

Middlesex County Utilities Authority

Hurricane Sandy Update

September 14 to 20, 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 Category B Project Worksheets (PW's) for the Sayreville and Edison Pumping Stations have been submitted to FEMA and are currently under review. A total \$19,265,814.65 has been submitted to FEMA for funding with \$8,466,124.61 approved and \$2,926,730.47 paid to date. The MCUA is currently working with FEMA and the NJDEP to prepare Category F PW's for permanent repairs at the Pumping Stations and developing plans for protecting these facilities from future flooding with funding through FEMA's 406 Mitigation Program.

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. However, during the second calendar quarter the plant experienced temporary upset conditions in the secondary treatment process which resulted in total suspended solids permit excursions due to several factors including operational issues attributable to Hurricane Sandy. Plant performance for August 2013 was compliant with permit discharge requirements.

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

84 million gallons per day average

88 million gallons peak day (September 16)

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. Engineering activities have been initiated for replacement of the on-site generator damaged while in operation following the Hurricane Sandy event.

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 performed of the motor indicated degrading stator winding insulation resistance values; however, the values remain within an acceptable range. Testing of the feeder cables between the motor and the VFD were found to have conductor insulation resistance values below acceptable values and require replacement. The cables were submerged during the Hurricane Sandy event and were not replaced when the station was reactivated. Coordination of work to replace the feeder cables is in progress.

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:

15 million gallons per day average
15.35 million gallons peak day (September 19)

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.

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 MUA 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 being coordinated and originally scheduled to be completed by mid- August; this schedule is being revised.

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 temperature and amperage 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.

Received delivery of Main Pump Motor 5R, set the motor, aligned shaft and grouted motor in place. Completed adjustments to the Actuators for Suction Valves 3R and 5R; and exercise the valves to allow for full operation.

Temporary Bypass Pumping System

System remains operational and operation has been on an intermittent basis due to Main Pump Nos. 2E, 3E, 1R, 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 MUA 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:

67 million gallons per day average
71 million gallons peak day (September 16)

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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