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Statement from Commissioner Strickland On the Findings of the North River Fire Report

“The four-alarm fire at the North River Wastewater Treatment Plant was a reminder about the vital work that DEP performs every day to treat an average of 1.3 billion gallons of wastewater daily. Removing pollutants from the waste stream involves expertise, complicated processes, heavy equipment, and a lot of energy and fuel, and DEP has an excellent track record for doing this work safely and reliably. Incidents like the fire show that we also have to be prepared for accidents. During and after the fire, DEP and its contractors worked around the clock to stabilize the operations and put affected systems back in working order. The fact that severely damaged systems were back up and running within only two days, and not weeks, is a testament to everyone involved in the repair effort. We also believe that DEP’s preparation for such emergencies prevented any serious injuries to the public and our workers.

“Immediately following the fire, DEP consulted with the FDNY. The North River Plant participates in regular inspections and walkthroughs with the FDNY, and each one of our 14 plants has an Emergency Action Plan, which was followed at the North River fire. The FDNY recommended improvements to the plan, including expanding DEP’s existing incidence response protocols, conducting quarterly drills, and establishing lock boxes with key documents outside of plant structures. DEP is implementing those improvements, and evaluating other suggestions that include more extensive construction work.

“In addition, DEP committed to do a thorough, independent review and within days of the fire brought in an expert team from Black & Veatch, a world-renowned engineering, consulting and construction company with extensive experience in conducting forensic reviews of industrial incidents. To assist in their effort, Black & Veatch retained T.J. Russo Consultants, a fire investigation and analysis firm, and the team conducted a comprehensive review of the cause of the fire, including several site visits, extensive interviews with DEP staff, and a thorough collection of photographs, recovered materials and samples, like recovered metal parts, to be looked at for further analysis and testing in a laboratory. The release of this report and its key findings makes good on that promise. Together with recommendations made by FDNY, the report will allow DEP to operate even more safely for our workers and the communities near our facilities.

“From the beginning, it was clear that the original source of the fire was near one of the main sewage pump engines. The plant uses a total of five engines to pump wastewater into the facility, though only two need to be in operation on a dry day. The report finds that the cause could not be determined with absolute certainty because much of the equipment was damaged or destroyed in the fire. However, the report identifies two likely scenarios. The report indicates that the most probable cause of the fire was that a nut connecting a fuel injector to a fuel injector pump failed, likely because it had been over or under-tightened and had developed a microscopic opening when the fuel injectors for pump engine #1 were replaced as a result of routine,

preventive maintenance in June 2011. Each cylinder on the engine has an individual fuel injection pump and a fuel injector, which opens and atomizes the fuel into a spray to send the correct amount of diesel fuel into the cylinder for the engine to operate. Once the fitting leaked, a spray of fuel oil hitting the engine's extremely hot turbocharger could have been the initial source of ignition for the fire. That initial fire, which was likely small, caused the cover on the turbocharger, located directly above larger fuel pipes, to melt. As the melted casing dripped onto the larger fuel piping, it damaged the valves in the line, fueling a much larger fire. It does not appear that the compromised nut was the result of improper operation or maintenance, since the operating and maintenance manual associated with the equipment does not detail the amount of torque pressure that should be applied when attaching a nut to a fuel injector nor is the use of a torque wrench in this area possible due to space constraints. The second possible initial cause could have been a leak from a flexible fuel line that is also near the turbocharger, with a similar chain of consequences following the initial ignition of the diesel fuel.

“While the initial cause could not be determined with absolute certainty, the report includes a number of steps that DEP can take in the future to minimize the risk from failures of such small pieces of hardware at North River and at similar DEP facilities throughout the city. DEP has already taken several steps to improve safety at North River, including relocating the larger fuel pipes away from hot surfaces like turbochargers, installing kill switches at the plant's control room to immediately cut fuel in case of fire, and installing more flexible connectors to minimize damage to pipes associated with vibrations. At the three other wastewater facilities that have similar engines, DEP has already conducted site investigations to determine what recommendations are applicable and have begun to be implemented those that are appropriate as well. In addition to the work already done, DEP will evaluate all of the proposals contained in the report to ensure the safety of DEP employees and the general public.”

The report can be found on DEP's website: www.nyc.gov/dep.

The North River Wastewater Treatment Plant was taken offline on July 20 following a four-alarm fire in the engine room that started at approximately 11:45 am that morning. The plant resumed full and continual primary treatment and chlorine disinfection on Saturday, July 23, and began reaching full secondary treatment standards starting on Monday, July 25. The North River plant has been in operation since 1986 and treats an average of 120 million gallons of wastewater a day from Manhattan's west side from Bank Street through northern Manhattan, with expanded capacity of up to 340 million gallons during wet weather events.

DEP manages the city's water supply, providing more than one billion gallons of water each day to more than nine million residents, including eight million in New York City. The water is delivered from a watershed that extends more than 125 miles from the city, comprising 19 reservoirs and three controlled lakes. Approximately 7,000 miles of water mains, tunnels and aqueducts bring water to homes and businesses throughout the five boroughs, and 7,400 miles of sewer lines and 95 pump stations take wastewater to 14 in-city treatment plants. DEP employs nearly 6,000 employees, including almost 1,000 in the upstate watershed. DEP has a robust capital program, with a planned \$8.9 billion in investments over the next five years. That spending is expected to create 9,000 jobs a year over the same time period. For more information, visit us on Facebook at www.facebook.com/nycwater, or follow us on Twitter at www.twitter.com/nycwater.

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