

# SEWERAGE & WATER BOARD OF NEW ORLEANS



## STATE OF THE AGENCY

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January 15, 2014*



# STATE OF THE SEWERAGE & WATER BOARD

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# INTRODUCTION

**T**he men and women of the Sewerage & Water Board of New Orleans have received international, national, state and local recognition for the rapid recovery of the Board's four major systems which were destroyed by Hurricane Katrina: water, sewerage, drainage and power generation.

The Board's management and employee team, among which included Sewerage and Water Board experts in their fields and seasoned veterans who knew every facet of the Board's operations, all came together to overcome the destruction and impact of the most catastrophic hurricane in U.S. history. It was vital to continue to provide citizens with all the critical quality of life services that they needed.

While thousands of projects have been completed and many new ones are underway or on the drawing board, as Executive Director I am proud to present this very positive Sewerage and Water Board State of the Agency report as my tenure with the Board ends with my retirement. During my tenure I was privileged to manage over \$20 billion. We must continue to plan for the perpetual existence of the agency with

a whole new set of expected challenges and successes.

As you will readily see, as you review this report, the State of The Sewerage and Water Board is strong and healthy. Its management and its caring and skilled employees are prepared to operate the agency and will

diligently plan and prepare for the future. After all, New Orleans will continue to be a world destination for millions of visitors and a cherished home for its residents who are so much a part of its tradition, culture, history and family.



As we prepared this State of the Agency Report for the Sewerage and Water Board, I found myself reflecting on Robert Greenleaf's Servant Leadership Philosophy, the servant-leader is a servant whose role is to make sure that other people's needs are being served. That philosophy has been the heart and soul of my leadership style and it served us well through the most difficult times.

There are parallels between servant leadership and continuous quality improvement. The enrichment of people is at the heart of both concepts. Like continuous quality

improvement, servant leadership is an unending journey. Striving for quality is always a journey of continuous improvement, and likewise, so is servant leadership. There is never a point where we will arrive and say we've reached absolute quality. However, we will continue to strive to do our best.

It is a philosophy that our team has embraced as we have struggled together to go from devastation to recovery and restoration to rebuilding our systems. We accepted the mighty task of providing safe drinking water to everyone in New Orleans; to remove waste water for safe return to the environment; to drain away storm water; to provide water for fire

protection; to provide information about products and services; and to do all of this continuously at a reasonable cost to the community. Our goal was always to provide quality service and delivery of our products.

I am proud to say that we have worked relentlessly to fulfill the mission of the Board to provide critical quality of life services of water, sewer, drainage and power generation. And the state of the agency is strong. The agency is well-prepared to embark on the next phase of its journey into the future to be the silent provider of critical services to the people of New Orleans, knowing the reality that is-no water, not sewer, no drainage...no city.

*--Marcia Armant St. Martin,  
Executive Director*

**Building Smarter,  
Stronger, Resilient and  
Reliable**



The Sewerage and Water Board's staff is constantly developing and exploring new processes to improve its operations. One such project is in operation at the Carrollton Water Purification Plant. The Sodium Hypochlorite Bulk Storage/ Feed Facility was completed in 2012. It eliminates the need for transporting chlorine by rail and storing it on the plant grounds. Instead, the Board will use the safer sodium hypochlorite for disinfectant in the purification process and easily store it in a nearby facility. This chemical increases safety for surrounding neighborhoods and Board employees.

## STATE OF THE SEWERAGE & WATER BOARD: WATER

# WATER DEPARTMENT PROCESSES 55 BILLION GALLONS OF HIGHEST QUALITY WATER EACH YEAR

*Federal Emergency Management Assistance (FEMA) has obligated, to date, Project Worksheets for all neighborhoods in the amount of \$124,323,799 for water line replacements. Versions are being drafted to incorporate permanent paving, program management, testing, and updates to survey/construction estimates. The work is being conducted in partnership with the City of New Orleans Department Of Public Works from development of an integrated schedule to community outreach. Work is underway in all phases from survey, design and construction for neighborhoods on the East Bank.*

*At the Carrollton Water Treatment Plant, design is underway through the water hammer hazard mitigation project to install two water storage tanks on site for surge*

*protection and to reduce the risk of low water pressure and repair the distribution pumps at both the Claiborne and Panola Pump Stations. Katrina related damage repairs to the chemical buildings and filter galleries have been completed. Staff rehabilitated the flocculation-sedimentation basins G3 and G4 (replacing gearboxes, upgrading the mono-rake system and replacing the sludge piping). The water quality laboratory increased its abilities with the addition of a new Total Organic Carbon (TOC) analyzer. Routine monitoring of the TOC removal through the treatment process has been implemented. Staff also overhauled the Eimco Clairifier No. 3 at the Algiers Water Treatment Plant.*

**T**he muddy Mississippi River, which flows past New Orleans at an average rate of 300 billion gallons per day, is the city's most reliable source of raw water. On a normal day, the city uses approximately 150 million gallons of water for vital health, industrial and fire-fighting purposes. In periods of emergency, such as prolonged freezes, water consumption in Orleans Parish has approached the system's capacity of 250 million gallons per day.

Raw water is taken from the river, carrying an average of 84 parts per million of suspended materials, through intakes in both Algiers and the East Bank plants. After being drawn from the river, raw water flows through underground pipelines into the Carrollton and the Algiers purification plants.

The city's purification plants employ modern processes, which

remove suspended matter, destroy disease causing substances. Those processes produce drinking water exceeding all federal and state standards.

There are two separate intake stations, which can continuously pump Mississippi River water to the East Bank's Carrollton Water Purification Plant. The Oak Street intake station draws water from below the river's surface through two 48-inch diameter pipelines and a 72-inch pipeline over the levee, with four electrically driven pumps. The Industrial Avenue intake station draws water from below the river's surface with three electrically driven pumps, which have a combined capacity of 210 million gallons per day.

There are two intake stations serving the West Bank's Algiers Water Purification Plant. Intake Station #1, at Brooklyn and De Armas streets, draws

The S&WB also provides water for firefighting purposes via 17,000 hydrants located throughout the city.

water from below the river's surface with three electrically driven pumps whose combined capacity is 45 million gallons per day.

Intake #2, at Brooklyn and Socrates streets, draws water from below the river's surface with two electrically driven pumps whose combined capacity is 10 million gallons per day.

The purification process at the Algiers Plant is similar to that of Carrollton, utilizing a complex system of chemicals.

Two of the three up-flow treatment

units in Algiers have a capacity of 12 Million Gallons per Day (MGD) each with the third capable of 8 MGD.

The Carrollton Plant normally yields about 139 million gallons per day of finished water for the east bank of Orleans Parish. The Algiers Plant, which serves the predominately residential west bank portion of the parish, purifies about 11 million gallons per day of water. Combined, the two plants treat approximately 55 billion gallons of water per year, removing about 20,000 tons of solid material from the raw river water.

The Sewerage and Water Board produces water for the New Orleans Fire Department pumps.



## STATE-OF-THE ART WATER LABORATORY CAN TEST FOR 150,000 COMPOUNDS

In 1986, after more than four years of planning and construction, the Board opened its new Water Quality Laboratory. Occupying 8,500 square feet of floor space in the Carrollton Water Plant, the lab is an advanced environmental analysis facility, utilizing state-of-the-art technology for detecting and identifying contaminants in water at sub part per billion concentrations. The overall laboratory is divided into areas specifically designed and equipped for organic, inorganic, microbiological and plant production analyses.

The Water Quality Laboratory is staffed by chemists, microbiologists and technicians. Major items of instrumentation include a gas chromatograph-mass spectrometer system, a gas chromatograph, and a total carbon analyzer. The laboratory performs analyses for monitoring the quality of river water and finished water sampled from locations throughout the East Bank and Algiers sections of the city. Information generated in the laboratories is used for controlling plant treatment processes and researching methods of improving those processes and the drinking water.

## S&WB WATER MEETS ALL EPA QUALITY REQUIREMENTS AND IS DELIVERED TO CUSTOMERS THROUGH 2,000 MILES OF PIPES AND MAINS

For pumping purified water into the distribution system at 70 per square inch pressure, the Board uses eight high pressure pumps, located at the Carrollton Water Purification Plant having a total pumping capacity of 350 million gallons per day. Six of these pumps are driven by electrical power and two by steam turbines. The

Algiers Pumping Station has a capacity of 34 million gallons per day, provided by six electrically driven pumps.

The water purified and pumped at the two plants is distributed through more than 2,000 miles of mains, ranging in size from 4 inches to 54 inches in diameter. It is distributed to

consumers through more than 143,600 service connections, ranging in size from 5/8 inch to 16 inches in diameter. Practically all of these services are metered.

The S&WB also provides water

for firefighting purposes via 17,000 hydrants located throughout the city. S&WB personnel are called to duty during larger fires to assist the Fire Department in locating various size mains and provide other necessary services.

## WATER QUALITY REPORT

Since 1998, the U.S. Environmental Protection Agency (EPA) requires all water utilities to produce and distribute annual water quality reports. The report is extensive and elaborates in its discussions on how the board meets EPA water standards and regulations.

The EPA, with further enforcement by the Louisiana Department of Health

and Hospitals (DHH), regulates for containments that are selected for enforcement. The board has been vigilant and proactive in its water purification mandates and complies expediently to any action mandated by regulatory agencies. Regulations will continue to change and the board must be able in the future to continue to act expediently.



