The Sewerage & Water Board

OF NEW ORLEANS

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June 14, 2022

Dear Mayor Cantrell, Honorable Members of the New Orleans City Council, and Orleans Parish Delegation:

This report is delivered in accordance which Revised Statute 33:4091, Section F, which states: "*In addition to the other requirements of this Section, the board shall send a report, by electronic mail, to the members of the Orleans Parish legislative delegation and the members of the governing authority of Orleans Parish detailing the pumping and electrical power of its facilities and the available manpower no later than twenty-four hours prior to a hurricane entering the Gulf of Mexico as determined by the National Weather Service and no later than forty eight hours after a flood watch or warning or thunderstorm watch or warning is issued by the National Weather Service for any area of Orleans Parish.*"

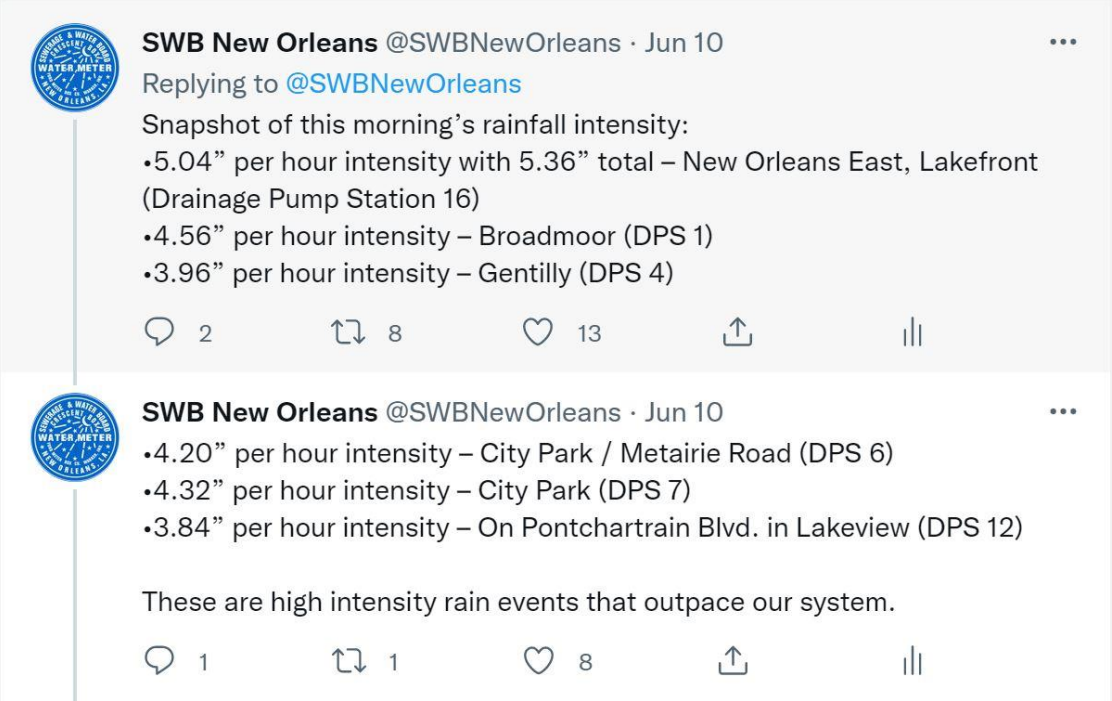
On Friday, June 10, 2022, the National Weather Service issued a series of flood advisories and flash flood warnings associated with a storm system that stalled over Orleans Parish between approximately 9:00 a.m. and 3:00 p.m. Below is an initial report regarding the status of SWBNO's pumping and power equipment and facilities before and during the event.

STORM IMPACTS

This was the most significant rain event that Orleans Parish has experienced in two years. Although initially forecast to move through the region quickly, the system stalled over the city and produced significantly more rainfall than was predicted. The total amount of rainfall in several locations exceeded 5 inches, with a rainfall intensity of 5.04 inches per hour in New Orleans East.

