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**Statement of
Walter Mugdan
Director, Division of Environmental Planning and Protection
U.S. Environmental Protection Agency, Region 2
Before the
Subcommittee on Environment and Hazardous Materials
Committee on Energy and Commerce
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Good morning Mr. Chairman and Members of the Subcommittee. I am Walter Mugdan, Director of the Division of Environmental Planning and Protection in Region 2 of the U.S. Environmental Protection Agency (EPA). I appreciate this opportunity to appear before you to discuss EPA's role in protecting New York City's drinking water supply.

New York City's drinking water system is the largest unfiltered system in the nation, supplying 1.3 billion gallons of high quality drinking water to 9 million people daily. 90% of the water comes from a 1600 sq. mile area in the Catskill Mountains known as the Catskill/Delaware (Cat/Del) watershed. Drinking water taken from surface water sources must, under the Surface Water Treatment Rule of the Safe Drinking Water Act (SDWA), be filtered to remove microbial contaminants. The law allows EPA to grant a waiver from this requirement to water suppliers if they demonstrate that they have an effective watershed control program and that their water meets strict quality standards. Working in close coordination with New York State, EPA issued New York City such a waiver, called a Filtration Avoidance Determination (FAD), in November 2002 for water coming from the Cat/Del watershed.

The current FAD follows and builds upon several previous filtration avoidance determinations by EPA during the past decade. The most recent of these was in 1997. The 1997 waiver was issued in conjunction with the precedent-setting New York City Watershed Memorandum of Agreement (MOA) signed by the City, New York State, EPA, the upstate watershed communities, and a number of environmental groups. I must note that Commissioner Crotty was instrumental in the successful negotiation of that Agreement. The 1997 FAD was a strong document, which embodied programs agreed to by the many stakeholders who signed the Watershed MOA. Our 2002 FAD, which was also developed in consultation with New York State, is, by any measure, significantly stronger. Virtually every protection and remediation program called for in the 1997 FAD is being continued, with the City providing the funding necessary to meet the many specific milestones in the 2002 FAD; and a number of the programs are being significantly expanded.

To ensure that the City's water supply remains high quality in the future, the FAD requires New York City to carry out a wide range of watershed protection programs, at an investment of approximately \$1.2 billion. Filtration of the Cat/Del system would have cost New York City \$6 - \$8 billion, plus an estimated \$200 million a year in operation and maintenance. Thus, the watershed protection program, while expensive, is a considerable cost savings. New York City's Cat/Del system is by far the largest surface water supply system in the United States for which a Filtration Avoidance Determination has been made.

Successful implementation requires close cooperation with different levels of government as well as numerous non-governmental stakeholders. EPA works closely with the New York State Department of Environmental Conservation and the New York State Department of Health on all aspects of the program. Commissioner Crotty has dedicated a tremendous amount of her staff's time, and her own time, to make sure that this program, which has received world-wide acclaim, continues to be successful.

I would like to go over the status of a few of the programs that are required under EPA's Filtration Avoidance Determination:

- ▶ **Wastewater Treatment Plant Upgrade Program.** At a cost of over \$200 million, the City is funding the upgrade of all City- and non City-owned wastewater treatment plants that discharge into surface water in the watershed to state-of-the-art (tertiary treatment) technology. To date, over 90% of wasteflow in the Cat/Del watershed is subject to advanced tertiary treatment. We anticipate all plants will be operational by the end of 2004.
- ▶ **Land Acquisition Program.** Under this program, the City will continue to solicit for the acquisition of land, either to acquire it outright or to acquire conservation easements which restrict development that could threaten water quality. The program, as laid out in the 1997 FAD and the Watershed MOA, sets a detailed schedule for such solicitations, and is based on a "willing seller" philosophy. Over the past six years, since 1997, the City has obtained or has under contract, easements or direct ownership over 52,000 acres, obtained at a cost of \$131 million. Moreover, it is not just quantity that is important, it is the quality of the land being acquired that makes for a successful program. To date, over 70% of the acreage obtained is in high priority areas, including about 1,200 acres of wetlands. As the initial solicitation component of the program winds down, the City has begun to re-solicit in high priority areas. It is also working closely with local land trusts in order to close deals with landowners who might prefer to work through a third party. The City is more than one third of the way through a 15-year program. This is the foundation of the City's watershed protection program, and we will monitor its progress very closely.
- ▶ **Stream management program.** This program is intended to address pervasive stream degradation that has contributed to erosion and the loss of riparian buffers. The FAD contains milestones for 10 large restoration projects through 2007, plus the completion of 9 stream management plans. The management plans are important as they will lay the groundwork for future restoration and

