) Plus fixed charge of $14.65 for residential meters, per 6 mths	$1.60/Ccf - 1st 50 Ccf (qtrly accts) or 700 Ccf (monthly accts); $5.60 for consumption greater than those amounts. Plus service charge based on meter size: $5.00/qtr for 5/8"; $7.00/qtr for 3/4"; etc.	$3.33/Ccf - 1st 12 Ccf used per qtr $3.17/Ccf - Next 360 Ccf $2.68/Ccf - Over 372 Ccf Minimum based on usage of 1,200 cf/qtr for 1/2" or 5/8" meter; 1,500 cf/qtr for 3/4" meter; 2,700 cf/qtr for 1" and 1 1/4" meter, etc.
Avg. Annual Residential Use (gal.)	100,000	100,000	100,000
Avg. Annual Residential Use (Ccf)	133.69	133.69	133.69
Avg. Residential Water Bill	$196	$238	$431

	Village of Mamaroneck	Town of Harrison	City of Mount Vernon
Current Water Rates	$2.06/Ccf Plus service charge based on meter size: $9.96/qtr for 5/8"; $11.85/qtr for 3/4"; etc.	$2.20/Ccf - 1st 66 Ccf $2.49/Ccf - Next 150 Ccf Service charge based on meter size: $9.96/qtr for 5/8"; $11.85/qtr for 3/4"; etc.	$1.60/Ccf - per quarter Minimum charge based on usage of 15 Ccf/qtr
Avg. Annual Residential Use (gal.)	100,000	100,000	100,000
Avg. Annual Residential Use (Ccf)	133.69	133.69	133.69
Avg. Residential Water Bill	$319	$338	$214

Notes:
These rates reflect the rate schedules of each community in March 2008.

Table 2B Current Water Rates for Upstate New York Communities

	Town of Carmel	City of Yonkers
Current Water Rates	$60.00 per 1,000 cf (Water District #1) $9.00 per 1,000 cf (Water District #2)	$1.15 / Ccf
Avg. Annual Residential Use (gal.)	100,000	100,000
Avg. Annual Residential Use (Ccf)	133.69	133.69
Avg. Residential Water Bill	$120 - $800	$154

	City of Newburgh	Village of Cornwall
Current Water Rates	$3.97 per 1,000 Gal Plus service charge based on meter size: $35.73/qtr for 5/8" Minimum Charge up to 9,000 gals $55.58/qtr for 3/4" Minimum Charge up to 14,000 gals	$7.25 per 1,000 G
Avg. Annual Residential Use (gal.)	100,000	100,000
Avg. Annual Residential Use (Ccf)	133.69	133.69
Avg. Residential Water Bill	$397	$725

Notes:
These rates reflect the rate schedules of each community in March 2008.

Table 3 Summary of Impacts on Upstate Customers

Water System Customer	Typical Single Family Charges	Increase Attributable to Proposed FY 2009 Regulated Rate	% Change to a Homeowner
City of White Plains	$196	$10.17	5.2%
Town of Scarsdale	$238	$10.17	4.3%
City of New Rochelle	$431	$10.17	2.4%
City of Yonkers	$154	$10.17	6.6%
Village of Mamaroneck	$319	$10.17	3.2%
Town of Harrison	$338	$10.17	3.0%
City of Mount Vernon	$214	$10.17	4.8%
Town of Carmel	$120 - $800	$10.17	1.3% - 8.5%
City of Newburgh	$397	$10.17	2.6%
Village of Cornwall	$725	$10.17	1.4%
New York City (adopted FY 2009 rate)	$309	--	--

Notes:

(1) The Typical Single Family Charge is based on the rate schedules of each community in March 2008, except the City of New York, as noted.

Table 4A Historical Upstate Other Than Personal Services Costs

Line No.	Description	F.Y.2005 $	F.Y.2006 $	F.Y.2007 $
	Budget			
1	Supplies and Materials - General	4,849,779	6,006,255	6,030,208
2	Automotive Supplies and Materials	16,950	21,816	32,688
3	Fuel Oil	1,846,347	1,899,529	1,962,501
4	Equipment - General	904,545	656,690	555,096
5	Telecommunications Equipment	213,421	47,686	51,087
6	Office Equipment	73,462	71,979	102,408
7	Contractual Services - General	4,566,331	5,029,412	4,645,886
8	Telephone and Other Communications	998,978	1,158,397	815,034
9	Office Services	325,709	300,994	473,713
10	Maintenance and Repairs - Motor Vehicles	81,343	114,058	134,640
11	Maintenance and Repairs - General	1,044,378	895,488	894,976
12	Rentals - Miscellaneous Equipment	1,529,080	1,563,437	2,562,172
13	Advertising	187,666	149,180	163,560
14	Security Services	295,033	262,585	663,478
15	Cleaning Services	187,483	678,121	501,890
16	Licenses (1)	0	0	0
17	Chemicals	2,220,258	3,290,291	3,462,379
18	Real Estate Taxes	91,223,381	101,209,162	104,630,050
19	NYS DEC Permits (1)	0	0	0
20	Motor Maintenance Supplies (1)	579,386	379,074	0
21	Gasoline (1)	0	0	0
22	Lab and Limnology	107,978	191,034	68,154
23	Natural Gas & Electricity	1,223,525	1,232,110	1,705,204
24	Upstate Cost of Service/Rate Studies	70,000	70,000	75,104
25	Hillview Reservoir (2)	5,986,351	7,906,925	8,537,779
26	UV Facility	0	0	0
27	Totals	118,531,383	133,134,219	138,068,007

Notes:

(1) Actual costs were not available at the publishing of this report. The City reserves the right to include such expenses at a future date.

(2) Estimated costs in 2005. Actual costs are shown for 2006 and 2007.

Table 4B Projected Upstate Other Than Personal Services Costs

Line No.	Description	*Actual* F.Y. 2007 $	F.Y. 2008 $	*Projected Years* F.Y. 2009 $	F.Y. 2010 $	F.Y. 2011 $	F.Y. 2012 $
1	Supplies and Materials - General	6,030,208	6,211,115	6,397,448	6,589,372	6,787,053	6,990,664
2	Automotive Supplies and Materials	32,688	33,669	34,679	35,719	36,791	37,895
3	Fuel Oil	1,962,501	2,021,376	2,082,017	2,144,478	2,208,812	2,275,076
4	Equipment - General	555,096	571,748	588,901	606,568	624,765	643,508
5	Telecommunications Equipment	51,087	52,620	54,198	55,824	57,499	59,224
6	Office Equipment	102,408	105,480	108,645	111,904	115,261	118,719
7	Contractual Services - General	4,645,886	4,785,262	4,928,820	5,076,685	5,228,985	5,385,855
8	Telephone and Other Communications	815,034	839,485	864,669	890,609	917,328	944,848
9	Office Services	473,713	487,924	502,562	517,639	533,168	549,163
10	Maintenance and Repairs - Motor Vehicles	134,640	138,679	142,839	147,125	151,538	156,085
11	Maintenance and Repairs - General	894,976	921,826	949,480	977,965	1,007,304	1,037,523
12	Rentals - Miscellaneous Equipment	2,562,172	2,639,037	2,718,209	2,799,755	2,883,748	2,970,260
13	Advertising	163,560	168,467	173,521	178,727	184,089	189,611
14	Security Services	663,478	683,382	703,884	725,000	746,750	769,153
15	Cleaning Services	501,890	516,947	532,455	548,429	564,882	581,828
16	Licenses (1)	0	0	0	0	0	0
17	Chemicals	3,462,379	3,566,250	3,673,237	3,783,435	3,896,938	4,013,846
18	Real Estate Taxes	104,630,050	110,907,852	117,562,324	124,616,063	132,093,027	140,018,608
19	NYS DEC Permits (1)	0	0	0	0	0	0
20	Motor Maintenance Supplies (1)	0	0	0	0	0	0
21	Gasoline (1)	0	0	0	0	0	0
22	Lab and Limnology	68,154	70,198	72,304	74,473	76,707	79,009
23	Natural Gas & Electricity	1,705,204	1,756,360	1,809,051	1,863,322	1,919,222	1,976,799
24	Upstate Cost of Service/Rate Studies	75,104	75,000	75,000	75,000	75,000	75,000
25	Hillview Reservoir	8,537,779	8,793,912	9,057,730	9,329,462	9,609,345	9,897,626
26	UV Facility	0	0	0	0	0	21,100,000
27	Totals	138,068,007	145,346,591	153,031,974	161,147,553	169,718,212	199,870,299

