



“RE-BUILDING THE CITY’S WATER SYSTEMS FOR THE 21ST CENTURY”

Sewerage & Water Board of NEW ORLEANS

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Date: June, 2012

To: Sewerage and Water Board Customers

From: Robert Jackson, Director
Community & Intergovernmental Relations

Re: Water Quality 2011 Report

Every Sewerage and Water Board customer will receive an informational insert in their water bill advising them that their drinking water, supplied by the Sewerage and Water Board of New Orleans, is of the highest quality. It also describes the water treatment process. The mailer is called “Quality Water 2011”.

This is the 14th time the Board has distributed this Consumer Confidence Report. It is a requirement of the U. S. Environmental Protection Agency (EPA) and must be mailed to all customers once a year, advertised in the Times-Picayune newspaper, posted on the Board’s website and be available at government offices and libraries.

It is named “Quality Water 2011” because all of the water tests results are from 2011. You may have some questions, simply because the report is technical in nature and many chemical names and terms are used. While we would have liked to make it simpler, most of the wording used (including the names of all the chemical compounds) is required by the EPA.

If you have any questions that are technical in nature, please call the S&WB Water Quality Laboratory, (504) 865-0420. We are pleased to provide this very positive report, which shows that the water supplied by the Sewerage and Water Board is of the highest quality. The entire report is posted here on the website. We hope that you will review it to learn about the purification process and the high quality of your drinking water.

Please scroll to view the entire report.

2011 Quality WATER

A REPORT ON THE STATE OF TAP WATER IN NEW ORLEANS The Sewerage and Water Board is pleased to provide you with this Annual Water Quality Report for the year 2011. (Este informe contiene información muy importante sobre su agua potable. Tradúzcalo o hable con alguien que lo entienda bien.) The Board is proud to provide the citizens of New Orleans each day with an abundant supply of quality water for personal and business needs and fire protection.



Costly Improvements, Dedicated and Experienced Employees Help Deliver Quality Drinking Water To The Citizens of New Orleans

The men and women of The Sewerage & Water Board of New Orleans are proud that they can say, once again, that the excellent quality drinking water they produced in 2011 met or exceeded all State and Federal water quality regulations, and that they delivered this high quality and abundant water supply to homes and businesses in Orleans Parish for drinking, personal, and fire fighting needs.

A team of expert managers, engineers, operators, machinists, laboratory chemists and technicians, environmental experts, pumping and power professionals and experienced pipe, valve and fire hydrant repair crews and administrative support personnel all work together for one goal—a safe and reliable water supply for the citizens of New Orleans.

Much has been done to rebuild, repair or improve water facilities after Katrina, and out of that catastrophe came new processes, new or

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SOURCE & TREATMENT

Presented by the Sewerage and Water Board of New Orleans. Serving the East and West Banks of Orleans Parish.

Our source water is the Mississippi River, a surface water source. This water is treated at the Carrollton Water Purification Plant for East Bank customers and at the Algiers Water Purification Plant for West Bank customers. In 2011 the Carrollton Water Purification Plant provided an average of 138 million gallons of drinking water per day to a population estimated to be about 305,474 people. The Algiers Water Plant provided an average of 11 million gallons of drinking water per day to a population estimated to be about 53,578 people.* The treatment process at each plant is similar. The raw river water is treated with chemicals called “coagulants” which cause the small particles in the water to come together to form larger particles which are then allowed to settle out of the water. Rapid sand filtration is used to remove even smaller particles. During the process chloramine is added to disinfect the water. Lime is added to provide corrosion control and to increase the pH of the water to stabilize the disinfectant. Fluoride is added to prevent tooth decay.