stream buffer protection projects. These are expensive, resource-intensive efforts, and the City has committed itself to work on these in close cooperation with local Soil and Water Conservation districts, County planning agencies and other watershed partners.

- ▶ **Agricultural program.** The objective of the Watershed Agricultural Program is to prevent pollution and improve water quality by identifying and implementing structural changes and best management practices in order to minimize pollutants from farms reaching the streams that feed the City's reservoirs. Over 95% of the large farms in the watershed are enrolled in this voluntary program. Run by farmers (through the non-profit Watershed Agricultural Council) and funded by the City, this program provides financial and technical assistance to farmers. To date, over 2,500 actions have been implemented using best management practices at a cost of \$18.6 million. Under the 2002 FAD this program was expanded to address small farms in the watershed.

The Watershed Agricultural Council, with funding from New York City and the USDA Farm Service Agency, is also instituting the Conservation Reserve Enhancement Program in the watershed. This is a voluntary program that protects streamside land by taking it out of production and placing it in vegetative buffers for 10 to 15 years. To date, 376 stream miles have been protected with active riparian buffers.

- ▶ **New wastewater infrastructure program.** The City is well on its way to completing new advanced wastewater treatment facilities in all 7 high priority towns in the Catskills. Completion of the first 5 facilities is expected in 2004. The remaining two are expected to go online in 2006.
- ▶ **Community wastewater management program.** The 2002 FAD includes a commitment by the City to implement, through the Catskill Watershed Corporation, a new program to address wastewater problems in five additional small Catskill towns. These towns currently rely on septic systems, many of which are or may soon be failing. There are FAD milestones for the design and construction of necessary wastewater treatment improvements.

These and other infrastructure programs focus on population centers where centralized wastewater treatment looks to be a better option than individual septic systems. These combined programs will end the discharge of approximately 2,700 marginal septic systems, or over 1.1 million gallons per day of effluent, into the watershed. For those septic systems that are amenable to repair or replacement and are found to be failing, there is the Septic program.

- ▶ **Septic program.** This is a City-funded program that is also being implemented by the Catskill Watershed Corporation. Over 1,800 septic systems have been repaired or replaced to date. The 2002 FAD includes a commitment by the City

to implement, through the Catskill Watershed Corporation, a new program to support the operation and maintenance of septic systems, focusing first on those systems that were recently repaired or replaced.

- ▶ ***Catskill Turbidity Control program.*** This is a new program under which the City will develop and implement structural (*i.e.*, in-reservoir) and non-structural (*i.e.*, stream best management practices) solutions to the perennial problem of turbidity in the Catskill watershed. Milestones for program design and implementation are included in the FAD.
- ▶ ***UV disinfection facility for Cat/Del system.*** The FAD includes a very important commitment by the City to design and construct an ultra-violet (UV) disinfection facility for the Cat/Del water supply system by 2009. The UV facility will provide an additional barrier in what is already a multi-barrier approach to water supply protection, and will therefore provide a tremendous health benefit to water consumers.

EPA's 1997 FAD focused on program initiation and required the City to report out on the progress of those programs. By contrast, the 2002 FAD focuses on milestone dates for specific actions and has more focused, results-oriented reporting requirements. Wastewater infrastructure, stream corridor protection, agriculture, and UV disinfection are just a few examples. New programs such as the Catskill Turbidity Control program naturally call for planning before implementation – but the FAD clearly focuses on and expects action.

