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March 4, 2011

Mr. Thomas Paolicelli
Executive Director
New York City Municipal Water Finance Authority
75 Park Place
New York, NY 10007

Re: New York City Municipal Water
Finance Authority
Fiscal Year 2011 Consulting Engineer's Report

Dear Mr. Paolicelli:

We herewith submit the Fiscal Year 2011 Consulting Engineer's Report on the operation of the Water and Sewer System of the City of New York. This Report addresses the condition and operation of the System as it presently stands, as well as the adequacy of capital and operating programs for Fiscal Years 2011 and 2012.

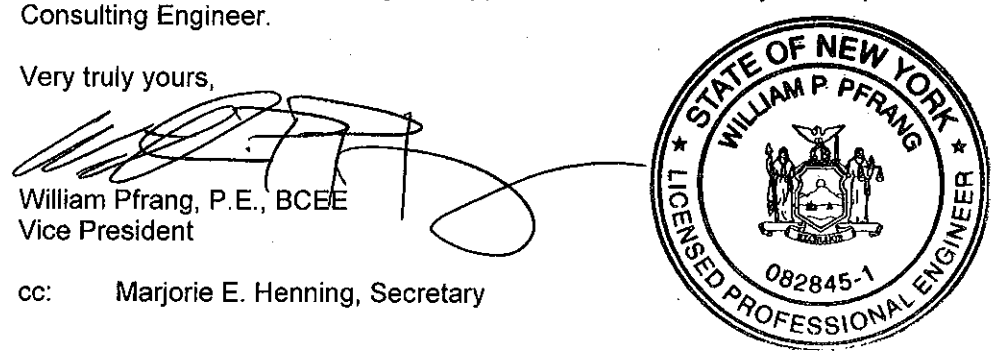
It is our opinion that the System condition is adequate and that it continues to be managed by the New York City Department of Environmental Protection (NYCDEP) in a professional and prudent manner. The current budget allocations for Fiscal Year 2011 and Fiscal Year 2012 are adequate for the immediate needs of the System and address all legally mandated projects.

It is important to note that much of the data utilized for the analyses conducted by AECOM has been generated by the on-going budgetary process. The budgetary planning will continue past the date of this report and revisions may be made. However, it is our opinion that meaningful observations and conclusions can be made at this time, although the final budget allocations are subject to change based on the outcome of the budgetary process. It is these observations and conclusions that are presented hereinafter.

We have no responsibility to update this report for events and circumstances occurring after the date of this Report.

We look forward to continuing to support the New York City Municipal Water Finance Authority as Consulting Engineer.

Very truly yours,



William Pfrang, P.E., BCEE
Vice President

cc: Marjorie E. Henning, Secretary

Document #4901

THE NEW YORK CITY MUNICIPAL WATER FINANCE AUTHORITY

FISCAL YEAR 2011 CONSULTING ENGINEER'S REPORT

PREPARED BY

AECOM

March 4, 2011

AECOM

TABLE OF CONTENTS

LIST OF FIGURES

PURPOSE AND SCOPE OF THE REPORT

The purpose of this report is to provide engineering information pertinent to the condition of the Water and Sewer System (System) serving New York City (NYC) and the use of the proposed capital improvement program (CIP) funds. Since 1983, AECOM (formerly Metcalf & Eddy) has provided engineering services related to the NYC Water and Wastewater Operations Evaluation Study (Study) and has provided services to the NYC Municipal Water Finance Authority (Authority) since 1985. Certain studies and analyses were performed in anticipation of the creation of the Authority and were used in developing the information included in the Municipal Water Finance Authority Official Statements under the captions: "CAPITAL IMPROVEMENT AND FINANCING PROGRAM — Ten Year Capital Strategy, Current Capital Plan and the Capital Improvement Program, "THE SYSTEM — The Water System," and "THE SYSTEM — The Sewer System." AECOM has performed ongoing evaluations of the condition of the System, independently reviewed the capital and operating programs pertaining to water and wastewater, reviewed pertinent studies associated with the long-term development of the System, and interviewed key individuals responsible for managing the activities of the NYC Department of Environmental Protection (NYCDEP).

The report addresses the issues listed below:

- present physical condition of the System
- Fiscal Year 2011 capital budget and Fiscal Year 2012 projected capital budget for the System
- Fiscal Year 2011 expense budget and Fiscal Year 2012 projected expense budget relative to operation and maintenance of the System
- overview of the Preliminary Ten Year Capital Strategy for Fiscal Years 2011 to 2021
- management of the System

METHODOLOGY FOR ANALYSIS

The analyses conducted by AECOM were accomplished utilizing the following methods:

- discussions with representatives of the Authority and NYCDEP,
- selected confirmation inspections of operating facilities and major on-going construction programs,
- review of documentation relative to the ongoing budgetary process, and
- evaluation of other comparable water and wastewater systems and industries.

The budgetary process is ongoing and had not been concluded by the date of this report's publication. Observations and conclusions presented herein are therefore based on budget data as it presently stands. It is the opinion of AECOM that these observations and conclusions are meaningful with respect to the System. It should be noted, however, that these observations and conclusions are subject to change based on the outcome of the budgetary process.

THE CONSULTING ENGINEER

AECOM has served the water and wastewater industry for over 100 years and NYC as a consulting engineer for many decades dealing with water supply, water distribution, sewage collection, and wastewater treatment. AECOM is one of the largest consulting engineering firms in the United States and is recognized internationally as a leader in providing services to the water and wastewater industry. AECOM is a global leader in all the markets for which it provides professional technical and management support services including water/wastewater, facilities, environment, energy, government and transportation. AECOM has approximately 53,000 employees worldwide and serves clients in approximately 100 countries. In 2010, Engineering News Record (ENR) magazine ranked AECOM #1 in the top 150 global design firm category.

THE CONSULTING ENGINEER'S CONCLUSIONS

- In our opinion, the System continues to be managed in a professional and prudent manner with an appropriate regard for the level of service afforded to the users within the available funding.

- NYCDEP capital and expense budget projections for Fiscal Year (FY) 2011 satisfy the immediate needs for the System including all legally mandated projects, which comprise approximately 21% of the capital budget for FY 2011.

- NYCDEP capital and expense budget projections for FY 2012 satisfy the immediate needs for the System including all legally mandated projects, which comprise approximately 16% of the capital budget for FY 2012.

- The physical condition of the System receives an adequate rating, which is the highest of the three ratings that have been established for this analysis.

- Staffing levels are at approximately 95% of current allocations. NYCDEP continues to maximize the efficient use of its staff through re-allocation of current positions and new hires. The key staffing goals are to provide adequate staffing for the future operation of the CAT/DEL UV Disinfection Facility by the Bureau of Water Supply (BWS), to provide adequate staffing for the future operation of the Croton Water Filtration Plant by the Bureau of Water and Sewer Operations (BWSO), and to continue succession planning for key operational staff at the wastewater treatment facilities by the Bureau of Wastewater Treatment (BWT).

- NYCDEP has fully implemented a new organizational structure, which is based upon four core functions of NYCDEP. The new organization allows for improved efficiencies due to enhanced coordination and leveraging capabilities.

MANAGEMENT OF THE SYSTEM

Organizational Structure

Commissioner Holloway has fully implemented a new organizational structure, which consists of managing the agency based upon the four core functions of NYCDEP, as set out in the Strategic Plan: (1) Utility Service (water and wastewater operations), (2) Capital Program Delivery, (3) Regulatory Compliance (Air, Water, and Environment), and (4) Financial Management:

- The Utility Group consists of the three operating Bureaus: Bureau of Wastewater Treatment (BWT), Bureau of Water Supply (BWS) and Bureau of Water and Sewer Operations (BWSO), and a newly created group known as Office of Strategic Planning (OSP). All operating bureaus coordinate activities through the Deputy Commissioner of Operations. In the past, the Bureau of Engineering Design and Construction (BEDC) had been responsible for capital planning. Under the new organizational structure, capital planning has been transferred to the Utility Group. The key responsibilities of each operating bureaus in the Utility Group are:

    - BWT is responsible for the operation and maintenance of fourteen Wastewater Treatment Plants (WWTPs), the City's wastewater pump stations, interceptor regulators, sludge dewatering facilities, fleet of marine vessels, laboratories, and the control of discharges from combined sewer overflows.

    - BWS is responsible for managing, operating, maintaining and protecting the City's upstate water supply system to deliver a sufficient quantity of high quality drinking water. BWS will also be responsible for the operation and maintenance of the CAT/DEL UV Disinfection Facility when the new facilities are commissioned.