How contaminants can get into SOURCE WATER

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

Contaminants that may be present in source water include:

- **Microbial contaminants**, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- **Inorganic contaminants**, such as salts and metals, which can be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- **Pesticides and herbicides**, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.
- **Organic chemical contaminants**, including synthetic and volatile organic chemicals, which are byproducts of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems.
- **Radioactive contaminants**, which can be naturally-occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, the U.S. Environmental Protection Agency (EPA) prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. The U.S. Food and Drug Administration regulates and establishes limits for contaminants in bottled water.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/ CDC guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline (1-800-426-4791).

A Source Water Assessment has been conducted by the State of Louisiana Department of Environmental Quality. This is an assessment of a delineated area around our listed sources through which contaminants, if present, could migrate and reach our source water. It also includes an inventory of potential sources of contamination within the delineated area, and a determination of the water supply's susceptibility to contamination by the identified potential sources. According to the Source Water Assessment, our water system had a susceptibility rating of high. If you would like to review the Source Water Assessment, contact the Sewerage and Water Board Laboratory at (504) 865-0420.



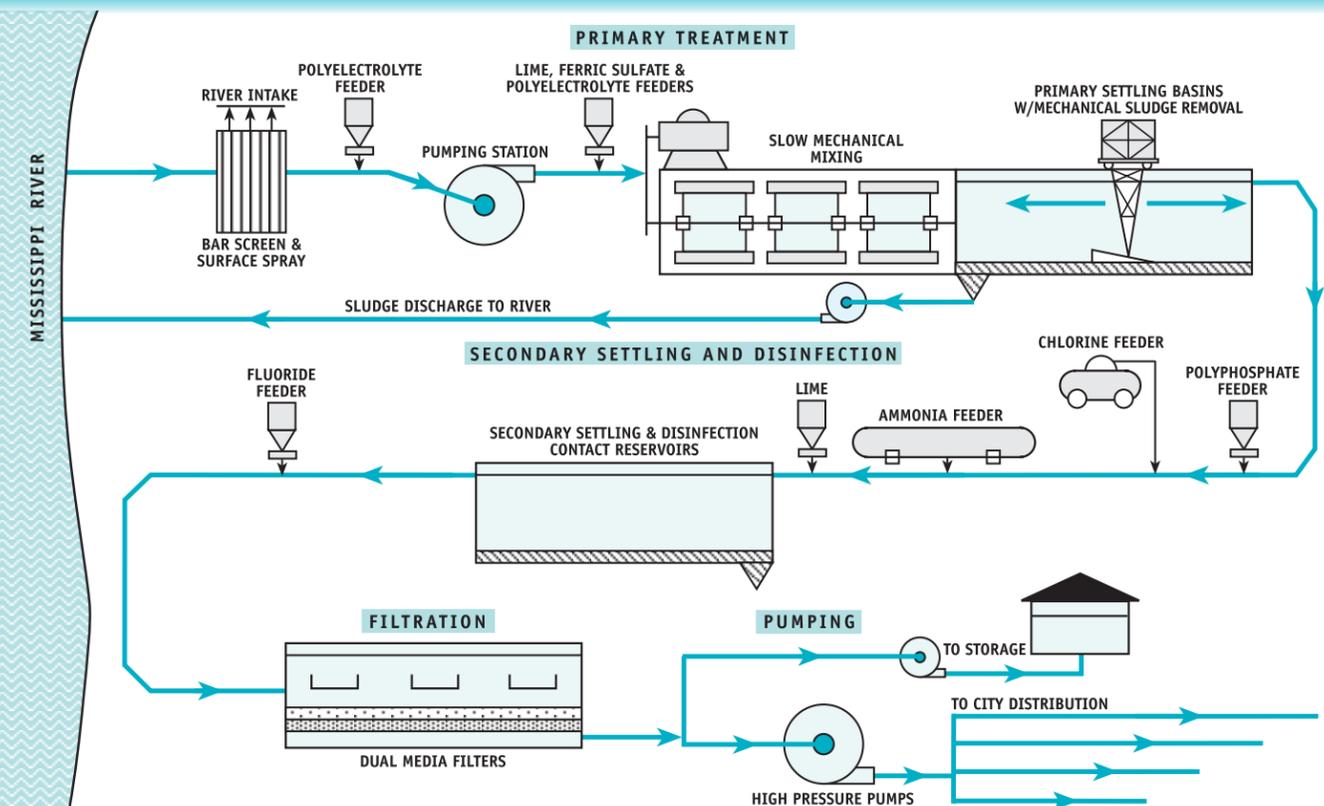
Cryptosporidium

Cryptosporidium parvum is a microscopic organism which, if ingested, can cause diarrhea, nausea, cramps, fever, and other gastrointestinal symptoms. It is found in sewage and animal waste which is washed into rivers and streams when it rains. *Cryptosporidium* can be found in nearly all surface waters in the United States. The best defense a water utility can provide is an effective treatment process which includes the multiple barriers of effective and continuous coagulation, disinfection, and filtration.

In healthy persons, symptoms usually last two to three days. However, cryptosporidiosis can be very serious for people with severely weakened immune systems, such as chemotherapy and transplant patients and people with HIV infections. These people should consult a physician about extra protection, including boiling water, using a certified bottle water, or using a home water filter capable of removing *Cryptosporidium*.