Notes:

(1) Actual costs were not available at the publishing of this report. The City reserves the right to include such expenses at a future date.

Table 5A Debt Service Summary

Line No.	Fiscal Year	Pre-80s G.O. Debt Service	80s G.O. Debt Service	Authority Debt Service/Cash	Totals
		Amounts Shown in Dollars ($)			
1	2005	502,133	877,159	56,246,890	**57,626,182**
2	2006	483,907	839,418	61,584,542	**62,907,867**
3	2007	465,681	801,726	78,197,541	**79,464,948**
Projections Years:					
4	2008		764,469	88,688,486	**89,452,955**
5	2009		372,863	124,200,052	**124,572,915**
6	2010		372,863	138,839,638	**139,212,501**
7	2011		372,863	160,439,325	**160,812,188**
8	2012		372,863	175,263,950	**175,636,813**

Table 5B Debt Service/Capital Costs

Line No.	Description		Actual F.Y. 2007	F.Y. 2008	F.Y. 2009	Projected F.Y. 2010	F.Y. 2011	F.Y. 2012
	System Totals - Capital-Related Costs							
1	Authority Debt Service - First Resolution	A	533,267,000	546,251,573	565,496,715	555,542,720	619,076,855	596,902,057
2	Anticipated Debt Service - First Resolution	B	-	-	26,326,581	65,020,120	103,271,651	140,122,929
3	Authority Debt Service - Second Resolution	C	47,214,000	107,904,815	125,147,756	124,766,319	124,420,674	124,048,514
4	Anticipated Debt Service - Second Resolution	D	-	-	107,304,931	177,832,929	269,191,990	358,993,661
5	Interest on Short-Term Debt	E	23,000,000	27,000,000	42,500,000	51,000,000	51,000,000	51,000,000
6	EFC Outstanding Debt Service	F	294,834,000	295,105,414	295,892,426	320,830,478	333,499,131	333,457,453
7	EFC Projected Debt Service	G	-	-	28,171,183	49,207,624	66,182,008	83,268,403
8	Cash-Financed Construction	H	20,000,000	-	90,000,000	100,000,000	80,000,000	100,000,000
	System Totals - Interest Earnings & Expenses							
9	Debt Service Fund	I	(12,884,000)	(10,685,000)	(11,251,000)	(15,937,000)	(19,081,000)	(19,972,000)
10	Debt Service Reserve Fund	J	(41,093,000)	(42,708,000)	(43,292,000)	(45,957,000)	(48,553,000)	(51,128,000)
11	Construction Fund	K	(6,454,000)	(7,343,000)	(7,875,000)	(9,542,000)	(9,483,000)	(9,078,000)
12	Subordinated Debt Service Fund	L	(10,631,000)	(10,637,000)	(13,805,000)	(19,885,000)	(23,313,000)	(26,234,000)
13	Less: Authority Debt-Related Expenses	M	20,475,000	30,700,000	30,300,000	30,500,000	31,900,000	33,500,000
	Water Supply - Capital-Related Costs							
14	Authority Debt Service - First Resolution	A x N	58,932,236	61,812,850	67,083,723	65,902,901	73,439,826	70,809,275
15	Anticipated Debt Service - First Resolution	B x N	-	-	3,123,069	7,713,204	12,250,906	16,622,498
	Authority Debt Service - Second Resolution	C x N	5,217,699	12,210,316	14,846,023	14,800,774	14,759,771	14,715,622
	Anticipated Debt Service - Second Resolution	D x N	-	-	12,729,365	21,095,958	31,933,697	42,586,687
16	Interest on Short-Term Debt	E x O	2,179,861	2,636,404	4,348,054	5,217,664	5,217,664	5,217,664
17	EFC Debt Service	(F + G) x P	15,244,412	16,549,162	18,173,104	20,751,299	22,413,645	23,369,493
18	Cash-Financed Construction	H x O	1,895,531	-	9,207,643	10,230,714	8,184,571	10,230,714
	Water Supply - Interest Earnings							
19	Debt Service Fund	I x N	(1,423,833)	(1,209,095)	(1,334,683)	(1,890,574)	(2,263,540)	(2,369,238)
20	Debt Service Reserve Fund	J x N	(4,541,257)	(4,832,761)	(5,135,642)	(5,451,785)	(5,759,743)	(6,065,210)
21	Construction Fund	K x O	(611,688)	(717,004)	(805,669)	(976,215)	(970,179)	(928,744)
22	Subordinated Debt Service Fund	L x P	(635,971)	(759,074)	(1,134,842)	(1,674,671)	(2,030,892)	(2,352,100)
23	Less: Authority Debt-Related Expenses	M x P	1,940,550	2,997,689	3,099,906	3,120,368	3,263,598	3,427,289
24	Net Water Supply Capital-Related Costs		78,197,541	88,688,486	124,200,052	138,839,638	160,439,325	175,263,950

		2007	2008	2009-2012
Upstate Authority $ as a % of Total Authority CIP $	N	11.05%	11.32%	11.86%
Upstate Total CIP $ as a % of Total CIP $	O	9.48%	9.76%	10.23%
Upstate EFC $ as a % of Total EFC CIP $	P	5.17%	5.61%	5.61%