    - BWSO is responsible for the operation and maintenance of the City's drinking water distribution and wastewater collection systems. BWSO will also be responsible for the operation and maintenance of the Croton Water Filtration Plant when the new facilities are commissioned.

    - OSP is responsible for development of the Strategic Plan, the implementation of transparent performance metrics for each of NYCDEP's four core functions, the development of energy initiatives to reduce operating costs, and of the development of an asset management system to guide capital investment prioritization.

- BEDC is the bureau responsible for managing the design and construction of major capital projects, including major water transmission facilities, water treatment facilities, wastewater treatment and disposal facilities, wastewater pumping stations stormwater/combined sewage overflow (CSO) facilities. BEDC recently underwent a reorganization to streamline decision making and to support accountability. BEDC continues to implement improvements to overall business practices, increase efficiencies and implement standardization across BEDC in cost estimating, project scheduling, project delivery, contract structure and change order procedures.

- The recently formed Sustainability Group is responsible for the development and implementation of environmental policy and strategy, including water and air quality, the noise code, and other quality of life issues. The Group includes the Bureau of Environmental Planning and Analysis (BEPA) and Bureau of Environmental Compliance (BEC). BEPA is responsible for conducting environmental reviews for NYCDEP, providing technical assistance for the preservation of natural resources, conducting long range planning (population/employment, consumption and demand/flow), conducting strategic planning to help ensure appropriate forecasting, trend analysis, regulatory review, scientific modeling,

and research. BEC is responsible for responding to air and noise code complaints, maintaining the database of facilities containing hazardous and toxic material, overseeing remediation of hazardous waste municipal landfills, managing investigation of contaminated sites and responding to hazardous material emergency incidents, The Sustainability Group is also responsible for implementing PlaNYC initiatives throughout the agency, and will also develop long-term strategies to meet the NYCDEP's water quality goals. An Office of Green Infrastructure has been established to support and implement the Green Infrastructure Plan.

- The Chief Financial Officer (CFO) is responsible for financial management of NYCDEP. In this capacity, the CFO oversees the Budget Office and the Bureau of Customer Service. The CFO is also responsible for overseeing the administrative functions consisting of procurement, information technology, engineering audit, and human resources.

STRATEGIC PLAN

NYCDEP released its Strategic Plan (2011 – 2014) in February 2011 which establishes a plan to achieve the agency's core objectives over the long-term in a safe, cost-effective, efficient and transparent way. The Strategic Plan establishes 29 goals for DEP's core functions and launches100 initiatives to explain how each of these goals will be implemented within the next four years and beyond. The following areas are addressed in the Strategic Plan: strategic planning and performance; customer service; worker safety, public health and environmental protection; operations and capital; and sustainability. This plan presents significant programs that are already underway and how they fit into the NYCDEP mission (such as Croton, UV, City Tunnel #3, WWTP upgrades) and other programs that are in the planning or early implementation phase (such as the repair of the Delaware Aqueduct and the Green Infrastructure Plan). The Strategic Plan discusses implementation of several cost-effective strategies into their overall plan such as: green infrastructure implementation to improve water quality and provide other sustainability benefits; energy goals of reduced electrical demand and investment in cost effective clean energy projects; and improvements in the implementation of the CIP with an improved asset management tool, better business practices and further project controls. This Strategic Plan incorporates the significant progress that has been made for the water and wastewater system along with the plans for the future of the agency to continue in a forward-thinking positive direction, into a comprehensive plan. Updates of the Strategic Plan will be issued annually. Several projects discussed in the strategic plan are also addressed later in this report.

CAPITAL PROGRAM OVERVIEW

Capital Improvement Program (CIP)

Budgeting is a lengthy and comprehensive process, especially for a municipality operating such a large and complex system as is the responsibility of the NYCDEP. NYCDEP budgeting is an ongoing iterative process that takes into account legal mandates, mayoral initiatives such as PlaNYC, other commitments, state of good repair (SOGR) projects to maintain permit compliance, capacity issues, dependability, environmental, health, and safety (EH&S) compliance requirements, community drivers, and other project needs. Project schedules, cost estimate updates, technical issues and legal issues may impact project prioritization and the overall budgeting exercise.

The NYCDEP CIP consists of the Ten Year Capital Strategy, along with the four-year Current Capital Plan, which is updated quarterly. The Ten Year Strategy is updated every two years. The Preliminary Ten Year Capital Strategy was released in February 2011, which consists of the Preliminary Plan for the ten-year period from FY 2012 through FY 2021. The Current Capital Plan for FY 2011 through FY 2014 was also released in February 2011 and is consistent with the

Ten Year Capital Strategy for FY 2012 through FY 2014. This review includes the budget for FY 2011, which ends on June 30, 2011, and the budget for FY 2012, which begins on July 1, 2011. AECOM has reviewed the Preliminary Ten Year Capital Strategy and met with key individuals responsible for budgetary planning to provide an independent assessment of its adequacy. It is anticipated that the Mayor will issue the Executive Budget in April 2011. Our findings are summarized in the following paragraphs.

Regarding FY 2011

The Preliminary Plan FY 2011 budget is set at approximately $2.45 billion. Approximately 21% of FY 2011 funding supports mandated projects, such as the Croton Plant, combined sewer overflow (CSO) work and filtration avoidance determination (FAD) requirements. NYCDEP has indicated that all legally mandated projects are fully funded in FY 2011. Significant funding is also included in FY 2011 for City Tunnel #3 connections, Gilboa Dam reconstruction, Staten Island siphon, wastewater treatment plant state of good repair projects, water distribution system and wastewater collection sewer work.

Regarding FY 2012

The Preliminary Plan FY 2012 budget is set at approximately $1.72 billion. Approximately 16% of FY 2012 funding supports legally mandated projects, such as nitrogen upgrades and CSO projects (grey and green infrastructure). NYCDEP believes that all legally mandated projects will be fully funded in FY 2012. Significant funding is also included in FY 2012 for City Tunnel #3 connections, water dependability projects, wastewater treatment plant state of good repair projects, water distribution system and wastewater collection sewer work.

Regarding the Preliminary Ten Year Capital Strategy for FY 2011 to FY 2021

The Preliminary Ten Year capital Strategy for FY 2011-2021 consists of about $14.59 billion in funding. Approximately 22% of the total funding for FY 2011-2021 is dedicated to mandated projects. This is significantly less than previous years. As a consequence, the majority of the capital improvement program must be planned and budgeted based solely on its importance to the overall System.

As in most US cities, the NYCDEP infrastructure is aging. Therefore, it is necessary to refurbish or replace infrastructure in a planned manner to cost effectively minimize risk of failure. The NYCDEP has refined their Asset Management program significantly during this past year in order to set priorities for the continued refurbishment of its physical assets. The Asset Management program provides a uniform methodology for a comprehensive evaluation of capital assets throughout the System and allows a systematic approach to maintain and upgrade physical assets so that capital improvements can progress in an orderly manner.

Currently, the non-mandated improvements include a significant amount of funding for the repair of the Rondout-West Branch (RWB) tunnel and associated water supply dependability projects, state of good repair projects, projects for the CSO program, and water distribution system and sewerage projects.

System-wide Programs

Asset Management

Building on past experience, NYCDEP has made further efforts to refine their asset management program and expanded it to include the majority of the water and wastewater infrastructure. This ongoing effort is based upon a collaborative approach between the operating bureaus (BWT, BWS, and BWSO) and BEDC so that all stakeholders have input throughout the process. Approximately 27,000 assets have been evaluated and about 7,000 business cases formed, using consistent business rules. Business case project prioritization is based upon a scoring of the following criteria – physical condition, performance/process condition, regulatory/ environmental, service level/reliability, efficiency/energy, O&M and hazard, growth/public/ community, public image and financial. The results have been used in the development of the funding needs for the state of good repair for this Ten Year Capital Strategy. It is also expected that functional asset management program tools will be in place for continuous real time updating of the status of the many NYCDEP physical assets to reflect completion of improvement projects and condition survey updates for operating assets. The principles of asset management have been effectively applied to many water and wastewater utilities worldwide and the NYCDEP's progress in asset management is a positive development. It is anticipated that NYCDEP will continue to build their asset management program to include operations and maintenance data to achieve a full comprehensive formalized Asset Management program for all assets. The following rating system was used to rank all assets.

