



"RE-BUILDING THE CITY'S WATER SYSTEMS FOR THE 21ST CENTURY"

Sewerage & Water Board OF NEW ORLEANS

LaToya Cantrell, President

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Oct. 5, 2018

City Council Member Joe Giarrusso
Chairman
Public Works Committee

New Orleans City Council
1300 Perdido Street, Suite 2W80
New Orleans, LA 70112

Dear Council Member Giarrusso:

I present to you the latest quarterly report of the Sewerage & Water Board as required by Louisiana Revised Statute 33:4901. The information herein provides updates to the previous report presented to the City Council in June. Additionally, it includes responses to the lists of questions presented to the Board by the Council subsequent to the filing of the last quarterly report.

The Board has made great strides through several changes in leadership over the past year to stabilize and improve New Orleans' drainage system. We have more self-generated power and more operational drainage pumps available to serve the City than we have had in years. Drainage, however, is not the only responsibility of this utility, and it faces many challenges ahead in several key areas.

I have devoted my first weeks as the new Executive Director to identifying these challenges started our efforts to overcome them. I am encouraged by the work ethic of many Board employees who share that common mission.

Unsurprisingly, the billing process remains a major source of dissatisfaction for our customers. That's why it will continue to be my team's top priority for improvement. That said, we have made progress, including:

- Contracting with Utiliworks of Baton Rouge to provide quality controls to the meter reading overall billing process
- Installed an automated process in the billing system to rectify new accounts – so-called "transfer" accounts – that have gone unbilled and to prevent delays in billing going forward
- Brought on additional staff to address the backlog of unprocessed transfer accounts
- Reconstituted an internal task force to monitor billing system improvements and address any potential issues that may occur
- Reduced the backlog of disputed accounts from more than 10,000 in May to fewer than 2,000 today

We have had success in other areas as well. The Board and the Department of Public Works have never enjoyed a closer working relationship than they do today. This must be maintained and strengthened. The Board also launched a new, customer-friendly website at www.swbno.org with plans to continue to modernize and update its content and capabilities.

Our team is building a maintenance plan to regularly clean and monitor drainage canals and vacant lots.

With each success, we move toward rebuilding the public's trust in this critical utility. We cannot achieve these goals, however, without partners. I view the City Council as one of those key partners.

The Board, however, is not out of the woods. The heavy spending in 2018 to respond to a string of emergencies, from drainage equipment failures to January's freeze, has left the agency no choice but to tighten its belt. It is imperative that we prove to the public and our customers that we are spending their money wisely and with them in mind.

The Sewerage & Water Board is a critical utility in critical need. Its stability, reliability and success are essential to the health and safety of New Orleans. The Board succeeds; the City succeeds. I ask that we work together to return the Board to its former stature as a vanguard in the world of water management.

Sincerely,

A handwritten signature in dark ink, appearing to read "Ghassan Korban", with a stylized flourish at the end.

Ghassan Korban
Executive Director

1) Standard Industry Practices for Best Practice.

Please see Appendix 1-A for perspective on industry best practices according to the American Water Works Association.

a) *Percentage of water loss;*

As reflected herein, the Board does track water billed and water collected – we do not track water loss. Therefore we have not historically captured a percentage of water loss.

The Board's future should be aimed at developing a water loss management policy. The lack of a water loss management policy is not unique to the Sewerage and Water Board. According to the American Water Works Association (AWWA), a leading organization dedicated to improving water quality and supply, only four (4) states in the country use AWWA's policy terminology and metrics, only two (2) use AWWA's M36 software, and only two (2) use AWWA's M36 software with validation. Louisiana, along with twenty-two (22) other states, does not have a water loss management policy.

b) *Percentage of water paid;*

The percentage of water use billed versus revenue collected for this quarter is approximately 66%. The department tracks Revenue Billed.

WATER	BILLED	COLLECTED
2016	\$83,474,586.44	\$82,513,793.39
2017	\$107,353,671.34	\$85,129,383.44
Q1 of 2018	\$28,958,055.31	\$19,363,390.45
Q2 of 2018	\$29,113,894.16	\$19,434,170.29

SEWER	BILLED	COLLECTED
2016	\$98,577,641.57	\$99,575,345.39
2017	\$125,871,120.34	\$101,987,351.70
Q1 of 2018	\$34,510,245.46	\$23,824,689.76
Q2 of 2018	\$34,320,725.25	\$24,182,424.27

c) Percentage of receivables outstanding, including delinquency schedule; and

The Board's billing system does not provide for these metrics. However, at its regular Board Meeting in November 2017, the then-interim management team requested approval from the board to temporarily suspend termination of water service for all disputed accounts. Out of an abundance of caution, the Board suspended all terminations. At that time, there were approximately 5,800 disputed accounts under investigation by the Board's customer service team. That number grew to more than 10,000 as of the regular Board Meeting in May 2018. The Board reinstituted its regular collections process on Aug. 1, but it continues to reduce that pre-existing backlog. It now stands at fewer than 2,000 disputed accounts.

d) Customer service improvements.