Table 5C Authority Bond Proceeds

Line	Bond Issue	Total Principal	Total Upstate Allocation	Upstate Principal	Notes
1	FY 1986 Series A	200,000,000	2.72%	5,442,800	
2	FY 1986 Series B	200,000,000	3.74%	7,475,200	
3	FY 1987 Series A	388,650,000	2.70%	10,494,327	
4	FY 1987 Series B	160,278,232	6.60%	10,578,684	
5	FY 1988 Series A	244,915,000	6.93%	16,974,079	
6	FY 1988 Series B	240,000,155	12.47%	29,929,699	
7	FY 1989 Series A	275,001,170	10.39%	28,559,147	
8	FY 1989 Series B	288,057,995	8.10%	23,334,138	
9	FY 1990 Series A	281,474,425	6.92%	19,490,978	
10	FY 1991 Series A	285,000,004	5.78%	16,469,580	
11	FY 1991 Series C	-	-	-	(A)
12	FY 1992 Series A	583,155,000	2.86%	16,678,233	
13	FY 1992 Series C	200,000,000	4.45%	8,900,000	
14	FY 1993 Series B&C	193,000,000	4.75%	9,167,500	
15	FY 1994 Series C	200,000,000	5.77%	11,540,000	
16	FY 1994 Series F&G	428,150,000	4.89%	20,936,535	
17	FY 1995 Series A	216,700,000	5.92%	12,828,640	
18	FY 1996 Series A	484,295,000	7.10%	34,384,945	
19	FY 1996 Series B	579,670,000	4.40%	25,505,480	
20	FY 1997 Series A	365,125,000	7.85%	28,662,313	
21	FY 1997 Series B	700,000,000	16.94%	118,580,000	
22	FY 1998 Series B	449,525,000	19.59%	88,061,948	
23	FY 1999 Series A	301,470,000	11.06%	33,342,582	
24	FY 1999 Series B	202,015,000	3.43%	6,929,115	
25	FY 2000 Series A	275,735,000	6.80%	18,749,980	
26	FY 2000 Series B&C	431,230,000	11.21%	48,345,193	
27	FY 2001 Series A	328,225,000	12.72%	41,741,715	
28	FY 2001 Series C	112,040,000	15.87%	17,786,151	
29	FY 2002 Series A	216,305,000	21.38%	46,244,904	
30	FY 2002 Series G	216,375,000	38.79%	83,937,864	
	2003 Total	9,046,391,981	9.30%	841,071,728	
31	FY 2003 Series A	330,040,081	20.42%	67,379,252	
32	FY 2003 Series B	150,000,000	24.18%	36,272,195	
33	FY 2003 Series E	367,265,000	19.42%	71,323,090	(B)
34	FY 2003 Series F	201,655,000	28.04%	56,543,643	
	2004 Total	10,095,352,062	10.62%	1,072,589,909	
35	FY 2004 Series A	217,000,000	1.75%	3,805,504	
36	FY 2004 Series C	297,549,412	12.96%	38,561,372	
	2005 Total	10,609,901,474	10.51%	1,114,956,785	
37	FY 2005 Series A	150,000,000	23.22%	34,836,356	
38	FY 2005 Series B	417,570,000	0.53%	2,206,413	
39	FY 2005 Series D	509,553,201	20.02%	101,987,971	
	2006 Total	11,687,024,675	10.73%	1,253,987,526	
40	FY 2006 Series A	202,970,000	18.30%	37,140,246	
41	FY 2006 Series AA	400,000,000	15.81%	63,242,620	
42	FY 2006 Series B BB C	250,000,000	17.70%	44,248,847	
43	FY 2006 Series D	355,519,052	7.45%	26,485,735	
44	**2007 Total**	12,895,513,727	11.05%	1,425,104,974	
45	FY 2007 Series AA	199,910,000	25.51%	51,006,584	
46	FY 2007 Series CC	210,500,000	15.89%	33,450,077	
47	FY 2007 Series A	310,475,000	13.73%	42,629,128	
49	FY 2007 Series DD	395,000,000	8.43%	33,314,037	
50	**2008 Total**	14,011,398,727	11.32%	1,585,504,800	
51	FY 2008 Series AA	400,000,000	27.49%	109,951,398	
52	FY 2008 Series BB	401,000,000	15.39%	61,708,489	
53	**2009-12 Total**	14,812,398,727	11.86%	1,757,164,687	

Notes:

(A) The 1991 C Bonds were not included in the calculations used in the report. The total principal was $4,650,000.

(B) Figures for recent bond issues are preliminary; the upstate portion may change after all bond proceeds are spent.

Table 5D NYSEFC Bond Proceeds

Line No.	Bond Issue	Total Principal	Upstate Allocation	Upstate Principal	Notes
1	FY 1995 Series 1	112,733,019	1.26%	1,420,436	
2	FY 1996 Series 1	113,085,000	1.28%	1,447,488	
3	FY 1996 Series 2	28,775,000	39.38%	11,331,595	
4	FY 1996 Series 3	40,285,000	8.93%	3,597,451	
5	FY 1998 Series 1	44,635,000	28.51%	12,725,439	
6	FY 1998 Series 2	113,784,841	9.71%	11,048,508	
7	FY 1998 Series 4	15,749,040	12.22%	1,924,533	
8	FY 1998 Series 5	87,872,535	15.02%	13,198,455	
9	FY 1999 Series 1	121,435,485	7.88%	9,569,116	
10	FY 1999 Series 2	269,985,000	0.54%	1,462,597	
11	FY 2000 Series 1	285,855,884	18.10%	51,746,780	
12	FY 2002 Series 1	204,131,705	1.70%	3,478,818	
13	FY 2002 Series 2	72,082,983	2.77%	1,999,381	
14	FY 2002 Series 3	519,405,711	3.01%	15,624,990	
15	FY 2002 Series 5	371,757,628	2.85%	10,609,799	
16	**2003 Total**	2,401,573,831	6.30%	151,185,384	
17	FY 2003 Series 1	148,040,809	1.65%	2,438,893	(A)
18	FY 2003 Series 5	295,157,120	1.70%	5,003,460	(A)
19	**2004 Total**	2,844,771,760	5.58%	158,627,737	
20	FY 2004 Series 1	301,008,574	0.07%	208,972	
21	FY 2004 Series 2	257,400,299	1.04%	2,683,044	
22	**2005 Total**	3,403,180,633	4.75%	161,519,754	
23	FY 2005 Series 1	230,408,946	4.02%	9,264,567	
24	FY 2005 Series 2	390,624,553	0.56%	2,206,216	
25	**2006 Total**	4,024,214,132	4.30%	172,990,536	
26	FY 2006 Series 1	229,018,261	3.83%	8,773,410	
27	FY 2006 Series 2,3	457,828,498	13.50%	61,821,784	
28	**2007 Total**	4,711,060,891	5.17%	243,585,730	
29	FY 2007 Series 1,2	518,427,784	9.58%	49,677,805	
28	**2008 Total**	5,229,488,675	5.61%	293,263,535	
30	**2009-12 Total**	5,229,488,675	5.61%	293,263,535	

Notes:

(A) Figures for recent bond issues are preliminary; the upstate portion may change after all bond proceeds are spent.