5 – Very Poor: Effective life exceeded and/or excessive maintenance cost incurred. There is a high risk of breakdown or imminent failure with serious impact on performance. No additional life expectancy is possible and immediate replacement needed.

4 – Poor: Functions but requires a high level of maintenance to remain operational. Shows abnormal wear and is likely to cause significant performance deterioration in the near term. Replacement or major rehabilitation needed in the near term.

3 – Moderate: Functionally sound and acceptable and showing normal signs of wear. May have minor failures or diminished efficiency with some performance deterioration or increase in maintenance cost. Moderate renewal or rehabilitation needed in near term.

2 – Good: Sound and well maintained but may be showing slight signs of early wear. The asset delivers full efficiency with little or no performance deterioration. Only minor renewal or rehabilitation may be needed in the near term.

1 – Excellent Condition: Fully operable, well maintained, and consistent with current standards. Little wear shown and no further action required.

Those assets that received a ranking of 3, 4 or 5 are funded in the Ten Year Capital Plan.

Sustainability, Climate Change and Greenhouse Gas Emissions

In 2010, Mayor Bloomberg released a PlaNYC Progress Report 2010: A Greener, Greater New York, an update on the comprehensive sustainability plan for New York City's future. This plan focuses on five key target areas of the City's environment – air, land, water, energy and transportation. From NYCDEP's perspective, two major initiatives have moved to the forefront and are currently being incorporated into NYCDEP's planning and design projects:

- Climate Change Adaptation Requirements: Adaptation requirements are those actions that must be taken to allow NYCDEP facilities to meet their intended functions when considering increased sea levels and more intense storm events. Following release of the Climate Change Program Assessment and Action Plan in 2008, NYCDEP has implemented several of the next steps identified in the report, including studying the effects of climate change on the City's stormwater/wastewater collection system in more detail to determine what level of infrastructure and policy modifications are necessary to mitigate potential damage from larger, more frequent storm events and rising sea levels. In September 2010, NYCDEP released its Green Infrastructure Plan which outlines a comprehensive approach to stormwater management. The plan is based on implementing city-wide green infrastructure improvements to reduce the volume of stormwater that reaches the engineered stormwater collection system. According to the plan, the investment in green infrastructure will result in an overall savings of approximately $2.4 billion in future capital investments to meet NYCDEP's future requirements. The Plan is now under review by the USEPA. BEPA also recently initiated a two-year study that will develop an adaptation and optimization strategy to minimize global climate change risks. This study will focus on two drainage areas and one WWTP to better quantify future capital investment requirements. This project will result in the development of a citywide risk based management strategy to address long term climate change. BWS is focused on climate change impacts on the water supply side though the use of models. In May 2010, the NYC Panel on Climate Change released a report entitled *Climate Change Adaptation in New York City: Building a Risk Management Response*, which among other important information it includes climate trends and projections for NYC, which NYCDEP is using for analysis and planning. NYCDEP maintains strong involvement with the climate science community on the City, federal and international level.

- Greenhouse Gas Reduction Requirements: As part of PlaNYC, the City has committed to reducing its municipal greenhouse gas emissions by 30% below Fiscal Year 2006 levels by Fiscal Year 2017. NYCDEP is continuing a project to develop a strategic plan to meet the 30% reduction. This work will include a review of PlaNYC emissions inventories, development of design guidance to incorporate energy savings and emissions reductions in future contracts, and site visits to select NYCDEP facilities to identify areas where greenhouse gas emissions can be reduced and energy efficiency measures can be implemented. In the past year, NYCDEP has fully inventoried its annual greenhouse gas emissions, identified the largest emissions sources and greatest opportunities for reductions, and quantified the impact of ongoing and planned projects on the inventory. Although substantial energy consumption increases are expected over the next several years system-wide, largely driven by mandated activities, NYCDEP is diligently pursuing projects that reduce greenhouse gas emissions and improve energy efficiency. Current planned and on-going energy and greenhouse gas–related projects bring NYCDEP within 80% of their overall reduction goals. In the coming year, NYCDEP is expected to conduct site audits of select facilities to identify additional opportunities for energy reduction and develop the strategic plan to meet the PlaNYC goal.

Capital Program Accomplishments

There are a number of capital program accomplishments during the past year that are noteworthy. These items play an essential role in the development of the CIP, and providing for prudent and professional management of the System.

- The Gilboa Dam reconstruction project was recently bid and award of the contract is expected in March 2011.

- The notice-to-proceed (NTP) for construction of the Staten Island siphon project occurred in FY 2011. This project consists of the construction of a 72-inch water tunnel that will have the ability to provide 150 mgd of water to Staten Island. NYCDEP has partnered with the Port Authority of NY/NJ, the Army Corps of Engineers and the New York City Economic Development Corporation for this project. Construction completion is expected in 2014.

In addition, NYCDEP made significant commitments for the continued development and implementation of major programs this past year. These decisions will provide major improvements in infrastructure and water quality and will take steps to move from planning into implementation phase.

- RWB Tunnel Repairs. In November 2010, NYCDEP released its plan to repair the Delaware Aqueduct by building a bypass tunnel around the major leakage area, and by grouting at other areas. Funding is included in the CIP, which supports the implementation schedule.

- Green Infrastructure. The release of the NYC Green Infrastructure Plan in September 2010 signified a step forward with the implementation of NYCDEP's cost-effective hybrid plan for the CSO Program.

Capital Improvement Program Highlights for Water Supply, Treatment, and Conveyance Programs

Delaware Aqueduct Roundout-West Branch Tunnel Repair

Since the early 1990s, NYCDEP has closely monitored the Rondout-West Branch (RWB) Tunnel portion of the Delaware Aqueduct that has shown evidence of some water losses. NYCDEP has a series of tunnel leak investigations including geological investigations, tunnel flow monitoring, well monitoring, surface expression monitoring, automated underwater vehicle (AUV) investigations, and a series of dives and investigations at Shaft 6. After evaluating several repair alternatives, NYCDEP recently announced a comprehensive plan to build a three-mile bypass tunnel around the leaking section in the area of Roseton, NY and to perform repairs of the concrete liner in other areas near Wawarsing, NY. Funding of $1.011 billion is included in the Ten Year Plan for the tunnel leak repair plan. NYCDEP's schedule for the repair consists of breaking ground in 2013 and construction completion in 2019. The tunnel bypass connection with the existing tunnel is anticipated to take approximately eight to twelve months, during which time the Delaware Aqueduct will be shutdown. NYCDEP continues coordination with a Public Advisory Committee to keep the community informed about the progress of the monitoring and the planned repair of the tunnel. NYCDEP has scheduled one more preparatory project for later in 2011 to install a new gate valve and test the structural integrity of the bronze access door to the tunnel, which will allow the NYCDEP to dewater the shaft and proceed with the renovation work. NYCDEP has been conducting emergency planning for the RWB tunnel involving NYC, State Office of Emergency Management (OEM) and surrounding County agencies.

Dependability of Water Supplies/ Additional Water Supplies

The Dependability Study/Plan has focused on evaluating strategies for improving dependability of water supplies to meet the demands of the system when water supply system components are out of service either planned or unplanned. NYCDEP has evaluated various alternative projects, which could allow for the Delaware Aqueduct to be taken out of service for up to one year for the implementation of the selected RWB tunnel repair. Several projects are funded in the Ten Year Plan to provide operational flexibility for NYCDEP to provide safe, reliable additional water supply when the Delaware Aqueduct is shutdown. Funding of $1.083 billion is provided in the CIP for a

number of additional water supplies. Increasing groundwater supply in Jamaica Bay has been identified as a project to supplement water supplies: Station 6, which is a 10 mgd centralized treatment facility for six supply wells from the former Jamaica Water Supply Company groundwater system in Queens, along with drilling further groundwater wells in Jamaica is funded at $392 million. Another dependability project, which is the interconnection of the Delaware Aqueduct with the Catskill Aqueduct at Shaft 4, is funded at a level of $45 million in the Ten Year Plan. The Cross River Pump Station and the Croton Falls Pump Station are funded at $63.1 million. These pumping stations provide conveyance flexibility to NYCDEP and would permit Croton water to be supplied to the Delaware Aqueduct if required in emergencies. The implementation of conservation measures is also funded at $60 million. A project to increase the capacity of the upper Catskill Aqueduct is funded at $132 million. Additional water supply projects are funded at a level of $391 million.

