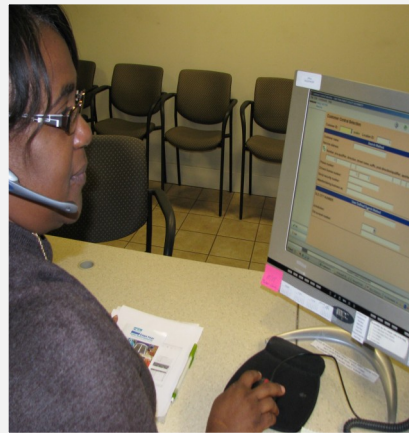
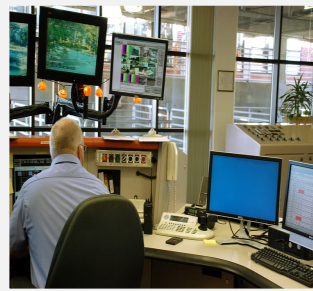




## Cape Fear Public Utility Authority Wilmington, North Carolina



## 2012 Annual Report



Matthew W. Jordan, PE  
Chief Executive Officer  
November 14, 2012



James L. Quinn III  
Chairman



Patricia O. Kusek  
Vice Chair



Jim Brumit  
Secretary



Michael C. Brown III  
Treasurer

## Cape Fear Public Utility Authority Board



Neil Anderson  
Councilman



Keith Betts  
Member



Rick Catlin  
Commissioner



Charlie Rivenbark  
Councilman



Larry Sneed  
Member



Jason Thompson  
Commissioner



Cindee Wolf  
Member



Donna S. Pope  
Clerk to the Board

# Management Team



**Matthew W. Jordan, PE**  
Chief Executive Officer



**James R. Flechtner, PE**  
Chief Operations Officer



**Cheryl J. Spivey, CPA**  
Chief Financial Officer



**Frank Styers, PE**  
Director of Engineering



**Beth Eckert**  
Environmental & Safety  
Management Director



**Tom Morgan**  
Human Resources Director



**Mike McGill**  
Chief Communications  
Officer



**Nancy Johnson**  
Director of  
Customer Service

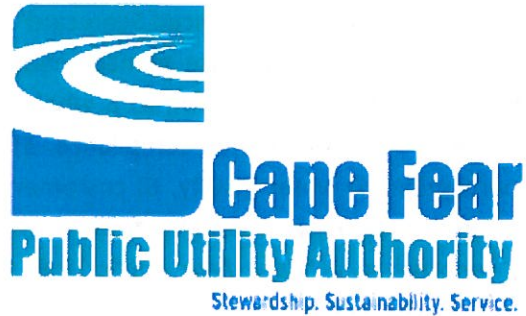


**Cord Ellison**  
Information Technology  
Manager



**Karen Durso**  
Assistant to the  
Chief Executive Officer





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November 14, 2012

It is my pleasure to provide the 2012 Annual Report for the Cape Fear Public Utility Authority. Thanks to the dedication and hard work of the Authority employees and support from the Authority Board this was another successful year. We continue to work diligently to improve community outreach and communications with all customers and stakeholders. Balancing costs and needs is always a crucial part of successfully managing an organization, and in this time of continuing economic downturn it is even more critical. Each year since the inception of the Authority, the Authority Board, management and staff have been able to maintain such a balance that has enabled the Authority to address critical infrastructure needs and reduce costs, while continuing to fulfill the organization's commitments of Stewardship, Sustainability, and Service to our customers, this community and region.

The Cape Fear Public Utility Authority consistently strives to find increase our operational efficiency. Each year since our inception the Authority management and staff has been able to reduce actual operating expenditure despite increased costs and a decrease in water consumption. The Authority's 2012 operating budget was \$37.2 million, while actual 2012 departmental operating expenditures were \$32.6 million, a savings of \$5 million. The overall financial condition of the Authority improved during FY12. The main reasons were that revenue for capital projects was greater than capital project expenditures and operating expenses were less than the budget projections that offset the decline in customer water consumption, which was 1.5% less than FY11.

This year the Authority completed a Compensation and Classification Study. The study was designed to focus on internal and external equity of both the structure by which Authority employees are compensated as well as the way positions relate and compare across the organization. Based on the study results and recommendations from the consultant, the Authority revised the pay plan providing better salary equitability for employees and placed the Authority in a more competitive position relative to its market peers.

As the Authority has continued its commitment to continual improvement, Staff has continued work on several programs to forward this commitment. This year marked the development and implementation of the Level of Service benchmarking program. Within this program, staff has identified high level key performance indicators along with benchmarks to gauge how well the Authority is performing in key

areas. These indicators were chosen based on the Authority's Strategic Plan, the "Balanced Scorecard" management process, and the 10 attributes of highly effective utilities. Utilizing these management models, staff identified 8 key areas as indicators of the performance of the organization as a whole. These areas are: 1) health and safety of the public and employees, 2) environmental compliance, 3) system reliability, 4) customer, stakeholder and community perception, 5) water quality, 6) customer satisfaction, 7) financial viability and 8) employees and organizational capacity. Several indicators, in these general areas, have been identified and are currently reported in a *"Cape Fear Public Utility Authority Level of Service Report on Key Performance Indicators for Fiscal Year 2012."*

Maintaining a balance between our systems' needs and fiscal sustainability is a daily challenge the Authority faces, and even more so when it comes to maintaining existing infrastructure. Some of the existing infrastructure, particularly in the older sections of the city, is antiquated and it is in use outside of its expected useful life. Therefore, funds must be expended in order to maintain this infrastructure in a useable manner and, at times, it has to be replaced or completely rehabilitated in order to protect the environment and public health. This maintenance is costly and, in these existing areas, there are no new customers or additional revenue sources being added to pay for such maintenance. As a result, it is important to ensure that Staff is performing the right maintenance at the right time. Maintaining this balance is a part of the Authority's enterprise-wide Asset Management program that has continued to progress during this report period. A business management plan for asset management was developed in the first year of the Authority. In FY10, progress continued with the initiation of the program which included the purchase of a computerized maintenance management system (CMMS). Significant progress has been realized in continued/expanded use of the Operator 10 operations reporting software and the Maximo computerized maintenance management software (CMMS). These programs are allowing for improved tracking, planning and scheduling in these areas. The expansion of the CMMS is ongoing and will continue into next fiscal year.

The Authority has several documents that provide guidance and information to assist with planning future budgets for capital improvements, expansions, etc. Featuring the guiding principles of *Stewardship, Sustainability* and *Service*, the Strategic Plan sets organizational priorities and establishes high-level vision for the Authority. Other management tools such as the Integrated Water Resources Management Plan (IWRMP), the 2007 Wastewater Master Plan Update, the Asset Management program, Environmental Management System, and various reports and studies support it. A component of the IWRMP is capital project ranking criteria, which establishes relative priorities for cataloging and prioritizing individual projects. Through a series of interactive workshops, the Board reviewed existing and future needs. They revised and redeveloped a ten-year plan to allocate resources, balance rates with system needs to ensure we meet our customers' expectations. Each year the CIP will be reviewed and updated as emerging system and community issues arise.

As we have worked these past four years to move forward with a focus on our guiding principles and the long-term fiscal and environmental sustainability of this Authority, Staff has developed and implemented many processes and programs that further illustrate the organizations commitment to continual improvement in all areas such as the ISO 14001 Environmental Management system in the

Wastewater Collection System and Pump Station Divisions as well as the enterprise-wide asset management system. These programs and other updates and accomplishments are discussed in detail on the pages that follow. Some of the key accomplishments during this report period are:

- Through use of CMMS, greater ability to plan, manage, measure, and control workflow within the Nano Water Treatment Plant and Collection System, Pump Station, Construction and Water Quality sections of the Utility Services Division.
- The Sweeney Water Treatment Plant expansion project is complete with the latest, most innovative water treatment technologies and the capacity has been increased to 35 mgd.
- Sweeney and the Nano Water Treatment Plants maintained 100% compliance with all state and federal regulations.
- For the fifth year, Water Treatment has met the stringent effluent turbidity goal established by NCDENR's "Area Wide Optimization Program". Staff accomplished this goal while the Sweeney Water Treatment Plant was under adverse conditions resulting from the concurrent demolition of the old facilities and the construction of the new facilities.
- Wastewater Division Staff along with the Community Compliance staff pursued many innovative initiatives, including evaluating possible receipt of off-site residuals and non-hazardous liquid wastes at the NSWWTP.
- The three wastewater treatment facilities collectively achieved an overall 99.88% compliance with their National Pollutant Discharge Elimination System (NPDES) permits.
- The Utility Services Division has maintained the on-going cleaning and inspection program to monitor and maintain the sewer system, including jetting, and closed circuit television inspection of lines. Staff has cleaned 188.7 miles of sewer lines, or 22% (Permit requirement is 10%). Approximately 29 miles of the gravity main lines in the system were videoed by closed circuit television (CCTV) to evaluate its condition and to identify the need for further maintenance.
- The Authority has seen great benefits of the large diameter line cleaning. Many lines that had historically surcharged manholes during heavy rain events are no longer surcharging and some main lines that used to run full to three-quarters full are now running less than one-half full on a daily basis due to the amount of flow restricting debris removed from the lines.
- The Blue Point force main was one of the significant projects the Utility Services Division was instrumental in managing. After numerous failures/repairs, involving approximately 2500 feet of bypass, the permanent force main re-routed to a new alignment.
- The Water Quality staff has received and addressed 369 work orders and resolved 624 complaints; collected over 194 water samples; activated 35,665 feet of new water mains; and flushed over 9.5 million gallons of water to address the water quality compliance of our four

water systems. These systems collectively total more than 1,070 miles of water mains, 22 miles of raw water mains of varying sizes, types and age with approximately 65,000 connections.

- The Utility Services Locate group is now performing all Authority-required locate services and are no longer contracting any third party locates, at a savings in excess \$100,000 annually.
- Meter Services completed 4,810 work orders, setting 515 new meters, replacing 871 meters, tested 66 large meters (3" and larger), installed 2 large meters, completed 338 water service repairs, flow tested 200 meters, performed 1,858 re-reads, and completed 2,351 miscellaneous work requests.
- The Water and Sewer Construction Division has completed 1,650 work orders; replaced/repared or installed 218 hydrants; replaced or installed 162 water services; repaired 41 main breaks; repaired or replaced 12 water valves; repaired or replaced 163 sewer services; 128 sewer cleanouts and 71 manholes. In addition, the water and sewer construction division has completed 2,560 square yards of asphalt and concrete repairs.
- Utility Services performs critical, emergency repairs and within fiscal year 2012, completing 20 emergency repair projects at a total of \$2.89 million, which rehabilitated 8,454 LF of mains, 34 manholes and 67 services within the collection system.
- Community Compliance produced a 10-minute training video to assist restaurateurs in educating their staff about FOG Best Management Practices and a 30-second television commercial to educate residential audiences about FOG disposal.
- Community Compliance conducted 1,504 inspections exceeding the goal of 1,100 by 504 inspections
- Laboratory staff performed 41,415 tests in support of the Sweeney and Nano drinking water facilities. 33,375 wastewater tests were conducted during FY12 for NSWWTP, SSWWTP and Walnut Hills WWTP. 78,242 total tests were performed on 23,934 samples during FY12 without a monitoring discrepancy.
- The Inductively Coupled Plasma – Mass Spectrophotometer (ICP/MS) system purchased in 2011 will allow Lab staff to analyze inorganic metals samples now being sent to contract laboratories. Our average cost per sample is \$37.52 in FY12, as compared to \$38.71 in FY11.
- Cape Fear Public Utility Authority received 13 awards from the NC Department of Labor for Safety Achievement.
- Safety inspections were performed at each facility. These were detailed inspections look for specific non-conformance with OSHA and other standards.
- The Safety Division continues to actively promote safety and is focused on developing a mindset of "Safety First".

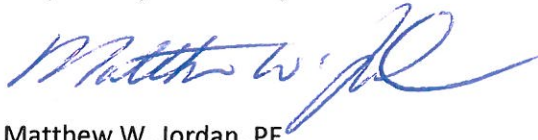
- The Emergency Management Division worked with the Finance Department (Procurement) to streamline the emergency vendor contact lists, contracts for storm support vendor services, and public assistance reimbursement upon Presidential or State disaster declarations. The division coordinated meetings and provided divisions EPA & FEMA references, and obtained historic Board Resolutions. *The Authority received \$250K+ reimbursement for operations expenses resulting from Hurricane Irene.*
- The Emergency Management Coordinator managed the Authority's Clean Water State Revolving Fund Application process in FY12, which required close coordination between multiple departments in order to meet the state's strict application requirements and deadlines. The Authority received over \$8 million in low interest loans for multiple sewer collection system upgrades and repairs: (30<sup>th</sup> Street; Greenfield Lake outfall; McCumber's Ditch; Alandale and Between the Creeks pump station projects)
- The Emergency Management Coordinator organized two tabletop training exercises (TTX) using EPA TTX Model: vandalism, and water contamination event. They invited and worked with NHC Environmental Health, NCDENR Public Water Supply Section, and City of Wilmington/New Hanover County Community Outreach Managers for the coordination of messaging.
- Human Resources organized and conducted various training classes throughout the year for more than 800 participants. Classes included: Orientation, Ethics, Basic Computer Skills, Leadership, Dealing with the Irrate Customer, Supervisory Training & Harassment, Microsoft Access, and Compensation Orientation.
- Human Resources Department completed a Compensation & Classification Study for the organization. Evergreen Solutions was retained by the Authority to conduct a study of all positions in the organization. The process of the study lasted for approximately five months. Recommendations included revisions to the pay plan based on results of the survey market data and existing internal equity relationships in order to provide incumbent level solutions to inconsistencies and put the Authority in a more competitive position relative to its market peers.
- Sweeney Water Treatment Plant expansion was substantially completed this past year and allows the plant to increase its treatment capacity from 27.5 MGD to 35 MGD, with the potential for 44 MGD after obtaining a state permit modification. As part of this expansion, the plant introduced ultraviolet (UV) disinfection as a new process, which will enhance the quality of the water treated by the plant.
- Furtado Drive Force Main was a high priority project to design, permit, bid and construct a new force main along Furtado Drive to divert sewer flow away from other critical infrastructure needing rehabilitation.