Table 5E Fiscal Year 2004 and 2005 - 1980's G.O. Debt Service

Line No.	Issue Date	2004 Principal	2004 Interest	2005 Principal	2005 Interest
1	10/27/1981	0	0	0	0
2	12/15/1981	0	0	0	0
3	2/18/1982	0	0	0	0
4	3/15/1982	61,334	40,020	61,334	31,127
5	9/30/1982	0	0	0	0
6	12/16/1982	125,767	62,024	127,490	48,569
7	1/21/1983	57,967	33,331	57,967	26,665
8	3/1/1983	0	38,074	0	38,074
9	6/1/1983	0	13,726	0	13,726
10	6/16/1983	33,077	17,891	33,560	13,560
11	10/27/1983	0	0	0	0
12	2/15/1984	0	74,402	0	74,402
13	5/15/1984	0	51,303	0	51,303
14	7/12/1984	75,588	34,768	76,780	27,244
15	3/15/1985	0	85,925	0	85,925
16	7/15/1985	0	109,433	0	109,433
17	Subtotals	353,733	560,897	357,131	520,028
18	Total Debt Service		914,630		877,159

Table 5F Fiscal Year 2006 and 2007 - 1980's G.O. Debt Service

Line No.	Issue Date	2006 Principal	2006 Interest	2007 Principal	2007 Interest
1	10/27/1981	0	0	0	0
2	12/15/1981	0	0	0	0
3	2/18/1982	0	0	0	0
4	3/15/1982	61,334	22,234	61,334	13,340
5	9/30/1982	0	0	0	0
6	12/16/1982	129,308	34,927	131,030	21,096
7	1/21/1983	57,967	19,999	57,967	13,332
8	3/1/1983	0	38,074	0	38,074
9	6/1/1983	0	13,726	0	13,726
10	6/16/1983	34,042	9,166	34,525	5,227
11	10/27/1983	0	0	0	0
12	2/15/1984	0	74,402	0	74,402
13	5/15/1984	0	51,303	0	51,303
14	7/12/1984	77,975	19,603	79,168	11,844
15	3/15/1985	0	85,925	0	85,925
16	7/15/1985	0	109,433	0	109,433
17	Subtotals	360,626	478,792	364,024	437,702
18	Total Debt Service		839,418		801,726

Table 5G Fiscal Year 2008 and 2009 - 1980's G.O. Debt Service

Line No.	Issue Date	2008 Principal	2008 Interest	2009 Principal	2009 Interest
1	10/27/1981	0	0	0	0
2	12/15/1981	0	0	0	0
3	2/18/1982	0	0	0	0
4	3/15/1982	61,334	4,447	0	0
5	9/30/1982	0	0	0	0
6	12/16/1982	133,040	7,068	0	0
7	1/21/1983	57,966	6,666	0	0
8	3/1/1983	0	38,074	0	38,074
9	6/1/1983	0	13,726	0	13,726
10	6/16/1983	35,007	1,750	0	0
11	10/27/1983	0	0	0	0
12	2/15/1984	0	74,402	0	74,402
13	5/15/1984	0	51,303	0	51,303
14	7/12/1984	80,360	3,968	0	0
15	3/15/1985	0	85,925	0	85,925
16	7/15/1985	0	109,433	0	109,433
17	Subtotals	367,707	396,762	0	372,863
18	Total Debt Service		764,469		372,863

Table 5H Fiscal Year 2010 and 2011 - 1980's G.O. Debt Service

Line No.	Issue Date	2010 Principal	2010 Interest	2011 Principal	2011 Interest
1	10/27/1981	0	0	0	0
2	12/15/1981	0	0	0	0
3	2/18/1982	0	0	0	0
4	3/15/1982	0	0	0	0
5	9/30/1982	0	0	0	0
6	12/16/1982	0	0	0	0
7	1/21/1983	0	0	0	0
8	3/1/1983	0	38,074	0	38,074
9	6/1/1983	0	13,726	0	13,726
10	6/16/1983	0	0	0	0
11	10/27/1983	0	0	0	0
12	2/15/1984	0	74,402	0	74,402
13	5/15/1984	0	51,303	0	51,303
14	7/12/1984	0	0	0	0
15	3/15/1985	0	85,925	0	85,925
16	7/15/1985	0	109,433	0	109,433
17	Subtotals	0	372,863	0	372,863
18	Total Debt Service		372,863		372,863

Table 5I Fiscal Year 2012 - 1980's G.O. Debt Service

Line No.	Issue Date	2012 Principal	2012 Interest
1	10/27/1981	0	0
2	12/15/1981	0	0
3	2/18/1982	0	0
4	3/15/1982	0	0
5	9/30/1982	0	0
6	12/16/1982	0	0
7	1/21/1983	0	0
8	3/1/1983	0	38,074
9	6/1/1983	0	13,726
10	6/16/1983	0	0
11	10/27/1983	0	0
12	2/15/1984	0	74,402
13	5/15/1984	0	51,303
14	7/12/1984	0	0
15	3/15/1985	0	85,925
16	7/15/1985	0	109,433
17	Subtotals	0	372,863
18	Total Debt Service		372,863

Table 5J 2005 - 2007 Defeasance of Bonds

	2005	2006	2007
Cash Used for the Defeasance of Bonds	195,943,000	60,081,741	0
Upstate CIP $ as a % of Total Water/Sewer CIP $	10.73%	9.48%	9.48%
Upstate Portion of Defeasance Cash	21,024,177	5,694,341	0

Table 6 Judgments and Claims

Year	Historical Costs ($)
1995	6,879
1996	30,516
1997	536,000
1998	151,220
1999	1,834
2000	109,969
2001	75,160
2002	4,480
2003	0
2004	0
2005	0
2006	0
2007	5,513,361
2008	0
Average (1995-2008)	459,244
Projection Years (2009-2012)	459,244

Table 7 Miscellaneous Revenue

Year	Hydropower	Rents (Permits)	Tax Refunds	Total
1994		1,173,639	0	
1995		825,252	0	
1996		810,460	116,415	
1997		949,483	332,370	
1998		753,766	264,560	
1999		1,208,738	354,942	
2000		944,043	283,436	
2001		795,290	189,518	
2002		935,023	50,686	
2003		723,939	0	
2004	1,105,639	1,348,358	50,686	2,504,683
2005	1,396,145	1,788,012	0	3,184,157
2006	1,321,881	2,379,307	0	3,701,188
2007	4,987,041	2,300,515	0	7,287,556
Average	1,274,555	1,209,702	117,330	2,601,586
Projection Years (2008-2012)				
2008	8,807,333	1,209,702	0	10,017,035
2009	8,983,480	1,209,702	0	10,193,182
2010	9,163,150	1,209,702	0	10,372,851
2011	9,346,413	1,209,702	0	10,556,114
2012	9,533,341	1,209,702	0	10,743,043

Notes:

(1) Certain historical revenues for hydropower and rents have changed from prior reports based on updated information from the City.