Catskill/Delaware Water Supply System Filtration Avoidance

NYCDEP continues to operate under the 2007 Filtration Avoidance Determination (FAD) for the Catskill/Delaware systems. The 2007 FAD consists of a watershed protection program for 2007-2017, consisting of two five-year periods. The United States Environmental Protection Agency (USEPA) transferred primacy to the New York State Department of Health (NYSDOH) after the 2007 FAD was issued.

The continuation of the FAD programs is funded in the Ten Year Capital Plan through 2017 at a level of approximately $400.2 million. The land acquisition program is currently funded through the end of the current FAD in 2017 with the initial 2007 funding allocation. Under the current FAD, NYCDEP is required to continue a land acquisition program (LAP) for the ten years covered by the FAD. NYCDEP received a new 15-year New York State Department of Environmental Conservation (NYSDEC) land acquisition permit in December 2010, which will allow the City to continue to acquire environmentally sensitive land to protect the watershed, while making sure that the upstate community interests and economic development is protected. NYCDEP has either acquired or secured title or conservation easements to about 117,000 acres in the Catskill and Delaware watersheds at a cumulative value of approximately $400 million since the inception of the LAP. In 2010, 11,978 acres of watershed lands were acquired by NYCDEP.

The other FAD programs (such as septic and sewer rehabilitation/replacement program, upstate wastewater treatment upgrade program, stormwater management program, waterfowl management program, land management, watershed agricultural program, and wetlands protection program) will be evaluated after the first five years to determine the continuation of certain programs for the second five year period. For the second five years of the 2007 FAD, discussions are required between NYCDEP, USEPA and NYSDOH to establish milestones for the continuation of existing programs. These discussions will also include a review of accomplishments under the FAD and water quality results. NYCDEP will prepare a Revised Long Term Watershed Protection Program Plan to be submitted to USEPA and NYSDOH in December 2011, which will form the basis for the 2012 FAD renewal. Additional funding will be required beyond FY 2017 for continuation of the FAD programs for a new or extended FAD once the program is negotiated.

The 2007 FAD also requires implementation of operational modifications for turbidity control in Schoharie Reservoir, and the evaluation of potential modifications at Ashokan Reservoir for turbidity control. USEPA, NYSDEC and NYSDOH have endorsed the operational modifications that NYCDEP proposed for the Schoharie Reservoir and the Ashokan Reservoir with the implementation of operational support tool (OST). NYCDEP's OST links water quality and water quantity models, uses near real-time data for reservoir levels, stream flows entering reservoirs, snowpack and water quality in streams and reservoirs, and it includes National Weather service forecasts. NYCDEP recently held a workshop for technical review of the OST modeling and

monitoring system by leading water supply experts, water scientists, academics and engineers. OST is being rolled out in phases with full implementation planned in 2013.

CAT/DEL UV Disinfection Facility

The FAD also includes the construction of an ultraviolet (UV) disinfection facility to treat water from the Catskill and Delaware (CAT/DEL) watersheds. The facility is being constructed at the Eastview site. Operation must commence with completion of the first two quadrants by August 31, 2012, and full operation must commence October 29, 2012, in accordance with the UV Administrative Consent Order. In October 2010, the first UV units were installed at the facility. UV Disinfection Facility construction is ahead of schedule, and is anticipated to be complete prior to the Consent Order deadlines. The change orders for this project are fully funded in the Ten Year Capital Strategy at a level of $34.4 million. NYCDEP will operate the UV Facility once it comes on-line. However, NYCDEP is in the process of evaluating contract operations for this facility in the future.

The Catskill Aqueduct pressurization project is funded at a level of $415 million in the later years of the CIP. This project will allow additional flows to be conveyed and treated at the CAT/DEL Facility.

Dam Safety

The full long-term rehabilitation upgrades for the Gilboa Dam are anticipated to bring the dam into a state of good repair and in compliance with the NYSDEC dam safety guidelines. The total rehabilitation is funded at approximately $304.4 million in the CIP. The crest gates contract is on-going. The main dam full reconstruction contract was recently bid and award of the contract is expected in March 2011. Funding of $143.4 million is included in FY 2011 funding for this contract. NTP to construct is anticipated in May 2011. Additional funding of $161 million is included in the Ten Year Capital Plan for other construction projects associated with the Gilboa Dam reconstruction, which are a new low level outlet and rehabilitation of the Shandaken Tunnel intake chamber.

State of good repair funding for other upstate dams is included in the Ten Year Plan at a level of $65.7 million. In addition to capital programs, BWS maintains an inspection and maintenance program to support dam safety. NYCDEP continues their dam inspection program using engineering contracts and in-house NYCDEP inspectors.

Croton Water Filtration Plant

NYCDEP and NYSDOH will be negotiating revised milestones for the Croton Water Filtration Plant construction schedule dues to delays in the Croton Filter Consent Decree milestone schedules attributable to a delay in the notice-to-proceed (NTP) for the General (G), Heating, Ventilating and Air Conditioning (HVAC) and Electrical (E) construction contracts and slow progress by the E Contractor. BEDC is monitoring construction scheduling and is working diligently to maintain construction progress. Approximately $264.1 million is included in the CIP for the remaining facilities associated with the Croton Water Filtration Plant, which includes the residuals force main, off-site facilities, Con Edison power charges and related upgrades, and the permanent Mosholu Golf Club House and construction change orders. Funding of approximately $53.3 million is included in the CIP for mandated payments to the Parks Department in connection with the Croton Water Filtration Plant. NYCDEP is evaluating alternatives to provide standby power for the Croton Water Filtration Plant to increase dependability if there was a major power outage. The additional work is currently not funded in the Croton budget. Standby power is not part of the critical path for completing construction and starting-up the Croton Water Filtration Plant.

To improve the progress of the electrical work a new electrical subcontractor has been brought onboard. The General Contractor for the Croton Water Filtration Plant has placed almost all of the concrete for the plant, and the other contract work is progressing to keep pace. Con Edison is expected to energize the new electrical feeders to the plant by mid-2011. The tunnel contract will be completed in the near future. Construction of the Offsite Facilities at Jerome Reservoir and Gate House 1 is proceeding. Work at Gate House 1 has been delayed while access to the structure has been coordinated with the NCA Rehabilitation Contractor. The force main contract is undergoing a major revision with a shorter route and new connection point, but it is anticipated to be completed when the filtration plant becomes operational.

Rehabilitation of the New Croton Aqueduct (NCA) is ongoing. Because of the shutdown of the Delaware Aqueduct for shaft dives and inspections, access to the NCA was limited. The NCA Contractor expects to complete the rehabilitation work by the end of 2011, in time for the start-up of the Croton Water Filtration Plant.

City Tunnel No. 3, Stage 2

NYCDEP has accelerated funding for the activation of City Tunnel No. 3, Stage 2, Manhattan leg to support an aggressive schedule for activation by the end of 2013. It is currently under construction and is funded at $926.6 million is included in the CIP for connections and activation of the Manhattan segment. Significant coordination among NYCDEP, Department of Design and Construction (DDC) and Department of Transportation (DOT) is ongoing regarding the challenging issues associated with the connection of shafts and the distribution mains. There has recently been passage of state legislation allowing joint utility bidding which will be used for City Tunnel #3 contracts to improve coordination of the contracts.

Funding of $306.6 million is included in the CIP for the activation of City Tunnel No. 3, Stage 2 Brooklyn-Queens section. Construction completion for the Brooklyn-Queens section is anticipated in 2018. At that time, NYCDEP will have redundancy for Tunnel #1 and NYCDEP will have the ability to take it out of service for the first time since it was put into service in 1917.

Hillview Reservoir

The Hillview cover is currently required due to federal regulations administered by USEPA and an Administrative Consent Order with NYSDOH, which includes a schedule for installation. NYCDEP and USEPA executed a revised Administrative Order in May 2010, which provided an extension of time for construction of the Hillview cover. According to the current order, the site preparation construction contract is required to start by January 31, 2017, construction start for the East Basin cover is required by December 31, 2018, and construction completion of the cover by May 31, 2028. This revised Order also allowed NYCDEP to submit an additional time deferral request. In October 2010, NYCDEP requested an additional six years, due to planned water system projects that would not permit Hillview construction simultaneously. NYCDEP is currently negotiating a potential time deferral for an additional six years for construction of the Hillview cover with USEPA and NYSDOH. NYCDEP recently received a letter from the United States Department of Justice (USDOJ) indicating that this issue had been referred to them. There is currently no funding in the Ten Year Capital Plan for the Hillview cover. Depending upon the outcome of the discussions regarding the additional time extension, funding may be required in the outer years of the Ten Year Plan.