- NEI Northside Force Main design and permitting was completed for the NEI Northside Force Main. This project includes construction of 5.5 miles of force main to become part of a complete force main system that will allow a two million gallon per day flow diversion from Southside Wastewater Treatment Plant to the Northside Wastewater Treatment Plant. Construction is expected to begin in mid FY 2013.
- The Kerr Avenue Greater Loop project's design was completed. This project consists of constructing approximately seven miles of water main that will shift the source of supply from the Nanofiltration Groundwater Plant to the Sweeney Water Treatment Plant for Authority customers west of I-40. The project will also provide needed interconnections between the two systems for event management and the eventual integration into a unified distribution system with two sources. This project is currently in the permitting and easement acquisition phase, and is expected to be bid for construction mid FY 2013.
- The rehabilitation of the last section of the Burnt Mill Creek sewer outfall was bid and a construction contract was executed in FY 2012. Construction is underway. This project will replace deteriorated 48-inch gravity sewer along Burnt Mill Creek that serves most of downtown Wilmington by installing a new 48" sewer main parallel to the existing sewer that will be abandoned in place. This project will eliminate dependency on an aging sewer with a high risk and consequence of failure.
- The Authority maintained the AA2 bond rating with Moody's and AA bond rating with stable outlook with Standard & Poor's.
- Staff worked with the Board to update the rate model reflecting the Authority's mission.
- Finance was awarded the Government Finance Officers Association's Certificate of Achievement for Excellence in Finance Reporting for the third year on the Comprehensive Annual Financial Report for the fiscal year ended June 30, 2011.
- Finance staff continued the refinement and adoption of various Finance, Accounting and Purchasing policies including the Procurement Manual, Procurement Card Manual, Uniform Policy, Food Policy, Internal Controls for Equipment Policy, Post-Issuance Monitoring of Compliance for Tax Exempt Debt Policy, Inventory Management Policy, Time & Attendance Policy and Payroll Policy. A Cell Phone Policy and Fuel Card Policy are currently in draft form.
- Additional CCTV cameras have been added throughout the year to outlying facilities for the security of Authority personnel and assets.
- The Authority implemented multiple new service options for customers: Subtraction Meters, Dock Meters and 1" Fire Flow Meters.

- Customer Service, Operations and Information Technology staff completed a two-year project to scrub Authority data to ensure customers are properly billed for services being received and in preparation of potential billing system conversion, resulting in \$380,400 of back billed revenue.
- Customer Service implemented a Water Turn On Policy that protects the Authority from damage claims by requiring a responsible party to be present prior to turning on water at a location.
- The Debt Set Off Program, the recovery of delinquent debts, collected \$110,450 in FY 12.

As CEO of the Cape Fear Public Utility Authority, it is with great pleasure that I present this annual report, which exemplifies the hard work, dedication, and talent the Authority staff provides to our customers, this community and the Cape Fear Region. The guiding principles of Stewardship, Sustainability, and Service have been the foundation for continued success of the Authority and they will serve as our building blocks as we move into fiscal year 2013.

Respectfully Submitted,



Matthew W. Jordan, PE  
Chief Executive Officer

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## OPERATIONS DEPARTMENT

*Jim Flechtner, Chief Operations Officer*

The Operations Department is committed to providing exceptional services to the Authority's customers, as well as to the community as a whole. Our success is measured by complying with or exceeding regulations, understanding and responding to external factors that affect our business or are important to customers, and providing the consistent, reliable services that our community deserves. During fiscal year 2012, the Department remained motivated to deliver high-quality water, wastewater and customer services at the lowest practicable cost.

Most elements of the water treatment, water distribution, wastewater collection and wastewater treatment operations are managed through the three core divisions that comprise the Department. The Water Treatment Division collects source water from the Cape Fear River and aquifers, and treats it prior to distribution. The Utility Services Division distributes safe, treated water to the Authority's 65,500 customers, and collects and transmits wastewater for treatment. The Wastewater Treatment Division removes contaminants from sewage before discharging it to the Cape Fear River.

Many specialized functions such as distribution and collection systems maintenance, pump station and force main operations, right-of-way maintenance, inspections and cleaning, construction and repairs, water meter management, and such ensure our customers receive safe drinking water and that our activities do not harm the environment or waste resources. Moreover, the Asset Management program is instituting business practices that protect environmental resources, minimize usage, reduce costs, manage risk, extend asset life and maximize productivity.

The Department also worked closely with the Authority's Emergency Management Coordinator on several initiatives. These include updating incident action plans, updating security plans and implementing associated enhancements, working with NCWaterWARN, joining the county-wide emergency mutual aid agreement, and participating in two table top training exercises. These efforts help ensure the organization will effectively respond to emergencies or unexpected events. The Emergency Operations Center (EOC) was activated for Hurricane Irene and a force main break at Barnards Creek. The EOC increases efficiency of communications, ensures appropriate command and control of response measures, serves a focal point for coordination with external agencies, and helps staff monitor and track resources.

### **WATER TREATMENT DIVISION**

Michael Richardson, Water Resources Manager

The Water Treatment Division provides water to serve the customers of the Cape Fear Public Utility Authority from two treatment plants, six stand-alone wells, and four emergency use wells to support four separate water systems. The division consists of four sections: Administration, Surface Water, Groundwater and Maintenance. Both Administration and Maintenance support Surface and Groundwater operations.

#### *Surface Water*

With the completion of the Sweeney Water Treatment Plant expansion and upgrade project, this facility continues to succeed in the delivery of high quality drinking water. This project was initiated prior to the inception of the Authority and construction of the current facility began in the fall of 2008. Now

complete, the Sweeney Water Treatment Plant incorporates the latest, most innovative water treatment technologies, and the capacity has been increased to 35 MGD.

The new facility includes a combined administration and maintenance building, a UV treatment facility, an upgraded residuals system, ten new filters, two new clarification treatment trains, and a new finished water pump station that will allow the plant to treat and pump greater volumes of water. This facility expansion and upgrade is important to regional growth and to CFPWA's commitment to stewardship, sustainability and service. Notable accomplishments for this section during fiscal year 12 are:

- The Sweeney WTP pumped 5.1 billion gallons of drinking water or an average of 14 million gallons per day to our customers in the surface water system.
- A staff of ten certified operators is responsible for the 24 hour per day 365 days per year operation of the plant.
- Over the previous year, we have met the stringent effluent turbidity goals established by NCDENR's "Area Wide Optimization Program". To accomplish this, water systems must meet treatment goals that are higher and more difficult to reach than those currently required by law thus providing our customers with higher quality water. This was achieved for the fifth straight year and while under adverse conditions of demolition of old facilities and construction of new facilities.
- We are proud to state, throughout the year we have achieved 100% compliance with state and federal regulations.



### *Ground Water*

John Malone, Water Treatment Supervisor

The ground water section is responsible for operation of the Nano-Filtration facility and associated well fields located in Ogden. Additionally, this section operates a booster pump station in the Porter's Neck area and two smaller well systems: Flemington water system located in the U.S. 421 area and Monterey Heights water system located in the Veteran's Park area.

A staff of seven certified operators is responsible for the 24 hour per day 365 days per year treatment processes at both the Nano Plant and well systems. The staff operates and maintains the Nano-

Filtration facility, 25 raw source wells, 6 well/treatment facilities, 6 emergency use wells, a booster pump station with ground storage tank and monitors and controls the level in seven elevated water tanks. Notable accomplishments for the groundwater section are:

- The Nano Facility distributed 929.41 million gallons of water or an average of 2.54 million gallons per day.
- There have been no Notices of Violation and we have been compliant with all required testing.
- Porter's Neck Booster Pump Station was rehabilitated and placed into service.
- Monterey Heights water system distributed 120.1 million gallons of water or an average of 329,000 gallons per day. In addition, one of the wells had the pump and motor replaced and piping was upgraded at another of the wells.
- In April of 2012, the Lord's Creek well was added to the Monterey heights water system. The system was expanded from 630 to 1357 customers by transfer of customers in the southern end of New Hanover County from the surface water system. This action was completed to eliminate low water pressure problems in the southern area during the peak irrigation demands in the affected area.
- Flemington water system wells and treatment facility distributed 29.45 million gallons of water or an average of 80,464 gallons per day

## **WASTEWATER TREATMENT DIVISION**

Ken Vogt, Wastewater Treatment Superintendent

The Wastewater Treatment Division operates three wastewater treatment plants and is responsible for the efficient and effective treatment of all collected wastewater to meet and/or exceed permitted requirements and to minimize the impact of wastewater generated within the Authority's service area. Overall, the most significant accomplishment for this reporting period was that these three facilities collectively achieved an overall 99.88% compliance with their National Pollutant Discharge Elimination System (NPDES) permits.

The expanded and upgraded Northside Wastewater Treatment Plant (NSWWTP) continues to achieve exemplary performance and permit compliance. Wastewater collected at the NSWWTP receives screening, grit removal, primary clarification, activated sludge biological treatment, secondary clarification, filtration, ultraviolet disinfection, and pumping to the Cape Fear River. NSWWTP residuals receive gravity belt thickening, anaerobic digestion, and belt filter press dewatering. Walnut Hills Wastewater Treatment Plant (WHWWTP) liquid residuals are transported to the NSWWTP by tanker where, depending upon residuals quality, they can receive either belt filter press dewatering or anaerobic digestion and belt filter press dewatering. Sweeney Water Treatment Plant (SWTP) residuals are conveyed by pipeline to the NSWWTP for belt filter press dewatering. Digester gas produced by the anaerobic digestion process is used to keep the process at proper operating temperature with any gas exceeding our storage capability flared off. Emergency generators are available in the event of power irregularities and outages. Once the second effluent force main is complete, scheduled for the fourth

quarter of 2012, the facility can be permitted to increase from its current 10 MGD capacity to its design/rated 16 million gallons per day (MGD) capacity.

During FY 2011 – 2012, the NSWWTP exhibited the following performance: Average Wastewater Flow = 7.160 MGD; % BOD Removed = 99.20; % TSS Removed = 99.98; % NPDES Compliance = 100.00; Wastewater Residuals Production = 8,099 CY; Treatment Cost = \$709/MG.

The Southside Wastewater Treatment Plant (SSWWTP) continues planning and design work for the phased renovation, expansion and/or upgrade of up to a 24 MGD advanced WWTP using installed sizes and technologies comparable to the NSWWTP. The SSWWTP is currently a forty-year-old secondary treatment facility permitted for 12 MGD; wastewater received at the SSWWTP receives screening, grit removal, primary clarification, trickling filtration and activated sludge biological treatment, secondary clarification, chlorine disinfection, sodium bisulfite de-chlorination, and effluent discharge to the Cape Fear River. Residuals receive gravity belt thickening, anaerobic digestion, and belt filter press dewatering; dewatered residuals (cake) from the NSWWTP/WHWWTP, SSWWTP, and the SWTP are blended at the SSWWTP for land application on permitted sites within New Hanover, Brunswick, Columbus, Pender, and Bladen counties. Digester gas produced by the anaerobic digestion process is used to keep the process at proper operating temperature with any gas exceeding our storage capability being flared off. An emergency generator is available in the event of power irregularities and outages.

During FY 2011 – 2012, the SSWWTP exhibited the following performance: Average Wastewater Flow = 7.888 MGD; % BOD Removed = 89.47; % TSS Removed = 97.73; % NPDES Compliance = 100.00; Wastewater Residuals Production = 7,223 CY; Treatment Cost = \$561/MG.

The Walnut Hill Wastewater Treatment Plant (WHWWTP) is a forty-two year old package plant having 0.100 MGD permitted capacity. It will eventually be decommissioned and its flow will be routed to the NSWWTP. Wastewater received at the WHWWTP currently receives screening, activated sludge biological treatment, secondary clarification, filtration, chlorine disinfection, calcium thiosulfate de-chlorination, and effluent discharge to the Northeast Cape Fear River. Residuals receive aerobic digestion prior to tanker transport to the NSWWTP. An emergency generator is available in the event of power irregularities and outages.

During FY 2011 – 2012, the WHWWTP exhibited the following performance: Average Wastewater Flow = 0.050 MGD; % NPDES Compliance = 99.53; Treatment Cost = \$8,410/MG.

Of the 40 approved wastewater positions, 33 are North Carolina-certified in wastewater operations and maintenance. Staff training remains a high priority, with most of the division's staff attending training intended to become certified, satisfying certification continuing education requirements, or otherwise continuing their professional development.

Several staff-implemented projects were undertaken and completed, including the NSWWTP effluent pump station and odor control improvements, the SSWWTP digester gas mixing compressor improvements and screw pump emergency generator replacement, and the WHWWTP filter rehabilitation.