# SEWAGE COLLECTION SYSTEM, VIRTUALLY DESTROYED BY KATRINA, IS BEING RESTORED WITH FEMA FUNDS BECAUSE OF WELL-DOCUMENTED REQUESTS

*All sewer pumping stations have been repaired post Katrina and are fully operational. However, under FEMA Hazard Mitigation Grant Program and in conjunction with the City of New Orleans, nine (9) sewer Pump stations will be reconstructed to above ground standards and with better equipment. Total award of this project is about \$20 million.*

**T**he sewage collection system operated by the Sewerage & Water Board of New Orleans serves an area of approximately 86 square miles and a population of approximately 350,000. Work on the system continues as the Sewerage and Water Board rebuilds and upgrades the infrastructure.

It consists of over 1,300 miles of gravity collection and trunk sewers ranging in size from 8-inches to 84-inches in diameter and over 120 miles of force mains ranging in size from 6-inches to 72-inches in diameter.

There are 86 sewer lift pump

stations which help convey wastewater to the City's two wastewater treatment plants, one on the East Bank and one on the West Bank (Algiers) of the Mississippi River, with a combined capacity of 132 million gallons per day (mgd).

Hurricane Katrina destroyed the East Bank treatment plant and flooded almost every lift station on the East Bank. The FEMA funds obligated to repair the sewer system to date is \$238 million. In addition, the Board also received \$141 million in Hazard Mitigation Grant funds from FEMA for the Power house.



Employees of the S&WB Networks Division are on duty 24 hours a day for emergencies and scheduled repairs. Here, two members of a crew repair a sewer line deep below the street.

## AWARDS FOR WASTEWATER TREATMENT OPERATIONS

Nationally, the Sewerage and Water Board has received many high level awards for its work in wastewater. Recently for 2011 and 2012 the Sewerage and Water Board earned two Gold awards for operations at both the West Bank and East Bank wastewater treatment facilities.

In 2012, the West Bank Wastewater Treatment Plant received a “Gold Peak Award” for not recording a single discharge of pollutants in the year. The East Bank Wastewater Treatment Plant won a “Silver Peak Performance Award”. The awards were presented by the National Association of Clean Water Agencies (NACWA).

# EVERY MILE OF SEWER INFRASTRUCTURE STUDIED VIA AGGRESSIVE, MULTI-FACETED REVIEW OF SUBSURFACE PIPES AND MAINS

The Sewerage & Water Board of New Orleans began a major rehabilitation and capacity upgrade of its aging sewage collection system in 1996 called Sewer System Evaluation and Rehabilitation Program (SSERP.)

Since Katrina, under the SSERP Program, the SWB has completed 19 construction contracts for a cost of approximately \$34 million. Under these contracts, the Board has completed over 4,000 repairs to the sewer collection system. The sewer system repairs include the following:

1. Full line replacements from manhole to manhole

2. Full length lining of the line segment from manhole to manhole
3. Sewer main line point repair
4. Sewer service lateral point repair
5. Manhole rehabilitation

Like most of the nation's major metropolitan areas, New Orleans' underground water and sewer systems are at least 50 years old and, in many cases, up to 100 years old. Factors common to this area, such as unstable soil conditions and large numbers of tree roots, contribute to a higher-than-normal number of breaks and deterioration of the sewer pipes.

Smoke testing is one of the methods used to detect leaks or breaks in sewage lines.



At a public meeting in 1996, the S&WB's staff and consultants provided details of a \$631 million multi-year program to the public, environmental, preservation and neighborhood groups, elected officials and the news media.

SSERP was eventually incorporated into a consent decree the S&WB signed with the EPA in 1998 to ensure that system repair work was done on a fixed schedule. At that time, timetables and deadlines were established for the work.

SSERP is used to identify and address structural and mechanical deficiencies in the wastewater collection system.

A number of new processes are being used for the testing, including a state-of-the-art trenchless method which allows for rehabilitation of buried pipe and manholes without the need for excavation and the disturbance to residents that it causes.

Other testing methods are smoke and dye tests, water flow and rainfall monitoring, manhole inspections and surveys and closed circuit televising (CCTV) of the lines. Sonar technology is also employed to determine the condition of sewer lines that cannot be de-watered.

With the implementation of repairs identified and completed in SSERP, the S&WB continues to be in compliance with federal regulations, and it will also be accomplishing its goals of protecting the environment and increasing the

sustainability of the sewer system.

Hurricane Katrina struck in 2005, causing extensive damage to the sewer collection system. As was evidenced by the extent of damage in the areas where SSERP repairs had not yet been completed, it was shown that the work completed under SSERP is greatly improving the resiliency and dependability of the S&WB's sewer system.

SSERP work was interrupted due to the storm, and the S&WB invoked force majeure (conditions beyond control) with respect to its obligations under the Consent Decree.

Between 2006 and 2009, the S&WB presented to the U.S. Environmental Protection Agency (EPA) and the U.S. Department of Justice revised schedules for SSERP, reflecting the disruption of work and new activities associated with recovery of the sewerage systems from the damages sustained in August 2005.

On March 22, 2010, the S&WB entered into a Modified Consent Decree (MCD) that maintains the same basic structure of the original 1998 Decree. The MCD set new schedules for completing the remediation of the sewer collection system. On April 24, 2013, the Sewerage and Water Board entered a Second Modified Consent Decree with the United States Environmental Protection Agency, the U.S. Department

of Justice and other parties, updating the original 1998 decree and the 2010 modification.

As a part of the Consent Decree, a Green Infrastructure program is included to educate the community on best practices for storm water management. The program will include workshops and demonstration projects.

The Sewerage & Water Board is responsible for the coordination of the numerous engineers and contractors carrying out the planning, design and construction of improvements to the sewer system.

As a result of initial planning, the city was divided into the following ten service basins: Lakeview, Central Business District/French Quarter (CBD/FQ), Gentilly, Uptown, Mid-City, Lower Ninth Ward, Carrollton, New Orleans East, South Shore, and Algiers.

The sewer rehabilitation in the tenth basin, Algiers, is not included under the Consent Decree.

The S&WB has been in compliance with every aspect of the original Consent Decree. Four of the basins (Lakeview, Central Business District/French Quarter (CBD/FQ), Gentilly, Uptown) were completely remedied in accordance with the requirements of the Decree.

For the schedule and progress in the other districts, and the methods used to determine needs and the unique processes to repair the system, visit the S&WB website; [www.swbno.org](http://www.swbno.org), then click on About the Board, click on Sewerage and click on GOSSEREP.

SSERP expenditures to date are \$220 million including rehabilitation and capacity related design, construction, and program management services.



# THE FUTURE OF THE SEWER REHABILITATION

Thus far, the S&WB and its contractors have met the tight consent decree timeline for the initial phases of the project--most ahead of schedule.

At this time, discussions of future funding options are underway by the S&WB, its financial advisors and bond counsel. The future of SSERP, naturally, depends on the availability

of funds to complete the projects in accordance with EPA deadlines to avoid large fines of up to \$15,000 per day.

The S&WB has kept the public informed of the SSERP projects through billing inserts, its website, news releases, media briefings, public hearings and meetings, special neighborhood meetings and participation in meetings scheduled by the Mayor or councilpersons.

## CREATIVE ENVIRONMENTAL PROJECT BRINGS TWO PARISHES TOGETHER TO ENHANCE WETLANDS AND PROVIDE BETTER FLOOD PROTECTION

The Wetlands Assimilation Project, the brainchild of the S&WB's Environmental Affairs Division, is an innovative partnership between the Sewerage and Water Board and the St. Bernard Parish government to restore 20,000 acres of Bayou Bienvenue. The bayou was severely damaged by Katrina's salt-water surge from the now-closed Mississippi River Gulf Outlet (MRGO).

The restoration includes planting Bald Cypress and Tupelo trees to

enhance wetlands growth. Established trees will aid in wetland stability, water filtration and storm protection in the future.

The project broke ground and construction is well underway and progressing on schedule. The project is designed to re-establish cypress swamps that will help protect Orleans and St. Bernard parishes from future storm vulnerability because wetlands and barrier islands can take the brunt of a storm.



The Wetlands Assimilation Project begins with turning of the soil.

The S&WB obtained a \$400,000 grant from the Delta Regional Authority to develop feasibility and pre-design for this project. The Board's Environmental Affairs Division was also able to obtain an \$8 million grant from the state's Coastal Impact Assistance Program (CIAP) to implement two separate wetlands assimilation projects with the S&WB. The first of these projects consists of building a 12-acre demonstration project adjacent to the East Bank Sewerage Treatment Plant (EBSTP).

The original \$10 million was utilized to build two demonstration wetlands cells at the Eastbank waste water treatment plant and an effluent pipeline to St. Bernard Parish for

their wetlands. The first is still in construction and the second is in design.

The Louisiana State Coastal Protection and Restoration Authority (LA CPRA) has recently approved the wetlands project expansion in the amount of \$4.5 million. Processing of the amendment shall be in January 2014.