We are examining all facets of the Board that touch the customer. This stretches from bills to water leaks in front of properties. The Board must be responsive to its customers, and so top priorities will focus on that mission.

The Council requested the following information regarding the Water Audit:

a) Is the 2017 Water Audit a final document or a draft?

The Water Audit report is an annual report produced for our consumers and to comply with the EPA's Consumer Confidence Report (CCR) Rule, <https://www.epa.gov/ccr>. The 2017 CCR is a final document.

EPA's CCR Rule requires water utilities to distribute an annual water quality report to their customers by June 30th of each year. The water quality data in the report must be from the previous calendar year. One of the reasons EPA allows 6 months to distribute the reports after the end of the year is because for some contaminants, particularly where the concern is with long-term exposure rather than short-term exposure, analytical results are often not available until several months after sampling. Note that the purpose of the CCRs is not to provide public notification of immediate health threats. Acute health threats require immediate public notification through other means (i.e., Boil Water Advisories). Please see [Appendix 1-B](#).

b) For the 2016, 2017, and the first two quarters of 2018, how much water has been lost?

The Board tracks consumption billed.

Consumption Billed

2016 – 12,055,156,664 gallons

2017- We do not have the information readily available. Cogsdale has been engaged to provide information for 2017.

Q1 – 2018 - 3,899,060,314 gallons

Q2 – 2018 - 3,826,589,274 gallons

c) *For the 2016, 2017, and the first two quarters of 2018, how much revenue was lost as a result of lost water?*

The Board has not tracked water loss for 2016 and 2017. The Board has engaged Water Company of America to identify and collect on lost water. Water Company of America has received the data required, conducted its initial analysis and began field reviews in mid-September. They are compiling the first batch of recommendations.

d) *For the 2016, 2017, and the first two quarters of 2018, how much of the water lost is due to city obligations?*

The Board has not tracked water loss for 2016 and 2017. In Quarter 1 of 2018, the Board engaged Water Company of America to begin identifying and collecting on lost water. In addition, Cogsdale has provided access to additional system updates that will track and on all free water accounts.

e) *For the 2016, 2017, and the first two quarters of 2018, how much of the water lost is due to infrastructure issues?*

The Board has not tracked water loss for 2016 and 2017. In Quarter 1 of 2018, the Board engaged Water Company of America to begin identifying and collecting on loss water, including water loss due to infrastructure issues. In addition, Cogsdale has provided access to additional system updates that will track and on all free water accounts.

f) *For the 2016, 2017, and the first two quarters of 2018, how much of the water lost is attributable to meter issues?*

- 2016- This figure is incomplete because of the billing software implementation in October 2016
- 2017-\$505,985.84
- Q1-2018-\$127,903.11
- Q2-2018-\$72,234.15

g) *For the 2016, 2017, and the first two quarters of 2018, how much water did SWB capture as water paid?*

Water Collections-	2016- \$82,513,793.39
	2017-\$85,129,383.44
	Q12018-\$19,363,390.45
	Q2-2018-\$19,434,170.29

Sewer Collections-	2016-99,575,345.39
	2017-\$101,987,351.70
	Q12018-\$23,824,689.76
	Q2-2018-\$24,182,424.27

h) *For the 2016, 2017, and 2018, who were the top 25 biggest consumers of water and were those bills timely paid?*

Below is a historical look at the Top 25 customers for 2016, 2017 and 2018. See [Appendix 1-C](#) for a detailed table of current status of the 2018 Top 25 account holders.

	2016	2017	2018
1	Tulane University	University of New Orleans	UNIVERSITY OF NEW ORLEANS
2	University of New Orleans	N. O. Exhibition Hall	NASA MAF6216002
3	NASA	Board of Commission Port	INTERNATIONAL HOUSE LLC
4	University Medical Center	Loyola	SOUTHERN UNIV AT NEW ORLEANS
5	Triangle Real Estate	Orleans Levee Board	LEVEE COMMISSION
6	Hilton Hotel	Touro	RITZ CARLTON
7	Brookfield District Energy	Children's Hospital	TULANE UNIVERSITY
8	N. O. Exhibition Hall	Phylway Construction	N O EXHIBITION HALL AUTHORITY
9	Touro Infirmary	Tulane Medical Service	LOYOLA UNIVERSITY
10	Ritz Carlton	Hilton Hotel	FIRST CLASS HOTELS LLC
11	Hyatt Regency	Delta Films	JAZZ CASINO COMPANY LLC
12	Royal Orleans	Woldenberg Village	XAVIER UNIVERSITY
13	SMG	VA Dept. of Veterans Affair	ROYAL ORLEANS
14	Jazz Casino Company LLC	Ritz Carlton	DJONT OPERATIONS LLC
15	AVR-Saulet LLC	Tulane University	HILTON HOTEL NEW ORLEANS
16	PRCP-NS New Orleans LLC	The COVE at Nola	ST CHARLES CONDO MANAGEMENT
17	Tulane Medical Service	University Medical Center	TULANE MEDICAL SERVICE
18	University Med Cntr Mgmt.	TLC Services	RICHARD CAMINITA
19	Loyola University	Levee Commission	BELLSOUTH
20	Oschner Baptist	ACV VII LLC	WINDSOR COURT HOTEL
21	Air Products & Chemicals Inc.	Royal Orleans	SMG
22	JW Marriott	SWVP New Orleans LLC	TRIANGLE REAL ESTATE
23	Sheraton Hotel	LSU Health Sciences Center	FQ HOTELS LLC
24	IX ACP Hotel Owner LP	Hyatt Regency	IX ACP HOTEL OWNER
25	LGD Rental	IX ACP Hotel Owner	WESTBANK HOLDING