Division staff along with the Community Compliance staff pursued many innovative initiatives, including evaluating possible receipt of off-site residuals and non-hazardous liquid wastes. Additionally, staff is preparing an application to qualify NSWWTP effluent for use as a bulk reclaim water supply. Regulatory

requirements were satisfied with the preparation and submission of the Authority's annual wastewater and residuals management reports and waste disposal applications associated with NSWWTP and SSWWTP screenings and grit.

Staff continues to work with DWQ (Division of Water Quality) on total daily maximum loads (TMDLs) which affects the amount of effluent that can be discharged and the levels of treatment required by our WWTPs for current and future permitting cycles. Other regulatory programs receiving attention during this period include the NSWWTP Permanent Effluent Caustic Feed System Authorization to Construct (ATC), air permit inspections, reclaim water, and micro constituents' impacts. The division maintains a high degree of involvement with area environmental agencies such as the Lower Cape Fear River Program (LCFRP), the Cape Fear River Assembly (CFRA), and agencies representing North Carolina's water and wastewater professionals such as the North Carolina American Water Works Association – Water Environment Association (NC AWWA – WEA). Engaging and educating the public on the many benefits of wastewater treatment remains a very high priority with many rewarding, gratifying results; many tours are conducted, highly complimented by those in attendance.

Staff continues to work with the Authority's residuals management program, which is currently a contracted service. Innovative/creative residuals management programs, including a proposal for the sale of a portion of our Class B residuals, are under consideration/development.

Significant progress has been realized in continued/expanded use of the Operator 10 operations reporting software and the Maximo computerized maintenance management software (CMMS). Many staff members remain highly involved in many aspects of the Authority's asset management initiatives. An asset management business case evaluation (BCE) for the NSWWTP to participate within Progress Energy's Demand Response Automation Program has been revised and resubmitted for consideration. In addition, staff is participating in evaluating the feasibility of centralizing maintenance activities across the Authority.

WWT staff works regularly with other CFPUA staff on joint engineering/operations planning, capital improvements program projects, contract preparation and administration, integrated water resources master planning/capacity management, internal policies and procedures reviews, SSWWTP renovation/expansion/upgrade design and permitting efforts, design and permitting of the U.S. 421 WWTP, SCADA master planning/system improvements, emergency preparedness, inventory audits, and surplusing of excess inventory. Several specific projects undertaken over this period include treatment chemical bids, the classification and compensation study, the efficiency and competitiveness study, and wastewater treatment electronic lock replacement. We also worked with Environment and Safety Management staff on NPDES permit renewals for the NSWWTP, the SSWWTP, the WHWWTP, and the U.S. 421 WWTP; these permits and renewals are on a five-year cycle due in 2011.

Additionally, safety continues to be a major component of our activities on section, division and agency-wide levels. The SSWWTP received its third year gold North Carolina Department of Labor Certificate of Safety Achievement and the NSWWTP received its first year gold North Carolina Department of Labor Certificate of Safety Achievement in 2010.

## UTILITY SERVICES DIVISION

Jim Craig, Utility Services Superintendent

The Utility Services Division is responsible for the operation and maintenance of the wastewater collection and water distribution lines, pump stations, meters, valves, easements, manholes, and raw water supply lines within the Authority's water and sanitary sewer system.

*Derwood Shaw responded quickly...amazing work...the most polite public servant ...  
"Derwood's quick response saved me a lot of money."  
Joe S.*

Representatives of this group are on call 24 hours a day, 7 days a week, and 365 days a year, in all weather conditions. With their dedication and hard work throughout this past fiscal year, the amount of maintenance performed has gone up within the system, the amount of sewage spilled has been minimized, and the quality of water is maintained within Public Water Supply Section (PWSS) standards throughout the water distribution systems.

The Collections, Operations and Maintenance Division operates a sewage collection system composed of 840 miles of gravity line, 20,300 manholes, 141 pump stations, and over 104 miles of pressurized sewage force main.

- The Capacity Management Operations Maintenance (CMOM) program recommendations continue to be implemented. In addition, staff is on the cutting edge of the ongoing implementation of the Asset Management program.
- The Division has maintained the on-going cleaning and inspection program to monitor and maintain the sewer system, including jetting, and closed circuit television inspection of lines. Staff has cleaned 188.7 miles of sewer lines, or 22% (which is 12% more than the 10% the collection system permit requires). Approximately 29 miles of the gravity main lines in the system were videoed by closed circuit television (CCTV) to evaluate its condition and to identify the need for further maintenance.
- The Division has crews dedicated to maintaining outfalls, clearing right-of-ways, and inspecting lines and manholes. These crews cleared and/or inspected 96 miles of right-of-ways and/or inspection of lines, in addition to 922 manhole inspections. In addition, as required by our collection system permit, these crews inspected over 8,700 LF of aerial crossings twice over the reporting period.
- Pump station crews visit the 141 pump stations throughout the system at least weekly to complete scheduled maintenance and repair any electrical, electronic or mechanical issues that may be identified at the sites. They completed approximately 12,800 work orders.
- The Authority has approximately 114 stationary and portable generators maintained by the pump station crews.
- These crews are also responsible for maintaining the physical appearance of the sites by painting, mowing, monitoring pump station run times and pumping rates, wet well cleaning and degreasing.



CCTV Vactor

- Staff members are able to monitor the lift stations remotely using a SCADA system.
- In concert with the Engineering Department, Utility Services staff has continued the successful large diameter pipeline cleaning and inspection contract that should address long-standing issues with the largest of the collection system lines. Staff has seen great benefits of this line cleaning as they have observed lines that had historically surcharged manholes during heavy rain events that are no longer surcharging. Some main lines that used to run full to  $\frac{3}{4}$  full are now running less than  $\frac{1}{2}$  full on a daily basis due to the amount of flow restricting debris removed from the lines.
- The division has continued the root control program targeting areas with previous SSO's, main stops and service stops. This has assisted in maintaining the system and increasing the level of service provided to the customers.
- The division has significantly reduced the number of main stops in the system from 265 in fiscal year 2008-2009 to 137 in fiscal year 2009-2010 to 68 in fiscal year 2010-2011 to 11 in fiscal year 2011-2012.
- The number of service lateral stops (those on customer's individual services) has decreased over the years from 1627 in fiscal year 2008-2009 to 848 in fiscal year 2009-2010 to 692 in fiscal year 2010-2011 to 573 in fiscal year 2011-2012.
- These crews responded to 1,451 sewer service calls for the reporting period.
- The Collections System Maintenance and Pump Station section within this division, has maintained certification under the ISO 14001 Environmental Management System (EMS), including completing corrective action forms. This section is now actively utilizing Maximo to track work orders.
- Staff has completed work with the Environmental and Safety Department to identify needed procedures, included in developing and writing procedures, and in meeting the training needs of the Division that is required as part of the EMS. This continual process requires ongoing refinement.
- The division continues the easement-surveying program to ensure accessibility to Authority systems for maintenance and inspection purposes. The outfall crew has been occupied with many projects outside their direct responsibilities; including locating the Northside Wastewater Treatment Plant's effluent force main casing, and assisting with the raw water line maintenance efforts of the construction division.
- There continues to be a cohesive and cooperative effort between many of the departments and divisions within the Authority. Several strategies have been developed and implemented to respond to emergencies.
- The Blue Point force main was one of the significant projects the division was instrumental in managing. After numerous failures/repairs, involving approximately 2500 feet of bypass, the permanent force main re-routed to a new alignment.



Inside Camera  
Truck

The Construction, Water Quality and Locates division has continued to excel in the performance of their duties. Their accomplishments and performance indicators for this reporting period are as follows:

- Training of staff continues in an effort to expand the knowledge and overall management of the infrastructure. Staff continues to obtain and maintain certifications, including collection systems, distribution systems, backflow, trenching and shoring, asbestos abatement certification, DOT Advanced Work Zone Supervisor training, flagger certification, customer service techniques and NIMS.
- Safety training continues to be in the forefront of all our operational procedures, including traffic control, excavation, cutting/sawing, confined space, and lockout/tagout and general equipment safe operation, recognizing our employees are our biggest asset.
- The Water Quality staff has received and addressed 369 work orders and resolved 624 complaints, collected over 194 water samples, activated 35,665 feet of new water mains and flushed over 9.5 million gallons of water to address the water quality compliance of our four water systems. These systems collectively total to over 1,070 miles of water mains, 22 miles of raw water mains of varying sizes, types and age with approximately 65,000 connections.
- The division has been able to maintain approximately 20 automatic flushers, as well as 25 manual flush points to ensure water quality is maintained, in addition to supporting shutdowns, main line isolation, and leak investigation with the construction division.

*Mary Wilson is absolutely wonderful...thorough job ...provided necessary instructions...very pleased with her excellent skills!*

*Jennifer B.*

The Meter Services group is utilized as the first responder when a leak is reported by a customer and utilized with other divisions as requested in addition to the assigned duties of the division; setting meters, replacing meters and flow testing meters.

- During FY 12, meter services completed 4,810 work orders, setting 515 new meters, replacing 871 meters, testing 28 large meters (3" and larger), repairing 2 large meters, installing 2 large meters, completing 338 water service repairs, flow tested 200 meters, performing 1,858 re-reads, and completing 2,351 miscellaneous work requests.
- The locate services group performed 21,463 (16,136 CFPWA staff – 5,327 by contractor) locates, and continues the effort to assist the Engineering Development Services Availability and Mandatory Connection Task Force with verifications of water and sewer connections for "Project AM Fix" and served as operations construction observer.
- During this review period, the locate group is now performing all CFPWA's required locate services. We are no longer contracting any third party locates, at a savings in excess \$100,000 annually.



Crew installing a new service

- The Water and Sewer Construction Division has completed 1,650 work orders, replaced/repared or installed 218 hydrants, replaced or installed 162 water services, repaired 41 main breaks, repaired or replaced 12 water valves, repaired or replaced 163 sewer services, 128 sewer cleanouts and 71 manholes. In addition, the water and sewer construction division has completed 2560 SY asphalt and concrete repairs.

This group has risen to the task at hand while dealing with the overwhelming responsibility of maintaining our aging infrastructure by completing repairs on failed pipe, both water and sewer, and responding to deficiencies found in our sewer system.



Hydrant Replacement Project

- The Construction group, with the assistance of the right-of-way/easement maintenance section, has completed a repair a of 30" force main on pump station #10, while overcoming challenging access to the work site.
- Performed 24 spot repairs to the raw waterline pipe joints.
- Four bents repairs to enhance the integrity of the raw water supply and lessen lost raw water.
- This group has initiated and excelled in utilizing the Maximo program during this report period.

Utility Services performs critical, emergency repairs and within fiscal year 2012, we completed 20 emergency repair projects at a total of \$2.89 million, which rehabilitated 8,454 LF of mains, 34 manholes and 67 services within the collection system.



Curbside Restoration

*Sylvia (Carpenter) was extremely helpful and nice. **The crew** was exemplary ...excellent service..."you can't argue with perfection"*

*Allen M.*

*...Commend agency for outstanding, prompt service...**Daniel Sullivan** ...courteous...solve the problem that plagued us for years...I have no complaints about my utility bill because I know I am getting great service...*

*Adrian M.*

*...very impressed with **Mary Wilson**...nice and helpful... went above and beyond...very much appreciated the follow up phone call...*

*Joseph W.*

## ASSET MANAGEMENT

Steve Mongeau, Senior Program Manager

The Asset Management program continues to grow and evolve into a powerful process and tool, helping the Authority automate aspects of operations including equipment history, scheduling, preventative maintenance, corrective maintenance, work orders and reporting. With one year of certain field data collected in Maximo software, reports showing pump station and collection system activities were used to help direct the course of operations.

Although the program works in many areas of the Authority, five teams actively push new, higher-level business practices through the organization. The status of each team follows:

### 1. Level of Service/Performance Measures

A Balanced Scorecard program establishes metrics for eight key areas: 1. Health and Safety of Public and Employees, 2. Environmental Compliance, 3. System Reliability, 4. Customer, Stakeholder and Community Perception, 5. Water Quality, 6. Customer Satisfaction, 7. Financial Viability, 8. Employee and Organization Capacity.

Data is compiled monthly and reported quarterly. The first year data is being used to establish a baseline. The defined metrics are being used as a focal point of how methodologies are established in the CMMS for tracking.

### 2. CMMS (Computerized Maintenance Management System)

Monthly Reports, which compile work performed the prior month, have been created since March for the Pump Station and Collection System Maintenance Work Groups. These reports include types of work - Preventative (PM), Corrective (CM), Emergency (EM) – as well as location of work and time and percentages of each type. Accurate and quickly compiled data has greatly aided field crews with feedback of the work they are performing, as well as managers who provide oversight. These reports include pump station runtimes, as well as the totals of length of cleaning and cameraing of gravity lines.

Construction Crews started to track their work in the CMMS, Maximo, in April. This allows them to track their work spatially within a Geographic Information System (GIS). Through the use of this software, crews include the labor, material, and tools that are used to make corrections to our linear assets.

### 3. Risk

Risk Assessments were performed to evaluate the Likelihood and Consequence of the major processes and sub-processes of the Northside Waste Water Treatment Plant and the Pump Station 10 sewer shed and sub-basins. Most of this work was done through internal knowledge of staff that is most familiar with these areas, acting as subject matter experts. As this process matures, and we have more empirical data to work from, we will program these results sets into the scoring criteria models.