Funding is included in the Ten Year Capital plan for upgrades planned at Hillview Reservoir. Approximately $121 million is included in the later years of the CIP for the modification of chambers at Hillview.

Capital Improvement Program Highlights for Wastewater Treatment

Combined Sewer Overflow (CSO) Program/ Green Infrastructure Plan NYCDEP released its Green Infrastructure Plan in September 2010, which outlines a comprehensive long-term hybrid approach of grey and green infrastructure implementation to address water quality issues and other public sustainable benefits. Green infrastructure is an approach to wet weather management that is cost-effective, sustainable and environmentally friendly. The overall goal of NYC's Green Infrastructure Plan is capture the first inch of rainfall on 10% of the impervious areas in combined sewer watersheds through detention or infiltration over 20 years. The Green Infrastructure Plan presents a savings of approximately $2.4 billion over twenty years with implementation of green infrastructure compared to the all-grey infrastructure strategy (tanks, tunnels and WWTP expansions).

Implementation of this plan will require significant coordination among several city agencies and this effort has begun with the creation of the Green Infrastructure Task Force. In collaboration with other city agencies NYCDEP is building more than 20 demonstration projects for a variety of land uses, such as blue roofs/green roofs, porous pavement, tree pits, street side swales, green streets, constructed wetlands, and rain barrels. Several cities across the country have implemented green infrastructure for wet weather management and water quality control issues.

Approximately $732 million is funded in the Ten Year Capital Plan for green infrastructure and approximately $1.26 billion is included for grey infrastructure for a combined funding of $1.99 billion in capital projects for implementation into CSO Program. NYCDEP has been negotiating with the NYSDEC to modify the CSO Consent Order to integrate green infrastructure into the current CSO Order and the 14 Long-Term Control Plans (LTCPs), which are required by 2017. However, additional funding may be required in the outer years of the CIP or in future planning periods depending upon the outcome of the negotiations to incorporate green infrastructure into the Order and to eliminate or defer some of the costly grey infrastructure.

Paerdegat CSO Retention Facility in Brooklyn and Alley Creek CSO Retention Facility in Queens will be transitioning over to BWT operations and coming on-line in the near future. Spring Creek and Flushing Bay CSO Retention Facilities are operational. NYCDEP and NYSDEC executed a CSO BMPs Consent Order in November 2010 addressing best management practices for CSOs, which requires interceptor inspections and cleaning, evaluation of hydraulic capacity, in addition to other programs maximizing wet weather flows in the system. BWT recently acquired two additional Vactor trucks to allow for interceptor cleaning every two years and to improve capacity in the interceptor.

Citywide Nitrogen Removal Program

Regarding the Upper East River and 26th Ward WWTPs

Construction contracts to upgrade the Upper East River WWTPs (Hunts Point, Bowery Bay, Tallman Island, and Wards Island WWTPs) and the 26th Ward WWTP for the Phase I Facility plan for Biological Nitrogen Removal (BNR) upgrades as required by the Nitrogen Consent Judgment have all been awarded. Hunts Point WWTP completed construction for the Phase I nitrogen removal upgrades and started operation of biological nitrogen removal in the Summer of 2010. The full-scale 25-mgd BNR demonstration project at Wards Island WWTP came on-line in December 2008; this demonstration project will serve as a testing facility for various operational control and optimization strategies that the City can implement at its other BNR installations. The SHARON® (Single reactor system for High activity Ammonium Removal Over Nitrite) demonstration facility came on-line in November 2009. The schedules for the BNR upgrades at some of these plants have been delayed for various site-specific reasons. However, NYCDEP

and NYSDEC have negotiated revised construction milestones for the WWTPs undergoing BNR upgrades.

In accordance with the Nitrogen Consent Judgment, NYCDEP submitted a Phase II facility plan in December 2009. A final Basis of Design Report for the Phase II BNR upgrades is due to NYSDEC in June 2011. Carbon addition for Hunts Point WWTP is required by August 2014 and funding of approximately $20.5 million for construction is included in the CIP. Additional funding of $72 million is included in the CIP for construction of supplemental carbon facilities at Bowery Bay, Tallman Island and Wards Island WWTPs for Phase II BNR.

Regarding Jamaica Bay

NYCDEP and NYSDEC have entered into an agreement to upgrade the Jamaica WWTP to reduce nitrogen discharges. A Stipulation and Order Modifying the Nitrogen Consent Judgment became effective October 2009, which added nitrogen removal upgrades at the Jamaica WWTP. NYCDEP, NYSDEC and Natural Resources Defense Council (NRDC) have entered into a Jamaica Bay Agreement which addresses nitrogen removal upgrades at Rockaway WWTP and Coney Island WWTP, construction milestones for the Jamaica Bay WWTPs interim nitrogen effluent limits for Jamaica Bay and the funding of an environmental benefits project for the saltwater marsh restoration in Jamaica Bay. Funding is included in the CIP for the nitrogen removal upgrades at Coney Island and Rockaway WWTP at a level of $27.25 million for each plant. A modification to the Nitrogen Consent Judgment will be executed for the WWTPs discharging to Jamaica Bay to reflect the Jamaica Bay Agreement, pending Jamaica Bay Agreement approval by the Comptroller.

The 26th Ward WWTP completed construction for the Phase I nitrogen removal upgrades and started operation of biological nitrogen removal in 2010. NYCDEP is planning a project to install a demonstration Ammonia Removal Process (ARP®) System that will treat 1.2 million gallons per day (mgd) of nitrogen-rich side-stream centrate at the 26th Ward WWTP. This physical-chemical process is considered advantageous because it is not sensitive to fluctuations in flow or temperature, has lower capital costs than conventional advanced biological treatment technologies, has low residual waste, and ammonium sulfate, the process by-product, is a marketable fertilizer commodity. Construction is currently estimated to commence in Fall 2012 and the facility will be operational by 2014. The ARP system is funded at a level of $17 million in the CIP.

Newtown Creek WWTP Upgrade Program

All Newtown Creek Consent Order milestones are in compliance. NYCDEP has continued to achieve citywide secondary treatment standards for over a year, while construction has been ongoing at the Newtown Creek WWTP. In June 2011, NYCDEP plans to certify that the Newtown Creek WWTP meets the effluent discharge requirements of the Clean Water Act, well in advance of the Consent milestone of May 2013. The Newtown Creek WWTP mandated upgrade projects that are part of the Consent Judgment are funded in the CIP in FY2011 at a level of approximately $67.8 million for construction change orders.

NYCDEP and NYSDEC entered into a Newtown Creek Third Modified Consent Judgment effective August 2009, which addresses a revised construction schedule for the attainment of secondary treatment and completion of all construction at Newtown Creek WWTP, and resolution of penalties for missed milestones. The key elements of the resolution are: (1) Placement of $29 million in escrow, which can be recovered if NYCDEP meets certain future milestone dates; (2) Establishment of a $10 million fund for environmental benefits projects (EBP); (3) Performing environmental audits of NYCDEP's in-City wastewater treatment plants and four combined sewer overflow (CSO) facilities, under an agreement that requires NYCDEP to remedy any legal

deficiencies uncovered during the audits but protects NYCDEP from penalties for any such deficiencies; (4) The continued implementation of improvements to NYCDEP's business practices related to certain elements of its capital construction program. NYCDEP is required to achieve secondary treatment by May 1, 2013 and complete construction of all Newtown Creek mandated work by July 4, 2014.

Potential Water and Wastewater Projects Beyond Current Ten Year Capital Plan

Kensico-City Tunnel (KCT)

Due to other priority needs of the water conveyance system, KCT is currently not in the NYCDEP ten year planning period and therefore there is no funding included in the Ten Year Capital Strategy. A planning level document recommending general routing of the KCT has been completed. The proposed tunnel would extend from the Kensico Reservoir to the interconnecting valve chamber of Tunnel 3, Stage I, south of Hillview Reservoir. Preliminary KCT construction costs are estimated between $4 and $6 billion, depending upon specific routing, shaft locations and connections.