Table 8A Historical Upstate Direct Personal Services Costs

Line No.	Description	F.Y.2005 $	F.Y.2006 $	F.Y.2007 $
	Divisional and Sectional Offices			
1	Katonah Resource Protection	344,926	0	225,281
2	Carmel Section	2,975,970	3,265,645	4,049,943
3	Croton	0	0	0
4	Prattsville/Schoharie	2,170,420	2,098,927	2,421,747
5	Ashokan	5,677,973	5,801,034	7,451,039
6	Grahamsville	2,819,851	2,686,801	3,936,184
7	Port Jervis	438,479	388,754	449,821
8	E. Division Hudson River P/S	142,274	141,620	154,205
	Laboratories			
9	Kensico	1,612,850	1,873,103	1,579,971
10	Grahamsville	981,939	1,229,773	1,363,667
	Other Services			
11	Ashokan	1,453,575	2,433,932	2,487,916
12	Downsville	2,440,196	2,168,924	2,997,909
13	Sutton Park	5,279,707	5,123,101	7,630,354
14	Kingston	719,068	854,880	1,491,153
15	Watershed Security (1)	8,507,504	8,696,583	12,355,132
16	Watershed-East of Hudson	3,425,125	4,316,570	5,078,007
17	Upstate DWQC	228,404	165,342	204,691
18	Capital Construction	0	1,151,459	1,823,427
19	Water Plan and Protect	347,107	355,119	416,904
20	Mahopac	645,986	615,737	771,821
21	Hillview Reservoir	1,659,642	1,960,568	3,956,924
22	UV Facility	0	0	0
23	Direct Personnel Overtime Costs	2,674,267	3,023,960	4,456,956
24	**Total Personal Services Costs**	**44,545,262**	**48,351,832**	**65,303,055**

Notes:

(1) Hillview, Croton, Ashokan, Schoharie, Kingston, Downsville, Neversink, Beerston & other watershed locations.

(2) Personal service costs include salary and a fringe benefit rate of 28.5% in FY 2006 and 35.0% in FY 2007.

(3) Upward or downward changes from year to year in a particular category of costs may reflect shifts in classifications for accounting purposes as opposed to changes in personal functions or responsibilities.

Table 8B Projected Upstate Direct Personal Services Costs

Line No.	Description	Actual F.Y. 2007 $	F.Y. 2008 $	Projected Years F.Y. 2009 $	F.Y. 2010 $	F.Y. 2011 $	F.Y. 2012 $
	Divisional and Sectional Offices						
1	Katonah Resource Protection	225,281	264,181	272,107	280,270	288,678	297,339
2	Carmel Section	4,049,943	4,749,264	4,891,741	5,038,494	5,189,648	5,345,338
3	Croton	0	0	0	0	0	0
4	Prattsville/Schoharie	2,421,747	2,839,920	2,925,118	3,012,872	3,103,258	3,196,355
5	Ashokan	7,451,039	8,737,640	8,999,769	9,269,762	9,547,855	9,834,291
6	Grahamsville	3,936,184	4,615,861	4,754,337	4,896,967	5,043,876	5,195,192
7	Port Jervis	449,821	527,494	543,319	559,618	576,407	593,699
8	E. Division Hudson River P/S	154,205	180,832	186,257	191,845	197,600	203,528
	Laboratories						
9	Kensico	1,579,971	1,852,791	1,908,375	1,965,626	2,024,595	2,085,333
10	Grahamsville	1,363,667	1,599,137	1,647,112	1,696,525	1,747,421	1,799,843
	Other Services						
11	Ashokan	2,487,916	2,917,515	3,005,040	3,095,192	3,188,047	3,283,689
12	Downsville	2,997,909	3,515,570	3,621,037	3,729,668	3,841,558	3,956,805
13	Sutton Park	7,630,354	8,947,918	9,216,356	9,492,846	9,777,632	10,070,961
14	Kingston	1,491,153	1,748,637	1,801,096	1,855,129	1,910,783	1,968,106
15	Watershed Security (1)	12,355,132	14,488,543	14,923,199	15,370,895	15,832,022	16,306,983
16	Watershed-East of Hudson	5,078,007	5,954,848	6,133,493	6,317,498	6,507,023	6,702,234
17	Upstate DWQC	204,691	240,036	247,237	254,654	262,294	270,163
18	Capital Construction	1,823,427	2,138,286	2,202,435	2,268,508	2,336,563	2,406,660
19	Water Plan and Protect	416,904	488,893	503,560	518,666	534,226	550,253
20	Mahopac	771,821	905,094	932,247	960,214	989,021	1,018,691
21	Hillview Reservoir	3,956,924	4,640,182	4,779,388	4,922,769	5,070,452	5,222,566
22	UV Facility	0	0	0	0	0	6,600,000
23	Direct Personnel Overtime Costs	4,456,956	5,226,556	5,383,353	5,544,854	5,711,199	5,882,535
24	**Total Personal Services Costs**	**65,303,055**	**76,579,199**	**78,876,575**	**81,242,873**	**83,680,159**	**92,790,563**

Notes:

(1) Hillview, Croton, Ashokan, Schoharie, Kingston, Downsville, Neversink, Beerston & other watershed police locations

(2) Personal service costs include salary and a fringe rate of 35% in 2007 and 45% for 2008-2012.

(3) It is assumed that personal services costs will increase 3.0% per annum in 2009 - 12.

(4) Upward or downward changes from year to year in a particular category of costs may reflect shifts in classifications for accounting purposes as opposed to changes in personal functions or responsibilities

(5) For 2008 liability for upstate communities will limited to 3% increase annually once collective bargaining has settled.

Table 9A Historical Upstate Indirect Personal Services Costs

Line No.	Description	F.Y.2005 $	F.Y.2006 $	F.Y.2007 $
	Divisional and Sectional Offices			
1	Katonah Resource Protection	401,259	333,451	106,140
2	Carmel Section	268,617	221,691	272,664
3	Croton	0	0	0
4	Prattsville/Schoharie	188,588	133,937	0
5	Ashokan	3,373,969	3,256,221	2,670,918
6	Grahamsville	764,594	998,713	799,115
7	E. Division Hudson River P/S	0	0	0
	Laboratories			
8	Kensico	651,987	479,241	268,340
9	Grahamsville	384,028	242,264	167,331
10	Giardia	0	0	349,232
	Other Services			
11	Ashokan	195,145	240,137	106,661
12	Downsville	162,821	162,658	146,854
13	Sutton Park	6,201,915	6,242,936	4,115,104
14	Kingston Office	1,332,333	1,337,608	1,229,981
15	Watershed Security (1)	1,511,269	1,501,715	1,706,948
16	Mobile Task Force	0	143,221	0
17	East of Hudson Fleet	0	282,745	496,634
18	Ashokan Fleet Admin.	0	396,303	464,023
19	Downsville Fleet Admin.	0	71,610	87,383
20	Grahmsville Fleet Admin.	0	143,221	174,766
21	Watershed-East of Hudson	92,529	360,773	335,907
22	Capital Construction	0	239,025	0
23	Env. Planning & Assess Float	109,522	113,130	126,554
24	Upstate DWQC	95,521	0	0
25	Mahopac	59,306	0	0
26	Indirect Personnel Overtime Costs	218,705	196,066	291,222
27	**Total Personal Services Costs**	**16,012,108**	**17,096,666**	**13,915,776**

Notes:

(1) Hillview, Croton, Ashokan, Schoharie, Kingston, Downsville, Neversink, Beerston & other watershed police locations.

(2) Personal service costs include salary and a fringe benefit rate of 28.5% in FY 2006 and 35.0% in FY 2007.

(3) Upward or downward changes from year to year in a particular category of costs may reflect shifts in classifications for accounting purposes as opposed to changes in personal functions or responsibilities.