### 4. Maintenance Strategies

Using data from the Risk Assessments showing prioritization of work, Maintenance Task Analyses (MTA) focuses on the PM's that need to be done to equipment to increase longevity. Staff knowledge of functionality and operability of equipment increased through this process allowing better understanding and use of equipment.

MTA's on 15 pump stations will be utilized for categorizing and outlining PM's on remaining stations. The outcome of MTA's on sub processes at NSWWTP help to align doing the right work, at the right time, at the right cost.

### 5. Business Case Evaluations

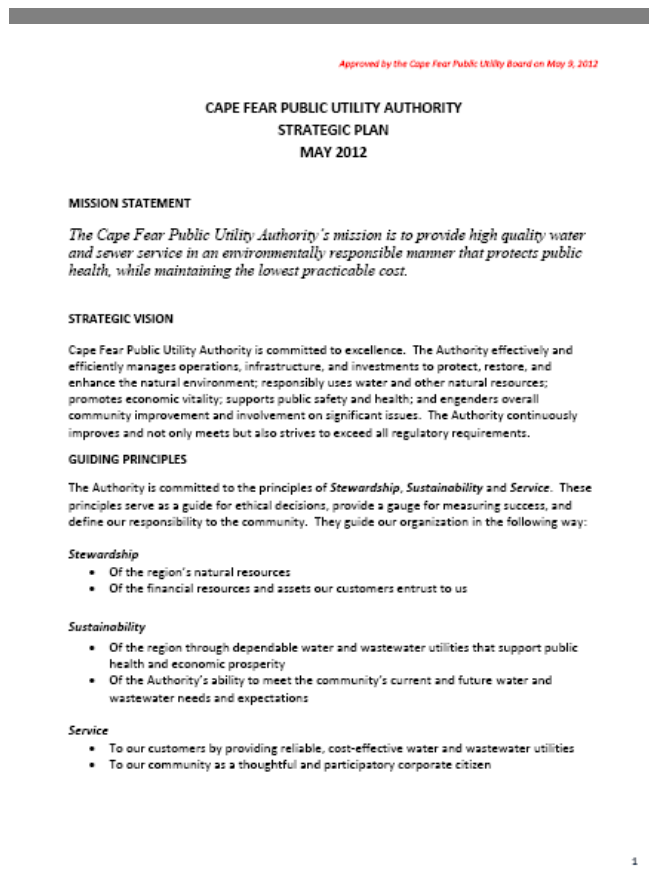
This team established a Standard Operating Procedure for determining Business Case Evaluations (BCE), looking at financial and non-financial impacts of potential paths to a project. BCE's were done on a dozen projects. From the effort of these initial BCE's, some projects were escalated in priority with close to \$6 million in projected savings. The process and knowledge transfer gained has also been used on other projects like Monthly Billing and Water Meters. This tool will be utilized as needed to help make informed decisions for a best path forward.

## STRATEGIC PLANNING

Like most progressive organizations, the Authority has adopted and follows a Strategic Plan. The plan identifies and describes the Authority's broad goals over the next years or even decades, and establishes high-level vision. Since other initiatives such as Asset Management, the Environmental Management System and CIP project ordering are linked to its priorities, it is important that the Strategic Plan remains current. The plan also provides a basis for measuring progress toward meeting long-term organizational goals.

The Authority first adopted a Strategic Plan in February 2010. The development process included Board input, stakeholder workshops and staff input. Although the resulting plan served the Authority well, such documents are reviewed and refreshed from time to time.

Beginning in October 2011, the Long Range Planning Committee conducted a series of meetings to consider and update the Strategic Plan. The Committee reviewed each element of the plan and discussed whether revisions were warranted. In addition to minor revisions, several clean up and formatting changes were made. At its May 9, 2012 meeting, the Board approved the plan as recommended by the Long Range Planning Committee. Our customers can be confident that the Authority has identified long-term trends and will position itself to responsibly meet the community's water and wastewater needs for years to come.



## ENVIRONMENTAL & SAFETY MANAGEMENT DEPARTMENT

*Beth Eckert, Director*

The Environmental and Safety Management Department is comprised of five sections: Community Compliance, Laboratory Services, Safety Management, Environmental Management, and Emergency Response. This Department serves in a support capacity to the operations Department and other areas of the Authority to help ensure that they have proper data that meets regulatory requirements to make operational decisions that can affect public health and / or the environment. Staff also works to ensure that the water and sewer systems are protected from harmful discharges that could be discharged into the sewer system or via a backflow event siphoned into the drinking water distribution system. Staff attends bi-weekly meetings to discuss issues within the department and how to best optimize staffing resources to meet the needs of the Authority, and to ensure compliance during a time when budget constraints dictate that we do more with less. Staff has shown their dedication to the Authority and the community in which we serve throughout this past year and they continue to do so every day. During this year, the Department experienced staffing shortages particularly within the laboratory, but through the dedication and commitment of the supervisors and their staff the Department fulfilled its daily commitments to the water and wastewater operations group and thus to the Authority customers. We as a Department are committed to the customers we serve, which includes our internal customers, and will work to the best of our abilities to ensure we support the Authority's mission in any way necessary. Outside of routine operations within our department, we also have staff members that are playing instrumental roles in the development of the Authority's asset management program, as this program will be enterprise wide it is vital for each area of the Authority to be involved as the program is developed and grows.

### COMMUNITY COMPLIANCE

The Community Compliance Section supports the goals and objectives of the Department and of the Authority throughout the year by operating both the Pretreatment and Cross Connection Control programs in a cost-effective manner.

Both programs have been managed according to stringent State and Federal regulatory requirements. The Pretreatment program is responsible for monitoring industrial and commercial users to ensure protection of the wastewater collection system, treatment plants, and Authority employees. The program is also responsible for educating Authority customers on the impacts of fats, oil, and grease (FOG) as well as "fibrous materials" as a means of reducing sanitary sewer overflows (SSOs). Backflow protection in the distribution system requires close oversight to ensure quality drinking water for the Authority's customers. Staff monitored and tracked monthly operational performance and budgetary accounts to ensure achievement of goals and performance measures.

Community Compliance staff oversees industrial discharges to the collection system and ensures compliance with NPDES permit requirements for our Pretreatment Program. Staff inspected and sampled all significant industrial users (SIUs) to determine compliance with their discharge permits. Staff reviewed industrial monitoring data and issued notices of violation and/or civil penalties for failure to meet requirements of pretreatment regulations and the Authority's Sewer Use Ordinance (SUO).



*Compliance Officer Sampling  
industrial user discharge*

Compliance staff completed a five-year cycle of wastewater treatment plant monitoring culminating in the submission of a headworks analysis to the NC Division of Water Quality. The data collected was used to determine removal efficiencies of the wastewater treatment processes and inhibition levels required to protect the microorganisms that break down organic constituents in the wastewater. The headworks model provides the technical basis used to allocate available pollutant loadings to significant industrial users.

Community Compliance staff continue to work closely with collection system personnel by responding to SSOs and sewer blockages that are related to debris, FOG or fibrous materials. Staff conducted inspections in affected areas and distributed literature for educational purposes on what should and should not be discharged to our sewer system. Over 700 letters or door hangers with “Fat Free Sewer” brochures and/or “Don’t Flush” flyers were mailed or delivered to customers. Additionally, more than 80 Fat Trappers were given to customers at events such as Earth Day, Lake Fest and Touch-a-Truck to encourage residents to “trap the fat.”



Compliance Officer  
inspecting an interceptor

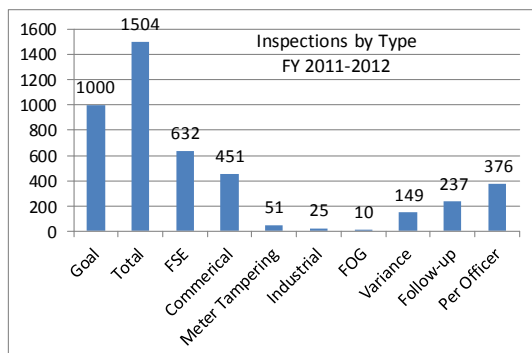
The FOG (fats, oils, and grease) program is another responsibility of the Community Compliance group. Staff developed a FOG policy that includes permitting food service establishments. The policy will improve oversight of food service establishments and increase awareness among restaurateurs about FOG control requirements and best management practices. During a stakeholder meeting, local restaurateurs expressed concern about employee training requirements and requested a training video. Compliance staff produced a ten minute training video entitled “Fats, Oils, and Grease Best Management Practices” that food services establishments can show their employees to satisfy training requirements.

Food Service Establishments (FSEs) were inspected and monitored to verify compliance with the Sewer Use Ordinance, grease interceptor design and pumping requirements. During this review period, 632 inspections were performed at FSEs to verify proper functioning and pumping frequency of grease interceptors. The target compliance rate for grease interceptor pumping is 90%. FSEs averaged 93.8% compliance for FY 11-12.

*...commend **Brock Ridout**  
for a job well  
done...professional...  
cares...got back to me  
quickly with answers to my  
questions...polite...*

*Steve B.*

Compliance staff along with support from Engineering Staff developed new grease interceptor design criteria that allows more flexibility to new restaurateurs in grease interceptor selection and ensures a technical basis for interceptor size. Staff also worked with New Hanover County Building Officials, implementing an authorization-to-construct (ATC) process that improved the plan-review and inspection process of commercial construction projects requiring grease interceptors.



In addition to grease interceptor inspections, other types of inspections were made at establishments that have potential to affect the collection or distribution systems such as automotive repair shops, medical facilities, and pesticide applicators. The number and type of inspections were tracked on a monthly basis and graphed to visually illustrate progress made by the compliance staff. Compliance Officers broadened the scope of inspections by auditing compliance with both

backflow prevention and waste disposal requirements during facility inspections improving efficiency and customer service.

The work section strived throughout the year to meet performance goals. Our Compliance Officers conducted 1,504 inspections exceeding their goal of 1,000 inspections.

Backflow prevention assemblies are installed on any water service that may be prone to contaminating water in the distribution system during a backflow event. These devices must be tested on an annual basis to ensure their proper operation. The backflow prevention program data management needs have exceeded the capability of the MS Access database currently used to track backflow assemblies. The target compliance rate for annual testing of backflow assemblies in our water distribution system is 75%. The average compliance rate was 65%.



Compliance Officer Reviewing Backflow Prevention Records

Staff began the process of transferring data to the Maximo Computerized Maintenance Management System. Each record is being examined individually to assure data quality and minimize errors. The process is expected to take several months. With a more reliable data management system, staff will be able to improve data quality, ensure test-due notices are mailed to customers on a consistent schedule, and follow-up with non-compliance in a timely manner. Use of MAXIMO will help improve compliance rates and ensure long-term corporate support for backflow prevention data management.

Community Compliance staff assisted the North Carolina Rural Water Association (NCRWA) with the instruction of backflow tester certification and re-certification courses for local plumbers. The class consisted of classroom lecture and hands-on testing of backflow prevention assemblies. In order to obtain certification for testing backflow assemblies served by the Cape Fear Public Utility Authority water systems, students must pass a written exam and demonstrate proficiency testing all three backflow prevention devices. Other municipalities throughout the State of North Carolina accept this certification.



Compliance Officer at Earth Day

Community Compliance staff continued with educational outreach by participating in community events such as Earth Day and Greenfield Lake Fest, by providing educational information at area schools and community group meetings. Additionally, staff produced a 30-second television commercial to begin airing on GTV and NHCTV.

The following are some of the accomplishments for FY12 Budget Year by the Community Compliance Section:

- Produced a 10-minute training video to assist restaurateurs in educating their staff about FOG Best Management Practices
- Produced a 30-second television commercial to educate residential audiences about FOG disposal

- Developed a FOG control policy and initiated permitting of food service establishments to enhance FOG control
- Revised the grease interceptor design criteria to allow more flexibility to new restaurateurs in grease interceptor selection and to provide a technical basis for interceptor design
- Implemented an authorization to construct (ATC) process that facilitates expeditious plan-reviews and inspections of commercial construction projects by County staff. The ATC ensures grease interceptor and other separator designs are approved by the Cape Fear Public Utility Authority without delaying the New Hanover County review process
- Conducted 1,504 inspections exceeding the goal of 1,000 by 504 inspections
- Achieved a 94% compliance rate with grease interceptor pumping requirements

*...I received your bill insert...fat trappers offered for free. I would love to have one...hate having to find something...to dispose of my grease properly..."Thanks so much for your time and thanks for staying green!"*

*Rebecca L.*

## LABORATORY



*The Environmental & Safety Management Facility*

The Environmental & Safety Management Department Laboratory continued its support of Authority programs in the 2011/2012 operational year. The laboratory program operates out of the Environmental & Safety Management facility in Wilmington. The following report provides a brief summary of our activities during the FY12 operating period.