While we occasionally detect low levels of *Cryptosporidium* in our source water (in 2011, *Cryptosporidium* was detected in four of twelve monthly samples), none has been detected in our tap water since 1998. An occasional oocyst in the drinking water of utilities that use surface water is not unusual, and does not necessarily indicate a health problem.

General flow diagram of water purification process



Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline:

1-800-426-4791.

DRINKING WATER Quality Results

from 2011 Compliance Monitoring

From January 1st thru December 31st 2011, monitoring was carried out to determine if the quality of the drinking water met State and Federal Regulations. This is called compliance monitoring.

definitions

Parts per million (ppm) – This is a measure of concentration which corresponds to one milligram of a substance in one liter of water (mg/L), or about one drop in 10 gallons.

Parts per billion (ppb) – This is a measure of concentration which corresponds to one microgram of a substance in one liter of water (µg/L), or about one drop in 10,000 gallons.

Parts per trillion (ppt) – This is a measure of concentration which corresponds to one nanogram of a substance in one liter of water (ng/L), or about one drop in 10,000,000 gallons.

Running Annual Average (RAA) – average of data from the previous 12 months, calculated after each monitoring event or period.

Picocuries per liter (pCi/L) – This is a measure of the radioactivity in water.

Nephelometric Turbidity Unit (NTU) – This is a measure of the cloudiness of water. Turbidity in excess of 5 NTU is just noticeable to the average person. We monitor turbidity because it is a good indicator of the effectiveness of our treatment system.

Action Level (AL) – The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

Treatment Technique (TT) – A required process intended to reduce the level of a contaminant in drinking water.

Maximum Contaminant Level Goal (MCLG) – The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

Maximum Contaminant Level (MCL) – The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

Maximum Residual Disinfectant Level (MRDL) – The highest level of disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

Maximum Residual Disinfectant Level Goal (MRDLG) – The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

