

Middlesex County Utilities Authority

Hurricane Sandy Update

August 3 to August 9, 2013

FEMA, USACE, USEPA and NJDEP

Federal and State agencies have visited the site and are fully briefed on the restoration efforts being implemented by the MCUA. These agencies are constantly monitoring the situation. Coordination with FEMA and NJDEP representatives is ongoing for reimbursement of restoration expenses. The MCUA coordinated inspections by Underwriters Laboratories (UL) of the damaged electrical equipment in the Edison and Sayreville Pumping Stations to support the scope of work for repairs to receive FEMA funding. The first Field Evaluation Report for the Edison Pumping Station was received on August 2. The findings of the report will be used to finalize funding applications, Project Worksheets, for the Edison Pumping Station emergency and permanent repairs.

Service Interruptions

None reported

Central Wastewater Treatment Plant

The Central Treatment Plant is fully operational and is handling all wastewater and trucked waste entering the plant in Sayreville. Currently, the Central Treatment Plant is being powered by the Landfill Gas to Energy Facility and local electric utility. Analysis of December 2012 operating data showed Plant performance was impacted by the unscreened sewage conveyed through the Temporary Bypass Pumping System at the Sayreville Pumping Station. Excessive solids reduced the efficiency of the Final Settling Tanks for several days. Plant performance from January through March 2013 was compliant with permit discharge requirements. During the month of June 2013 the plant experienced a temporary upset condition in the secondary treatment process which resulted in total suspended solids permit excursions due several scheduled power outages to test onsite emergency electrical power equipment required to be installed per a directive from the NJDEP, high influent flows due to several rain events and operational issues attributable to Hurricane Sandy.

The week's estimated daily average rate of wastewater flow and peak daily flow entering the Central Treatment Plant:

93 million gallons per day average
108 million gallons peak day (August 9)

South Amboy Pump Station

Operational; repairs to damaged equipment are being performed by MCUA, which are ongoing.

On-site temporary emergency generator is functional in the event of loss of the electric utility power feed into the pump station.

The estimated average rate of wastewater flow conveyed to the Central Treatment Plant:
1-2 million gallons a day

Edison Pump Station

Four Main Pumps capable of conveying 85 MGD of wastewater to the Central Treatment Plant are in operation. Pump No. 4 has developed operational problems relating to the motor. The Pump motor was tested and originally found to be acceptable; however, additional site testing performed at a later date found it to be unacceptable. Further testing and motor evaluations are being coordinated.

On-site emergency generators are functional in the event of loss of electric utility power; however, generator automatic control issues remain to be resolved.

Currently, the Main Pumps are able to convey 85 MGD which exceeds the average daily amount of wastewater that enters the station. Bypass pumping system capable of handling 20 -24 MGD is in standby mode.

The week's estimated daily average rate of wastewater flow and peak daily flow conveyed to the Central Treatment Plant:

17 million gallons per day average
19 million gallons peak day (August 8)

Sayreville Pump Station

Seven Main Pumps capable of conveying an estimated 300 MGD of wastewater to the Central Treatment Plant are in operation.

Original Sayreville Pump Station

Main Pump Nos. 2E and 3E are operational [rated capacities of each pump 33MGD @ 102 feet Total Head], continuing the evaluation of pump hydraulic and mechanical performance; tests performed indicate Pumps 2E and 3E are capable of conveying approximately 80 MGD.

Continuing hydraulic evaluations of pump system conveyance capacity; draft report on the findings has been completed and is under review, further evaluations of the Temporary Bypass Systems conveyance capacities and additional surge analyses on the Original Sayreville Force Main and Sayreville Relief Force Main are ongoing.

Bar Screen No. 1 ready for operation upon introduction of flow through the OSPS influent channel.

Completed the placement and anchoring of the VFD and Isolation Switch cabinets for Main Pump Nos. 1E and 1E.

Sayreville Relief Pump Station

Main Pump Nos. 1R,2R, 3R, 4R and 6R are operational [rated capacity of 3R &4R: 50 MGD @ 89 feet Total Head; rated capacity of 1R,2R & 6R: 40 MGD @ 89 feet Total Head]; recorded flow from the individual Main Pumps has, at times, exceeded 60 MGD.