The Council requested the following information regarding payment methods:

- a) *Number of customers who pay their bills online, number of customers who pay their bills in person and/or by mail;*

The following includes all payments between April 1 and June 30, 2018:

PAYMENT METHOD	NUMBER OF PAYMENTS
Fidelity Express	5,480
Night Deposit Boxes	6,753

Online	62,555
IVR (Phone Payments)	12,633
Auto Pay	52,477
Walk In	34,722
Mail In	84,236

b) *Number of complaints over inaccurate bills and average length of time to correct;*

- As of Oct. 1, the S&WB has 6,281 disputed accounts. The backlog of disputes prior to the reimplementing of the regular collections process has been reduced to 1,995.
- It takes an average of 60 – 90 days to correct, because of the backlog.

c) *Number of customer interactions that come in online and number that come in by phone;*

For the month of September 2018 - number of webmail 1,735 number of calls 17,313

d) *Method and time of response to customer complaints that come in by phone and online;*

For the month of September 2018, the average call wait time was 4 minutes 16 seconds – a considerable reduction from the 12 minutes, 29 seconds of wait time in April.

e) *Plans for additional public engagement and marketing.*

- The Board is crafting a communications strategy to engage neighborhood organization and faith-based leaders to better understand customer expectations.
 - The Board has been engaging news outlets through interviews to emphasize S&WB improvements and efforts to stabilize the billing system.
 - The Board has conducted media tours to introduce the public to its new leadership team under Executive Director Ghassan Korban.
 - The Board is creating educational materials available on our website, swbno.org, to help residents mitigate flooding around their properties and to teach the public about the drainage process.
 - The Board has updated its website to be more responsive and to enhance the customer's online experience.
 - The Board's public outreach strategy concerning billing issues is three-fold.
- 1) The Board is working with the Cantrell administration to identify opportunities to use the Mayor's community office hours as venues to make Board staff available for bill disputes and resolutions. In addition, the Board is identifying opportunities to create satellite sites to make Customer Service representatives available at certain dates and times in each of the seven Council Districts, as well as separate sessions in the Lower 9th Ward and the West Bank.
 - 2) The Board is investigating the efficacy of establishing an auxiliary Customer Service center outside the Central Business District to improve access for customers.
 - 3) The Board is working with the City Council to engage community and neighborhood groups regarding our strategy to improve the billing process.

2) Prevention of Waste or Fraud.

Eliminating fraud, waste, and abuse at the Board is a responsibility and a legal requirement of all of our employees, including our contractors. We recognize that fraud, in any environment, cannot be completely prevented. However, there are several steps the Board will take in the coming months to provide greater assurance that waste and fraud will be detected and deterred. Some of the steps are discussed in the summary listed below.

- Update or establish new written policies and procedures to minimize waste and abuse;
- Reinstitution of the Board's Audit Committee;
- Grow and train our internal audit team using key metrics to establish measurable objectives for detecting waste and abuse.
- Improve training and education opportunities for Board Members, employees, and contractors.
- Improve ethics training for new Board employees.
- Engage outside experts to establish best practices for deterring waste and abuse.
- Enforcement of ethical standards through disciplinary protocols.
- Prompt response to detected problems and forceful implementation of corrective action plans.

In addition, we have several oversight agencies, including, the Office of Inspector General, FEMA and the Louisiana Legislative Auditor, all of which have current audits of the Board underway.

3) Metrics for Employees and Contractors.

a) Where is the Board's handbook and when is the last time it has been updated?

Sewerage & Water Board Employee Handbooks are given out during new employee orientation and available in Human Resources (HR) upon request. The latest version was updated January 2018. See Appendix 3-A.

b) How many employees are in the HR department and when was the last time those policies were reviewed?

The Human Resources Department has 16 employees. Policies owned by Human Resources are updated on an ongoing basis. See Appendix 3-B.

c) What mechanism do SWB employees have to recommend improvements in customer service?

Employees can provide feedback to the Executive Management Team, the Customer Relations Manager and any supervisor in Customer Service. The Board remains open to additional mechanisms to improve employee engagement as it relates to process improvements.

d) What other employment policies apply to SWB employees?

