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DEP Completes Autonomous Underwater Vehicle Inspection of Delaware Aqueduct

Acting Commissioner Steven W. Lawitts of the New York City Department of Environmental Protection announced today that an underwater vehicle completed a successful inspection of the Rondout-West Branch Tunnel portion of the Delaware Aqueduct over the weekend.

The Autonomous Underwater Vehicle, a self-propelled and navigated torpedo constructed by engineers at Woods Hole Oceanographic Institution in Massachusetts, was launched at the beginning of the tunnel and floated down its center for the entire 45-mile length, taking a set of photographs every eight feet while gathering other data, such as sound. The vehicle was captured 14 hours later by a Remote Operated Vehicle and brought to the surface where the data will be extracted and analyzed for the next several months.

Acting Commissioner Lawitts said, "This successful inspection is an important step in developing an eventual repair strategy for the tunnel, which DEP has closely monitored since its construction. I'd like to thank DEP staff in the Bureau of Engineering, Design and Construction and in the Bureau of Water Supply who worked hard with our partners at Woods Hole Oceanographic Institution to make this AUV run a success."

The Bloomberg Administration has made planning for the repair of the Delaware Aqueduct a pivotal part of the PlaNYC goal to improve the reliability and long-term sustainability of New York City's water infrastructure.

The purpose of the inspection project is to observe the condition of the tunnel and to help identify the most appropriate method of repair. In 2003, a visual inspection of the tunnels interior was performed by an AUV. The 2003 vehicle has been updated with new computers, sensors and more efficient camera strobes, which will result in approximately 180,000 photographs of the tunnel.

The RWBT is part of the Delaware Aqueduct, which, at 85 miles, is the world's longest continuous tunnel, and a vital component of the City's drinking water supply system. The

MORE INFORMATION

09-06

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Construction, Demolition & Abatement

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Delaware water supply system, constructed between 1937 and 1965, originates more than 100 miles north of New York City and consists of four reservoirs: Cannonsville, Neversink, Pepacton, and Rondout. The Delaware Aqueduct conveys drinking water from these reservoirs to the City's distribution system, and currently provides approximately 50 percent of the City's daily water needs. The Aqueduct is a 13.5-foot diameter, concrete-lined tunnel that varies in depth from 300 to 1,500 feet beneath the ground and crosses the Hudson River at nearly 600 feet beneath the ground. The RWBT is a 45-mile portion of the 85-mile Aqueduct, and connects the Rondout Reservoir in the Delaware system to the West Branch Reservoir, located in Putnam County, in the City's Croton watershed.

Since the late 1980s, DEP has been monitoring two leaks in the RWBT portion of the Aqueduct that collectively release between 10 and 36 million gallons of water a day (mgd), depending on the amount of water the Aqueduct is carrying. Monitoring has shown that the leakage rate is stable and has not grown.

DEP continues the preparation work to fix the leak of the Delaware Aqueduct. Last November, a team of divers inspected mechanical and structural components of a tunnel shaft and performed pipe and needle valve demolition. Divers also removed concrete around the Gate Valve at shaft 6 of the tunnel to lay the ground work for major repair work in the tunnel in the future. There is little immediate risk of failure of the tunnel. But to perform the repair work, the tunnel may need to be shut down and drained. During any such period, it would be necessary for the city to increase its reliance on its other water supplies, and to implement more stringent measures to encourage conservation and decrease demand.

The New York City Department of Environmental Protection manages the City's water supply, providing more than 1.1 billion gallons of water each day to more than 9 million residents throughout New York State through a complex network of nineteen reservoirs, three controlled lakes and 6,200 miles of water pipes, tunnels and aqueducts. DEP is also responsible for managing storm water throughout the City and treating wastewater at 14 in-City wastewater treatment plants. DEP carries out federal Clean Water Act rules and regulations, handles hazardous materials emergencies and toxic site remediation, oversees asbestos monitoring and removal, enforces the City's air and noise codes, bills and collects on City water and sewer accounts, and manages city-wide water conservation programs.

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