Contaminant	Meets Requirements?	Units	Amounts Detected		Highest Level Allowed (MCL)	MCL Goal (MCLG)	Likely Sources
			East Bank	West Bank			
REGULATED CONTAMINANTS detected in 2011							
Total Coliform Bacteria	Yes	% Positive samples per month	0 - 1.1	0 - 3.7	5	0	Naturally present in the environment
Turbidity ¹	East Bank: Yes West Bank: Yes	NTU: Lowest monthly % of samples ≤ 0.3:	0.042 - 0.339 100 %	0.046 - 0.313 100 %	1.49 for any one sample; 95% of samples each month should be ≤ 0.349	N/A	Soil runoff
Fluoride	Yes	ppm	0.53 - 1.17 Avg. = 0.80	0.41 - 1.16 Avg. = 0.81	4	4	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Nitrate (as Nitrogen)	Yes	ppm	2	2	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Copper (data from 2010, latest survey)	Yes	90th percentile ppm: No. sites exceeding AL:	0.2 0 of 51 sampled	0.1 0 of 36 sampled	Action Level = 1.3 for 90th percentile	1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (data from 2010, latest survey)	Yes	90th percentile ppb: No. of sites exceeding AL:	9 2 of 51 sampled	4 0 of 36 sampled	Action Level = 15 for 90th percentile	0	Corrosion of household plumbing systems, erosion of natural deposits
Carbon Tetrachloride	Yes	ppb	0.51	0.85 - 0.99	5	0	Discharge from chemical plants and other industrial activities
Atrazine	Yes	ppb	ND - 0.64	ND	3	3	Herbicide runoff
Simazine	Yes	ppb	ND - 0.67	ND - 0.66	4	4	Herbicide runoff
Di(2-ethylhexyl)adipate	Yes	ppb	ND - 0.59	ND - 0.70	400	400	Discharge from chemical factories
Di(2-ethylhexyl)phthalate	Yes	ppb	0.72 - 1.79	0.73 - 1.52	6	0	Discharge from rubber and chemical factories
Uranium	Yes	ppb	2	2	30	0	Erosion of natural deposits
Gross Alpha Particle Activity	Yes	pCi/L	3	<3	15	0	Erosion of Natural Deposits
Gross Alpha Particle Activity Excluding Radon & Uranium	Yes	pCi/L	1	1	15	0	Erosion of Natural Deposits
Gross Beta Particle Activity ²	Yes	pCi/L	7	<4	50	0	Decay of natural and man-made deposits
Total Chlorine Residual	Yes	ppm	0.0 - 4.8 highest RAA = 3.3	0.2 - 5.1 highest RAA = 3.5	MDRL: RAA should be ≤ 4	MDRLG: RAA ≤ 4	Disinfectant added during water treatment
Total Organic Carbon Removal ³	Yes	ratio	0.65 - 1.52 lowest RAA = 1.01	0.66 - 1.26 lowest RAA = 1.00	TT RAA should be ≥ 1	N/A	Naturally present in the environment
Total Trihalomethanes (TTHMs)	Yes	ppb	18 - 50 highest RAA = 36	11 - 45 highest RAA = 28	RAA should be ≤ 80	N/A	Byproduct of drinking water disinfection
Total Haloacetic Acids (HAA5s)	Yes	ppb	13 - 25 highest RAA = 21	9 - 36 highest RAA = 27	RAA should be ≤ 60	N/A	Byproduct of drinking water disinfection
UNREGULATED CONTAMINANTS⁴ detected in 2009 and 2011 (from EPA's Unregulated Contaminant Monitoring Regulation 2)							
N-nitrosodimethylamine (NDMA)	Yes	ppt	8 - 36 Avg. = 16	14 - 33 Avg. = 20	N/A	N/A	Byproduct of chemical synthesis and manufacture of rubber, leather, and plastic goods; nitrate reducing bacteria; Foods such as bacon and malt beverages can contain nitrosamines.

¹ Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system. Its sources include soil runoff.

² The MCL for Beta Particles is 4 mrem/yr. EPA considers 50 pCi/L to be the level of concern for Beta Particles.

³ TOC Removal is reported here as the ratio of TOC removal credits to that required by regulation.

⁴ Unregulated contaminants are those that don't yet have a drinking water standard set by EPA. Monitoring for these contaminants helps EPA decide whether these contaminants should have a standard. Monitoring of our tap water for Asbestos, Nitrite, and Dioxin was not carried out due to waivers granted by the US EPA for these specific contaminants only.

N/A = not applicable
ND = not detected

Frequently Asked Questions

Why is my water milky white at times? Will cloudy water make me sick?