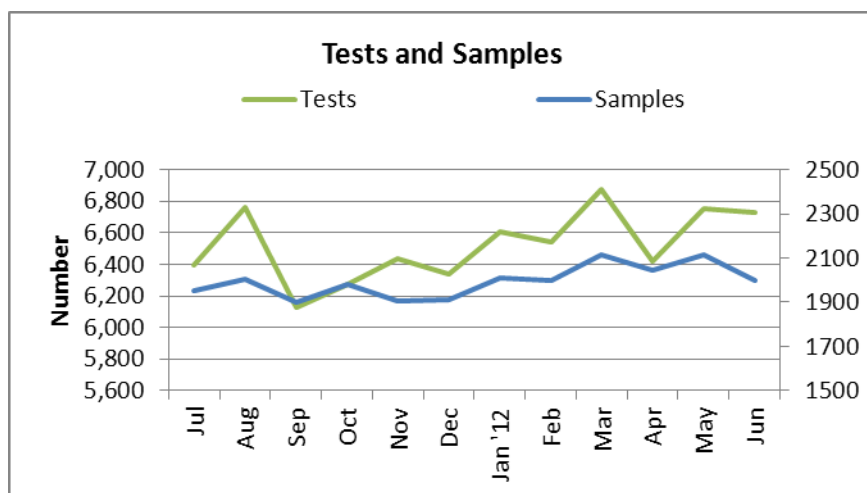


Figure 1: Tests & Samples per Month FY12

Compliance monitoring was conducted for the Authority's three wastewater treatment plants, two drinking water plants, and four water distribution systems according to Federal & State mandated schedules. Operational monitoring was performed as directed by facility Operators in Charge (ORCs). Monthly operational reports have been completed in a timely manner for the Sweeney Water Treatment plant. During FY12, our laboratory staff performed 41,415 tests in support of the two drinking water facilities. Monitoring reports have been promptly prepared for the five NPDES permittees within the Authority. 33,375 wastewater tests were conducted during FY12 for NSWWTP, SSWWTP and Walnut Hills WWTP. 78,242 total tests were performed on 23,934 samples during FY12 without a monitoring discrepancy. All toxicity and priority pollutant monitoring was conducted in accordance with NPDES permits. Annual testing for endocrine disrupting compounds was conducted as requested by facility ORCs. Figure 1 shows monthly sample and test workload achieved by the ESMD Laboratory staff.



The laboratory staff has monitored and tracked monthly operational performance measures, and has closely tracked budgetary accounts to ensure efficiency. Cross training of staff continues. The laboratory management group is striving to maintain an experienced and well-trained staff. Our laboratory has endeavored to support the Authority's succession planning vision wherever possible. Annual updates of the Chemical Hygiene Plan and Laboratory Chemical Spill Plan were completed. Operational and safety procedures were updated as needed.

Subcontracted testing is a large part of the laboratory's budgetary requirements. The ESMD laboratory endeavors to perform as much of the required testing as possible within our operational program. A new Inductively Coupled Plasma – Mass Spectrophotometer (ICP/MS) system was purchased in late 2011 that can be used to analyze inorganic metals samples. Following modifications to the electrical system in the laboratory, staff was able to begin putting the instrument online. This includes a lengthy qualification process of method development for the particular analyses and verification of the accuracy of the instrument. Staff received training on the operation and maintenance of the instrument both in house and at the manufacturer's facility. Staff is currently analyzing aluminum, iron, and manganese for operational samples on the water system. Staff members are working towards certification of these and wastewater metals such that over time more of this work can be brought in house. This new instrument will allow us to analyze inorganic metals samples now being sent to contract laboratories.



Our laboratory is required to complete proficiency testing (PT) programs for water and wastewater certification according to EPA and State laboratory regulations. We successfully completed four drinking water and wastewater PT studies during FY12. In addition, we have gained a new analytical certification for wastewater coliform testing using a quantitative chromogenic method.

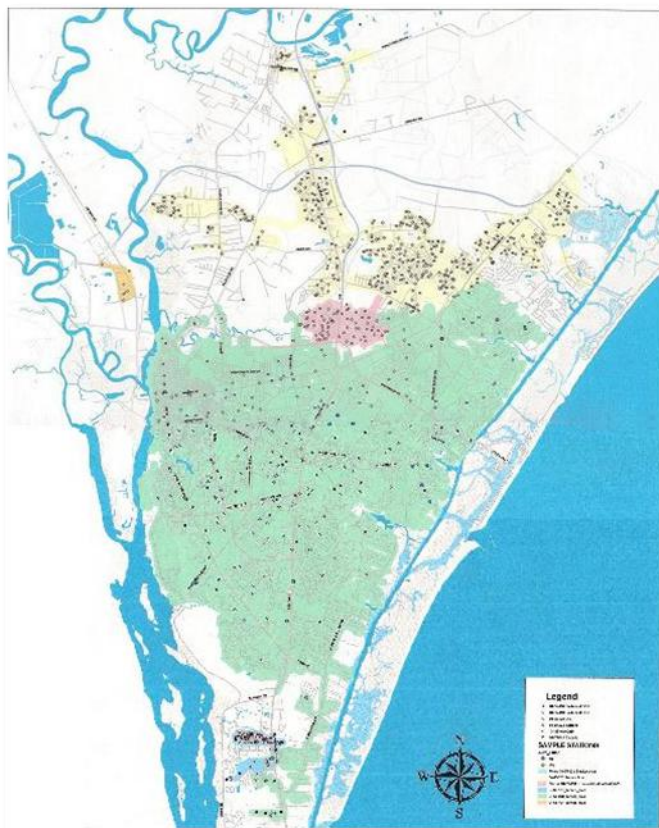


Figure 2: The 4 CFPUA Water Distribution Systems

During FY12 a total of 23,584 tests were performed on drinking water samples collected from the Authority's four water distribution systems servicing the majority of New Hanover County. All EPA and North Carolina Department of Environment and Natural Resources (NCDENR) Public Water Supply Section reporting requirements relating to water quality testing were completed. Lead and copper monitoring for the 04-65-232 (New Hanover County) system was completed, and this testing was initiated in the 04-65-191 system. This program requires site visits and one-on-one contact with customers, sampling during off hours and an appreciable amount of record keeping. Sixty-six sites were monitored during the year. See Figure 3 at left for a map of the Authority's water distribution systems.

The laboratory staff provides technical and investigative support to Operations staff in their effort to meet the expectations of State regulators regarding compliance with Collection System permits. The ESM laboratory conducted 450 in-stream and other environmental monitoring tests in the FY 12 operational period. We have worked with the Division of Water Quality, regional offices and the Army Corps of Engineers.

Our laboratory goal is for continued growth and improvement each year. We value the working relationship we have developed with our Authority coworkers, and we have maintained a good rapport with local regulatory agency personnel.



Example of monthly compliance chart of NPDES parameters at the wastewater plants. The Authority maintained 99.88% compliance during FY'12.

*During a recent audit of the Authority's laboratory the certification auditor stated about our laboratory staff "...impressed with bench sheets;" "...checklists are the best I've ever seen;" "...ya'll are all over it"* Todd Crawford  
NCDWQ – GW/WW Certification.

## ENVIRONMENTAL MANAGEMENT

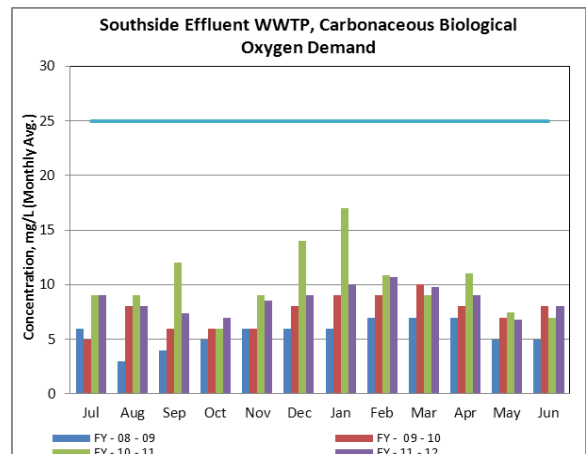


Sherri Anderson (l) and Elizabeth Severt (r) conduct an EMS audit with Louis Smith, Collections Maintenance Technician.

The Environmental Management Program continues to work toward changing the culture within the Authority. The Environmental Management System (EMS) has begun to take a firm hold, not only within its certified scope, but the program is beginning branch into all areas of the Authority. The focus of the EMS program is to move the organization into a direction of highlighting the positive impacts the Authority has on the environment through its everyday activities. During the fiscal year, the Utility Services' Collections System Preventive Maintenance, Pump Station Operations and Maintenance,

### Outfall Inspections and

Maintenance group completed two successful Environmental Management System external surveillance audits. These audits are designed to make sure the system that has been implemented within the group is focused on continual improvement of the Authority's activities, products and services and growing towards becoming a mature system of being proactive in its interactions within the environment.





EMS Auditors observing Right of Way / Heavy Equipment personnel replace an air relief valve along the raw water line

*During a recent third party audit of the ISO 14001 program the auditor stated  
“...the audit program is the best of all of the programs he audits”*

*Dale Greer  
NSF – ISO 14001 EMS Auditor*

The Collection Systems group also celebrated the culmination of two objectives and targets during the year with the increase of the data storage capacity on the central server to allow existing and new Closed Circuit television (CCTV) data to be stored and accessed by all personnel and the completion of the installation of 23 new odor corrosion control facilities within the Collection System. The group continues to have meetings to review Corrective and Preventative Actions and track key indicators of environmental performance. Information gathered from these meetings is communicated to Top Management who in turn offers input into the EMS to assure the program is suitable, adequate and effective in managing and minimizing its impact in the environment. Corrective and Preventative Action meetings also continue within other areas of the Authority.

The EMS program also continued to develop its Internal Auditing team. This team is comprised of Authority employees from different departments and has been the driving force in the Collection Systems group maintaining its certification. The group, led by lead auditor Elizabeth Severt, conducted monthly EMS audits and semiannual compliance audits within the certified section of the EMS. This team will be counted on in the future as the program brings the ESMD Laboratory and Community compliance in 2012, focuses on bringing the Engineering group under the scope, and begins to conduct compliance audits throughout the Authority. Aspect and Impact analysis and EMS procedural training was performed with the Laboratory and Community Compliance groups. The Aspect and Impact analysis process was also discussed with the Engineering department.

The EMS program continued to be deeply involved with different workgroups focusing on multiple projects throughout the year. The Authority continues to take a more aggressive preventative maintenance approach to address aging sewer lines within its system, resulting in the Environmental Management Section being called upon for assistance. The Environmental Management Program worked closely with North Carolina Division of Coastal Management, United States Army Corps of Engineers (USACE), and Department of Water Quality (DWQ) to



Channel dredging and bank restoration at King's Bluff Pump Station

ensure we met the environmental requirements for projects in the planning and implementation phases. The EMS program also worked hand in hand with operations and engineering on multiple projects to ensure all regulatory commitments were identified and met. Some of these projects are the Marsh Oaks sewer line and the creek bank restoration and stabilizing of the sewer line and manhole on Rogersville Road, dredging the raw water pump station intake and restabilizing the bank at the King's Bluff Pump Station, sewer line repairs at St. James Village and Barnard's Creek and the Hanover Street sewer line replacement.

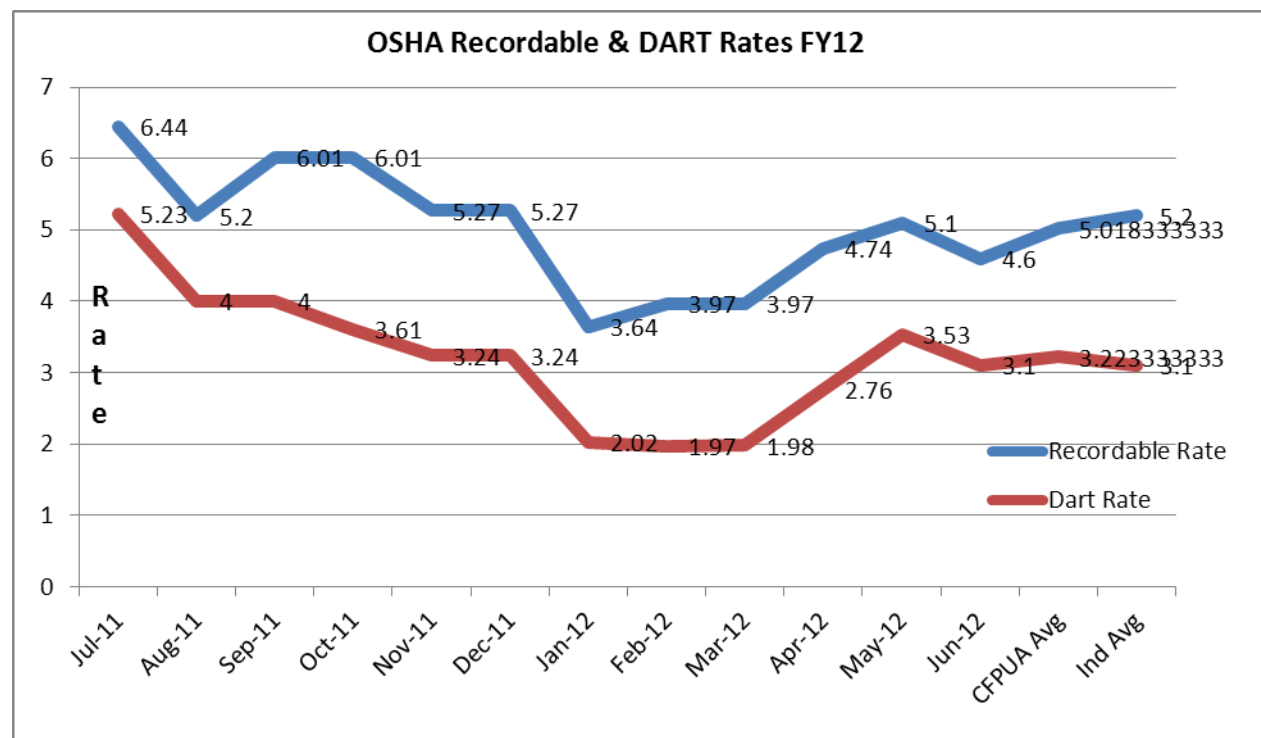
The Environmental Program also played a role assisting the Authority in achieving compliance in other areas of operations. Each month, National Pollutant Discharge Elimination System (NPDES) compliance