Sewerage & Water Board (SWB) employees are subject to Federal laws (i.e. FMLA, FLSA, ADA, HIPPA, Privacy Rights Act), State oversight (i.e. Louisiana Board of Ethics), Civil Service Rules and Sewerage and Water Board Policies

e) What policies and procedures apply to employee misconduct?

The policies/procedures that apply to employee misconduct are Civil Service Rule IX, Sewerage and Water Board Policy #4 – Corrective Action, Policy #20 – Time and Attendance, Policy #60 – Accident Review Board, Policy #67 – Substance and Alcohol Abuse.

f) Is the residency requirement an impediment to hiring enough SWB employees?

Yes, the residency requirement is an impediment to hiring. The SWB has made job offers that have been turned down by candidates who do not want to move into Orleans Parish.

g) SWB has 1,615 budgeted positions. The last report showed the SWB had lost between 400-600 employees. How many people are currently employed by the agency?

There are 1,715 budgeted positions at the Sewerage and Water Board and 1,356 employees.

h) Losing that many employees did not happen overnight. When did this start?

The attrition numbers have been tracked by HR since June 2016. See Appendix 3-C.

- i) *What concrete policies and procedures does SWB have in place to stem attrition and to attract new employees?*

The Board uses the following strategies to attract new candidates: job fairs, career fairs, community events and summer work programs. The Board utilizes our own website, as well as the Civil Service website to post job openings and common job search engines such as Indeed, Ideal, and similar web-based platforms for posting some jobs that require more targeted hires. The HR Department is currently working with our Ops team to build out a succession plan. Once completed, the HR Department will move to other administrative departments to conduct similar exercises.

- j) *If nearly 47% of the operating budget is for employee salaries and a large fraction of positions are unfilled, what is happening to the money budgeted for employee salaries?*

See the chart below. Budgeted funds that go uncommitted are typically allocated to other areas that are underfunded. Any remaining funds go into the Board's general reserve fund for future operating needs.

- k) *What happened to the money budgeted for employee salaries not used for employees over the last five years?*

Amounts that were budgeted, but were not spent during the budgeted year are available and considered during the next budget cycle. See chart on following page for additional information on historical budgeted versus actual spend.

2017	Object	Budgeted	Actual	Uncommitted	Total O&M Budget	% of O&M Budget
	Salaries	\$ 125,980,509.00	\$ 88,450,080.94	\$ 37,530,428.06	\$ 189,060,446.00	66.64%
	Service and Utilities	\$ 64,460,016.00	\$ 56,642,994.32	\$ 7,817,021.68	\$ 189,060,446.00	34.09%
	Materials and Supplies	\$ 33,648,254.00	\$ 49,286,471.25	\$ (15,638,217.25)	\$ 189,060,446.00	17.80%
	Special Current Charges	\$ 2,129,775.00	\$ 2,149,014.27	\$ (19,239.27)	\$ 189,060,446.00	1.13%
	Furniture and Equipment	\$ 1,192,485.00	\$ 542,594.92	\$ 649,890.08	\$ 189,060,446.00	0.63%
	Pension	\$ (21,000,000.00)				
	Overhead	\$ (13,353,724.00)				
	Budget Adjustments	\$ (3,996,869.00)				
	Total	\$ 189,060,446.00				
2016	Object	Budgeted	Actual	Uncommitted	Total O&M Budget	% of O&M Budget
	Salaries	\$ 89,373,085.00	\$ 88,410,908.78	\$ 962,176.22	\$ 173,453,200.00	51.53%
	Service and Utilities	\$ 58,800,171.00	\$ 48,113,810.03	\$ 10,686,360.97	\$ 173,453,200.00	33.90%
	Materials and Supplies	\$ 30,250,133.00	\$ 31,032,116.80	\$ (781,983.80)	\$ 173,453,200.00	17.44%
	Special Current Charges	\$ 5,082,839.00	\$ 1,330,388.90	\$ 3,752,450.10	\$ 173,453,200.00	2.93%
	Furniture and Equipment	\$ 946,972.00	\$ 536,259.31	\$ 410,712.69	\$ 173,453,200.00	0.55%
	Pension	\$ (11,000,000.00)				
	Total	\$ 173,453,200.00				
2015	Object	Budgeted	Actual	Uncommitted	Total O&M Budget	% of O&M Budget
	Salaries	\$ 89,217,762.00	\$ 81,084,852.00	\$ 8,132,910.00	\$ 167,604,912.00	53.23%
	Service and Utilities	\$ 59,590,359.00	\$ 46,333,496.85	\$ 13,256,862.15	\$ 167,604,912.00	35.55%
	Materials and Supplies	\$ 34,551,292.00	\$ 28,878,546.63	\$ 5,672,745.37	\$ 167,604,912.00	20.61%
	Special Current Charges	\$ 5,143,774.00	\$ 1,539,297.32	\$ 3,604,476.68	\$ 167,604,912.00	3.07%
	Furniture and Equipment	\$ 871,725.00	\$ 728,226.19	\$ 143,498.81	\$ 167,604,912.00	0.52%
	Pension	\$ (11,000,000.00)				
	Overhead	\$ (10,770,000.00)				
	Total	\$ 167,604,912.00				
2014	Object	Budgeted	Actual	Uncommitted	Total O&M Budget	% of O&M Budget
	Salaries	\$ 64,914,747.00	\$ 75,201,066.85	\$ (10,286,319.85)	\$ 157,583,677.00	41.19%
	Service and Utilities	\$ 61,928,973.00	\$ 46,739,846.63	\$ 15,189,126.37	\$ 157,583,677.00	39.30%
	Materials and Supplies	\$ 25,947,309.00	\$ 21,468,271.75	\$ 4,479,037.25	\$ 157,583,677.00	16.47%
	Special Current Charges	\$ 3,938,817.00	\$ 1,772,139.08	\$ 2,166,677.92	\$ 157,583,677.00	2.50%
	Furniture and Equipment	\$ 853,831.00	\$ 566,142.70	\$ 287,688.30	\$ 157,583,677.00	0.54%
	Total	\$ 157,583,677.00				
2013	Object	Budgeted	Actual	Uncommitted	Total O&M Budget	% of O&M Budget
	Salaries	\$ 67,254,580.00	\$ 75,998,028.29	\$ (8,743,448.29)	\$ 153,319,437.00	43.87%
	Service and Utilities	\$ 55,674,530.00	\$ 44,686,722.11	\$ 10,987,807.89	\$ 153,319,437.00	36.31%
	Materials and Supplies	\$ 26,154,972.00	\$ 19,368,809.35	\$ 6,786,162.65	\$ 153,319,437.00	17.06%
	Special Current Charges	\$ 3,777,040.00	\$ 1,539,075.70	\$ 2,237,964.30	\$ 153,319,437.00	2.46%
	Furniture and Equipment	\$ 734,950.00	\$ 523,989.99	\$ 210,960.01	\$ 153,319,437.00	0.48%
	Adjustments	\$ (276,635.00)				
	Total	\$ 153,319,437.00				