Dredge material will be used to raise the elevation of the bayou in order to support the trees that will be planted. The innovative aspect of this project is 1) It will take five dry tons of bio-solids and 1,000 tons of incinerated ash from the Board's nearby East Bank Sewerage Treatment

Plant (EBSTP) and 2) Treated effluent that will be pumped into the bayou to control salinity and provide nutrients necessary to promote the growth and health of the area.

The backside of Bayou Bienvenue runs along the perimeter of the plant in the Lower Ninth Ward. A 20-acre section adjacent to the plant will be used for this demonstration project.

The exact same environmental effort will be made by the partners on the St. Bernard Parish side of the project.

Construction of the project has commenced with a 20-acre demonstration project adjacent to the East Bank Sewage Treatment Plant.

The Sewerage and Water Board's Wetlands Assimilation Project, when completed, will reestablish wetlands in the area of the East Bank Sewage Treatment Plant. It will protect parts of the City from suffering future devastation as experienced in the aftermath of Hurricane Katrina.

Use of the wetlands for assimilation of wastewater has several benefits, including reducing the effects of salt water intrusion in the project area and increasing the build up of sediment to improve habitat quality and plant productivity. Ultimately, cypress replanting will aid in wetland stability, water filtration and storm protection for future generations. In this photo, effluents have been distributed to the open water area.



# DEVASTATING FLOODS AND HURRICANE KATRINA LEAD TO AGGRESSIVE CONSTRUCTION SCHEDULE USING LOCAL, STATE AND FEDERAL FUNDS

*The United States Army Corps of Engineers (USACE) post Katrina improvements are near completion of several drainage facilities. Generally, the storm-proofing measures include water intrusion protection; roof and wall reinforcement; strengthening of louvers, doors, shutters and ventilation systems; providing a house generator and fuel tank; and miscellaneous electrical and mechanical equipment storm proofing measures. Several facilities received new 60 Hz generator facilities for back-up emergency generators to enable pumping capacity. As a result of hurricane Katrina and its devastating effect on the levee systems, the USACE is building new drainage pumping stations at the mouth of 17th Street Canal, Orleans Canal, and London Ave. Canal. The long-delayed \$614.8 million project to build permanent storm surge gates and pumps in New Orleans was officially kicked off on Friday June 14, 2013. The new structures, which will look much like the brick-faced pumping stations that are part of New Orleans' interior drainage system, will be designed to block storm surges caused by a hurricane. The stations must also be able to pump rainwater that drains into the canals during hurricanes into Lake Pontchartrain, at a rate that will keep canal water levels low enough to avoid overtopping or damage to floodwalls along the canals. Current schedule includes a beginning of construction in November with estimated completion in February 2017. These three facilities are expected to increase Operations & Maintenance (O&M) cost by approximately \$20 million annually. Several Underpass pumping stations are currently being repaired, and others still need major repairs.*

## ORLEANS PARISH STORM PROOFING SUMMARY

### Project Description

- DPS 6 Generator
- 15 MW Generator
- DPS 20, 6 and 3 Storm Proofing
- DPS 13 Generator & Storm Proofing
- DPS 7 Gen. & Storm Proofing
- DPS 1, 2, 4 & 1-10 Storm Proofing
- CWT&PP as part of OSP-01
- 2 River PSs Storm Proofing
- New Two 300 cfs pumps w/Gen.

### Pending

- DPS 12 & 19 Storm Proofing

- DPS 11, 14 & 16 Storm Profing
- 60 Hz Underground Feeder
- DPS 17 Generator
- DPS 10 Generator & DPS 10
- CWTT&PP Water Perimeter Prot.
- DPS 5 Storm Proofing
- Water Well as OSP Projects

### Design Not Started

- DPS 17 Storm Proofing
- Carrollton Freq. Changer Bldg.
- DPS 15, 18, Grant, Monticello & Pritchard Storm Proofing

## STORM PROOFING SUMMARY MORE THAN \$200 MILLION

*Storm Proofing is designed to make the pumping stations operationally reliable during a hurricane. The Corps of Engineers funds the Storm Proofing projects. For many of the projects, funds have been received and the projects are completed. Other project funds are pending awaiting approval or have been identified for funding construction approval. Storm Proofing includes equipment upgrades, generator power, new windows and doors and other critical infrastructure upgrades to fortify a pumping station.*



When it comes to topography, New Orleans is like a saucer.

Levees that have been built to keep out the Mississippi River and Lake Pontchartrain serve to keep in all the rainwater that falls. Many parts of the city are as much as 6 feet below sea level, requiring rainwater (an average of 58.12 inches a year) to be pumped out.

Six inches of rain across the city produces about 69.8 billion pounds of water. That's about 8.2 billion gallons, enough to fill a lake ten feet deep and two miles square. Because the river levees are higher than the lake levees,

most storm runoff is pumped into Lake Pontchartrain.

Exceptions are the two West Bank pumping stations and two stations in Eastern New Orleans that pump into the Intracoastal Waterway or the Industrial Canal.

The drainage system of today dates back to the turn of the century. The New Orleans Drainage Commission was established in 1896 and merged in 1903 with the Sewerage and Water Board.

There are 24 Drainage Pumping Stations (DPS) in New Orleans. Station personnel are on duty 24-hours a day,

seven days a week.

There are 7 unmanned pumping stations. Though fully automatic, S&WB personnel are sent to these unmanned stations during rainfall events.

There are also 13 underpass stations, each with two or three pumps that are automatically turned on by rising water. These pumps are checked every week and are monitored by field personnel during rain events.

The system's pumping capacity is over 50,000 cfs (cubic feet per second) enough to empty a lake 10 square miles by 10.5 feet deep every 24 hours. That flow rate is more than the flow rate of the Ohio River, the nation's fifth largest.

The S&WB's drainage network includes approximately 90 miles of open canals and 99 miles of newer subsurface canals. Many of the subsurface canals are large enough to drive a bus through.

Millions of dollars were invested to upgrade the system after the flooding rains of the 60s, 70s, 80s and 90s, which ruined homes and businesses.

Then came Katrina, destroying the newer parts of the system as well as the older parts which served us so well for so long.

Fortunately, through the Board's long-standing relationship with the Corps of Engineers, millions of dollars in projects were carried out when Board funding was not available.

Immediately following the storm, after the breaches were closed, it took the SWB employees 11 days to de-water the city. Then, the Corps worked with Board employees to repair the salt-water damaged motors by rewiring and baking them so that the pumps could continue to do the work of the drainage system

The Corps also spent \$39.6 million to repair and restore 23 of the hardest hit stations and the Carrollton Frequency Changer Building to their Pre-Katrina levels of operation. The final station to be repaired in Orleans Parish was the Elaine Street Pump Station, which was completed in October 2010.

Additionally, the Corps storm-proofed stations throughout the City so that they can remain operable during and immediately following tropical storm events. This work strengthened the existing buildings, making it safer for S&WB employees that stay on site, as they work throughout all significant weather events. The storm-proofing cost is over \$200 million.

Also, in many cases the pumping stations have back up power making them more dependable. Commercial power losses can occur during a storm and adverse weather events.

The Board of Directors, the engineering staff and the Corps work together in the best interest of the citizens to continue to improve a most crucial asset—the Board's massive drainage system.

# SELA BRINGS MUCH-NEEDED FEDERAL FUNDS TO S&WB FOR MASSIVE EXPANSION OF DRAINAGE SYSTEM THROUGHOUT CITY

The Southeast Louisiana Urban Flood Control Project (SELA) consists of canal and pumping station projects that are being designed and constructed to reduce flooding caused by 10-year frequency rainfall events throughout the tri-parish area of Orleans, Jefferson, and St. Tammany.

## AUTHORIZATION

SELA was authorized in 1996 by the United States Congress and administered under a Project Cooperation Agreement (PCA) between the Sewerage and Water Board of New Orleans and the U.S. Army Corps of Engineers. A new Project Partnering Agreement (PPA) agreement was signed in January 2009 by the Louisiana State Coastal Protection and Restoration Authority (LA CPRA) on behalf of the S&WB.

Prompted by the severity of damages associated with rainfall flooding in southeast Louisiana, local officials in the tri-parish area of Orleans, Jefferson, and St. Tammany requested Federal assistance in developing and implementing solutions to the flooding problem.

After the disastrous flood in May 1995, the United States Congress authorized the design and construction of SELA in the 1996 Energy and Water Development Appropriations Act and the Water Resources Development Act (WRDA).

## PROJECT ORGANIZATION

For all SELA Orleans work ongoing whether in the design phase or in the construction phase, the breakdown of responsibilities are as follows:

The S&WB will:

- Complete the project design
- Complete design changes during construction
- Provide community information concerning the projects
- Respond to the community's questions regarding the projects

The U.S. Army Corps of Engineers, as the Federal representative, will:

- Obtain permits for affected utility companies
- Award the construction contract
- Administer the construction contract



New Orleans could not exist without a modern and strong drainage system. That is why the S&WB joined with the Corps of Engineers to upgrade or build canals, pumping stations and electrical generator power. One of those projects is canal work underway now Uptown. The work consists of constructing approximately 4,300 linear feet of concrete box canal under the median along Napoleon Ave., from South Claiborne Ave. to Carondelet St. The new canal will parallel an existing box canal and will tie in to the existing canal at South Claiborne Ave. The cost of the project is \$55.1 million, with 65% federal funds and 35% S&WB funds.