The cloudy or milky appearance is caused by tiny air bubbles in the water. As the water sits, the bubbles will rise to the top, and the water will look clear. This cloudy appearance occurs most often in the winter when the water is cold.

Do we have hard water?

What is the hardness of our water?

Yes, New Orleans tap water is considered hard water. Some believe that the term arises from the fact that it is difficult or “hard” to make suds or a lather with soap in hard water. Others say that “hardness” is associated with the fact that it is “hard” to remove the soap ring from the bathtub. Hard water is caused primarily by two harmless minerals—calcium and magnesium. The total hardness is the sum of the two expressed as milligrams per liter (mg/L) of calcium carbonate or grains/gallon of calcium carbonate. In 2011, the average total hardness in tap water was 191 mg/L on the East Bank, and 128 mg/L on the West Bank. For comparison, in terms of mg/L of calcium carbonate, soft water ranges from 0 to 75, moderately hard water from 75 to 150, hard water from 150 to 300, and water above 300 is considered very hard.

Who Tests Your Water?

In order to ensure that tap water is safe to drink, the U.S. Environmental Protection Agency (EPA) prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. (The U.S. Food and Drug Administration regulates and establishes limits for contaminants in bottled water.)

Testing to determine if New Orleans’ drinking water complies with State and Federal drinking water quality standards is performed by the Louisiana Department of Health and Hospitals, the Sewerage and Water Board Water Quality Laboratory, and DHH certified contract laboratories. Where a contaminant was detected in compliance monitoring, we have reported it in the table on the preceding pages.

In addition to the compliance monitoring required by drinking water regulations, the S&WB performs daily quality control testing in its laboratory as well as continuous online monitoring of important water quality parameters.

Checking for Chemical Spills in the Mississippi River

The Sewerage and Water Board participates in a program set up by the Louisiana Department of Environmental Quality call the Early Warning Organic Compound Detection System (EWOCDS). DEQ has provided equipment at locations along the Mississippi River from Baton Rouge to New Orleans to check for volatile organic contaminants in the river.

The New Orleans location is the Sewerage and Water Board Water Quality Laboratory. Lab personnel analyze river samples each day and report any contamination to DEQ. The S&WB in turn benefits from advance notification of spills provided by upriver EWOCDS locations.

Is There Lead in New Orleans’ Tap Water?

No lead was present in the treated water leaving our treatment plants; however, homes that are unoccupied and homes that are undergoing or have recently undergone plumbing renovation may experience elevated lead concentrations in their tap water. Homeowners should thoroughly flush all household plumbing before re-occupying the property.

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. The Sewerage and Water Board of New Orleans is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your drinking water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the US EPA Safe Drinking Water Hotline (1-800-426-4791) or at <http://www.epa.gov/safewater/lead>.



One of several sedimentation basins at the Carrollton Water Purification Plant.

continued from cover

refurbished systems, new equipment and modern concepts constantly explored—and implemented when needed and within the confines of carefully prepared budgets.

One such new process system that we mentioned last year is nearing completion at the Carrollton Water Purification Plant on South Claiborne Avenue. It is the Sodium Hypochlorite Bulk Storage/Feed Facility. It consists of the conversion of a current gaseous chlorination system to a sodium hypochlorite system that will allow the current rail tank car system to be abandoned in favor of a safer liquid based process at the Plant on South Claiborne Avenue.

This important project received funding of \$1.6 million from the Drinking Water State Revolving Fund administered by the Louisiana Department of Health and Hospitals and \$1.8 million from funds provided by the American Recovery and Reinvestment Act.

Construction began in February 2010 and moved full speed ahead in 2011.

The new system will eliminate the need for transporting chlorine into the plant by rail and storing it on the plant grounds. Instead, the Board will be able to truck in the safer, yet effective, sodium hypochlorite

for disinfectant purposes, and store it in a new facility within the plant. This switch from a gaseous to a liquid disinfectant product will significantly reduce any risk associated with storing this product on the plant site.