l) What steps has the agency taken to change/modify job descriptions?

A change of a job description takes place prior to a job announcement being posted. Additionally, as part of SWB's recent Classification/Compensation Study conducted by Management Advisory Group (MAG), recommendations for job descriptions were provided.

m) Who is studying whether certain jobs be changed, modified, reduced, or eliminated in order to pay higher wages?

HR, in conjunction with hiring managers and Budget Department, regularly conducts reviews that may result in modifications of certain jobs. This effort has not been in relation to higher wages, however, but rather to provide hiring managers with the appropriate resources they need.

n) What is the plan to change, modify, reduce, or eliminate certain jobs in order to pay higher wages?

The plan is to use the budget development process to change, modify, reduce, or eliminate certain jobs in order to position the Board to pay higher wages. Change in wages, however, is a process that will be done in collaboration with Civil Service.

o) Is the call center understaffed?

Yes, the call center is understaffed.

If so, why?

- Space limitations – We have 30 operator stations and take an average of 1,000 calls per day. Our abandon call rate is approximately 30%. We need an additional 15 operators to adequately respond to citizen inquiries. We do not have additional space or funding to expand the call center at the Saint Joseph Street building.
- Training & Employee Development – New employees need continuous training and refresher courses on best practices in customer service, the newly installed billing system, the RJN work order system, the Invoice Cloud payment processing system and updates to SWB work in progress. We train using other employees and supervisors. This is inadequate. We are in need of a formal training program, with a separate location and dedicated trainers – specifically tasked with training and updating Customer Service Representatives.
- Employee Turnover – The high volume of customer complaints and billing irregularities cause work-related strain on our employees. Retaining good employees has been a challenge.

p) What is the process a citizen must go through to appeal (dispute) their water bill?

A citizen may initiate a bill complaint if they wish to dispute charges for water, sewer and sanitation. If water consumption is 50% higher than the previous month, customer is encouraged to check for leaks and such an increase starts and automatic investigation. See Appendix 3-D.

q) Who is responsible for hearing appeals?

Customers not satisfied with the decision of the hearing officer may request a rehearing through the SWB Legal Department or make an appeal to the Civil District Court for the Parish of Orleans. The Board has several administrative hearing officers that administer hearings to customers with disputes.

See Appendix 3-E.

r) Who is the final authority to say that a water bill can be adjusted?

The Administrative Hearing Officer is the final authority in the process. Irregular water bills, however, can be adjusted elsewhere in the process, such as when a leak is detected and repaired.

s) If water usage spikes beyond normal usage for the meter, is there a mechanism in place to trigger an automatic review?

The billing system does not calculate normal usage for each individual meter. The system will flag all accounts that are 125% above the dollar amount of the previous bill. The Billing department will place the account on hold and review it for accuracy. We have a backlog of accounts that are flagged for review and staff is working to get the bills out on time. However, due to the lack of an adequate number of bill review clerks, we are challenged to maintain the billing schedule.

t) Who is responsible for maintaining the payment function of the website?