- ° Inspect the construction work

The Louisiana State Coastal Protection and Restoration Authority (LA CPRA) will:

- ° Serve as the official local non-federal sponsor and act as the facilitator between the parish entities and the Corps of Engineers

## FUNDING

The Project Cooperation Agreement (PCA) executed by the Sewerage and Water Board of New Orleans (S&WB) in January 1997 required that the Federal government provide 75% of the total project cost of the SELA projects in Orleans Parish, and that the S&WB provide 25%.

In the years immediately preceding

Hurricane Katrina, the Federal funding level did not support the start of projects that had been approved as SELA projects in Orleans Parish. In the aftermath of Hurricane Katrina, Congress appropriated \$224.8 million to accelerate the completion of SELA. This appropriation was 100% federally funded.

Because of the increased construction cost in southeast Louisiana as the region rebuilt from Hurricane Katrina, the 3rd Supplemental Appropriation was not enough to fund the remaining project components of SELA at 100%. Subsequently, in 2008 Congress appropriated an additional \$1.3 billion for SELA. These additional funds are to be cost shared at 65% Federal and 35% local. Also, the agreement allows for the S&WB to pay its share over a 30 year

period. It is anticipated that the 30-year payback amount will be \$10.2 million per year starting in 2018.

The relocation of utilities such as water and sewer lines was necessary before construction could begin on some projects. However, the Corps made a decision to not allow the cost of relocations to be included in the 30-year payback for the SELA program. Therefore, the S&WB will have paid \$22.9 million for utility relocations for the currently ongoing projects and is expected to pay an additional \$27.2 million for utility relocations to complete the presently authorized SELA projects.

Total SELA funding for Orleans Parish will be \$1.5 billion from inception to completion.

Construction of SELA is proceeding at an accelerated pace. Currently there are six (6) projects ongoing in Orleans parish totaling over \$250 million in construction funds. The final three (3) authorized projects are scheduled to be awarded next year totaling an estimated \$270 million in construction funds.

The last of the currently authorized SELA Orleans construction projects are scheduled to be completed in 2018. However, there are two (2) studies that are in the planning stage. The Algiers Canal study has been approved in 2011 by the Corps and will need Federal funding to proceed. The London/Orleans Improvements study needs updating and additional funding is needed to complete.

Above Ground Tunnel? Actually, it's view of the inside of a 60-inch corrugated pipe used as a temporary drain line to move storm water around areas where new box canals are being built-- In this case, near Monticello Avenue at South Claiborne Avenue. The work consists of constructing approximately 2,500 linear feet of single-barreled reinforced concrete canal under the median along South Claiborne Avenue from Monticello Avenue to Leonidas Street. The new canal will parallel an existing canal and tie in to the existing Monticello Canal. Cost is \$27.1 million and the completion date is mid-2014. The project is part of SELA, a cooperative agreement between the S&WB and the U.S. Army Corps of Engineers.



# S&WB NEEDS POWER TO KEEP IT'S SYSTEMS RUNNING DAILY AND DURING THE WORST OF TIMES

*The Board's 25-cycle Power Generation System operated by the Board provides power for portions of the Water Purification Plant, two large vertical sewer units at the main central business district sewer pumping station and powers approximately 60 percent of the system's drainage pumps. The facilities at the Carrollton power plant include three steam turbines and one dual fuel combustion turbine for a total capacity of 61 MW. The Carrollton Power/Water Plant boiler room has the capacity to produce 650,000 pounds of steam per hour to fuel the three steam turbines. The 25-cycle power capacity is presently 41 megawatts (MW), 20 MW less than the 61 MW design capacity. 20 MW steam turbine-generator 4 is currently undergoing FEMA funded total refurbishment and is scheduled to be back in service in the third quarter of 2014. The benefit to the Board's own power generation is that the feeders to the multiple pump stations are underground and during storms when commercial power lines are down the system is still up and running.*

*One major improvement at the Carrollton power plant includes the installation of a new 200 psi high pressure natural gas line to supply fuel for the new 15 MW, 60 cycle, dual fuel generator-turbine package. The Army Corps of Engineers (Corps) recently installed a new 15 Meg, 60 Hz generator facility to supplement the current commercial power available from Entergy in order to provide power redundancy and continued service in the event of a commercial power loss due to storms or hurricanes. The generator will serve the plant and raw water intake stations and provide additional drainage station capacity.*

**E**lectrical energy for the operation of the water plant, the sewage pumping stations and the drainage pumping stations is generated at the water plant and distributed to the various points of consumption over the Sewerage and Water Board's

own transmission system. During rainstorms, practically all power is transmitted to the drainage pumping stations by underground feeders which are not subject to lightning, wind and other hazards that cripple overhead transmission lines and cause power failures. Reliability of drainage pumping

stations is therefore increased.

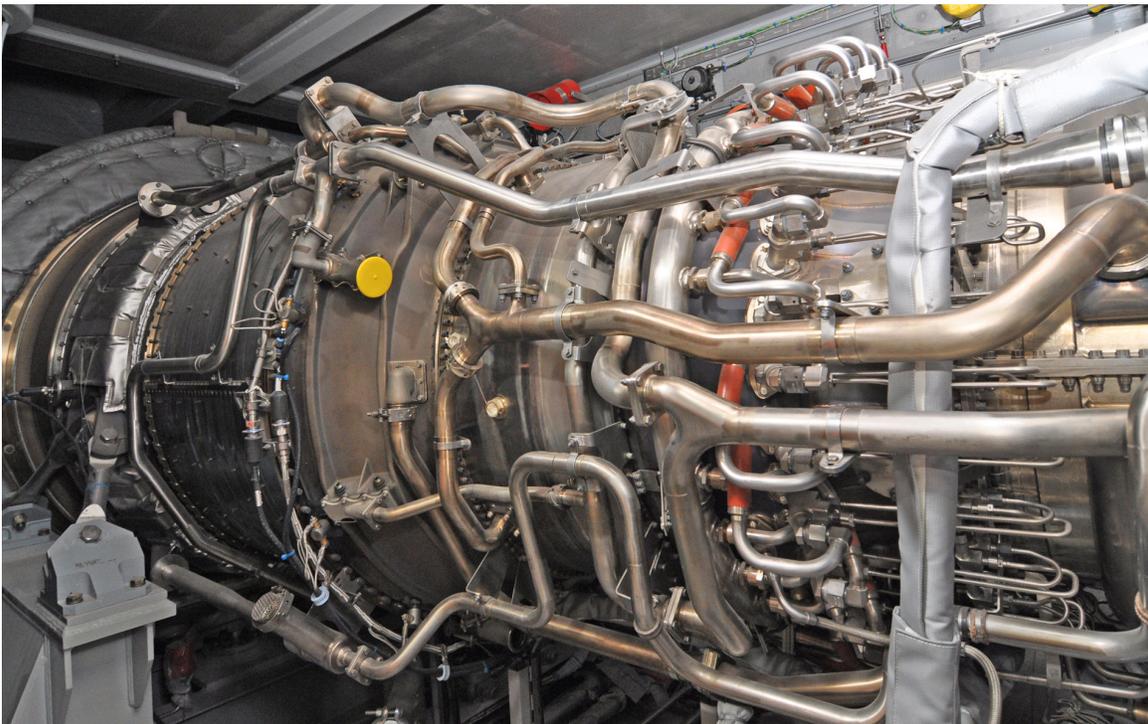
The power plant maintained and operated at the water plant has a 61,000 kilowatt capacity, an output sufficient to serve the electrical needs of a city of approximately 80,000 people. Unlike conventional power at 60 cycles, a large portion of our generation is at 25 cycles and therefore not compatible with the local utility.

To compensate for the incompatibility, conversion equipment allows approximately 27,000 kilowatts of Sewerage and Water Board power to be taken from or sent to the New Orleans Public Service, Inc. 60 cycle system. This equipment requires our system to be reduced to 24 cycles during the period of power interchange. During storm

periods, a portion of the Sewerage and Water Board power distribution system is dedicated to 24 cycle service, while the remainder of the system operates on 25 cycles. The ability to split the power distribution system to dedicated alternate sources of power isolates a catastrophic failure to only that portion of the system. This procedure allows the other portions to remain in uninterrupted service.

Generation of the electrical power is accomplished by three steam turbine operator having a total capacity of 41,000 kilowatts and a gas turbine generator rated at 20,000 kilowatts. Generating steam for the steam turbines are six boilers with a total capacity of 750,000 pounds of steam per hour. All boilers are equipped to

Amy Corps of Engineers. The generator gives the S&WB's Division of Pumping and Power the capability to improve the operation of its drainage, sewerage and water pumping systems in emergencies. The generator, funded 100% by the Corps, is part of a storm-proofing project for Orleans Parish. The project, located on the grounds of the Carrollton Water Purification Plant, costs in excess of \$32 million.



burn oil, gas or a mixture of the two. The gas turbine, at present, operates on fuel oil. Two fuel storage tanks, with a total capacity of one million gallons of oil, provide reserve fuel supplies.

Emergency generation is provided at various critical locations for power to supplement or replace the 60Hz utility services in the event of hurricane conditions or power outages. The emergency generation is provided by diesel engine-driven generators, which provide power for essential loads in sewage treatment, drainage and within the main power generation complex

itself.