The intensity of rainfall temporarily overwhelmed the drainage system, as it would in any city regardless of the type or size of the system (and as we saw in neighboring

Jefferson Parish, too). As a result, there was street flooding in many areas while the water made its way to the pumping stations – particularly in New Orleans East and Gentilly, where the rainfall was most intense and well over the 3" that the drainage system can typically handle over a period of several hours.



SWBNO's pumping and power equipment generally performed as expected, and flooding receded quickly after water made its way to the pumps. This event was the first significant test of the drainage system in well over a year, and the city landscape has changed with regard to new developments, completed green infrastructure projects, and ongoing JIRR street construction. It was informative to observe what worked well and where system tweaks or improvements are needed as we head into hurricane season.

As part of its after-action review, the SWBNO team identified two issues that may have lengthened the time it took for street flooding to recede in New Orleans East and Gentilly:

- At DPS 16, high levels of stormwater flowing in the canals leading to the pumping station carried a significant amount of debris, including items as large as a port-o-let, that clogged the screens at the station intake structure. These screens protect the pumps by preventing debris from entering the pumps, but a large amount of debris can also slow the flow of water to the pumps. As a result, the pumps were not operating as efficiently as possible.

SWBNO crews began removing the heavy accumulation of debris from the screens Friday afternoon and a majority of the debris was removed by Saturday afternoon. The significant amount of debris was likely the result of trash that flowed into the open canals due to widespread street flooding in the area.

- At DPS 4, three of the five pumps at the station tripped offline during the initial startup process. The operator notified the chain of command, and troubleshooting activities commenced. Troubleshooting activities were conducted for approximately 2.5 hours before it was diagnosed that the sluice gates were closed. Once the drainage pump operators opened the sluice gates, two of the three pumps were brought online for the remainder of the storm event. The two additional pumps increased the total pumping capacity at the station from 640 cfs to 2,640 cfs. This was an operational, not mechanical, issue and has been addressed via an after-action review.

PUMPING AND POWER

Below is the status of SWBNO's pumping and power equipment at the outset of the event.

Drainage Pumps:

A total of 95 of 99 drainage pumps were available at the outset of the event.

DPS 6:	**I pump out of service, awaiting shaft replacement; return to service Q1 2023**
	H pump out of service, under investigation; anticipated return end of June
DPS 11:	**E pump out of service due to an oil leak; contractor engaged for repairs; anticipated return TBD**
DPS 13:	**No. 4 pump designated emergency use only; in-depth inspection underway**

As detailed above, three pumps at DPS 4 were not operational during part of the event. All three are once again available. The remaining drainage assets performed as expected during the course of the event, with no significant issues.

Underpass Stations:

All 27 underpass station pumps (UPS) were available and ready for use during the event. There were no reported issues with the underpass pumps.

Power:

Turbine 5 was online for the entirety of this event and performed well, producing up to 16MW of power. When the amount and intensity of rainfall unexpectedly began to increase, two EMDs were brought online to add capacity while T4 and T6 were warming up. The EMDs tripped offline after approximately 20 minutes, but T5 was handling the required capacity and there was no effect to drainage operations. T4 and T6 were successfully brought online and performed well for the remainder of the event.

Unit*	**Frequency**	**Capacity in MW**	**Available**
T4	25 Hz	20 MW	18
T5	25 Hz	20 MW	17.5
Carrollton Frequency Changers 1&2	Converts 60 to 25Hz	8.5 MW	8.5
Station D Frequency Changers 3&4**	Converts 60 to 25Hz	12 MW	6
West Bank Power Complex (Algiers Water Treatment Plant)	Converts 60 to 25Hz	2.5 MW	2.5
Five EMDs	25Hz	12.5 MW (total) 2.5 MW (each)	10
T6 (via Plant Frequency Changer)	Converts 60 to 25Hz	3.75 MW	3.75
		Total 25 Hz:	**66.25 MW**
T6	60 Hz	22 MW	**22 MW**

*****T3 has been decommissioned as of May 2021, and T1 has been decommissioned as of June 2022. Both units have been removed from this table.

** Frequency changer 3 is offline for scheduled cleaning and maintenance.

STAFFING

Of New Orleans' 24 drainage pumping stations, some are staffed, some run remotely, and some are staffed as circumstances dictate. For this event, all stations were staffed appropriately.