Revenue/Customer Services with support from Information Systems.

u) How many employees are reading meters? Do we need more employees? Would installing smart meters resolve this problem?

- As of Oct. 1, there are 32 trained readers, known as water inspectors, reading meters.
- Yes, more employees are needed.
- There are 56 positions budgeted. If all 56 positions were filled, the Board would be in a significantly better position to read meters every month, which would have a direct positive affect on billing disputes.

The remaining Meter Reader positions include:

- 6 – Vacant Positions
- 11 – In Training
- 7 - Out injured on Worker's Compensation

Installing smart meters would resolve a large portion of the problems with incorrect bills getting to customers, if the implementation is successful and the systems are integrated properly. There will still be a need for Meter Reading inspectors to conduct investigations, maintain the meters and turn water off/on.

v) Are there enough employees to help with appeal of SWB bills?

No, there are not enough employees. We need approximately 20 additional positions to adequately, accurately and timely address bill complaints.

w) How much overtime is SWB paying to employees and is that payment necessary if the organization was rightsized?

See the attached overtime report, **Appendix 3-F**.

While it is common for utilities employees to use overtime, the aged equipment and outdated processes coupled with the hiring challenges that the Board has faced in the last two years, has increased the need of overtime for employees. Our Human Resources leaders are working with our department leaders to develop a strategy to efficiently and safely minimize the use of overtime through oversight of and

compliance with the overtime policy, as well as hiring strategies that will ensure that departments are building “pipeline” capacity and succession planning.

x) What training do employees receive on operating old equipment and new technology?

There are formal training programs in place for Drainage Pump Stations, Central Control, Water Purification, and Emergency Management. For these four departments, there are training manuals in place that describe the training process. There are also a number of external programs that are required for the industry certifications of our water and wastewater operators.

Most other departments utilize on the job training as the primary means of training personnel.

Presently, we are concentrating on establishing a more robust safety training program. Priya Dey-SarKar is championing that effort.

y) How many SWB employees are eligible for retirement?

There are 121 employees eligible for retirement as of Sept. 30. See Appendices 3-G.

z) Of those retirement eligible, what is the succession or replacement plan for those employees?

While SWB has not developed a comprehensive succession plan, various strategies that will be included in the eventual plan have been developed: (1) A Career Pathways/Career Development Program designed to provide the skills necessary for entry level positions to feed the pipeline. (2) Deferred Option Retirement Program (DROP) designed to allow retiring employees to train and impart knowledge of the job.

aa) What standard operating procedures have been given to employees to implement optimum operation of equipment?

The Board has standard operating procedures (“SOPs”) that date back to the early 1990s. Although these SOPs are dated, the processes utilized today are in line with those set out in the dated materials. The Board has engaged TMG Consulting (“TMG”) to assess current practices and develop business process documentation. TMG has provided its initial draft of business process documentation for the areas set forth in Appendix 3-H.

bb) All idle equipment is tested weekly, which includes the following auxiliary equipment used in normal operations: (i) motor generators, (ii) rectifiers, (iii) vacuum pumps, and (iv) oil pumps. In addition, whenever equipment is online and operating, personnel makes scheduled rounds (typically hourly) to assess equipment function and take readings for data collection comparison. Any issue discovered during these periodic tests generates a work order for servicing that is submitted to our Facilities Maintenance staff. What standard operating procedures have been given to employees to develop a critical spares program?

To our knowledge, there have been no standard operating procedures established to define critical spare parts that should be kept on hand. We are presently revising and developing standard operating procedures for turbine operations and drainage pumping operations. However, there are standard drinking water and wastewater protocols that the SWB follow.

cc) What standard operating procedures have been given to employees to develop and implement failure management policies to maintain system assets?

At the present time, there is no formal failure management policy. Concentrated efforts to establish and implement such a policy will begin in earnest once the system is restored to a more stable condition. In addition to the website, other parishes (including Jefferson) use Supervisory Control and Data Acquisition ("SCADA") to automate their operational systems. The benefits of SCADA include reduced operational costs, proactive system management, elimination of manual recording of readings and increased efficiency.

dd) What is the funded ratio of your pension system?

The funded ratio of the Employees' Retirement System of the Sewerage and Water Board of New Orleans is 79.4% as of December 31, 2017 (found on page 24 of the attached actuarial valuation). The actuarial valuation is a mathematical report that calculates a pension plan's condition (as measured in part by the funded ratio), required contributions, and liabilities. Most public pension plans (including ERS of SWBNO) have an actuarial valuation conducted annually by an actuary.

See **Appendix 3-I.**

4) Benchmarks of Success between SWB and DPW

The 1992 agreement between DPW and SWB builds upon a previous 1987 agreement to delineate the agencies' separate responsibilities for the drainage system. Under the 1992 agreement, all catch basins, catch basin lateral pipes, drain house connections, subsurface drainage pipes smaller than 36 inches in diameter, and manholes designed to accommodate said drainage pipes are the responsibility of The Streets Department under DPW. All major drainage lines 36 inches in diameter or larger are the responsibility of the SWB. Each agency is to bear the costs of any repairs associated with its respective areas of responsibility.