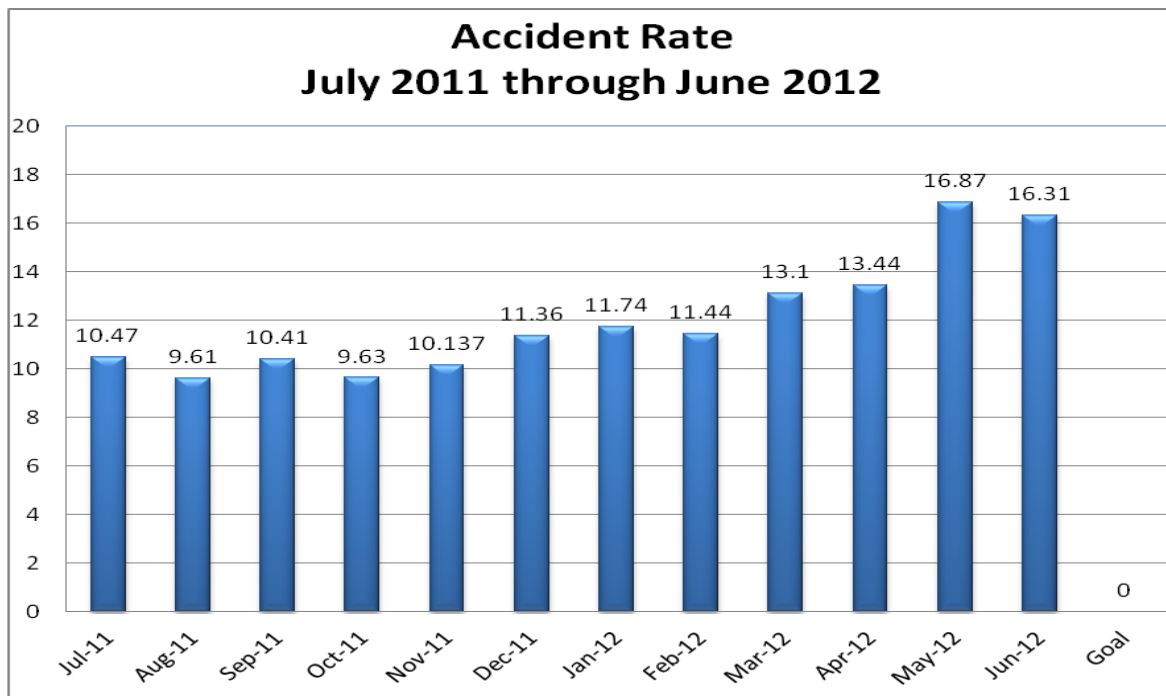
and Water Quality compliance is tracked and graphed for the Authority Board. Over 30 parameters are monitored along with compliance to our Collections Systems Permit involving reduction of sanitary sewer overflows. All three wastewater plants achieved 99.88 percent compliance with their NPDES permit requirements during the year and water quality met all compliance requirements. All of these achievements are related to the Authority's changing culture of putting environmental stewardship at the front of all of our normal activities.

Seeking to always improve and strive for environmental stewardship, the EMS will continue to move the Authority forward towards moving beyond simply meeting our commitments of continual improvement, prevention of pollution, and compliance to all legal requirements to which our organization subscribes but performing at a level consistent with the Environmental Stewardship this organization holds as one of its three guiding principles.

## SAFETY MANAGEMENT

FY 12 ended with the Authority having 42 total accidents consisting of 12 OSHA recordables and 8 Days Away Restricted Transfer (DART) cases. The Authority had an increase in rates over FY11 as both overall accidents increased by 18 and the exposure hours increased by a little over 16,600 hours for a total of 514,780.4 hours. The increase seen in FY12 continued through May 2012, but started to decline in June 2012.





The Cape Fear Public Utility Authority completed FY12 with an overall accident rate of 16.31, OSHA recordable rate of 5.01 and a DART Rate of 3.1. The Safety Division began looking at the types of accidents and accident rates to get a real perspective of what accidents were preventable. With the rate at 16.31, staff looked at what was not within our control. When these events were removed from the calculations, the rate dropped to 12. When staff removed those accidents that were non-preventable, the rate dropped to 8.55. Evaluating the accidents in this manner allows us to focus efforts and training where we as an organization can have an impact and best protect our employees.

The Safety Division of the Environmental & Safety Department has continued to monitor the Safety Policies and Procedures manual. Since the ISO 14001 process began, the manual began an update process to include updating the contents of the policies and converting them to International Organization for Standardization (ISO) format. Updates to some of the policies and procedures have helped departments with enforcement. The Safety and Health Policies and Procedures manual continues to be effective in guiding staff in safe work practices. The Safety Award policy is being reviewed for compliance with OSHA's "incentive/disincentive" memo. As a result, it is also being reviewed for changes to award participation in the safety program versus not having a preventable incident. This change should enhance the participation from all employees into the safety program. The Electrical Safety policy will be reviewed and changed as necessary as we work through implementation of NFPA 70E (National Fire Protection Association) for our electrical staff. Implementation will include work procedures, training, purchasing electrical personal protective equipment (ppe), etc.

The Authority again received awards from the NC Department of Labor at the annual awards dinner in June. This year the safety department submitted 13 areas that qualified for awards out of 14 and all were accepted and awarded by the NC Commissioner of Labor Cherie Berry at the Wilmington Chamber of Commerce dinner.

Training continues to be conducted in each area of the Authority. The new employee 'safety' orientation continues to be updated to reflect some of these training issues. Accident Investigation & Claims Reporting, Mobile Crane Operator, Rigging, Signaler, 1<sup>st</sup> Aid/CPR, K-9 Safety, Defensive Driving,

Heat Stress, Powered Industrial Truck, NFPA 70E, Work Zone Flagger Certification, Safety Coaching and the Wilmington Regional Safety School training was completed as required by selected Authority staff. As additional training requirements and needs are identified, staff will begin the process of acquiring the training needed.

The Authority Safety Committee continues to meet on a monthly basis. The committee has reviewed and discussed many accidents to determine preventability and made recommendations for corrective actions. A lot of effort has been put into streamlining the accident review process by the committee to ensure the committee is focused on the incident, its cause and prevention not the employee. The safety department has worked closely with the Human Resources Department on the accountability policy.

The safety department is conducting formal walk through inspections of the various work sites. These inspections are very detailed in looking for specific hazards and non-compliance with OSHA and other standards. A formal write up was put together and sent to the departments for corrective actions to be taken. The safety department to ensure that corrective actions have been taken for any non-conformity conducts a follow-up inspection. The inspections will continue through all the Authority facilities and random field worksites.

The safety department continues to be a resource for the Authority staff in dealing with all types of issues regarding safety and health. It continues to promote safety and is focused on developing a mindset of "Safety First".

The following are some of the accomplishments for the FY12 Budget Year by the Safety Management Section:

- Worked with HR and MEDAC to reduce OSHA recordables
- Have worked with new insurance company during the transition from Travelers to Glatfelter
- Increased the role of "Risk Manager" duties for claims handling and processing for internal claims
- Attended 9 various safety training events
- Completed Lockout/Tagout and Confined Space program audits of the departments
- Completed an audit of training requirements and content for the departments
- Completed 7 facility audits and inspections which included new Alum & Caustic processes at the Sweeney WTP
- Completed 6 work zone/construction site inspections
- Continued a review and update of the Safety & Health Policies and Procedures and began converting them to ISO 14001 format; completed 18 Chapters
- Continued to lead the monthly safety and accident review committee meetings and working to minimize the potential for future accidents through the identification of root cause analysis process to prevent re-occurrence
- Continued to perform routine safety inspections in all areas of the Authority

## EMERGENCY MANAGEMENT

The Cape Fear Public Utility Authority abides by state and federal emergency management regulations for all-hazard mitigations, preparedness, response, and recovery. The Emergency Management staff develops, maintains, and trains Authority employees on the Emergency Response Plan and its 23 associated incident action plans. Staff continues to refine emergency preparedness by implementing standardized response measures recommended by federal and state agencies, consistent with water sector industry best practices.

The Authority continues to be a member of NCWaterWARN, the North Carolina Mutual Aid and Assistance program that lends assistance to water/wastewater utilities in time of need. When called upon, the Coordinator can deploy to the North Carolina Emergency Operations Center (EOC) in Raleigh to provide support to the Infrastructure Services Desk that assists response and recovery coordination between utilities.

The Authority Emergency Management staff attends New Hanover County Local Emergency Planning Committee (LEPC) meetings. The LEPC plans for and coordinates hazardous material response between private industry and public responders in New Hanover County. Staff has researched and provided training materials and support to the Committee. The Authority continues to actively participate in drills and exercises with our state, county, and city emergency response partners.

*".....Darryl Aspey (Department of Homeland Security - Protective Service Advisor for North Carolina) speaks very highly of your written plans (security, emergency, business continuity). Would you (Eric Hatcher) be willing to share?" Patti Lamb  
Charlotte Mecklenburg Utility  
Department  
Preparedness Manager*

The Emergency Management Program is dynamic and CFPUA continues to refine the Emergency Response and Incident Action Plans for timeliness, organization, and efficiency. The Cape Fear Public Utility Authority's emergency management program received praise from the Department of Homeland Security's Infrastructure Protective Service Advisor and our program was recommended as a model to other utilities in North Carolina.

The following are the Emergency Response Program's accomplishments during the past year:

### **Emergency Response Program:**

- Identified need for local disaster mutual aid agreement (MAA). Scheduled a meeting with NHC & COW and determined an existing MAA could be amended adding CFPUA as a party. Worked with Operations Department and legal counsel to shepherd the Authority through the process. The Cape Fear Public Utility Authority was successfully added to the MAA in time for 2012 hurricane season.
- Assisted Engineering Department with response contingency planning for Sweeney Water Treatment Plant shutdowns due to construction, River Road force main repair, and collection systems air release valve inspections. Using the NIMS(National Incident Management System)/ICS (Incident Command System) models for event planning ensured better cross-department coordination and awareness of critical benchmarks, external agency notification, improved communication, and contingency planning for worst case scenarios. Advance discussions allowed gaps to be pre-identified and addressed before hand.

- Coordinated a Water Team working group (consisting of Drinking Water Superintendent, Community Compliance, Public Information Group) to update and revise the Cape Fear Public Utility Authority Water Shortage Management Plan.
- Participated in multiple exercise and training events (City of Wilmington Energy Assurance, New Hanover County Hurricane Exercise, Federal Emergency Management Agency (FEMA) required annual Brunswick Nuclear Power Plant Incident, and monthly North Carolina Emergency Management (NCEM) web-based disaster exercises.
- Organized two tabletop training exercises (TTX) using EPA TTX Model: vandalism, and water contamination event. Invited and worked with NHC Environmental Health, NCDENR Public Water Supply Section, and City of Wilmington/New Hanover County Community Outreach Managers for coordination of message.
- Conducted new employee orientation training sessions to incoming personnel covering the Authority's Emergency Response Plan and organization, NIMS/ICS training requirements, essential employee policy, and supported learning with real-world examples of disaster incidents throughout the utility industry.
- Worked with Finance Department (Procurement) to streamline emergency vendor contact lists, contracts for storm support vendor services, and public assistance reimbursement upon Presidential or State disaster declarations. Coordinated meetings and provided divisions EPA & FEMA references, obtained historic Board Resolutions, etc., – *The Authority received \$250K+ reimbursement for operations expenses resulting from Hurricane IRENE.*
- Continued monitoring and engaging supervisors to maintain continuity of employee staffing on the Essential Employee Team Roster schedule for extended operations -- also due to a large turnover in key staff members.
- Reviewed feasibility of using New Hanover County Reverse 911 for public notification for public health reasons. NCDENR Wilmington Regional Office Public Water Supply Section has given approval to use such systems for public notification in the event of widespread contamination events instead of door-to-door notifications.
- Attended weekly US Army Corps of Engineers water management status teleconferences for drought management forecast & planning purposes. Monitor Cape Fear River Lock & Dam #1 for water source levels affecting raw water supply.
- Continuously informed staff of industry related emergency response disasters, trends, and mitigation efforts. Identified multiple opportunities for training through no cost webcasts, online training, and local classroom settings (Water information Sharing Analysis Center (WaterISAC) webcasts, FEMA Emergency Management Institute, Cape Fear Community College courses, and NHC Emergency Management Department training sessions).
- Identified the Authority's Emergency Operations Center (EOC) (standby space) need requirements. Worked with Operations & Information Technology to design layout (dry erase boards, IT computer configuration schematics, multi-use monitor). EOC was activated for Hurricane IRENE and Barnard's Creek SSO. Formalized Emergency Response Plan section regarding EOC activation authority and trigger events that require EOC activation. Loaded related software on computer system supporting EOC (HURREVAC, NHC & State Preparedness and Resource Tracking Application (SPARTA), WebEOC, etc.).

