



# **The Sewerage & Water Board**

## **OF NEW ORLEANS**

625 ST. JOSEPH STREET  
504.529.2837 OR 52.WATER  
[www.swbno.org](http://www.swbno.org)

**December 5, 2023**

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 the evening of Friday December 1 and into Saturday December 2, 2023 the National Weather Service issued a series of flood advisories associated with strong storm system that moved through Orleans Parish. The predictions from the National Weather Service indicated that the storm would be 3-4 inches of rain over a 2-day period, with a slight to marginal risk of severe storms. The status of SWBNO’s pumping and power equipment before and during the events is detailed below.

### **STORM IMPACTS**

This storm results in the metro area experiencing a series of high intensity, short duration rain and thunderstorm events that impacted the entire Metro area. The majority of the rainfall was accumulated during the hours of 2am and 7am on Saturday morning, with over 7 inches recorded on the Westbank, over 5 inches recorded in the Old City drainage area on the Eastbank, and over 4 inches recorded in New Orleans East.

Notable rain accumulations, intensities, and peak hourly accumulation from 9pm on Friday, December 1 to 4pm on Saturday, December 2 are shown below.

| Location          | Neighborhood                             | Rain Intensity (in/hr) | Peak Hourly Accumulation (in) | Total Rainfall (in) |
|-------------------|--|------------------------|-------------------------------|---------------------|
| DPS-02            | Mid City                                 | 5.16                   | 2.39                          | 6.37                |
| DPS-01            | Broadmoor                                | 5.40                   | 2.41                          | 6.15                |
| Central Control   | Hollygrove                               | 4.92                   | 2.21                          | 5.78                |
| DPS-03            | 7th Ward                                 | 5.04                   | 2.06                          | 5.76                |
| DPS-07            | City Park                                | 5.16                   | 2.19                          | 5.52                |
| DPS-11            | Lower Coast Algiers                      | 3.24                   | 1.94                          | 5.40                |
| DPS-20            | New Orleans East – Intracoastal Waterway | 4.92                   | 1.58                          | 5.26                |
| DPS-10            | New Orleans East - Lakefront             | 3.96                   | 1.61                          | 5.21                |
| DPS-04            | Gentilly                                 | 4.20                   | 1.83                          | 5.04                |
| DPS-16            | New Orleans East – Lakefront             | 3.60                   | 1.49                          | 4.88                |
| DPS-06            | Lakeview                                 | 4.08                   | 1.75                          | 4.81                |
| Station-A         | Treme                                    | 12.96*                 | 1.85                          | 4.69                |
| DPS-05            | Lower 9th Ward                           | 4.80                   | 1.78                          | 4.65                |
| DPS-14            | New Orleans East – Lakefront             | 4.20                   | 0.99                          | 4.41                |
| DPS-13            | Algiers                                  | 3.48                   | 1.32                          | 4.28                |
| DPS-12            | Lakeview                                 | 5.04                   | 1.21                          | 4.21                |
| City-wide max     |  | 5.16                   | 2.41                          | 6.37                |
| City-wide average |  | 4.48                   | 1.79                          | 5.10                |

*\*this value appears to be an outlier and is excluded from the maximum and average value calculations*

Localized flooding was observed across the most impacted areas of town in the morning of December 2.

Reports from the Real Time Crime Camera (RTCC) center provided by SWBNO indicated that localized flooding/standing water conditions were observed beginning at 4:30am. With the exception of one particularly low-lying area at Airline and Monroe in the Hollygrove/Dixon neighborhood, the reported areas of concern were cleared by 10:15am. The Airline/Monroe area was resolved by 12pm.

## **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 94 of 99 drainage pumps were available at the outset of each event:

- DPS 3:** 25-hz pump out of service due to replacement of bearing housing unit. RTS end of Dec 2023.
- DPS 10:** No. 1 pump (60-hz) out of service. Vendor selected to refurbish pump. RTS Jan 2024.
- DPS 13:** No. 4 pump (diesel pump) is for emergency use only. Gear box and bearings require a more in-depth inspection. RTS TBD.
- DPS 17:** Pumps A & D (25-hz) out of service due to the issues with electric motor. RTS TBD.

Except as noted in the Power section below, no major pump-related issues (mechanical or electrical) were encountered during the rain event.

## **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. However, due to the volume of rainfall accumulation, the Carrollton Ave Underpass were submerged and unpassable for several hours until the underpass pumps were able to remove the accumulated water.

## **Power:**

Turbines 4 (25-hz) and 6 (60-hz), along with three frequency changers on the Eastbank, and one on the Westbank, as well as three EMDs were also available at the outset of this event. Due to the limited amount of redundancy in 25-hz power, plans were made in advance of the rain event to utilize frequency changers for the stations which have primarily 25-hz pumps.

At approximately 5:30am, attempts were made to bring the EMDs online but they would not start due to issues with the electrical controls; operations and maintenance staff were notified to investigate and resolve the issue. The EMDs were subsequently started at 7:45am. The initial intent of bringing the EMDs online was to use them for additional power for 25-hz pumps at DPS 1 and DPS 6, to supplement pumping already in progress by 60-hz pumps at those stations. When the EMDs became available, they were used to provide additional pumping power for DPS 6, as well as other stations as noted below.

At approximately 6:20am on Saturday, December 2, Turbine 4 tripped offline. Operations staff attempted to restart the turbine, which was unsuccessful. The EMDs were utilized to provide additional power after Turbine 4 went offline.

As a result of this trip event, some 25-hz pumps at Station 2, 7, and 12 came offline. However, with the exception of DPS 12, other pumps at those stations were available via frequency changers or Entergy power, which allowed a moderate amount of pumping to continue. Due to limited power available from the EMDs, as well as system configuration restrictions, the EMDs were able to support drainage pumping at Station 6 and 12, as well as potable water pumping.

As a result of this power loss, water levels in the canals leading to and exiting Stations 2, 3, 7, and 12 remained high for several hours. Pumps that were able to utilize the available power were able to draw down the canal levels between 9am and 11am.

| <b>Unit*</b>  | <b>Frequency</b>    | <b>Capacity in MW</b>            | <b>Available</b>  |
|---|---------------------|----------------------------------|---|
| T4  | 25 Hz               | 20 MW                            | 10 (limited due to rehabilitation of fans in boiler room)                                       |
| T5**  | 25 Hz               | 20 MW                            | 0 (Out of service since October 29, 2023 due to mechanical issue; in-house repairs in progress) |
| Carrollton Frequency Changers 1&2                       | Converts 60 to 25Hz | 8.5 MW                           | 6 (CFC #2 out of service)   |
| Station D Frequency Changers 3&4                        | Converts 60 to 25Hz | 12 MW                            | 12 MW   |
| West Bank Power Complex (Algiers Water Treatment Plant) | Converts 60 to 25Hz | 2.5 MW                           | 2.5   |
| Five EMDs   | 25Hz                | 12.5 MW (total)<br>2.5 MW (each) | 7.5 (repairs for EMD #1 and #2 in progress)   |

| <b>Unit*</b>                      | <b>Frequency</b>       | <b>Capacity<br/>in MW</b> | <b>Available</b>               |
|-----------------------------------|------------------------|---------------------------|--------------------------------|
| Plant Frequency Changer<br>via T6 | Converts 60 to<br>25Hz | 3.75 MW                   | 0 MW (RTS to be<br>determined) |
|                                   |                        | Total 25 Hz:              | <b>38 MW</b>                   |
|                                   |                        |                           |                                |
| T6                                | 60 Hz                  | 22 MW                     | <b>22 MW</b>                   |

\*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.

### **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.