

The Client

St. Bernard Parish,
New Orleans, LA

The Challenge

To improve the water quality of St. Bernard Parish and to meet compliance with water quality standards

The Solution

Singer Valve's Total Automatic Purging System

The Result

- On track with water quality standards and regulation
- Improved chlorine residuals, lower total Trihelomethane and Haloactic acid values
- Reduced consumer complaints

This product is not available in USA.

singervalve.com

St. Bernard Parish uses Singer Valve's TAPS to Meet Compliance with Water Safety Standards

St. Bernard Parish is situated southeast of New Orleans in the state of Louisiana. In 2000, its population was 67,229 and expansion was underway as it was ranked the fastest-growing county in the United States from 2007 to 2008. Today it is only half as populated as it was in 2000 due to the evacuation and outmigration as a result of the destruction by hurricane Katrina in 2005.

In the summer of 2008 the Parish's Sewer & Water Division started to notice a drop in water quality from their quarterly water samples which are required by the Department of Health. They also started to get complaints from residents saying that there was a chemical taste in the water and it looked rusty and yellow and sometimes had a septic smell to it. In further testing by the Department of Health they also found that the ammonia build up was higher than normal.

Jacob Groby, Superintendent of Quality Control for the Parish, met with the Federal Emergency Management Agency (FEMA) and explained that the poor water quality was due to transformations in the distribution system and the storage tanks. "Our water quality was being affected by loss of physical integrity such as contaminant intrusion due to breaks, repairs and lower than normal flows, which was causing us to show lower than normal chlorine levels, higher than normal nitrate levels and elevated bio-film growth in our distribution system," Mr. Groby summed up.

In summary, Hurricane Katrina had not only caused damage to the system, but the loss of population meant low usage, which lead to low velocities that resulted in the accumulation of ammonia and other sediments. There was simply not enough population to use the water they were producing. In the Murphy Buy Out zone, usage had dropped from 180 + homes to a mere 35. Without a formal flushing program, nitrification was taking place more now than ever.

To make matters worse, the Department of Health and Hospitals informed St. Bernard Parish in March of 2010 that they were in danger of being in non-compliance with water quality regulations and were now required to submit for Initial Distribution System Evaluation (IDSE) monitoring.

St. Bernard Parish needed a pro-active flushing system solution and contacted Todd Burnett, President of Coastal Process, LLC to find the best option. "The Singer Valve Total Automatic Purging System (TAPS) was chosen for its superior heavy duty design, AWWA valve compliance and its ease of programming which would ensure consistency and not require extra man power among other benefits", said Mr. Burnett. The compact size was also an advantage for handling and installation.



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– Todd Burnett, President,
Coastal Process, LLC



While there are a variety of different valve sizes, St. Bernard parish used the 40 mm (1.1/2") valve which optimizes the flushing process for their pipe size as it provides the correct velocity to pull fresh water into each zone. This, coupled with the pressure sustaining feature, scours and cleans the pipes which reduces corrosion and has dramatically improved the water quality.

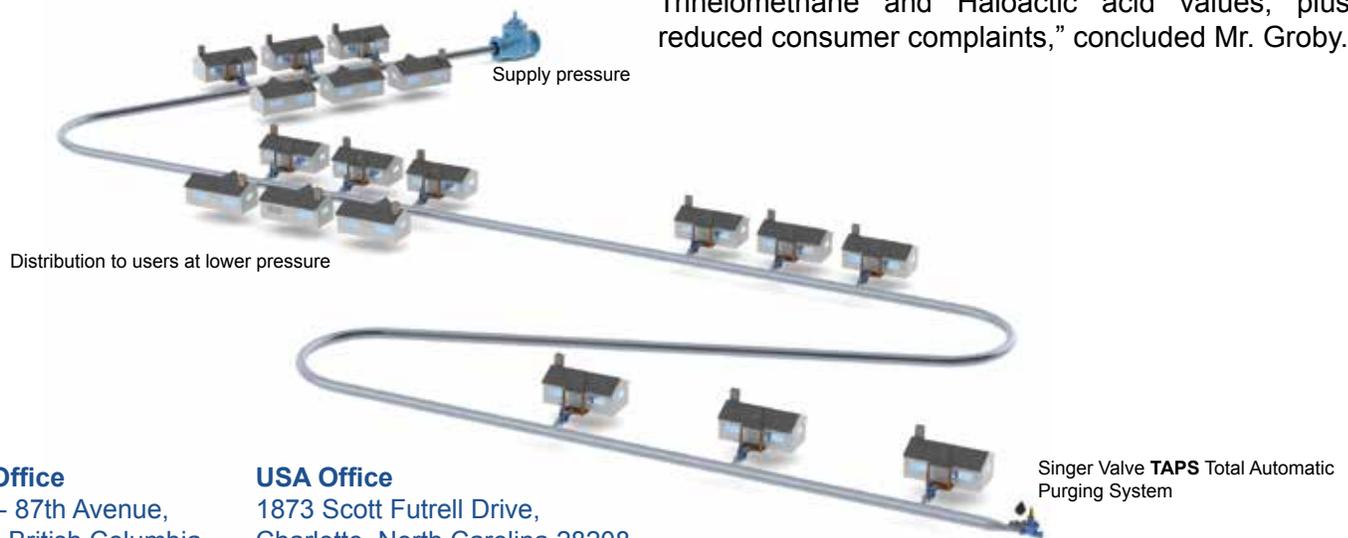
The installation process was a two-fold operation. In order to reduce the physical appearance of an industrial device in front of someone's home, they purchased a valve box to protect and conceal the flushing unit. Each location has a custom poured slab with the discharge tied directly into the subsurface drainage system so as not to cause unsightly or hazardous conditions. Each TAPS unit includes a water sampling port so that onsite clarity and testing can be easily seen and sampled without disrupting the process.

Once the 50 units were installed, it took three days to program them all. "The programming was easy, the hard part for us was deciding how to set them so that we could use them in the best manner possible," said Mr. Groby. They designed the flush cycle to create a weekly wave action to force flush 27 miles of the distribution system. With regulated flush cycles and perfected velocity at each individual installation point, fresh water is effectively drawn into areas where water quality was falling below standard. In addition, they decided to start flushing from every dead-end in the system which ensured the removal of this poor water.

The programming allows the Parish to activate flushing at any given time of the day or week. The best time to do this is at night when the demand is low. This also prevents cloudy water, low pressure and standing water complaints that are associated with conventional high volume, daytime flushing activities. This also enables distribution of the discharged water over several hours, if necessary, by programming the units to activate for shorter multiple durations throughout any given day. "Additionally, by using these flushing units, we have been able to use our greatly reduced personnel in a more efficient manner and save on our very limited utility resources," added Mr. Groby.

TAPS also has a unique pressure sustaining feature to ensure minimum upstream pressure is maintained for system needs and in the event that fire flow is needed. Mark Gimson, Business Development & Marketing Manager for Singer Valve, said "Unlike conventional flushing valves that are either open or closed, TAPS has a hydraulically operated valve that introduces or releases water from the control chamber above the diaphragm to maintain accurate water flow." Fires are unplanned, and it's crucial for fireman to be able to rely on that water pressure being available and constant in the event of an emergency at any time of the day or night.

St. Bernard Parish is now on track with water quality standards and regulations. "Our distribution system has shown a marked improvement on most factors with improved chlorine residuals, lower total Trihelomethane and Haloactic acid values, plus reduced consumer complaints," concluded Mr. Groby.



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