- Worked with the Authority's GIS Specialist to commission several emergency infrastructure maps for display in the Emergency Operations Center (distribution system interconnects, groundwater well sites, collection systems, and pump station locations).
- The Coordinator completed twelve independent study NIMS/ICS courses through the FEMA Emergency Management Institute: Fundamentals of Emergency Management; Emergency Management Preparedness; Forms used for the Development of Incident Action Plans; Deployment Basics; Emergency Planning for Public Works; Disaster Awareness for Public Works; Public Works and Disaster Recovery; NIMS Intrastate Mutual Aid; Guide to Points of Distribution; Emergency Operations Management and Operations; Continuity of Operations (COOP) Awareness & COOP Manager.
- Conducted site inspections of well sites, water storage tanks, and pump stations. This multi-month assessment identified areas for repair, security upgrades, and CIP planning purposes.
- Drafting the Cape Fear Public Utility Authority Business Continuity Plan (BCP) to identify gaps in operational and strategic planning with respect to business continuity; Spill Prevention Containment & Countermeasures Plans (SPCC) were identified as needed for certain facilities, and old legacy government plans needed revision.
- The Coordinator also managed the Authority's Clean Water State Revolving Fund Application process in 2011. This project required close coordination between multiple departments in order to meet the state's strict application requirements and deadlines. The Authority received over 8 million dollars in low interest loans for multiple sewer collection system upgrades and repairs: (30<sup>th</sup> Street; Greenfield Lake outfall; McCumber's Ditch; Alandale and Between the Creeks pump station projects)
- Provided support to joint Center for Disease Control & American Water Works Association Emergency Water Planning Guide to all area hospitals and healthcare facilities as identified on the CFPUA Critical Customer list. Sent a communique along with the report informing these customers of training sources, planning for, and methods to develop emergency water supply plans. This initiative increases local community public health readiness.
- Submitted an article for the NC Emergency Management Division Infrastructure Newsletter that was published.
- Coordinator coordinated the event where the Authority served as host for a LEPC meeting this year and provided a Nano Plant facility tour for the committee.

## HUMAN RESOURCES DEPARTMENT

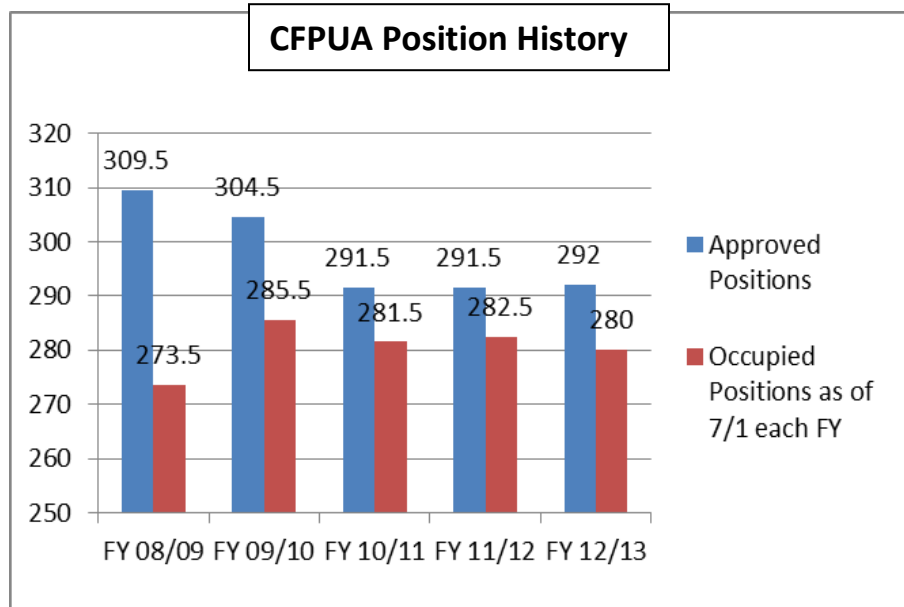
*Tom Morgan, Director*

The Human Resources Department of the Cape Fear Public Utility Authority (CFPUA) is committed to being an essential and effective partner in developing and executing the organizational strategy and key initiatives of CFPUA.

### Workforce Composition

The workforce includes employees representing technical, administrative, trade, safety and managerial roles with very diverse backgrounds. As a unit, Human Resources staff works with each department to strive to hire the best, qualified candidates in all positions.

In FY12 282.5 of the 291.5 approved positions were occupied.



During the fiscal year, 60 positions were posted and over 1,265 applications received, 51 positions were filled, 22 of those were filled by internal transfers or promotions. There were 32 separations during the period: 15 voluntary resignations, 6 involuntary separations, 10 retirements and 1 deceased.

### Employee Benefit Programs



Benefits Open Enrollment Meeting at the Utility Service Facility on 23<sup>rd</sup> Street

Annual benefit enrollment meetings were held in May for the 2012-13 benefit year. These meetings offered employees the opportunity to evaluate and make changes in their benefit package for the upcoming benefit year. With lower than expected health care claims expenditures, we were happy to report no increases in health care premium cost for the new year. The Dental insurance plan will return to Ameritas in 2012-13 for a significant cost savings. The Vision and Critical Illness plans will remain with Guardian. All other benefits continued into the new plan year.

In addition to the annual enrollment meetings, representatives from Prudential and ICMA-RC were invited to hold separate meetings to update employees on the 401k, Roth and 457 supplemental retirement plans.

Celebrations continued as employees were recognized for reaching milestones of combined years of service with the City of Wilmington or New Hanover County and the Authority. A ceremony was held on November 4, at the Madeline Suite on UNCW's campus. Authority management and board members attended to honor employees that completed increments of five years of service during the 2010-11 fiscal year. These thirty-five honorees were served a delicious buffet breakfast. Following words of congratulations and appreciation by Matt Jordan, employees were then individually recognized and presented a certificate and gift card.

This was a big year in retirement. Ten employees retired during 2011-2012. Combined, these employees had 193 years of service to the Authority and the City of Wilmington or New Hanover County. Employees, former co-workers and family attended receptions to extend congratulations and well wishes to the retirees.

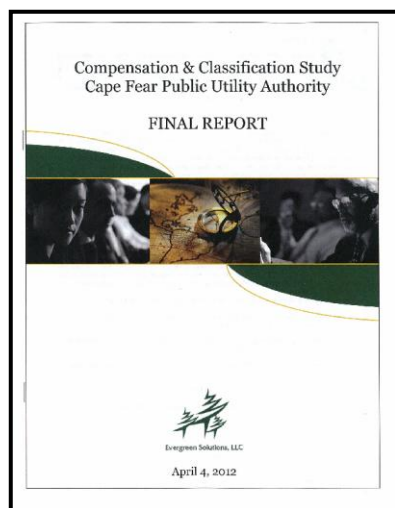
The 2011 United Way Campaign was held in October. Through a variety of events and activities, employees raised over \$10,500.00 and increased campaign contributions by 13.54% over the previous year.



Retirement Celebration For  
Alicia Simmons (L) and Taylor Tatum (R)

The Authority continued the arrangement to utilize a local urgent care center for its employee clinic for the 2011-12 fiscal year. With 395 visits, employees and dependents covered on the group medical plan were able to receive routine care at any of three convenient locations at no cost to them. In a separate arrangement, 148 employees took advantage of the on-site flu shot clinic. The utilization of the local urgent care clinic provides basic wellness care for Authority employees, while reducing their time away from work due to illnesses.

The Wellness Committee continued efforts to promote good health through education and activities. To learn more about employee health awareness, a survey was distributed to all employees. The compiled information led to the organization of a monthly bowling night, weekly Zumba classes and focused areas on various health issues. Articles for the monthly Employee Newsletter continue to provide helpful information for employee health.



### **Compensation**

A major project of the Human Resources Department in fiscal year 2011-12 was to complete a Compensation & Classification Study for the organization. The last study was completed prior to the consolidation of the Authority in 2008. In November 2011, Evergreen Solutions was retained by the Authority to conduct a study of all positions in the organization. The study is designed to focus on internal and external equity of both the structure by which employees are compensated as well as the way positions relate and compare across the organization. The process of the study lasted for approximately five months. Recommendations included revisions to the pay plan based on results of the survey market data and existing internal equity relationships in order to provide incumbent level solutions to inconsistencies and put the

Authority in a more competitive position relative to its market peers. The new pay plan for the Authority consists of 27 pay grades and the range spread was increased from 50% to 53%. There was no change to the range progression.

Recommendations were also made to classifications. There were variables observed in many of the duties performed by individual incumbents in certain classifications. Updates were recommended to ensure that the job classifications accurately reflected the tasks and functions carried out by the employees.

It was recommended by Evergreen that in order for the Authority to remain competitive in the market, between conducting compensation and classification studies, the Authority must continue adjusting its pay plan on an annual basis by contacting peer groups and determine their approach to pay plan adjustment and consider that in addition to the consumer price index (CPI).

### **Training and Development**

Human Resources provides a variety of Training and Development opportunities aimed at building team relationships in a way to deliver services to the community and meet strategic needs and align with the overall mission of the Authority. Most of our classes are developed and facilitated by internal HR staff and through local partnerships with Cape Fear Community College, Employment Security Commission (ESC), and offer training in partnership with other governmental agencies. Training and development activities conducted and sponsored by the Human Resources department during the period consisted of: 1) New Employee Orientation – 29 employees trained; 2) Irate Customer Training – 26 employees



2012 Spring Leadership Class

3) Basic Computer Class– 15 employees; 4) Access Database Class – 10 employees 5) Leadership & Supervisory Training – 56 employees and 6) Benefits Information Seminars –100 employees attended. An organizational training program budget for FY12-13 was approved. For the upcoming fiscal year, the Authority will be conducting the majority of training utilizing in-house resources and state agencies, while utilizing outsourcing for specialized or content specific training. The Authority will continue our partnership with the Cape Fear Community College, UNCW, neighboring governmental agencies. The Authority will continue to utilize resources from the Employment Security Commission for cost effective training purposes.

FY 12 Human Resources Department accomplishments:

- 1,660 training hours sponsored by Human Resources with 824 participants over 22 training sessions.
- Participated each month with articles, training information, wellness and benefit information for the employee newsletter.

- Implemented the Tuition Assistance Program for employees, with two (2) participants for this fiscal year.
- Continued with employee computer training for operations personnel in conjunction with Asset Management Program.
- Organized and conducted various training classes throughout the year for over 824 participants. Classes included Orientation, Ethics, Basic Computer Skills, Leadership, Dealing with the Irrate Customer, Supervisory Training & Harassment, Microsoft Access, and Compensation Orientation.
- Continued a joint partnership with Cape Fear Community College for some classes.
- Developed and implemented additional Human Resources Policy and Procedures guidelines.
- Worked with the Public Relations Communications Committee to increase communications and disseminate information to Authority employees.
- Conducted annual driving license report reviews for all positions that require a valid driver's licenses.
- Completed annual compliance audit of I-9 files and personnel files.
- In the process of creating a training database for better tracking of HR employee sponsored training.
- Continue to work with the NC Department of Labor for Journeyman Apprenticeship Programs to reinstitute the program for Water Treatment Operators.
- Maintained position control system and organizational structure charts.
- Maintained and updated performance benchmarking measurements for departmental Level of Service Program in conjunction with training.
- Maintained compensation and classification plan through the year.
- Maintained budget and minimized expenditures.

## ENGINEERING DEPARTMENT

*Frank Styers, PE, Director*

The Engineering Department is often the first point of contact with many of our customers, and our dedicated staff takes pride in the quality customer service we provide. Department staff efficiently plan, design and manage water and sewer infrastructure projects, and insure that projects, whether designed and constructed by the Authority, other agencies or private developers, are consistent with the Authority's Code of Regulations, Technical Standards, and master plans. This Department insures that the best interests of the Authority and the community are considered during the day-to-day and long-term operation of the Authority and considers the guiding principles of *Stewardship, Sustainability and Service* in each of its decisions.

The Development Services Division (DSD) has a key role in new development, redevelopment, commercial construction and new home construction. Building permits issued by New Hanover County significantly increased in FY12 over the previous year with new single-family homes leading other types of construction. This division provides information regarding service availability, service connection requirements, and service connection fees. The DSD works closely with the New Hanover County Building Inspections, Planning, and Health Departments as well as the City of Wilmington Development Services Department. The DSD collaborates with the Operations, Customer Service, and Environmental Departments within the Authority to provide customers with accurate and timely information.

The DSD manages the plan review and construction inspection process for developer installed public water and sewer systems. To facilitate this process, staff participates in the City of Wilmington and New Hanover County Technical Review Committees, and regularly meets with individual developers to review projects and explain Authority standards. Developers convey completed water and sewer infrastructure to the Authority for ownership and in FY12; the Authority accepted 12 conveyances at a value of \$2,043,537.

The DSD manages the implementation of Authority's mandatory connection requirements. New development, home construction and existing structures with failing septic and/or well systems are required to connect Authority utility facilities if they are available. The 1995 annex area is being evaluated at this time to identify properties that are not served but have utility service available. Approximately 150 new service accounts are expected to be added next year from this initiative.

***Bernice Johnson** has done an amazing job...processed information quickly...*

*Rick M.*

The Division assists developers and the Customer Service Department through the Request for Information (RFI) process by documenting service availability, connection requirements, and fees. These requests are most commonly associated with applications for new service or new development. The RFI's for new service requests are generated by the Customer Service Department. RFI's related to new development are generated by consultants, developers, realtors, and financial institutions. The RFI's often require a work order to be generated to Operations to provide field investigations. RFI's increased significantly over last year due to the additional requests for subtract meters and the increase of building permits.

The **Project Management Division** (PMD) oversees a wide variety of capital projects that, among other things, anticipate system needs, address aging infrastructure, and ensure system reliability. Staff also helps identify, budget, and prioritize critical capacity and maintenance needs so that the most worthy projects are brought forward for funding through the Capital Improvement Program.