(a) 1992 Agreement – Is it still in control?

Yes, the agreement is still in control of the relationship between DPW and SWB regarding the drainage system.

(b) Where is the manual of procedures and standards under Article III of the 1992 Agreement

SWB staff will work with DPW to determine the current status of the manual.

(c) Are all conditions of the 1992 Agreement met?

Yes, the Board believes that the conditions are being properly executed.

(d) Is a new agreement needed?

Discussions are ongoing whether the relationship between the Board and DPW over drainage should be changed.

5) Report on Efficiency & Effectiveness of Information Systems

(a) Currently there are no postings of community meetings to engage the public.

A calendar of tentative meeting dates for Sewerage and Water Board of New Orleans and its Committees is available for the public to view at www.swbno.org. These meetings include the opportunity for public comment. Sewerage and Water Board is also exploring opportunities to collaborate with the Mayor and Council on setting up short term billing resolution processes in each Council district. We remain committed to communicating better and more effectively, which includes improved customer relations with our ratepayers and the communities that we serve.

(b) Where does the SWB stand on using and implementing SCADA to increase its productivity and reducing costs?

As it pertains to drainage, the SWB uses PI Vision data acquisition system to collect and visualize data from the drainage system during operations. This system is able to monitor operations, but it cannot control or automate any major drainage operations.

The existing components of the major drainage assets just do not have the ability to be readily outfitted for automation or control. To establish this type of platform for the drainage equipment would require the replacement of pump motors, valves, control gates, and major electric components, such as switch gears and breakers, with equipment that is capable with full SCADA implementation. It is not simply a “bolt on” feature because much of the drainage equipment was built before this technology was readily available.

There have been advancements by the SWB to have a better view of the operations. Since August 2017, the SWB has designed and deployed the PI Vision system that allows the SWB operations team to view what is happening at the major pump stations in real time, rather than relying on radio communications or reviewing the logs post event. The system also acts as an electronic historian so that data can be reviewed and analyzed at any time. The PI system monitors whether pumps are off, on or pumping water; how much power goes to their motors; the status of electrical feeders; the amount of rainfall (accumulated and intensity); suction basin elevations at pump stations, and discharge basin elevations. The first functional use of the system was May 18, 2018. The SWB is reviewing the station logs side by side with the PI data to understand the matchup of information between PI and the logs. The next phase of the deployment is to add warning signals to the systems to notify the operations teams of changing conditions and to add the system to SWB Central Control.

6) Detailed Report on System Improvements

According to the Veolia Report, the SWB must update its operating systems as follows:

(a) updating electronic maintenance management systems,

The Board uses an electronic maintenance management system that has modules for both “3-D” assets (such as pumping stations w/ information on each asset within the pumping station) and Linear assets (such as underground water, sewer, drainage pipes, valves, etc.) The Board has already begun meeting with various experts to decide whether we need to find a single system that can provide information on both types of assets or if we need to seek a “best of breed” system for each type of assets. The Board plans on producing a Request for Proposals this year to move forward when funds are available next year.

In all it could take 1 to 3 years to get a new management system configured to move current data into that new system.

It is vital that the Board get a GIS-based system, especially for all linear assets. Modern systems are all GIS-based; most also interface with SCADA data and can do some predictive analysis.

(b) tracking information and workflow,

The proposed system Asset Management / Work Order system will track information and workflow, as all modern systems do. The current billing software has a mobile workforce module which tracks work and workflow for all billing related (mostly meter) work orders. The Board envisions similar functionality where work would be entered in the field into mobile applications with real-time updates of work, as well as ease of assigning new work during the day.

(c) ensuring alignment of GIS data with the DPW (See, Section 4 above)

DPW (via the City’s GIS) and the SWB maintain separate GIS Data sets. Each entity is responsible for keeping its own data up to date and updating the other entity with changes. The Information Systems Department Administrator and the head of the City’s GIS Group met bi-monthly until recently. Discussions with Kim LaGrue are ongoing about how to continue the sharing of information until someone is selected to replace Greg Hymel, who recently resigned his position with the City. We have recently opened a dialogue about two-way sharing of GIS data.

(d) creating/updating intranet reporting system

While Information Systems has a software product, InvGate, which could be developed for this purpose, SWB staff will have to determine access and features. This system will stand alone until a new Asset Management / Work Order system has been implemented.

(e) maintaining a digital document system;

The Board will be moving to Office 365 and implementing SharePoint, which will help centralize documents and document versions for all electronically produced documents. The Legal Department has been tasked with selecting a Digital Document Management System for the Sewerage and Water Board.

The Revenue Department scans all key customer documents and attaches them to the customer record in the Cogsdale billing system. The upcoming Great Plains Human Resources / Payroll system will have the same functionality.