This specially-designed turbine powers a 15-megawatt generator constructed by the U. S. Army Corps of Engineers. The generator gives the S&WB's Division of Pumping and Power the capability to improve the operation of its drainage, sewerage and water pumping systems in emergencies. The generator, funded 100% by the Corps, is part of a storm-proofing project for Orleans Parish. The project, located on the grounds of the Carrollton Water Purification Plant, costs in excess of \$32 million.

## POWER GENERATION IS KEY TO OPERATION

The Sewerage & Water Board, since its founding in the early 1900s, has always had its own power source to operate its systems in case of a failure of commercial power or the non-existence of an external source of power.

Until Katrina, the Power Plant had never completely gone out of service, but when the plant flooded during Katrina, the Board's main source of power was destroyed.

But the men and women of the S&WB remained on the job to immediately begin repairing and restoring the plant so that, among other priorities, the city could be de-watered in record time by the massive drainage

system. Power was also needed to run the water and sewerage systems.

All of the employees are highly skilled, experienced and dedicated, with a great knowledge of the plant's operations and capabilities.

Power can be distributed to the water, sewerage and drainage systems as needed, demonstrating the flexibility built into the plant and the underground conduit system to send power throughout the system.

Since Katrina, millions of dollars have been invested in the plant, and there are more funds yet to come. The plant has since performed without problems during Hurricanes Gustav and



Turbine No. 3, a crucial element of the Sewerage & Water Board's own Power Plant, has undergone an extensive overhaul after it failed while in operation. The 1928 vintage, 25-cycle, 15-megawatt generator supplies 25-cycle power for low day-to-day power needs, as well as for peak potential loads to run drainage pumping stations during heavy rain events and hurricanes. Disassembly and repair were required to ensure the turbine will return to service in like-new condition and provide many more years of reliable service.

Isaac due to those improvements. And there is more support coming for the Power Plant.

Since taking office, Mayor Mitchell J. Landrieu has worked to secure federal resources to keep customer rates as low as possible. He, working with the Board, recently secured over \$141 million through the Hazard Grant Program of which \$19 million in projects are underway.

Recognizing the importance of the Power Plant to the Board's operations, FEMA has also provided \$37.7 million through the Public Assistance Program (of which \$15.5 million went for projects completed and \$22.2 million is

for work to be done). We also received \$141 million in Hazard Mitigation Grant funds from FEMA for the Power house. This is an addition to the above dollars.

One such major project underway at the Power Plant is the full repair of Turbine No. 4, which was badly damaged by Katrina. The 20,000 Kilowatt steam turbine generator will increase the output at plant and provide back-up in case problems develop with one of the other turbines..

Electrical energy for the operation of the water plant, the sewage pumping stations and the drainage pumping stations is generated at the water plant and distributed to the various points

of consumption over the Sewerage and Water Board's own transmission system. During rainstorms, practically all power is transmitted to the drainage pumping stations by underground feeders which are not subject to lightning, wind and other hazards that cripple overhead transmission lines and cause power failures. Reliability of drainage pumping stations is therefore increased.

The Power Plant maintained and operated at the water plant has a 61,000 kilowatt capacity, an output sufficient

to serve the electrical needs of a city of approximately 80,000 people.

Emergency generation is provided at various critical locations for power to supplement or replace the commercial utility services in the event of hurricane conditions or power outages. The emergency generation is provided by diesel engine-driven generators, which provide power for essential loads in sewage treatment, drainage and within the main power generation complex itself.

## FACILITY MAINTENANCE: YOU CAN'T BUY PARTS FOR THE CENTURY-OLD EQUIPMENT OFF THE SHELF. ALL MUST BE MANUFACTURED TO EXACT SPECIFICATIONS AT THE MACHINE SHOP

The Department of Facility Maintenance is comprised of five divisions; Meter House, Plant Maintenance, Welding & Fabrication, Mechanical Maintenance and Electrical Maintenance. These divisions serve all areas of the S&WB system by providing various skilled trades functions. The Meter House performs meter repairs, removals and installations throughout the City. The Electrical Maintenance Division repairs and maintains the entire sewer, drainage and power electrical system. The Mechanical

Maintenance Division is charged with repair or replacement of pumps, motors, gearboxes and other multiple pieces of equipment that makes up our unique System. The Welding & Fabrication Division responds to emergency sewer or water line breaks, by-pass pumping functions, welding fabrication/design and repairs of multiple nature. The Facility Maintenance team manufactures parts for aged equipment where parts are no longer available. This team is essential and responds to small and large routine and emergency system repairs 24/7.



Mayor Landrieu holds daily briefings and press conferences with all city departments and agencies to keep residents informed on hurricane preparedness updates.

## EMERGENCY TEAMS PREPARE FOR POTENTIAL DISASTERS YEAR-ROUND; EMERGENCY OPERATIONS CENTER AND MOBILE COMMAND POST IMPROVE COMMUNICATIONS AND COORDINATION

Emergency Preparedness has always been an integral part of the Sewerage and Water Board's preparedness for disasters and other emergencies that threaten the operations. Prior to Hurricane Katrina the operations and responsibilities of Emergency Preparedness was administrated by the General Superintendent in the Engineering Department. However, after Hurricane Katrina, the Emergency Management responsibilities was transferred to the Executive Director's Office

The sheer magnitude of destruction to the four systems, water, sewer, drainage and power generation from Hurricane Katrina changed the function, direction and the comprehensive responsibilities of Emergency Management and Preparedness..

Staff selection was vital because of the tedious and comprehensive aspects of the emergency management office. The office has functioned extremely well through the Hurricanes Katrina,

Rita, Gustave, Ike and Issac. And staff has grown strong in the skill sets needed to comply with regulations for FEMA funding.

The office has successfully negotiated over 650 million dollars of recovery dollars from Hurricane Katrina and over 200 million dollars of FEMA 404 Hazard Mitigation Grant Program funds for mitigating 9 Sewer Pumping Stations and the Board's Power Plant.

In the area of Preparedness the Board has a new state of the art Emergency Operations Center and Mobile Command Post. The Board

has yearly preparedness drills with staff and key stake holders. It, also, has FEMA Grant Management training throughout the year to ensure that staff is trained and ready to respond to emergencies and to remain abreast of the changing FEMA guidelines.

Thus, the creation of an Emergency Management Department equipped with the staff and tools needed to prepare, prevent, respond, recover and mitigate the impact from future disasters has been a significant addition to the strength and durability of the agency's recovering from any catastrophic events.

## **FEMA PROJECT SUMMARY**

Project Management	\$15,391,018.77
Emergency Repairs to SWBNO Facilities after Katrina	\$32,911,640.19
Misc Projects	\$11,383,368.58
Water and Sewer Distribution System	\$344,138,299.40
St. Joseph Office	792,532.37
Central Yard Facility	\$6,285,966.08
Sewerage Pumping Station	\$28,276,215.05
Drainage Pumping Station	\$3,487,823.67
West Bank Sewerage Treatment Plants	\$2,245,515.26
East Bank Sewerage Plants	\$91,606,745.82
West Bank Water Plant	\$61,492.16
East Bank Water Plant	\$44,976,009.85
Equipment	\$16,184,808.50
Emergency Power Poles	\$1,851,554.13

**421 PROJECT WORKSHEETS TOTALING \$600+ MILLION  
AWARDED \$161 MILLION IN STATE HAZARD MITIGATION GRANT  
PROGRAM FUNDS**

# CURRENT CAPITAL PROJECTS- A \$1.3 BILLION INVESTMENT IN WATER, SEWER AND DRAINAGE

From 2005 to 2013 over 315 capital projects totaling over 1.3 billion dollars in construction were commenced.

There were 151 projects in the Water System totaling \$192,177,208 in construction that includes projects of \$34 million in Hurricane Restorations and Repairs and another \$84 million in Water Line Replacements.

In the Sewer System, there were 96 projects totaling \$210,692,442. Hurricane Restoration and Repair projects totaled \$21 million dollars and modifications to the Eastbank Waste Water Treatment Plant amounted to

\$38 million.

SELA project costs that was started by the Corps since 2005 which includes construction and project management is \$908,999,285. This includes a total of 13 separate canal projects. These projects are as follows: Florida Avenue Canal Phases 1, 2 & 3, and 4 (\$328,006,762), Napoleon Avenue Canal Phase 2 and 3 (\$125,800,000), Claiborne Avenue Canal Phase 1 and 2 (\$74,100,000), Jefferson Avenue Canal Phase 1 and 2 (\$137,900,000), Louisiana Avenue Canal (\$111,500,000), Dwyer Intake Canal (\$81,426,920), Dwyer Drainage Pumping Station

Dwyer Pumping Station-New Orleans East gets a new pumping station.





East Bank Waste Water Treatment Plant New Administration Building at 6501 Florida Ave.

(\$30,205,465), and General De Gaulle Canal (\$20,160,138). In addition to SELA projects, there were 68 jobs and 9 contracts totaling an additional \$66,018,845 in projects for the Drainage System.