Nitrogen Removal in the Harbor Estuary

The New York/New Jersey Harbor Estuary Program (HEP) is a National Estuary Program that has been sanctioned by the USEPA to restore the waters of the Lower Harbor Estuary and the tidally influenced portions of all rivers and streams that empty into the Estuary. The HEP was convened as a partnership of federal, state, and local governments; scientists; civic and environmental advocates; the fishing community; business and labor leaders; and educators (called the Management Conference). NYCDEP submitted a report to USEPA last year that evaluated the capital investment cost of upgrading four WWTPs (Owls Head WWTP, Red Hook WWTP, North River WWTP, and Port Richmond WWTP) to provide nitrogen and carbon removal at four different levels of treatment. The water quality impacts on the Harbor Estuary are now being evaluated by USEPA for the various levels of treatment. Through this methodology, it is expected that USEPA and the Management Conference will determine which treatment upgrades, if any, will be required for NYC. Funding is currently not in the Capital Plan for HEP-related upgrades. Upon completion of the HEP studies and based upon negotiations with USEPA, funding may be required in a later planning period.

PERFORMANCE INDICATORS

Water Conservation

Figure 1 presents the annual water demand for the last 19 years. Water conservation measures taken by NYCDEP in the 1990s have resulted in a steady reduction in the overall water demand. More recent declines in water consumption have been noted most likely due to conservation measures, economic downturn and weather patterns.

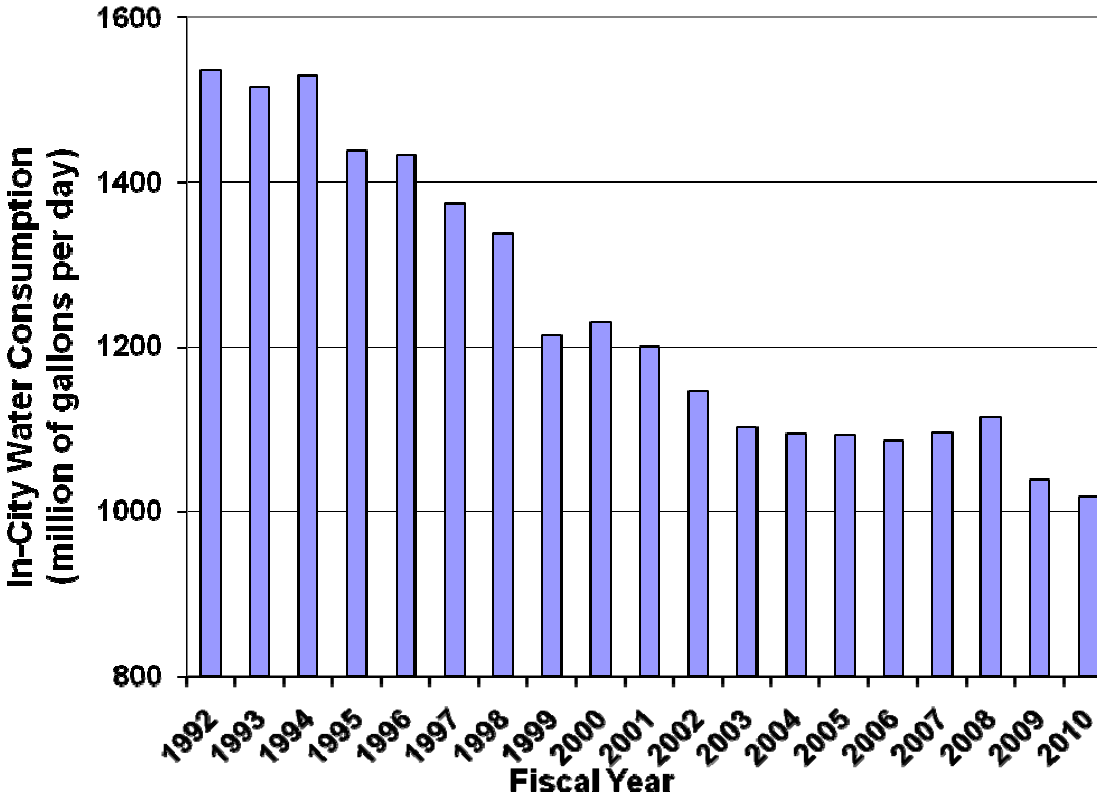
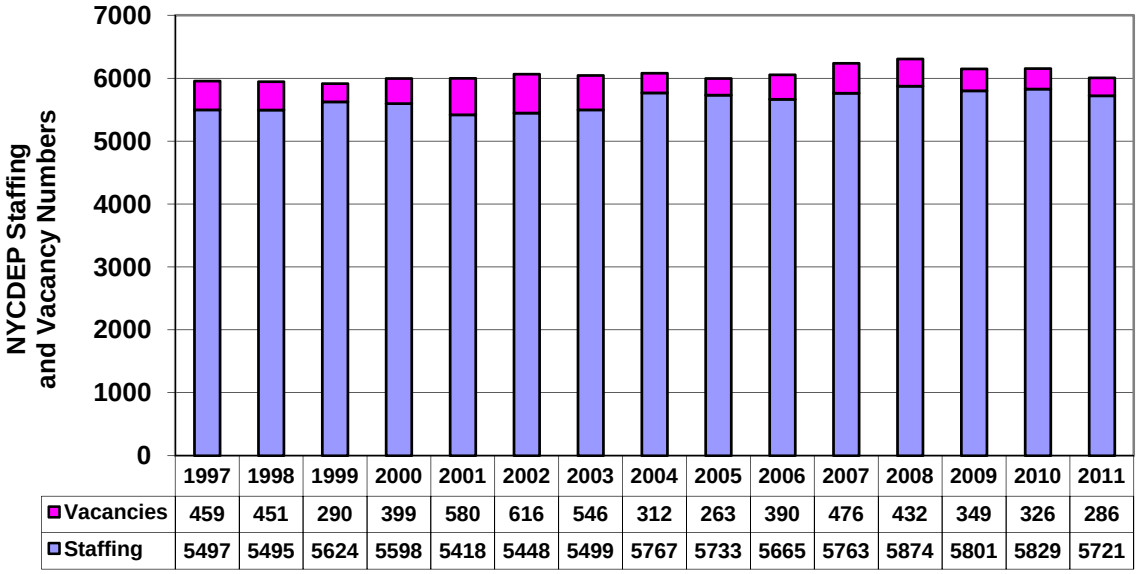


Figure 1: New York City Average Daily Water Demand in Million Gallons per Day (mgd)

System Staffing Levels

Approved positions for the System presently stand at 6,007 for FY 2011 and vacancies currently stand at 286, which reflect a slight decrease in headcount and vacancies compared to FY 2010. A positive trend in personnel procurement has been established over the past several years. Further improvements are planned for the recruitment and personnel procurement process. Figure 2 shows a slight decrease in the NYCEP staffing numbers due to the transfer of the Environmental Control Board from NYCDEP that occurred in FY 2009, which accounts for 142 budgeted headcount. Increased staffing levels are required to operate new facilities coming that will be on-line in the near future. In April 2010, NYC and unions representing NYCDEP employees came to an agreement and settled long standing contract disputes for the Stationary Engineers and Senior Stationary Engineers (Electric); and Sewage Treatment Workers and Senior Sewage Treatment Workers. NYCDEP has seen improvements in attracting highly skilled and qualified staff.



	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Vacancies	459	451	290	399	580	616	546	312	263	390	476	432	349	326	286
Staffing	5497	5495	5624	5598	5418	5448	5499	5767	5733	5665	5763	5874	5801	5829	5721

Figure 2: New York City DEP – Staffing and Vacancy Levels 1997-2011

Operational Performance Indicators

There are many operational parameters that can be reviewed to assess the effectiveness of operating programs. NYCDEP recently developed H_2OStat to improve operational efficiencies, drive performance management and increase accountability across the agency. Several performance indicators for water and sewer operations are summarized below:

The NYCDEP performed leak detection surveys on approximately 59% of the City's water mains in FY 2010. There were 360 water main breaks reported in FY 2010, which is somewhat of an anomaly because it is far less than the water main breaks reported in the previous several years. On average, NYCDEP restored water to residents within 5.5 hours after identifying the location of the break, which is less than the previous two years. The range of water main breaks that NYC has experienced compares well with other municipalities in the United States. NYCDEP will be expanding its preventative maintenance program to target pressure reducing valves by exercising valves and inspecting regulators to help prevent the occurrence of water main break, costly repairs, leaks and disruption of service.

Response time for leak repairs increased slightly to 15.1 days (See Figure 3). The average backlog of broken and inoperative fire hydrants increased to 572 hydrants in FY 2010. The average time to repair or replace high priority broken or inoperative hydrants (as determined by the Fire Department) by NYCDEP was 7.5 days in FY 2010, which is less than FY 2009. Sewer back-up complaints received by NYCDEP dropped to 14,883 in FY 2010, which is 12% decrease from FY 2009. Response time for sewer back-ups was 5.8 hours on average, a slight increase compared to the previous year. Approximately 35% of catch basins were surveyed/inspected in FY 2010. BWSO's top priority remains their core work which consists of televising of sewers, sewer cleaning, catch basin reconstruction and cleaning, hydrant repair, etc.