In addition, the City and New York State are putting more resources into enforcement and enforcement coordination. A formal protocol has been developed to better coordinate the implementation and enforcement of wetlands and stormwater regulations – something akin to the very successful City/State program to address point source pollution in the watershed.

And finally, the 2002 FAD places more emphasis on monitoring and program analysis. The bottom line is that the City must have a comprehensive monitoring program in place that is adequate to gauge the success (or failure) of the many watershed protection programs that are in the FAD and Watershed MOA. No matter how much monitoring takes place in the watershed, unless the monitoring program is functionally connected to track the attainment of the objectives of the City's watershed protection programs, its adequacy, and the adequacy of the City's watershed protection efforts, will be difficult to evaluate.

To that end, New York City, in consultation with EPA and New York State, redesigned its watershed monitoring program in 2003 to ensure that it is equipped to detect long-term trends and that it is set up to evaluate the success of many of the programs that are now being implemented. Questions that this program is designed to answer include: *What is working and what isn't? Are we getting the water quality benefits that we expected? Would a particular program work better in a particular basin?* It is important to recognize that this is *not* a static program. It is constantly subject to review and evaluation, and we will continue to work with the City and New York State to make modifications and enhancements as necessary.

The scope of the City's sampling program is enormous. Besides daily sampling at aqueduct intakes and the distribution system to meet the objective criteria requirements of the Surface Water Treatment Rule, New York City routinely conducts at least twice-monthly sampling at all reservoirs (at several locations and at several depths), at over 130 stream locations, and at the discharges of all 106 wastewater treatment plants in the watershed. In addition, the City conducts monitoring that targets

specific concerns such as pathogens, waterfowl, storm-events and biological indicators of stream health.

In the 2002 FAD, the City agreed to submit an annual Water Quality Indicators Report as a step towards integrating, analyzing and disseminating the tremendous amount of water quality data that it collects in the watershed. In fact, we received the second of these annual reports yesterday. In addition, the City will submit a comprehensive program and water quality evaluation report in March 2006. That report will provide a rigorous basin-by-basin analysis of the City's watershed protection programs and will attempt to answer the questions posed above. The March 2006 report will also aide EPA and New York State, as we evaluate the City's watershed protection efforts in preparation for our next filtration determination, scheduled for April 2007.

In addition to the City's own monitoring program, Congress authorized, through the 1996 Amendments to the Safe Drinking Water Act, \$15 million to be appropriated to the EPA Administrator for each of fiscal years 1997 through 2003, for the purpose of providing assistance to New York State to carry out watershed monitoring programs to support New York City's efforts. Congress has earmarked a total of \$35.4 million in the annual appropriations act from fiscal years 1997 through 2004. All of these funds support monitoring programs that enhance the City's ability to comply with the FAD.

EPA works closely with the New York State Department of Environmental Conservation to define the monitoring components of the City's watershed protection program and to optimize the expenditure of funds earmarked by Congress. It is through

these collaborative efforts that we determine whether modifications to the City's monitoring program are necessary to meet the long-term objectives of EPA's filtration avoidance determination. If, through this iterative process, we conclude that such modifications are necessary to meet these objectives, we will require their deployment as a condition of continued filtration avoidance.

In conclusion, compliance with our Filtration Avoidance Determination will achieve the objectives of the Safe Drinking Water Act and the Surface Water Treatment Rule for unfiltered systems. Our FAD establishes clear objectives, provides for comprehensive programs and sets aggressive milestones for their implementation. It also requires a robust monitoring program, the results of which have been and will continue to be used to define the scope of City's watershed protection program. We will continue to work closely with New York State on a program that is of paramount importance to both our agencies, the protection of the drinking water supply for 9 million people.

Mr. Chairman, this concludes my prepared statement. I appreciate your interest in this issue, and would be pleased to answer any questions you or the Members of the Subcommittee may have.

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