Table 9B Projected Upstate Indirect Personal Services Costs

Line No.	Description	Actual F.Y. 2007 $	F.Y. 2008 $	Projected Years F.Y. 2009 $	F.Y. 2010 $	F.Y. 2011 $	F.Y. 2012 $
	Divisional and Sectional Offices						
1	Katonah Resource Protection	106,140	124,467	128,201	132,047	136,009	140,089
2	Carmel Section	272,664	319,745	329,338	339,218	349,395	359,876
3	Croton	0	0	0	0	0	0
4	Prattsville/Schoharie	0	0	0	0	0	0
5	Ashokan	2,670,918	3,132,117	3,226,080	3,322,863	3,422,548	3,525,225
6	Grahamsville	799,115	937,101	965,214	994,171	1,023,996	1,054,716
7	E. Division Hudson River P/S	0	0	0	0	0	0
	Laboratories						
8	Kensico	268,340	314,675	324,115	333,838	343,854	354,169
9	Grahamsville	167,331	196,225	202,112	208,175	214,420	220,853
10	Giardia	349,232	409,535	421,821	434,475	447,510	460,935
	Other Services						
11	Ashokan	106,661	125,078	128,831	132,696	136,676	140,777
12	Downsville	146,854	172,212	177,379	182,700	188,181	193,826
13	Sutton Park	4,115,104	4,825,675	4,970,446	5,119,559	5,273,146	5,431,340
14	Kingston Office	1,229,981	1,442,367	1,485,638	1,530,207	1,576,113	1,623,397
15	Watershed Security (1)	1,706,948	2,001,694	2,061,744	2,123,597	2,187,305	2,252,924
14	Mobile Task Force	0	0	0	0	0	0
17	East of Hudson Fleet	496,634	582,390	599,861	617,857	636,393	655,485
18	Ashokan Fleet Admin.	464,023	544,148	560,473	577,287	594,605	612,444
19	Downsville Fleet Admin.	87,383	102,472	105,546	108,712	111,973	115,333
20	Grahmsville Fleet Admin.	174,766	204,943	211,091	217,424	223,947	230,665
21	Watershed-East of Hudson	335,907	393,909	405,727	417,899	430,435	443,349
22	Capital Construction	0	0	0	0	0	0
23	Env. Planning & Assess Float	126,554	148,407	152,859	157,445	162,168	167,033
24	Upstate DWQC	0	0	0	0	0	0
25	Mahopac	0	0	0	0	0	0
26	Indirect Personnel Overtime Costs	291,222	341,509	351,754	362,307	373,176	384,371
27	**Total Personal Services Costs**	**13,915,776**	**16,318,670**	**16,808,230**	**17,312,476**	**17,831,851**	**18,366,806**

Notes:

(1) Hillview, Croton, Ashokan, Schoharie, Kingston, Downsville, Neversink, Beerston & other watershed police locations.

(2) Personal service costs include salary and a fringe benefit rate of 35% in FY 2007 and 45% in FY 2008-12.

(3) It is assumed that personal services costs will increase 3.0% per annum in 2009 - 12.

(4) Upward or downward changes from year to year in a particular category of costs may reflect shifts in classifications for accounting purposes as opposed to changes in personal functions or responsibilities

Table 10 Development of Allocation Factors

Line No.	Description	2005		2006		2007		Projection Years
1	Total Salaries - Employees North of NYC	56,004,761		60,267,903		68,317,722		
2		---------- =	48.50%	---------- =	49.99%	---------- =	48.34%	48.34%
3	Total Salaries - All Water Supply Employees	115,463,851		120,551,873		141,332,147		
4	Head Count - Water Supply Employees	1,719		1,767		1,779		
5		---------- =	30.38%	---------- =	31.05%	---------- =	30.44%	30.44%
6	Head Count - NYC DEP Employees	5,658		5,690		5,844		
7	Number of Vehicles - Water Supply	788		881		821		
8		---------- =	41.85%	---------- =	42.09%	---------- =	37.92%	37.92%
9	Number of Vehicles - NYC DEP	1,883		2,093		2,165		

Table 11A Historical Allocation of DEP Personal Services Costs

Line No.	Description	F.Y.2005 $	F.Y.2006 $	Updated Description	F.Y.2007 $
1	Office of Administration	2,612,204	2,966,774	Executive	7,889,756
2	Communication Center	1,094,556	2,753,940	General Counsel	2,472,548
3	Labor Relations	913,224	895,696	Public Affairs	1,501,413
4	Legal Services	2,297,236	2,120,434	Env. Health & Safety	2,478,709
5	Public Information	4,119,110	4,646,399	Environ. Planning	3,043,183
6	Office Services	564,594	501,179	Budget Office	2,682,906
7	Budget	1,944,069	1,882,538	Facilities Mgt & Constr	4,665,073
8	Audits and Accounts	1,999,717	2,001,553	Human Res & Labor Rel	11,330,271
9	Contracts	1,153,325	1,107,598	Chief Contract Office	4,966,542
10	Procurement	1,781,796	1,619,488	Environ. Coordination	1,058,030
11	Payroll	705,664	718,975	Addt'l Exec & Support	4,400,040
12	Personnel	3,293,514	3,090,639		
13	M.I.S.	1,041,639	1,093,412		
14	Motor Vehicle Maintenance	5,151,654	5,298,845		
15	Management Services	1,450,656	1,491,159		
16	Planning	1,435,852	1,790,951		
17	Wetlands	294,167	358,647		
18	Building Maintenance	2,679,246	2,958,764		
19	Total DEP Executive and Support Personal Services Costs	34,532,223	37,296,991		46,488,471
20	Allocation to Water Supply	30.38%	31.05%		30.44%
21	Personal Services Costs Related to Water Supply	10,490,889	11,582,387		14,151,778
22	Allocation to Facilities North of NYC	48.50%	49.99%		48.34%
23	**Personal Services Costs Related to Facilities North of NYC**	**5,088,081**	**5,790,422**		**6,840,745**

Notes:
(1) Personal service costs include salary and fringe benefits.

Table 11B Projected Allocation of DEP Personal Services Costs

Line No.	Description	*Actual* F.Y. 2007 $	F.Y. 2008 $	*Projected Years* F.Y. 2009 $	F.Y. 2010 $	F.Y. 2011 $	F.Y. 2012 $
1	Executive	7,889,756	9,252,112	9,529,676	9,815,566	10,110,033	10,413,334
2	General Counsel	2,472,548	2,899,493	2,986,478	3,076,072	3,168,354	3,263,405
3	Public Affairs	1,501,413	1,760,668	1,813,488	1,867,893	1,923,930	1,981,647
4	Env. Health & Safety	2,478,709	2,906,718	2,993,919	3,083,737	3,176,249	3,271,536
5	Environ. Planning	3,043,183	3,568,662	3,675,722	3,785,993	3,899,573	4,016,560
6	Budget Office	2,682,906	3,146,174	3,240,560	3,337,776	3,437,910	3,541,047
7	Facilities Mgt & Constr	4,665,073	5,470,610	5,634,728	5,803,770	5,977,883	6,157,220
8	Human Res & Labor Rel	11,330,271	13,286,715	13,685,317	14,095,876	14,518,752	14,954,315
9	Chief Contract Office	4,966,542	5,824,135	5,998,859	6,178,825	6,364,190	6,555,115
10	Environ. Coordination	1,058,030	1,240,724	1,277,946	1,316,284	1,355,773	1,396,446
11	Addt'l Exec & Support	4,400,040	5,159,813	5,314,607	5,474,045	5,638,267	5,807,415
12	Total DEP Personal Services Costs	46,488,471	54,515,825	56,151,299	57,835,838	59,570,914	61,358,041
13	Allocation to Water Supply	30.44%	30.44%	30.44%	30.44%	30.44%	30.44%
14	Personal Services Costs Related to Water Supply	14,151,778	16,595,423	17,093,286	17,606,084	18,134,267	18,678,295
15	Allocation to Facilities North of NYC	48.34%	48.34%	48.34%	48.34%	48.34%	48.34%
16	**Personal Services Costs - Facilities North of NYC**	**6,840,745**	**8,021,965**	**8,262,624**	**8,510,502**	**8,765,817**	**9,028,792**

Notes:

(1) Personal service costs include salary and fringe benefits.