Hard work and dedication of an experienced and skilled workforce led the Sewerage & Water Board of New Orleans through the arduous task of recuperating and rejuvenating after Hurricane Katrina in 2005. This team of professionals were the catalyst that began the recovery and restoration of the Sewerage & Water Board of New Orleans. Their goal was to recover

from the devastation and to begin restoration and rebuilding the systems for strength and resiliency for the future with industry innovations, and high tech initiatives. Their leadership, vision, courage and tenacity has provided a sound and sturdy foundation to continue the continuous rebuilding of the water, sewer, drainage and power generation systems for years to come. In the future, their footprints will be etched in the history of recovery of this massive utility, allowing the Water Board to face and conquer any obstacles that may arise.

# SUMMARY OF 2014 RECOMMENDED OPERATING AND CAPITAL BUDGETS REFLECT THE RECENTLY UPDATED 2011-2020 FINANCIAL PLAN AND RATE STUDY

The Board of Directors of Sewerage and Water Board of New Orleans approved the 2014 Recommended Operating and Capital Budgets. This overview includes the key highlights of the recommended budgets.

The recommended 2014 Operating and Capital Budgets are based on the 2014 elements of the recently updated 2011-2020 Financial Plan and Rate Study.

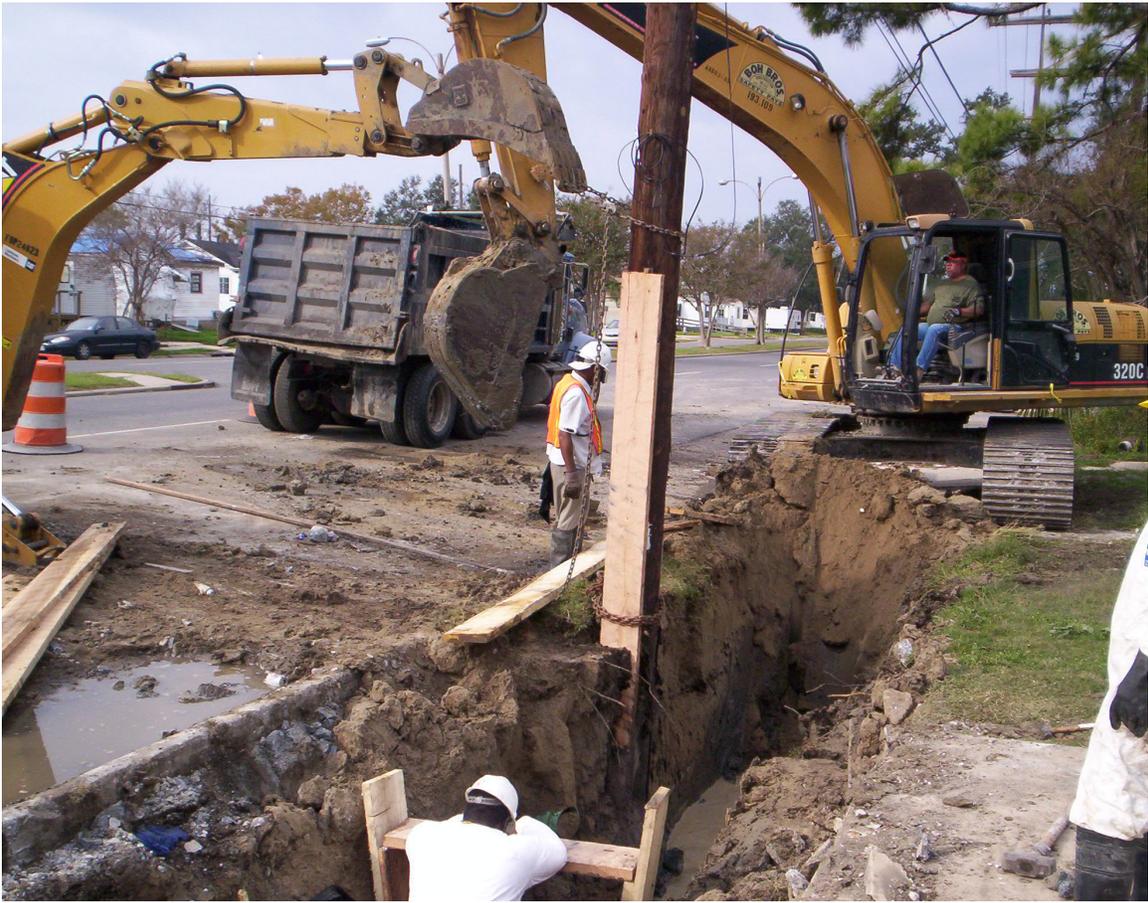
The recommended 2014 Operating Budget meets liquidity and debt service coverage targets and allows critical increases to staffing from current level of 1,019 employees to proposed level of 1058.

The recommended 2014 Capital Budget is fully funded for planned improvements to the water, sewer, and drainage system.

The 2014 Operating and Capital Budgets will fund elements of the 2011-2020 Strategic plan to build necessary infrastructure, rebuild our financial capabilities, improve our customer service capabilities, enhance our business performance, enhance the capabilities of our employees, and protect the environment.

The 2014 Capital Budget is fully funded from cash generated from operations, contributions in aid of construction, and the proceeds from planned bond issues. The projects were prioritized based upon an industry-standard methodology and were sequenced based upon that prioritization as well as constructability. Power and general projects are shown within the water, sewer, and drainage capital programs from which their funding will be provided.

The 2013 Operations and



The approval of the capital budget allows for planned improvements to the systems.

Maintenance Budget was utilized as the starting point for the recommended 2014 Operating Budget. This “baseline budget” was then modified for known changes and correction of errors. We then increased staffing up to limits allowed with targeted funding levels for previously unfunded initiatives.

We will continue funding cash reserves up to amount equivalent to 180

days of operations and maintenance expenses as established in the Financial Plan. Likewise, we will also continue payoff of previously unfunded liabilities for tort judgments, inter-fund transfers, and capital improvements funded by Department of Public Works. Debt service coverage is expected to exceed minimum requirements.

IMPROVED SYSTEMS & SERVICES PART OF PLAN

# RATE INCREASE WILL HELP THE SEWERAGE & WATER BOARD RE-BUILD AGING WATER AND SEWER SYSTEMS

It is well documented that even before Katrina, the Sewerage & Water Board was in dire need of funds to repair and re-build its aging sewer and water systems.

Rates had not been increased in more than 20 years, while the cost of construction, materials and labor had increased in double figures.

Katrina only made matters worse, despite the Board's expertise and ability to obtain FEMA funds and other Federal assistance. The Board's costs grew with every new project brought on by the storm's damages.

But much help came when The City Council passed a rate increase that the Sewerage and Water Board had already approved at its monthly November 2012 meeting. The rate increase is 10% annually over 8 yrs.

The process for getting to this conclusion started over two years ago with a comprehensive study of financial

requirements in 2010. The purpose of the analysis was to identify financial requirements for the water, sewer and drainage systems and develop recommended approaches for funding.

The funding included constructing, operating and maintaining the systems. The board's broad based plan included a comprehensive approach to fund the overwhelming capital and operational needs to provide quality of life services to our residents.

Post Katrina conditions which included financial issues for survival, plagued both the customer base and

the agency. All of this and more were taken into consideration as the board reviewed and re-evaluated every way

Overall, this rate increase was critical to provide the quality of life services of water, sewer and drainage that ensures the vitality and sustainability of New Orleans. The longer it would have been delayed the more expensive it would have been and the greater the risk to the city.

possible financially to meet its Federal mandates and system rebuilding dictates while keeping the rate increase at an acceptable level.

Mayor Landrieu gave his full support and led the measure after the Board agreed to lower the amount of the increase and to install certain procedures and policies of the Board.

Staff and consultants reduced the rate to 10% annually for both water and sewer. It was out of an abundance of concern for educating the public that citywide and area community meetings were held.

Mayor Landrieu gave his full support and led the measure after the Board agreed to lower the amount of the increase and to install certain procedures and policies of the Board.

Two 300 CFS Pumping Station and Generator to help ensure the operability of DPS No. 5 during hurricanes, storms and high water events, two new-elevated vertical pumps, at 300 cubic feet per second (cfs) each will be installed. These pumps will be housed in a new elevated hurricane-proof structure. A 60 Hz, 3-megawatt generator will be installed to provide back up power. Project is about 50% complete. Program cost \$26.0 Million.

Staff and consultants reduced the rate to 10% annually for both water and sewer. It was out of an abundance of concern for educating the public that citywide and area community meetings were held

In July, 2013 the board was pleased to announce the upgrading of the Sewer and Water Revenue Bonds. The Rating Services increases were based on the systems' financial position with the securing of the pre-approval of the rate increases.

Overall, this rate increase was critical to provide the quality of life services of water, sewer and drainage that ensures the vitality and sustainability of New Orleans. The longer it would have been delayed the more expensive it would have been and the greater the risk to the city.



# SWB BOND RATING UPGRADED

The Sewerage and Water Board is pleased to announce the upgrading of its Sewer Revenue and Water Revenue Bonds due to its sustained and stabilized financial position.

Standard and Poor's Rating Services raised by two notches, to 'A-', the underlying rating (SPUR) on the Board's sewer revenue bonds. Standard and Poor's, also, has upgraded by one notch, to 'BBB-', the underlying rating (SPUR) on the New Orleans Sewerage and Water Board's water revenue bonds.

The Rating Service's increases are based on both the sewer and water system's financial position, which is sustainable with the New Orleans City Council's December 2012 approval of 10% rate increases each year for eight years.