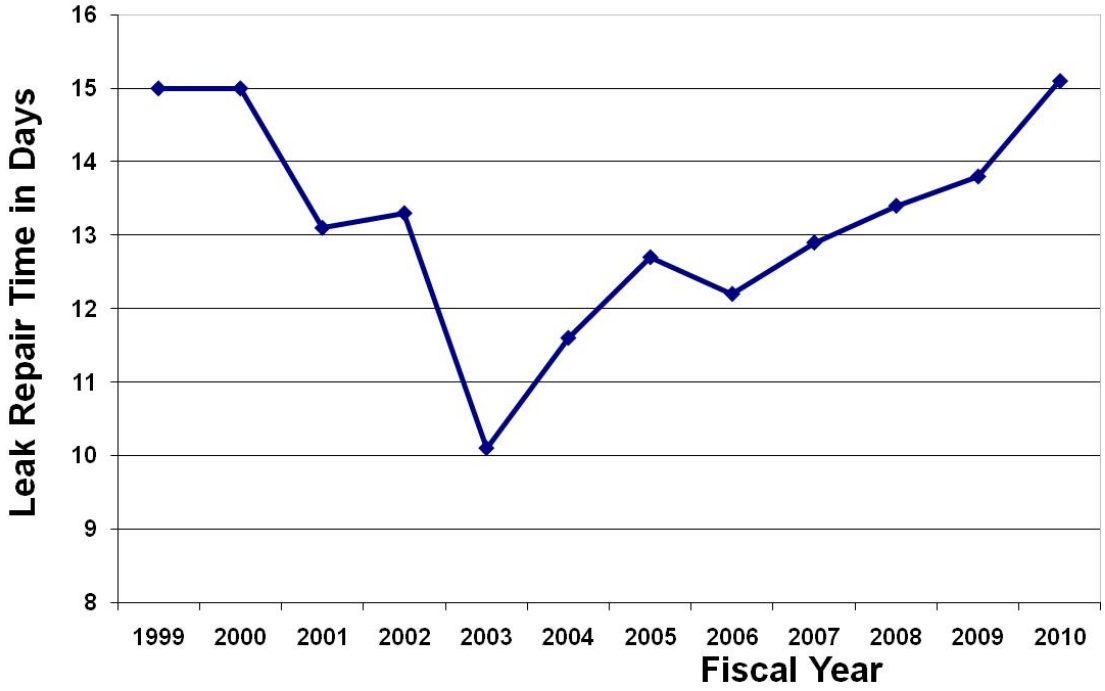


Figure 3: Water Main Leak Repair Time in Days

Operational and Maintenance Program Significant Accomplishments or Updates

Drinking Water Quality. NYCDEP conducts significant monitoring of the source water and in-city water quality. In FY 2009, NYCDEP collected 14,635 drinking water samples and performed more than 214,000 water quality analyses, of which 0.007 % exceeded the associated maximum contaminant level (MCL).

Lead in Tap Water Testing Program. NYCDEP is required to perform tap water testing program for lead and copper to determine if they leached into the water from the pipes. In 2010, 10% of the 222 samples collected exceeded the State action level for lead, which is 15 micrograms per liter. The lead is not found in the NYC water supply, however it leached into the water from lead pipes or copper plumbing, a common situation in older service lines. As required, NYCDEP has conducted a public information campaign known as *Run Your Tap*, to educate the public how to reduce the exposure to lead in drinking water. NYCDEP has also provided free lead test kits to homeowners. NYCDEP has increased the frequency of monitoring for lead and copper, and continues to evaluate measures to reduce lead levels at the tap.

Harbor Water Quality. NYC has been collecting and record keeping water quality data for 100 years. The New York Harbor Water Quality Survey currently consists of 62 stations; 35 stations located throughout the open waters of the Harbor, and upwards of 27 stations located in smaller tributaries within the NYC. The number of water quality parameters measured has also increased from five in 1909 to over 20 at present. NYCDEP will increase the number of monitoring sites throughout the harbor and at the mouth of key tributaries to 85 sites in order to assess the effectiveness of the Green Infrastructure Plan.

The water quality in the harbor has continued to improve as a result of the maintenance and operation of the wastewater treatment plants and the combined sewer overflow floatables program. Figures 4 and 5 below demonstrate the improvements in water quality over the past 35 years as indicated by the increased dissolved oxygen concentrations and reduced Fecal Coliform counts. The current information indicates that the harbor waters have achieved the standard set for fishable and swimmable quality.

The percentage of wastewater treatment plant effluent that met federal standards in FY 2010 was 100 %.

Permits. NYSDEC issued final State Permit Discharge Elimination System (SPDES) permits to the 14 WWTPs in October 2010. A portion of New York City has separate sanitary sewer systems. Until now the provisions for separate sanitary sewers were included in the SPDES permits however NYSDEC indicated its intention to issue a new citywide municipal separate sanitary sewer system (MS4) permit to NYC. Negotiations are ongoing to determine the additional requirements due to the proposed citywide MS4 permit.

Biosolids. NYCDEP terminated one of their biosolids contracts with NYOFCO in June 2010 for 50% of their biosolids handling capacity. Since then NYCDEP has been landfilling 50% of the biosolids. NYCDEP has issued a RFP to seek vendors to process the City's sludge for beneficial re-use. NYCDEP anticipates having a new sludge management program in place by 2013.

Operations and Maintenance Program Summary

Staffing levels for the System, when combined with capital and operating programs are sufficient to provide for adequate operation of the current System. BWT has started to phase in additional plant staff at the new upgrade facilities during construction (BNR upgrades, CSO facilities and Newtown Creek WWTP); however, additional staff is still required for new facilities. NYCDEP is planning for the future staffing increases when the Croton and CAT/DEL treatment facilities are operational. BWSO will manage/operate the Croton treatment facility and BWS will manage/operate the Cat/Del UV facility. NYCDEP has transferred and hired several key leadership positions for both the Croton and UV plant within the past year. NYCDEP will be operating both of these facilities at start-up. However, NYCDEP is evaluating contract operations for future operations of the UV plant and possibly the Croton plant.

The operating bureaus continue to evaluate and find effective means to operate more efficiently with reduced expense budgets projections for FY 2011 without impacting the overall operation and maintenance (O&M) of the System. NYCDEP has implemented less costly biosolids management, alternative chemical procurement opportunities and reduction of nonessential expense items without impacting the system-wide water supply, water distribution and wastewater treatment processes. NYCDEP will continue to evaluate reductions for FY 2012 without impacting the integrity of their operations.

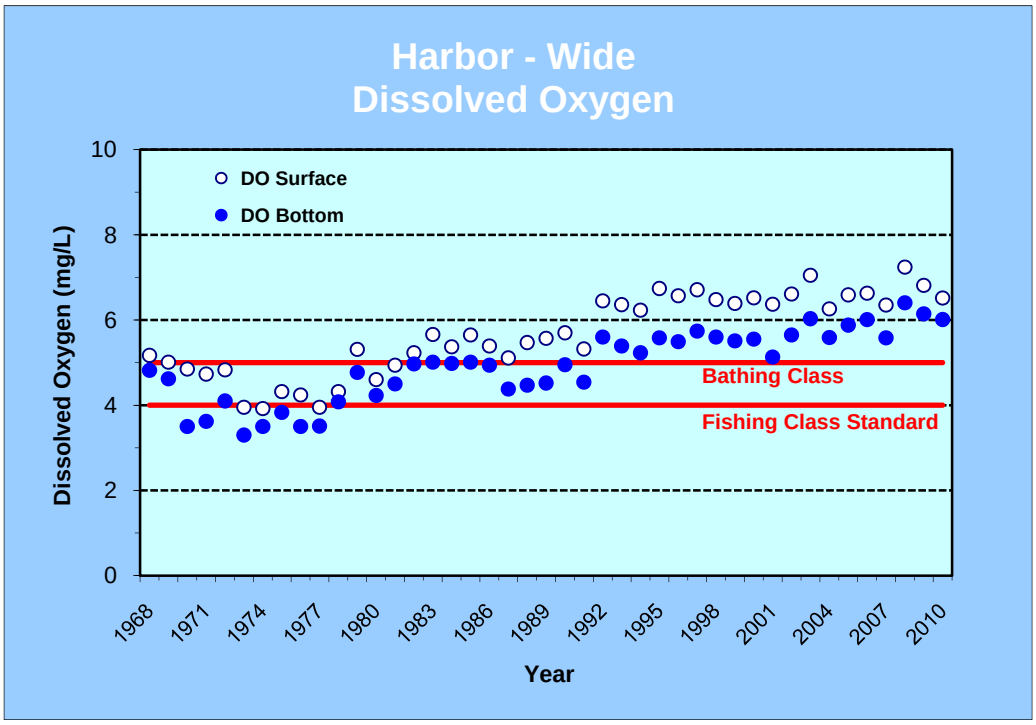


Figure 4: Dissolved Oxygen for Harbor Survey Key Stations (1968-2010)