(2) It is assumed that personal services costs will increase 3.0% per annum in 2009 - 12.

Table 12A Historical Allocation of DEP Other Than Personal Services Costs

Line No.	Description	F.Y. 2005 $	F.Y. 2006 $	F.Y. 2007 $
1	Accounting	121,480	123,200	123,003
2	Executive and Support	82,435	85,430	57,683
3	Fleet Administration	5,023,177	5,056,001	5,244,457
4	Public Affairs	429,194	327,527	472,937
5	Facilities Management and Construction	1,709,980	1,462,075	1,583,682
6	Management and Budget	2,547,023	2,736,960	2,677,650
7	Management Information Systems	2,197,700	2,876,080	2,024,237
8	Chief Engineer	76,348	70,052	61,439
9	Legal	90,990	104,176	133,993
10	Environmental Assessment	383,292	665,703	592,305
11	Telephone	3,457,362	3,603,779	3,456,205
12	Lefrak Administration Rents	5,469,166	5,652,667	4,750,587
13	Facility Management Rents	408,459	466,583	460,863
14	Management and Budget Environmental Health/Safety	238,251	434,866	216,009
15	Transportation Enhancement	157,861	20,000	0
16	Total OTPS to be Allocated	22,392,718	23,685,099	21,855,050
17	Allocation	30.38%	31.05%	30.44%
18	OTPS Allocation (line 16 X line 17)	6,802,908	7,355,285	6,653,000
19	Rents Other Than Lefrak	1,934,661	1,379,632	1,421,021
20	Lefrak Water Supply Rents	747,048	756,981	779,690
21	Total Rents (line 19 + line 20)	2,681,709	2,136,613	2,200,711
22	Motor Vehicle Operating Rents	1,306,030	1,276,757	1,255,519
23	Allocation	41.85%	42.09%	37.92%
24	Total Motor Vehicle Operating Rents (line 22 X line 23)	546,574	537,421	476,112
25	Motor Vehicle Parking	300,000	300,000	300,000
26	Allocation	20.30%	18.62%	19.22%
27	Total Motor Vehicle Parking (line 25 X line 26)	60,900	55,860	57,649
28	Cafeteria	405,641	405,641	366,228
29	Allocation	13.09%	14.39%	14.81%
30	Total Cafeteria (line 28 X line 29)	53,098	58,372	54,245
31	Total OTPS Costs Allocated to Water Supply at DEP (1)	10,145,189	10,143,551	9,441,718
32	Allocation to Facilities North of NYC	48.50%	49.99%	48.34%
33	OTPS Costs Related to Facilities North of NYC	4,920,417	5,071,099	4,563,977

Notes:
(1) Total OTPS costs allocated to DEP is equal to the sum of lines 18, 21, 24, 27, and 30.

Table 12B Projected Allocation of DEP Other Than Personal Services Costs

Line No.	Description	Actual F.Y. 2007 $	Projected Years F.Y. 2008 $	F.Y. 2009 $	F.Y. 2010 $	F.Y. 2011 $	F.Y. 2012 $
1	Accounting	123,003	126,693	130,494	134,409	138,441	142,595
2	Executive and Support	57,683	59,413	61,195	63,031	64,922	66,870
3	Fleet Administration	5,244,457	5,401,790	5,563,844	5,730,760	5,902,682	6,079,763
4	Public Affairs	472,937	487,125	501,739	516,791	532,295	548,264
5	Facilities Management and Construction	1,583,682	1,631,193	1,680,129	1,730,533	1,782,449	1,835,922
6	Management and Budget	2,677,650	2,757,980	2,840,719	2,925,941	3,013,719	3,104,131
7	Management Information Systems	2,024,237	2,084,964	2,147,513	2,211,939	2,278,297	2,346,646
8	Chief Engineer	61,439	63,282	65,180	67,136	69,150	71,224
9	Legal	133,993	138,013	142,153	146,418	150,810	155,335
10	Environmental Assessment	592,305	610,074	628,377	647,228	666,645	686,644
11	Telephone	3,456,205	3,559,891	3,666,687	3,776,688	3,889,989	4,006,688
12	Lefrak Administration Rents	4,750,587	4,893,105	5,039,898	5,191,095	5,346,828	5,507,233
13	Facility Management Rents	460,863	474,688	488,929	503,597	518,705	534,266
14	Management and Budget Environmental Health/Safety	216,009	222,490	229,164	236,039	243,120	250,414
15	Transportation Enhancement	0	0	0	0	0	0
16	Total OTPS to be Allocated	21,855,050	22,510,702	23,186,023	23,881,603	24,598,052	25,335,993
17	Allocation	30.44%	30.44%	30.44%	30.44%	30.44%	30.44%
18	OTPS Allocation (line 16 X line 17)	6,653,000	6,852,590	7,058,168	7,269,913	7,488,011	7,712,651
19	Rents Other Than Lefrak	1,421,021	1,463,652	1,507,561	1,552,788	1,599,372	1,647,353
20	Lefrak Water Supply Rents	779,690	803,081	827,174	851,989	877,548	903,875
21	Total Rents (line 19 + line 20)	2,200,711	2,266,733	2,334,735	2,404,777	2,476,920	2,551,228
22	Motor Vehicle Operating Rents	1,255,519	1,293,185	1,331,981	1,371,940	1,413,098	1,455,491
23	Allocation	37.92%	37.92%	37.92%	37.92%	37.92%	37.92%
24	Total Motor Vehicle Operating Rents (line 22 X line 23)	476,112	490,395	505,107	520,260	535,868	551,944
25	Motor Vehicle Parking	300,000	309,000	318,270	327,818	337,653	347,782
26	Allocation	19.22%	19.22%	19.22%	19.22%	19.22%	19.22%
27	Total Motor Vehicle Parking (line 25 X line 26)	57,649	59,379	61,160	62,995	64,885	66,831
28	Cafeteria	366,228	377,215	388,531	400,187	412,193	424,559
29	Allocation	14.81%	14.81%	14.81%	14.81%	14.81%	14.81%
30	Total Cafeteria (line 26 X line 27)	54,245	55,873	57,549	59,275	61,054	62,885
31	Total OTPS Costs Allocated to Water Supply at DEP [(1)]	9,441,718	9,724,970	10,016,719	10,317,220	10,626,737	10,945,539
32	Allocation to Facilities North of NYC	48.34%	48.34%	48.34%	48.34%	48.34%	48.34%
33	**OTPS Costs Related to Facilities North of NYC**	**4,563,977**	**4,700,896**	**4,841,923**	**4,987,181**	**5,136,796**	**5,290,900**

Notes:

(1) Total OTPS costs allocated to DEP is equal to the sum of lines 18, 21, 24, 27, and 30.