And, an even more crucial construction project continued in 2011 and, it too, is on the grounds of the Carrollton Plant.

The U.S. Army Corps of Engineers is building a 15-megawatt generator which will give the Sewerage and Water Board’s Division of Pumping and Power the capability to improve the reliability of its drainage, sewerage and water pumping systems in emergencies when or if commercial power should fail or otherwise become unavailable, or if the Board’s own power generation system goes down. The new generator is funded 100% by the U. S. Army Corps of Engineers as part of a storm-proofing project for Orleans Parish. It should be in operation in the last half of 2012.

The cost of this project is estimated to be in excess of \$32 million.

S&WB Executive Director Marcia St. Martin said, “Having a generator of this capacity will greatly help us with a much-

needed back up power for water, wastewater and drainage.”

Another improvement in 2011 was the acquisition of a Total Organic Carbon Analyzer by the Board’s state-of-the-art Water Quality Laboratory.

The \$40,000 instrument measures the amount of organic carbon present in the water analyzed. One of the many treatment goals of the water purification process is to remove a percentage of this organic carbon. Having this instrument on-site in the Lab allows for routine monitoring of the efficiency of the process at removing organic carbon, and helps the staff fine tune that part of the treatment process.

Since 1998, the U.S. Environmental Protection Agency (EPA) requires all water utilities to produce and distribute annual water quality reports. This fourteenth report includes testing results for the year 2011. We hope that you will find this Consumer Confidence Report interesting and informative.

We want you—our valued customers—to be well informed about all aspects of your water system and we encourage you to see the “For More Information” section at the end of this report.

2011 Quality WATER

Sewerage and Water Board of New Orleans

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President Pro Tem

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Executive Director

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General Superintendent

Drinking water is one of the essential ingredients for life.

We at the Sewerage and Water Board of New Orleans are committed to supplying safe drinking water of a quality that surpasses the requirements of State and Federal Regulations.



The Sewerage & Water Board's staff is constantly developing and exploring new processes to improve its operations. One such project is underway at the Carrollton Water Purification Plant. The Sodium Hypochlorite Bulk Storage/Feed Facility is set for completion in July of 2012. It will eliminate the need for transporting chlorine into the plant by rail and storing it on the plant grounds. Instead, the Board will use the safer sodium hypochlorite for disinfection in the purification process.

Conclusion

We are confident that a review of this report will help you better understand your water system and the complete dedication of the Sewerage and Water Board members and staff to provide the highest quality water for its customers—the citizens of New Orleans. After all, the Board members and employees are customers too. We are proud of our water, which has been judged the “Best Tasting” in competition with other water from cities throughout the United States. Taste is important, but equally important are the other water quality parameters described in this report. The Sewerage and Water Board will continue to produce high quality water through the use of proven treatment processes, as well as modern technology.

About the cover photo: The S&WB has been providing drainage, sewerage, water and power generation since the late 1890s. It has expanded its operations through new construction and has spent millions of dollars to upgrade every one of its facilities, even after the devastation of Hurricane Katrina. The skyline of the city is a reminder that the Board has provided excellent service to the citizens and for numerous special events that can tremendously boost the city's population and quality of life services.

FOR MORE INFORMATION—Sewerage and Water Board of New Orleans

Laboratory: (504) 865-0420 | Emergency Department: (504) 52-WATER (529-2837) | E-mail address: waterinfo@swbno.org | Internet Home Page: www.swbnola.org

More information can be obtained at Sewerage and Water Board meetings which are held on the third Wednesday of every month at 10 a.m. at 625 St. Joseph Street, New Orleans, Louisiana, 70165.

U.S. E.P.A. Safe Drinking Water Hotline: 1-800-426-4791 | U.S. E.P.A. Drinking Water Internet Home Page: www.epa.gov/safewater/dwh

*Estimated population figures provided by GCR & Associates.