Operating Bar Screen Nos. 1, 2, 3 and 4, as needed, and the Interconnection channel between SRPS Wet Well and OSPS Wet Well.

Additional work is required for the 34.5KV cutout switches on both the M39 and Q69 Main JCP&L Utility Feeders; arrangements are underway for the replacement of these switches. The MCUA Board of Commissioners approved an emergency authorization to complete this work. The replacement switches, which are unique and required an extended time for manufacturing, have been received. The work for the installation of the replacement switches is now being coordinated and scheduled to be completed by mid- August.

Main Pump No. 4R normal operation remains a concern; pump discharge cone valve and motor bearing temperature issues exist and amperage usage continues to be elevated. To address the amperage usage, an additional set of replacement diodes have been ordered for the pump motor rotating diode assembly. The replacement diodes have been received and coordination for installation on the pump motor is underway. Main Pump No. 4R is operational if needed. Monitoring the main pump over the past several months has not revealed any major operational problems in spite of the elevated bearing and temperature readings.

On-site emergency generator is functional in the event of loss of the two electric utility power feeds into the pump station; transfer of load to the generator must be performed manually. The generator is sized to operate two Main Pumps along with ancillary pump station equipment in either the SRPS or OSPS. The emergency generator was not operated.

In light of the delivery of Main Pump No. 5R Motor to the site on July 30, and to accelerate the activation of an additional pump, it was decided to remove Main Pump No. 1R Motor from the site for testing and replaced with Main Pump No. 5R Motor in the lineup. Main Pump No. 1R (formerly 5R) Motor was set in place last week and installation work was completed Thursday, ready for testing. Technicians from the VFD manufacturer, ABB, were on site and adjusted settings in the unit to accommodate the replaced motor. Main Pump No. 1R motor was successfully bumped and the pump was operated without a vibration issue. The motor did not reach its maximum operating speed; however, Main Pump No. 1R is now operable. Additional testing of the VFD will be performed when the next motor is commissioned to address the speed issue. The ABB technician also completed wiring modifications to all six VFD and Isolation Switch units for both pumping stations.

Main Pump No. 5R (formerly 1R) Motor was removed from the site for shop testing on Tuesday, July 30. Testing is ongoing at by Scheinert & Sons at the motor repair shop.

Temporary Bypass Pumping System

System remains operational and operation has been on an intermittent basis due to Main Pump Nos. 2E, 3E, 2R, 3R, 4R and 6R capable of conveying all of the dry weather flow and the maximum wet weather flow to the Central Treatment Plant. Temporary Bypass Pumps were not operated for conveyance of sewage flow and will remain on stand-by. Maintenance was performed as needed.

Temporary Bypass Pumping System for the Weber Ave. Meter Chamber was not operated and will remain on standby. This System serves to isolate the MCUA Interceptor pipeline sewage flow from the local sanitary sewer collection system to mitigate potential impacts during wet weather events. The bypass pump was moved this week from the Meter Chamber site to the Sayreville Pumping Station for storage when not in use.

The week’s estimated daily average rate of wastewater flow and peak daily flow conveyed by the Main Pumps and/or Temporary Bypass Pumping System to the Central Treatment Plant:

74 million gallons per day average
88 million gallons peak day (August 9)

Temporary Wet Weather Overflow Facilities

All piping, screening equipment and pumps have been removed from the MCLF site; removal of fill and stone for equipment pads and area restoration has been completed.

Industrial Users

The Sayreville Pump Station and Edison Pump Station currently can convey average daily flows to the Central Treatment Plant therefore; Industrial Users may resume discharging to their respective wastewater collection systems. Also, MCUA maintained the reduced trucked in waste rate until January 4, 2013. As of January 5, 2013 the Septage Rate is \$48.00/1000 gallons and the Industrial Rate is \$72.00/1000 gallons.

Uncontrolled Overflows

None as of January 26, 2013

Controlled Overflows

None as of January 17, 2013

Middlesex County Landfill Hours

Middlesex County Landfill is fully operational and open to accept solid waste for disposal. Below is the operating schedule for the Landfill in East Brunswick until further notice.

Monday thru Friday	7:00am – 3:00pm
Saturday	7:00am - 12:00 noon
Sunday	Closed

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