

Statement of Deputy Commissioner Angela Licata
New York City Department of Environmental Protection
before the House Committee on Energy Independence and Global Warming

Cannon House Office Building, Washington, D.C.
Thursday, July 10, 2008

Good afternoon, Chairman Markey, Ranking Member Sensenbrenner and Members of the Committee. I am Angela Licata, Deputy Commissioner with the New York City Department of Environmental Protection (DEP). On behalf of Commissioner Emily Lloyd, thank you for the opportunity to speak on the challenges New York City is facing and the steps we are taking to address the increase in extreme weather events as a result of global warming and to prepare for a changing climate.

Climate change raises serious, important challenges to the future of New York City's water supply and delivery, stormwater management and wastewater treatment systems as well as to the City's overall economic vitality and the health and well-being of our residents.

In 2007, Mayor Michael R. Bloomberg released PlaNYC, a comprehensive sustainability plan for New York City that includes 127 initiatives to create a greener, more sustainable city. One of the key challenges addressed by PlaNYC is global climate change. To mitigate the effects of climate change, PlaNYC calls for a 30 percent reduction of greenhouse gas emissions in New York City by 2030. To enable the city to adapt to the impacts of climate change, many of which we have already begun to experience, PlaNYC calls for the creation of a Climate Change Adaptation Task Force made up of city and state agencies and private companies to protect the

city's critical infrastructure, a public outreach campaign to educate at-risk communities, and the development of a citywide strategic planning process to adapt the city to climate change.

In response to these challenges, DEP has released the first report of its *Climate Change Assessment and Action Plan*, detailing the extensive work that DEP has undertaken to better understand and plan for the potential impacts of climate change on the city's water and sewer systems. I am submitting the report to the Committee for its consideration.

The report outlines specific steps that DEP is taking to (1) refine climate change projections for New York City and its watershed region, (2) better quantify risks to existing systems, (3) integrate climate change data into current design for new projects, and (4) develop both short-term and long-term adaptation strategies for critical infrastructure. Adequate funding for ongoing research in the short term and for infrastructure upgrades in the long term is crucial to our ability to adapt to a changing climate.

Customized climate change projections performed for DEP by Columbia University's Center for Climate Systems Research and NASA's Goddard Institute for Space Studies indicate that by 2050, New York City and its watershed region will likely experience a 3 to 5 °F rise in temperature, a 2.5 to 7.5 % increase in precipitation and a 6- to 12-inch rise in sea level. It is projected that these conditions will be even more pronounced by 2080.

Without proper planning and extensive adaptations, this degree of climatic change could have a significant effect on New York City's drinking water

quality and delivery, stormwater management and wastewater treatment systems. Preliminary analysis indicates that:

- Rising temperatures could exaggerate the frequency and severity of droughts and heat waves and will likely change the ecology of our watershed by shrinking supply, increasing demand and thus straining drinking water supplies;
- Rising temperatures coupled with heavier precipitation could wash additional nutrients and particles into water supply reservoirs, thereby increasing turbidity and eutrophication levels and compromising the viability of New York City's unfiltered drinking water system;
- Increased precipitation would also overwhelm drainage systems, treatment facilities and sewer infrastructure; and,
- Rising seas coupled with storm surges could pose a similar threat to key in-city infrastructure, particularly coastal wastewater treatment plants.

An observed increase in the frequency of severe rainfall events, which may be evidence of changing climate conditions, is alarming, and unprecedented in the written record. In 2007, for example:

- on April 15, 7" (18 cm) of rain were recorded in upper Manhattan, the largest daily accumulation since 1882
- on July 18, between 3" and 5" (7.6 and 12.7 cm) of rain were recorded at locations across the city within a four-hour period; in some areas, 3" of rain fell in one hour
- on August 8, between 1.4"–3.5" (3.5–8.9 cm) of rain were recorded within a two-hour period

Our current stormwater conveyance system is designed only for 1.75 inches of rainfall per hour.

Climate change is a complex, emerging issue. The timing and extent of change are uncertain, and modifying large-scale infrastructure systems is expensive and takes time; but with sufficient support, we can develop and implement adaptation strategies that will help ensure the long-term viability of our water and sewer systems.

Working in concert with PlaNYC 2030, Mayor Bloomberg's comprehensive urban sustainability initiative, DEP is already planning to diversify New York City's drinking water supply by developing alternative water sources as a backup, should localized conditions cause failure of an existing system. We are also developing more effective conservation programs, increasing watershed protection measures through a robust land acquisition program and building new water quality infrastructure.

DEP has also joined with water providers serving seven of the country's major metropolitan areas to form the Water Utility Climate Alliance. Working together, we aim to foster research advancing our collective understanding of anticipated impacts, develop targeted adaptation strategies and reduce each member's greenhouse gas emissions.

DEP's ten-year capital program budget is intended to fund infrastructure investments on a 50-year timescale. Integrating increasingly refined climate change projections with departmental planning will help ensure that the

city's water and sewer systems are more flexible and better prepared to withstand the more volatile conditions of a changing climate. Sufficient funding, lead time and focused research are vital to ensure that new infrastructure investments adequately serve the public need.

Thank you again for the opportunity to address this Committee. I would be glad to answer any questions.

DEP's *Climate Change Assessment and Action Plan, Report 1* is available for download at http://www.nyc.gov/html/dep/pdf/climate/climate_complete.pdf