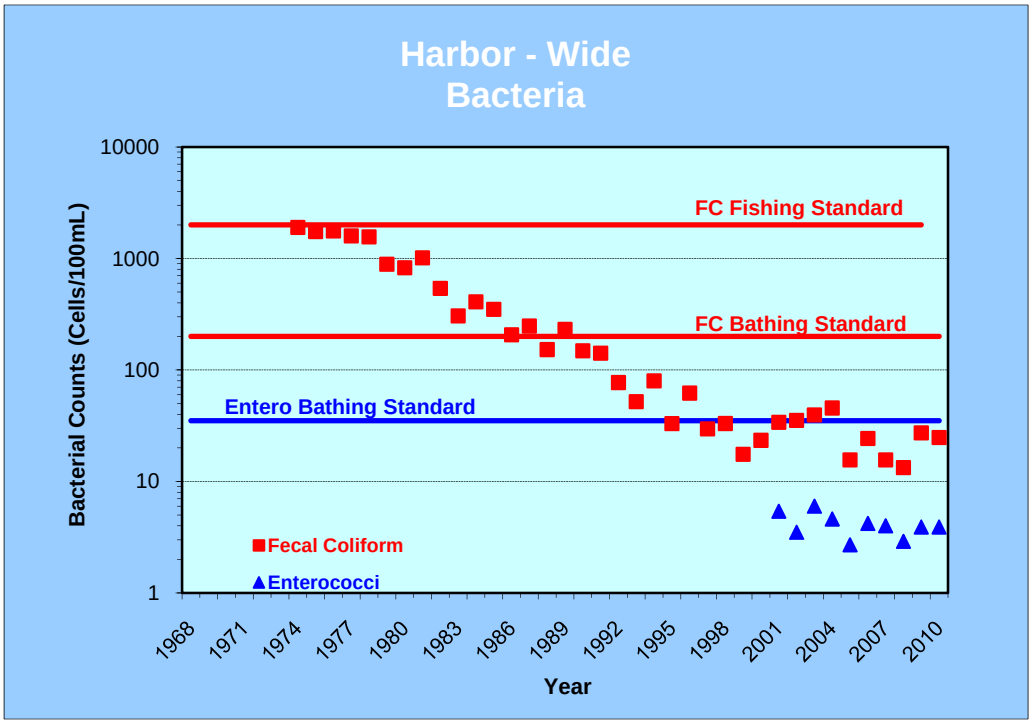


Figure 5: Fecal Coliform Counts for Harbor Survey Key Stations (1974-2010)

OTHER NOTEWORTHY ISSUES AND COMMENTS

Natural Gas Exploration

NYSDEC issued a draft supplemental generic environmental impact statement (dSGEIS) on the Oil, Gas and Solution Mining Regulatory Program – Well Permit Issuance for Horizontal Drilling and High Volume Hydraulic Fracturing to Develop the Marcellus Shale and Other Low Permeability Gas Reservoirs on September 30, 2009. NYCDEP's geological consultant has assisted NYCDEP to evaluate potential water quality impacts of natural gas exploration in the NYC watersheds. NYCDEP issued a Final Impact Assessment Report on the Natural Gas Exploration in the NYC Watershed in December 2009. NYCDEP issued comments to the dSGEIS on December 22, 2009, identifying the omissions and inadequacies of the dSGEIS. NYCDEP provided strong arguments in opposition to natural gas exploration in the watershed in order to protect water quality, public health, the FAD, and water supply reliability and infrastructure integrity. In addition, USEPA has provided comments to the dSGEIS that support NYCDEP concerns about the water quality, water supply and NYC watershed, among other issues. To date, no permits have been filed to drill for natural gas in the NYC watershed. In April 2010, NYSDEC issued a decision stating that a separate environmental review process in required for drilling/permits on unfiltered water supply areas, which will further provide protection to NYC water supplies. NYSDEC has indicated their intent to issue regulations in June 2011. USEPA recently issued a draft plan of their comprehensive study that is expected to investigate potential impacts on drinking water for the entire hydraulic fracturing process. A preliminary report should be released at the end of 2012. New York City continues to monitor this issue very closely.

Hydro-Electric Power

NYCDEP received a preliminary permit from the Federal Energy Regulatory Commissioner (FERC) to investigate the installation of hydro-electric turbines at NYCDEP upstate dams to harness hydro power. New York City is currently conducting the required studies within a mandatory three-year time period. NYCDEP's main concerns are dam safety, maintaining operational control over the dams and the ability to meet flow management agreements. NYCDEP is currently reviewing proposals and suggestions on implementation from private companies and will then evaluate partnering opportunities for hydropower generation.

Emerging Contaminants

NYCDEP released a report in May 2010, entitled *Occurrence of Pharmaceutical and Personal Care Products (PPCPs) in Source Water of the New York City Water Supply*. This report summarizes a one-year study started in January 2009, to document the existence of PPCPs in the Catskill, Delaware and Croton untreated source waters. Two samples were collected quarterly from each water sources, and were analyzed for 85 different compounds. The results of the study showed that some PPCPs are present in the NYC water supply system in very low concentrations. However, several screening level risk assessments have concluded that no appreciable human health risk exists for the trace levels of PPCPs detected in this study. NYCDEP plans to perform additional monitoring throughout the water supply system. There is currently no mandated testing or reporting requirements for PPCPs, however, this data collection and research will help NYCDEP monitor the occurrence of PPCPs to help educate the public and in anticipation of future potential regulations.

Newtown Creek and Gowanus Creek Superfund Designations

In March 2010, the Gowanus Canal was declared a Superfund site and in September 2010, Newtown Creek was declared a Superfund site. USEPA has notified NYC that they are

considered a potential responsible party (PRP) for hazardous waste under Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) for both Superfund sites. NYCDEP is in discussions with other responsible parties for the Newtown Creek site, to enter into a Consent Order, pending NYC Comptroller approval. There are financial impacts to NYCDEP for both sites; however, the extent to which NYCDEP will be responsible has not been determined.

Awards

NYCDEP was named "Owner of the Year" by the *New York Construction Magazine* in April 2010, due to its improved business practices in dealing with contractors and managing the many contracts in their capital program.

SUMMARY AND RECOMMENDATIONS

Regarding System Management

In our opinion, the System continues to be managed in a professional and prudent manner with an appropriate regard for the level of service afforded to the users.

Regarding the Capital Improvement Program (CIP)

Additional increases in funding may be necessary in the future, depending upon the outcome of ongoing evaluations and negotiations with regulators. The most notable projects are:

- Hillview Reservoir Cover: The cost of completely covering the Hillview Reservoir using a fixed concrete cover is currently estimated at approximately $1.6 billion; there is no funding currently in the Ten Year capital Plan. Pending the outcome of the negotiations with the regulators regarding an additional time deferral request, additional funding may be required in the later years of the Ten Year Plan.

- CSO Program: Additional funding may be required in the outer years of the CIP or in future planning periods depending upon the results of the outcome of the ongoing negotiations with the regulators regarding the integration of the Green Infrastructure Plan into the CSO Consent Order.

- Climate Change Facility Impacts: The climate change initiative will identify additional upgrading requirements for NYCDEP assets. Until the facility assessments have been made, the budgetary funding requirements cannot be ascertained.

Regarding the Physical Condition of the System

In our opinion, the NYCDEP facilities are in adequate condition and are similar to water and wastewater assets in other urban areas nationwide. As indicated, an Asset Management program is underway that will better identify the needs and costs for upgrading. These needs will have to be addressed and implemented as they are identified. Because of the extensive nature of the NYCDEP facilities, continued diligence and future capital improvements will be necessary to maintain an adequate rating.