According to Mayor Landrieu and Board President, "The decision by Standard and Poor's to upgrade the Sewerage and Water Board's ratings is a great step as we continue to restore our bond ratings to Pre-Katrina levels. With our efforts

to find federal funding to re-invest in critical infrastructure needs and with our securing of the pre-approval rate increases, the Board will be able to continue to meet the future financial needs of the capital improvement program."

Marcia St. Martin, Sewerage and Water Board's executive director, said, "These upgraded ratings are good for the Sewerage and Water Board and the City of New Orleans. They demonstrate that the Board is making prudent financial decisions in the restoration, recovery and rebuilding of the city's infrastructure. It should be noted that Mayor Landrieu's efforts to secure the pre-approved rate increases were critical factors in these rating upgrades."

The Board has continued to use its financial resources effectively, efficiently and wisely in the rebuilding of the water and sewer systems. Its commitment to long term, comprehensive operational and financial planning was an additional determining factor providing support for the increases.

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# PENSION FUND IS GROWING BECAUSE OF COST CUTTING AND DIVERSIFICATION; IT'S AMONG THE BEST FUNDED IN THE STATE

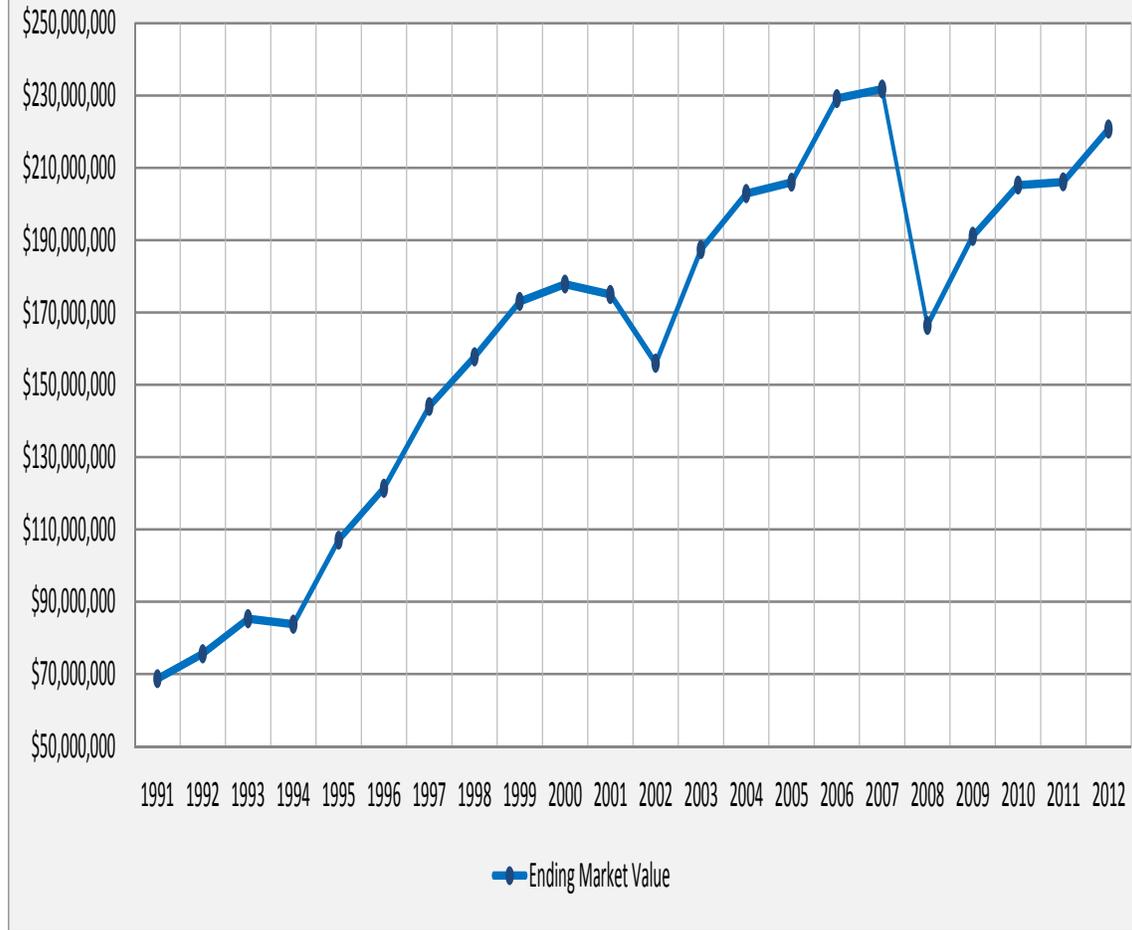
Over the past 20 years the plan has evolved from an allocation that was 75% in fixed income and 25% in equities, to one that is more diversified with investments in hedge funds, real estate, commodities, and TIPS. This broad distribution has allowed for more stable returns through notably challenging years such as 1999, 2001, 2008, and 2011 where the fund was able to mitigate losses or even show

gains. Despite utilizing multiple asset classes, the fund has always focused on keeping expenses low. Through using passive instruments when applicable, in addition to negotiating rates with active managers, the Sewerage and Water Board has managed to keep fees at a minimum. This focus on cost cutting and diversification has helped the fund grow by over \$150 million since the beginning of the 90's. It has also helped

The men and women of the Board's Welding and Fabrication Shop have the capability and expertise to manufacture parts for some of the aging, yet reliable Board systems. Many of the parts are either no longer made or too expensive to job out or buy "from the shelf." So the work of the Shop not only re-create parts to exacting specifications, but its team of craftsmen can also save money for the Board.



## GROWTH OF THE PENSION FUND



the plan remain financially secure, and with liabilities in check, during a period where many municipalities, political subdivisions, and pension funds have been under great duress. As of the end of 2012, the Sewerage and Water Board's plan was 81.9% funded which places it among the best funded in the state well ahead of notable plans such as Louisiana State Employees Retirement System (LASERS) (55.9%), Louisiana School Employees (61.6%), Teacher's (55.4%), and the

City of New Orleans (74.8%).

The Employees Retirement Plan of the Sewerage and Water Board has grown from \$56,348,353 in 12/31/1991 to its current value of \$220,701,055 as of 12/31/2012. The plan became an IRS qualified plan on January 1, 1996. The plan "trust" was established at that time as well.



The Facility Maintenance Department fabricates, in-house, gears of various dimensions and specifications to accommodate the many different size valves that are used throughout the water and sewer systems. Valves are used to isolate leaks or reroute water or sewage while repairs are being done to the piping system. The fabricated set of gears are mounted on the exterior of a valve to aid operation of the valve. The small gear driving the large gear provides a torque ratio that enables the valve to be opened or closed using different means, such as a hand wheel or an electric or hydraulic automatic valve machine like those mounted on the Board's valve trucks. The staff fabricates many parts no longer manufactured or too expensive to out-source.

## STRONG WORKFORCE MAKES A STRONG AGENCY

One of the Board's most valuable assets is its team of hard-working, skilled and loyal employees. A dollar amount cannot be put on this asset, but without their skills, knowledge, expertise, communications, teamwork and professionalism, the S&WB could not exist. With the knowledge that 30 per cent of its 933 employees are eligible for retirement or will soon be eligible,

the Board is taking steps to ensure that its workforce continues to be strong. The Board has developed a succession planning program, which includes cross training, advanced programs of instruction and tuition assistance programs. Employees are learning more about their agency via the internet, tours of facilities, an employee publication and special paycheck inserts.



Thomas Lobell, chemical house supervisor and Charles Collins, S&WB employee and graduate of the job training program

## OPPORTUNITIES FOR CITY'S YOUTH PRIVATE/GOVERNMENT TRAINING PROGRAM DESIGNED TO INCREASE QUALIFIED TECHNICIANS FOR BOARD'S COMPLEX SYSTEMS

**I**n the summer of 2010, the Sewerage and Water Board of New Orleans forged a unique partnership with the not-for-profit training provider, Limitless Vistas, Inc. to provide classroom and hands-on job training for at-risk youth in the water and wastewater treatment industries. The partnership not only provides economic opportunities for New Orleans' youth but also addresses the Board's critical need for succession planning as its existing workforce

approaches retirement. When presented with the training partnership concept by Limitless Vistas, Inc., the agency embraced and nurtured the partnership by providing training facilities and staff support.

Additionally, Veolia Water North America Operating Services, LLC (Veolia) which operates the Eastbank and Westbank Wastewater Treatment Plants provided internships for students for practical applications. Program

participants received training on water treatment, water distribution, water production and wastewater collection, spending 128 hours in the classroom and another 300 hours working in the field. During the 4-week internship, students rotated through duties which include taking water samples and testing the water for various chemicals used in the water purification process.