(f) improving system visibility

Information Systems has worked with Veolia to implement / improve the drainage SCADA system:

- Hardware installation: Digital power meters, Programmable Logic Controls (PLCs) and Personal Computers (PCs) were added to a majority of the Drainage Pump Stations as well as key power Stations to ensure that the necessary communications infrastructure was in place. Local networking hardware was also furnished.
- Software installation: Recommended SCADA software was added and used to collect all system operating data at the local stations and feed it into the existing SWB GE historian at the Carrollton locations. Additionally, based on Veolia's recommendation, the SWB purchased and installed OSIsoft Pi as the centralized data system required by the scope definition.
- Software development: Veolia has worked with other contractors on their project to develop screens in Pi that will give real time information about the drainage system. Pump status and availability, power status, water pressure, etc. can be viewed in real time. Additional screens are being developed, as requested. These screens are available to Central Control and the Emergency Operations Center during emergencies.
- Transition of ownership to the SWB: The SWB is in discussions with Veolia regarding recommendations for long term staffing of an Operations Technology (OT) Group develop, manage, and maintain the SCADA system. Civil Service will need to create positions for the group. For the short term, the Board is considering contracting with local staff that can fulfill the Board's needs until its own staff is ready to take over. The OT Group will work closely with Information Systems to ensure all networking, security, and hardware standards are followed.

Veolia and SWB staff meet weekly to discuss the status of the System Visibility Project. Several important projects currently underway include linking the SWB SCADA system with the Flood Protection SCADA system at the new drainage pumping stations built by the Corps of Engineers; providing connectivity to the SCADA data for Jefferson Parish; providing connectivity to the PI Screens for the City of New Orleans Emergency Operations Center and the Deputy CAO of Infrastructure. Upon completion of the drainage SCADA projects, the Board is discussing the addition of the PI Historian to the Sewer SCADA system as the next visibility phase.

7) Detailed Reports on Assessment and Status of Operational Reforms, Capital Improvement Programs, and Service Assurance Programs.

The Sewerage & Water Board of New Orleans hired Veolia in September 2017 to assess the condition of New Orleans drainage system after the 2017 rain events. They collected data prior to Nov. 21, resulting in a report dated on March 19 that outlined some of their preliminary findings.

It is important to note that many of the drainage system's functioning pumps are more than a half-century old with many nearing a century of performance life - a hard reality that brings the national infrastructure crisis straight to New Orleans' doorstep. Age and general wear-and-tear will always result in some degree of loss in performance. Decades of deferred maintenance have only heightened the challenges.

Repairing and restoring pump and power systems has been the top priority of SWB staff and two interim management teams since September. We have achieved success under emergency conditions: 18 pumps out of service on Aug. 5, 2017 have been repaired and are available as we enter hurricane season. Three 25 Hz turbine-generators, Turbines 1, 3 and 5, have undergone emergency repairs and returned to service. The SWB has purchased four electro-motive diesel (EMD) generators designed to collectively produce 10 MW of 25 Hz power are now available as backups to the turbines.

Coupling those assets with frequency changers and backup generators, the SWB now has 71.25 MW of 25 Hz power at its disposal. The drainage system requires about 52 MW to run at maximum capacity.

Another important note: the drainage system was not designed to run all its pumps at the same time. To do so would overflow drainage canals or add to flooding downstream of some stations in certain locations.

Veolia's assessment of the drainage system's pumping capacity had its limitations. The pumps that were tested were evaluated during dry weather conditions. Those pumps were not designed to perform under such conditions, nor would we ever expect to use them that way. These are major pumps, some are 14 feet across, and they need a significant amount of water in their suction basins to operate properly.

Tackling such major challenges over the past nine months and adding layers of reliable, redundant power and pumps have allowed the SWB to begin to shift its focus toward improving the secondary equipment and infrastructure needed to advance the drainage system closer to performing at its optimal level. Namely, the electrical systems to operate the pumps and the storm water conveyance system that carries rain runoff to discharge points such as Lake Pontchartrain from the catch basins and smaller drainage pipes.

Many of those secondary support systems were the focus of Veolia's assessment in November 2017 with the report submitted in March 2018.

During this 6-month period, we had already addressed 40 of the 151 examples of compromised conditions that Veolia emphasized in its report. As the SWB followed up, it found nine of those items did not require repairs or adjustments. Additionally there are 35 items in the report that recommend monitoring or further investigation to determine if there is indeed an issue.

Several of these secondary repairs are underway. A contract has been let to repair valves and vacuum systems at Drainage Pumping Station 1 in Broadmoor. Another is in place to further improve the large drainage pumps at Drainage Pumping Station 4 in Gentilly.

Continuing to make these repairs during the rainy season – and now in hurricane season – presents its own challenges. We face a delicate balancing act: Taking pumps out of service to fix what we can without compromising the City’s safety during rain and tropical events. That is not to say we are not committed to bringing the entire drainage system into its optimal state of readiness, but it has to be done with care and careful planning.