(2) It is assumed that OTPS costs will increase 3% per annum.

Table 13 Annual Water Consumption

Line No.	Fiscal Year	(A) System-Wide Consumption mg	(B) Upstate Consumption mg	Upstate as a % of Total [B]/[A]
1	1985	544,025	41,661	7.66%
2	1986	501,019	39,397	7.86%
3	1987	542,870	42,853	7.89%
4	1988	573,679	44,956	7.84%
5	1989	559,669	43,255	7.73%
6	1990	547,522	42,795	7.82%
7	1991	564,234	45,103	7.99%
8	1992	560,014	44,010	7.86%
9	1993	531,796	42,015	7.90%
10	1994	538,558	43,221	8.03%
11	1995	520,410	43,915	8.44%
12	1996	528,938	45,125	8.53%
13	1997	487,012	44,044	9.04%
14	1998	483,182	44,404	9.19%
15	1999	499,849	47,230	9.45%
16	2000	502,758	46,922	9.33%
17	2001	488,909	45,845	9.38%
18	2002	467,705	45,200	9.66%
19	2003	449,606	43,400	9.65%
20	2004	446,822	43,198	9.67%
21	2005	443,445	43,072	9.71%
22	2006	441,477	44,504	10.08%
23	2007	444,553	43,895	9.87%
Projections:				
22	2008	426,925	43,012	10.07%
23	2009	419,669	42,693	10.17%
24	2010	412,413	42,374	10.27%
25	2011	405,158	42,055	10.38%
26	2012	397,902	41,735	10.49%

Notes:

(1) Consumption projections are based on a regression analysis beginning in 1998.

(2) Equation used to calculate System-wide Consumption:
y=m(t)+b. Where (t) is a given year.
m= -7255.64903
b= 14996268

(2) Equation used to calculate Upstate Consumption:
y=m(t)+b. Where (t) is a given year.
m= -319.11
b= 683,790.28

Table 14 Projected Net Revenues From Hydroelectric Facilities

	2008	2009	2010	2011	2012
ASHOKAN & KENSICO					
NET REVENUE	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
NEVERSINK (1)					
REVENUES	**$ 2,748,865**	**$ 2,803,842**	**$ 2,859,919**	**$ 2,917,117**	**$ 2,975,460**
NYPA EXPENSES (2)	**$ 668,725**	**$ 682,100**	**$ 695,742**	**$ 709,657**	**$ 723,850**
NET REVENUE	**$ 2,080,140**	**$ 2,121,742**	**$ 2,164,177**	**$ 2,207,461**	**$ 2,251,610**
WEST DELAWARE,					
NET REVENUE (3)	**$ 26,896**	**$ 27,434**	**$ 27,983**	**$ 28,542**	**$ 29,113**
EAST DELAWARE (1)					
REVENUES	**$ 7,684,786**	**$ 7,838,481**	**$ 7,995,251**	**$ 8,155,156**	**$ 8,318,259**
NYPA EXPENSES (2)	**$ 497,931**	**$ 507,890**	**$ 518,048**	**$ 528,409**	**$ 538,977**
NET REVENUE	**$ 7,186,854**	**$ 7,330,591**	**$ 7,477,203**	**$ 7,626,747**	**$ 7,779,282**
JOINT EXPENSES (2)	**$ 486,556**	**$ 496,287**	**$ 506,213**	**$ 516,337**	**$ 526,664**
SUMMARY					
TOTAL REVENUES	$ 10,460,546	$ 10,669,757	$ 10,883,152	$ 11,100,816	$ 11,322,832
TOTAL EXPENSES W/O TAXES	$ 1,653,213	$ 1,686,277	$ 1,720,003	$ 1,754,403	$ 1,789,491
NET REVENUE	**$ 8,807,333**	**$ 8,983,480**	**$ 9,163,150**	**$ 9,346,413**	**$ 9,533,341**

NOTES:

(1) All figures for Neversink and East Delaware except property taxes were prepared by the New York City Office of the Comptroller.

(2) Joint expenses include Direct Charges and Overhead for Neversink and East Delaware.

(3) Reflects prior year's projected net revenue, the latest information available at the time of the Report.

Table 15 Comparison of Upstate Customer Billings vs. Cost of Service

Fiscal Year	Rate per Million Gallons (MG) (a) Billed to Upstate Customers	Computed Cost to the Board	Upstate Consumption	Total Billed	Actual Cost	Underpayment
1994 (b)	165.23	211.6	43,221	7,141,373	9,145,521	2,004,148
1995 (b)	174.18	229.87	43,915	7,649,115	10,094,741	2,445,626
1996 (b)	174.18	247.28	45,125	7,859,907	11,158,559	3,298,652
1997	227.95	309.55	44,044	10,039,830	13,633,820	3,593,990
1998	274.93	338.79	44,404	12,208,047	15,043,699	2,835,652
1999	342.97	348.31	47,230	16,198,439	16,450,646	252,208
2000	383.78	385.25	46,922	18,007,764	18,076,739	68,975
2001	414.37	414.88	45,845	18,996,834	19,020,215	23,381
2002	448.83	462.24	45,200	20,287,116	20,893,248	606,132
2003	485.71	522.99 (c)	43,400	21,079,814	22,697,766	1,617,952
2004	542.36	529.85 (c)	43,198	23,428,650	22,888,248	-540,402
2005	591.21	591.91 (d)	43,072	25,464,774	25,494,925	30,151
2006	617.79	623.47	44,504	27,494,064	27,746,847	252,782
2007	691.91	691.83	43,895	30,371,597	30,368,104	-3,493
				Total Underpayment 1994-2007		16,485,755
				Total Underpayment 2000-2007		2,055,478

(a) From 1973 to 1992, customers using Croton water were charged $76.87 per million gallons and customers using Catskill/Delaware water were charged $103.72 per million gallons. Prior to the 1993 rate increase, communities using water from the Croton System were billed at a different regulated rate than communities using water from the Catskill/Delaware System. Since 1993, a uniform rate has been used for all upstate customers.

(b) The rates approved by NYSDEC were: $137.73 per million gallons for 1993, $158.31 for 1994 and $175.69 for both 1995 and 1996.

(c) The computed cost to the Board as shown above for 2003 and 2004 does not take into consideration the upstate share of the costs of defeasance of certain Authority bonds. Including the effects of the cost of defeasance, the rate per million gallons is $549.32 in 2003 and $560.58 in 2004. The City reserves the right to include such costs in the cost of service and the regulated rate. The basis for these costs is explained in Section 4 of the Report.

(d) The rate shown above for 2005 & 2006 includes the costs of defeasance in those years.

(e) To date, the board has not paid, nor credited, upstate customers the difference between the rate charged and the actual cost of service.