With the success of the pilot training program in New Orleans, the Environmental Protection Agency (EPA) recognized the need for water operator job training and consequently in 2011 awarded Limitless Vistas the program. The EPA awarded Limitless Vistas, Inc. with a second two-year grant for the program in 2013 which provides \$200,000 over a two year period to train 40 at risk young adults and place

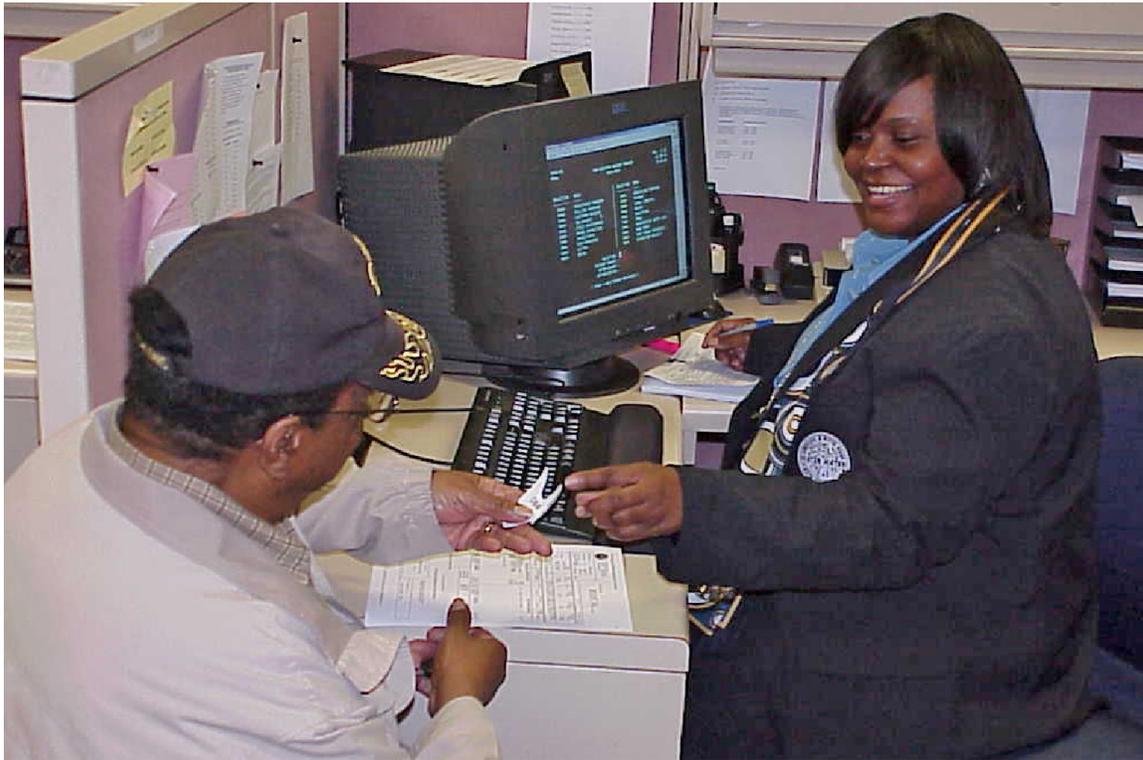
a minimum of 32 program graduates in environmental jobs.

This partnership in the training of water and wastewater operations through Limitless Vistas helps to address the critical need for succession planning as our workforce ages. It also prepares our young people for sustainable entry level jobs so they become vital participants in the water and wastewater industry. Students are introduced to the technical aspects of environmental work as well as the value of working in their communities, through service learning.

Recently, the S&WB hired its first program graduate. Charles Collins is working in the Chemical House at the S&WB Carrollton Water Purification Plant. Collins credits the training partnership with preparing him for a life-long career in the industry.

Limitless Vistas, Inc. water and waste water treatment training program, students participate in a 4-week internship with Veolia.





## IMPROVED CUSTOMER SERVICE HELPS CITIZENS SOLVE PROBLEMS, LEARN ABOUT NEW PROGRAMS OFFERED BY THE BOARD

Customer Service is an integral part and the life-blood of the Sewerage and Water Board. The Customer is the business, the most vital asset. Without customers there would be no business.

The agency has now embarked on a new well engineered customer service program to train Customer Service Representatives. The training is designed to be comprehensive and tailored to meet the individual skills level of the representative. The goal of

the program is to make our customers continue to feel important and appreciated

There are many other areas slated for improvement besides training. These include acquiring and implementing advanced metering infrastructure, opening of an additional customer service center, on-line customer account management and work order tracking. All of this is to improve the efficiency and reliability of the Customer Service processes.

# ENHANCED “WATER HELP” PROGRAM ASSISTS QUALIFIED CITIZENS WITH MORE FUNDS FOR HIGH BILLS AND MINOR PLUMBING REPAIRS

The Sewerage and Water Board of New Orleans sponsors a program to help income-eligible elderly and handicapped customers who are having trouble paying their water bills.

The program provides financial aid for qualifying limited-income customers and is based on household income. Customers in need may be eligible to receive up to \$200 in bill assistance per year, which is credited directly to the account.

The program is funded by employee contributions, customer donations of \$1 included with the bill, Sewerage and Water Board matching funds and unclaimed customer deposits that would otherwise be sent to the Louisiana State Treasury.

The program is administered under a contract with Total Community

Action, a local non-profit agency. To apply for assistance, customers must call for an appointment and appear in person to make a formal application at the Total Community Action office. Since the program was created in 1989 thousands of families have been helped.

The Water Help program is now being expanded with a new component. This new component is Plumbing Assistance. It will be available for qualifying customers. This annual assistance is \$250. This assistance is offered to include minor repairs, such as leaking toilets, faucets and minor pipe repair. A certified plumber with the board will be utilized for the program.

Since the new Plumbing Assistance program is now beginning to be implemented, there should be a review and evaluation of its effectiveness by June, 2014.

# THE COMMUNITY AND INTERGOVERNMENTAL RELATIONS DEPARTMENT KEEPS PUBLIC INFORMED OF BOARD PROJECTS AND SERVICES THROUGH THE MEDIA, MAILINGS AND MEETINGS

The community relations program is designed to keep the public informed, handle customer concerns, resolve expansive customer issues, maintain and develop goodwill in the community. The principal objective is to gain long term benefits of community support, while building the agency's public image.

After Hurricane Katrina, the employees became the most noted ambassadors for community relations. The 300 employees that never left and who had the daunting task to dewater the city became the heroes. International, national, and local recognition was given to them. Today, employees are involved with community, neighborhood, civic, social and church organizations representing the board in various ways by their sheer involvement and participation.

There is a direct targeted involvement with the community through school, organizations, facility tours for groups and presentations.

The devastation from Katrina and other storms increased the need to communicate effectively with the customers. The agency had to be brought to the community with direct and personal messages from the Board on the safety, security and sustainability of the water, sewer, drainage and power generation systems. It was the ability to articulate confidence in the delivery of quality of life services to residents that made the journey home more realistic.

Increased public contact has been effective, bringing the Board's message directly to citizens, through televised board and committee meetings and hundreds of town, organization and community meetings. The customer friendly website has added a greater dimension to communicate with customers.

As the board's SELA projects and massive FEMA funded water and sewer projects continue, it is essential to communicate project information to the public. There are several additional

websites for SELA and SSERP information. The board continues to work closely with the city's Department of Public Works in the coordination of

street projects. It has been the effective joint communications plan that has been able to articulate construction plans, schedules, and scheduling changes to neighborhood residents.



## CRESCENT COVER SAYS IT ALL

Edwin Ford of the Ford Motor Box Company, Wabash, Indiana in 1921 designed a meter box that is adjustable, due to the problem of soil subsidence in New Orleans. Ford named the meter box the “Crescent Cover” after the City of New Orleans. Even the lid of the box was customized for New Orleans.

The mark of the “Crescent Cover” was registered with the U.S. Patent and Trademark Office in 2006. A bill to control the use of the logo was passed in the state legislature the prior year. The idea of control is to protect the

Board's image.

After Katrina because of the Board employees' heroics, the design was promulgated even more through the use on jewelry, clothing, household goods and sorted other uses. Today, the Community and Intergovernmental Department monitors and certifies the use of the logo.

There is a continued increase in the use of the logo and plans continue to be developed, implemented and changed constantly as this industry of the Board expands.

# CONCLUSION

The Sewerage and Water Board of New Orleans is in an excellent position to tackle the many challenges only this city has experienced. The Board has completed the majority of the repairs to its facilities caused by the devastation of Hurricane Katrina. It is moving forward with an ongoing construction program to build the systems smarter, stronger, resilient and reliable. This program continues the many crucial construction projects as a result of an aging infrastructure.

Confidence in the Board's management and fiscal responsibility

resulted in the first water and sewer rate increases since the 1990's. These increases will be the building blocks for the growth, development and continuous rebuilding of the board's systems in the future.

The state of the agency is strong. It is strong because it has been able to fulfill its mission to the citizens of the New Orleans in spite of the challenges. It is strong because it has gone from devastation to recovery and now to restoration and rebuilding of one of the most complex infrastructures in the country.

*The State of the Agency was prepared for The Sewerage & Water Board of New Orleans by the Community and Intergovernmental Relations Department with valuable contributions from Board personnel.*

OUR MISSION IS TO PROVIDE SAFE DRINKING WATER TO EVERYONE IN NEW ORLEANS; TO REMOVE WASTE WATER FOR SAFE RETURN TO THE ENVIRONMENT; TO DRAIN AWAY STORM WATER; TO PROVIDE WATER FOR FIRE PROTECTION; TO PROVIDE INFORMATION ABOUT PRODUCTS AND SERVICES; AND TO DO ALL OF THIS CONTINUOUSLY AT A REASONABLE COST TO THE COMMUNITY.

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