*...unbelievable help and assistance  
from **Karen Durso & Tige  
Brubaker** ...should be proud  
having them working for  
CFPUA....team players...went  
above and beyond...*

*Gene S.*

Some of the more prominent projects listed below were successfully completed in FY 2012.

**Large Diameter Sewer Camera & Cleaning.** An initiative to clean and inspect approximately 80 miles of large diameter (mostly 12" – 36") gravity sewer pipe was successfully managed. The benefits of cleaning and documenting the condition of gravity sewer mains include increased capacity in our sewer mains which reduces the potential for SSOs. Understanding the condition of the gravity system helps with prioritizing areas needing rehabilitation.



**Pipe Inspection Robot**



**Remote Imaging**

**Sweeney Water Treatment Plant Expansion.** This expansion was substantially completed this past year and allows the plant to increase its treatment capacity from 27.5 MGD to 35 MGD, and potentially 44 MGD after obtaining a state permit modification. As part of this expansion, the plant introduced ultraviolet (UV) disinfection as a new process, which will enhance the quality of the water treated by the plant.

**Manhole Rehabilitation.** 102 deteriorated manholes were successfully relined and rehabilitated. The benefits of manhole rehabilitation include decreased potential to leach groundwater into our system, which decreases the available sewer capacity, increases treatment costs, and reduces the probability of a structural failure that could cause an SSO.



**Manhole Before Rehabilitation**



**Manhole After Rehabilitation**

Vactor Bay Building. In FY12, a 6,000 square foot building to securely house and protect our vacuum loaders was constructed on the Authority's Ogden property beside our Nanofiltration Groundwater Plant.



Furtado Drive Force Main. This was a high priority project to design, permit, bid and construct a new force main along Furtado Drive to divert sewer flow away from other critical infrastructure needing rehabilitation.

Other notable CFPUA projects met important milestones under the management of the Project Management Division.

NEI Northside Force Main. The design and permitting was completed for the NEI Northside Force Main. This project includes construction of 5.5 miles of force main to become part of a complete force main system that will allow a 2 million gallon per day flow diversion from Southside Wastewater Treatment Plant to the Northside Wastewater Treatment Plant. Construction is expected to begin in mid FY 2013.

Kerr Ave Greater Loop. The Kerr Avenue Greater Loop project's design was completed. This project consists of constructing approximately seven miles of water main that will shift the source of supply from the Nanofiltration Groundwater Plant to the Sweeney Water Treatment Plant for Authority customers west of I-40. The project will also provide needed interconnections between the two systems for event management and the eventual integration into a unified distribution system with two sources. This project is currently in the permitting and easement acquisition phase, and is expected to be bid for construction mid FY 2013.

Burnt Mill Creek Rehab Phase II. The rehabilitation of the last section of the Burnt Mill Creek sewer outfall was bid and a construction contract was executed in FY 2012. Construction is underway. This project will replace deteriorated 48-inch gravity sewer along Burnt Mill Creek that serves most of downtown Wilmington by installing a new 48" sewer main parallel to the existing sewer that will be abandoned in place. This project will eliminate dependency on an aging sewer with a high risk and consequence of failure.

Clean Water State Revolving Fund Projects. Five projects have been considered for Clean Water State Revolving Fund loans. In order to be finally offered the loan, the projects must have a preliminary engineering report detailing all of the facets of the project submitted by a given deadline and approved. All five projects listed below have been approved:

- Greenfield Lake Outfall Rehabilitation
- 30<sup>th</sup> Street Sewer Replacement
- McCumber's Ditch Outfall Rehabilitation
- Smith Creek/Alandale Pump Station Removal
- Between the Creeks Pump Station Rehabilitation

The **Planning and Design Division** (P&DD) provides design services with a fast turnaround, at low cost, and with great flexibility. The division specializes in the design of gravity sewer rehabilitation, minor sewer pump station rehabilitation, and water line design; and significantly reduced expenditures to outside engineering design firms by completing these designs in house. Similar projects are grouped together and designed concurrently to provide for cost effective, efficient professional services in these niche areas that are critical to the ongoing management of the water and sewer system. In addition, P&DD engineers write, manage and maintain the Authority's standard specifications and details used for in-house, consultant and developer constructed designs.

The P&DD division manages the Geographical Information Services (GIS) system and water distribution and sewer collection system models for evaluating system capacity. The GIS system is an interactive map that denotes the location of water distribution and sewer collection infrastructure. This system is utilized by the other Engineering divisions and departments within the Authority. The division makes all changes to the GIS system for the Asset Management Program and facilitates the Authority's interdepartmental Geographical Data Team that developed processes to keep Asset Management data related to sewer collection systems updated.

P&DD facilitates infrastructure master planning and capital planning, performs in-house master planning and keeps abreast of developer and consultant designed projects to ensure that the system remains balanced in capacity, hydraulics, growth, reliability and redundancy. During FY12, the P&DD created various maps for high priority projects, media responses, developer agreements, board presentations, and administrative reports.

## FINANCE DEPARTMENT

*Cheryl Spivey, CPA, Chief Financial Officer*

**Operating Fund** - The overall financial condition (assets less liabilities) of the Authority improved during the fiscal year ended June 30, 2012. The two primary reasons for the improvement were 1) revenue for capital projects was greater than capital project expenditures and 2) operating expenses were less than budgeted, which offset operating revenue being less than expected due to declines in customer water consumption. Overall debt coverage decreased to 1.53 for fiscal year 2011-12 from 1.65 the previous year, remaining above the 1.2 needed to issue additional bonds.

For the fiscal year ended June 30, 2012, water consumption was 5.4 billion gallons, or 1.5% less than the previous year.

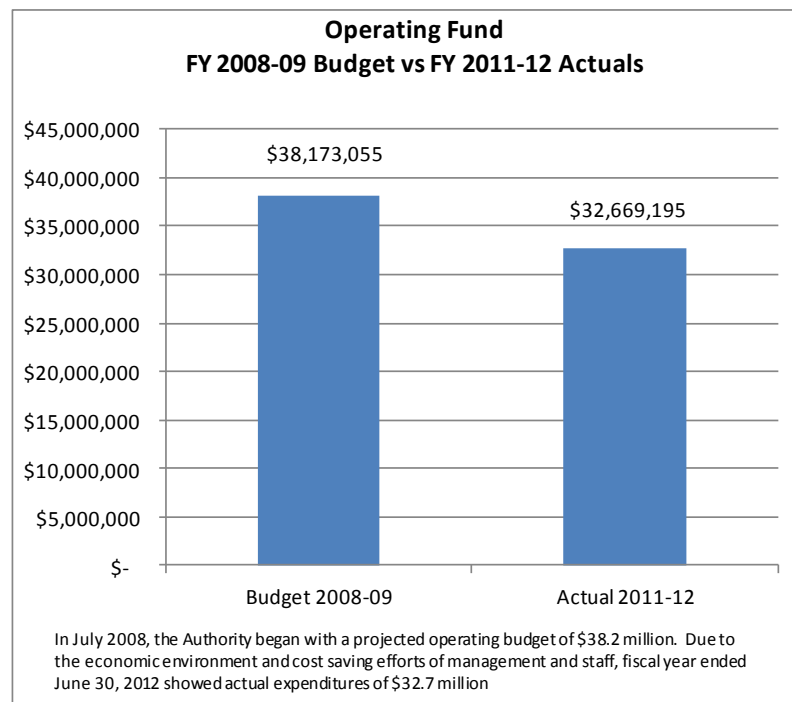
|                                | 2012             |                  | 2011             |                  | 2010             |                  | 2009             |                  |
|--------------------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|
|                                | Thousand Gallons | % of Consumption | Thousand Gallons | % of Consumption | Thousand Gallons | % of Consumption | Thousand Gallons | % of Consumption |
| <b>Water Customers</b>         |                  |                  |                  |                  |                  |                  |                  |                  |
| Residential                    | 3,806,074        | 70.45%           | 3,887,894        | 70.88%           | 3,652,988        | 70.13%           | 4,152,536        | 71.17%           |
| Commercial                     | 1,059,983        | 19.62%           | 1,075,703        | 19.61%           | 1,032,322        | 19.82%           | 1,094,936        | 18.77%           |
| Industrial                     | 62,267           | 1.15%            | 62,278           | 1.13%            | 57,719           | 1.11%            | 102,707          | 1.76%            |
| Institutional and Governmental | 474,130          | 8.78%            | 459,656          | 8.38%            | 465,940          | 8.94%            | 483,950          | 8.30%            |
| <b>Total</b>                   | <b>5,402,454</b> | <b>100.00%</b>   | <b>5,485,531</b> | <b>100.00%</b>   | <b>5,208,969</b> | <b>100.00%</b>   | <b>5,834,129</b> | <b>100.00%</b>   |

In May 2012, rate changes increased the fixed water charge by 3.3% and increased the wastewater volumetric charge by 12.5%. Fixed charges are set to cover debt service (principal and interest), while volumetric charges are set to cover operating expenditures.

Operating revenues were \$64.4 million, an increase of \$4.6 million over the prior year. Actual revenues were 99% of budgeted revenues.

|                                    | 2011-12              | 2011-12              |             |                     |
|------------------------------------|----------------------|----------------------|-------------|---------------------|
|                                    | Final Budget         | Actual               | %           | Difference          |
| <b>Operating Revenues</b>          |                      |                      |             |                     |
| Water Charges                      | \$ 31,213,000        | \$ 29,993,330        | 96%         | \$ (1,219,670)      |
| Sewer Charges                      | 31,322,000           | 31,121,904           | 99%         | \$ (200,096)        |
| Connection Fees                    | 413,000              | 405,388              | 98%         | \$ (7,612)          |
| Miscellaneous Revenue              | 2,246,600            | 2,838,844            | 126%        | \$ 592,244          |
| <b>Total Operating Revenues</b>    | <b>65,194,600</b>    | <b>64,359,466</b>    | <b>99%</b>  | <b>(835,134)</b>    |
| <b>Nonoperating Revenues</b>       |                      |                      |             |                     |
| System Development Charges         | 3,563,699            | 3,734,210            | 105%        | 170,511             |
| Investment Earnings                | 822,620              | 786,528              | 96%         | (36,092)            |
| <b>Total Nonoperating Revenues</b> | <b>4,386,319</b>     | <b>4,520,738</b>     | <b>103%</b> | <b>134,419</b>      |
| <b>Total Revenues</b>              | <b>\$ 69,580,919</b> | <b>\$ 68,880,204</b> | <b>99%</b>  | <b>\$ (700,715)</b> |

For fiscal year 2011-12, actual expenditures remained below Fiscal year 2008-09 projected operating expenditures.



For fiscal 2011-12, actual operating expenditures (excluding depreciation and amortization) ended the year at 88% of budget, a 1.8% increase from the prior year.

|                        | 2011-12<br>Final Budget | 2011-12<br>Actual | %    | Difference     |
|------------------------|-------------------------|-------------------|------|----------------|
| General Administrative | \$ 5,370,912            | \$ 4,829,021      | 90%  | \$ (541,891)   |
| Operations             | 20,952,640              | 19,121,073        | 91%  | (1,831,567)    |
| Environment/Safety     | 2,225,192               | 2,043,771         | 92%  | (181,421)      |
| Customer Service       | 2,968,993               | 2,438,826         | 82%  | (530,167)      |
| Repairs & Maintenance  | 2,036,628               | 1,561,484         | 77%  | (475,144)      |
| Capital Outlay         | 1,072,197               | 829,405           | 77%  | (242,792)      |
| Non-Departmental       | 1,856,023               | 1,845,615         | 99%  | (10,408)       |
| Contingency            | 800,000                 | -                 | 0%   | (800,000)      |
|                        | 37,282,585              | 32,669,195        | 88%  | (4,613,390)    |
| Debt Service           | 26,854,067              | 26,724,515        | 100% | (129,552)      |
| Total                  | \$ 64,136,652           | \$ 59,393,710     | 93%  | \$ (4,742,942) |

**Cash and Cash Equivalents** - At the close of the fiscal year, cash and cash equivalents were \$129.8 million. Approximately \$42.9 million was restricted bond proceeds, \$4.2 million designated for retiree healthcare, \$40 million designated for capital projects, and \$42.7 unrestricted.

**Capital Projects** - The largest capital project expenditures during the year were for the following projects:

|                                                               | Project<br>Ordinance | Prior<br>Years | Actual            |                  |
|---------------------------------------------------------------|----------------------|----------------|-------------------|------------------|
|                                                               |                      |                | Current<br>Year   | Total to<br>Date |
| Sweeney Water Treatment Plant Expansion To 40 MGD             | 73,832,722           | 54,711,807     | <b>15,042,782</b> | 69,754,589       |
| Barnards Creek & Motts Creek Pump Stations                    | 6,955,208            | 251,996        | <b>3,161,726</b>  | 3,413,722        |
| Southside Wastewater Treatment Plant Rehab & Upgrade (Design) | 8,453,807            | 5,818,937      | <b>2,006,282</b>  | 7,825,219        |
| Northside Wastewater Treatment Plant Force Main               | 5,843,410            | 1,662,257      | <b>1,724,147</b>  | 3,386,404        |
| Inflow & Infiltration Elimination                             | 1,644,254            | 676,386        | <b>776,728</b>    | 1,453,114        |
| N Third St Streetscape - Sewer                                | 1,476,031            | 193,696        | <b>699,347</b>    | 893,043          |
| N. Third St. Streetscape - Water                              | 1,300,339            | -              | <b>673,195</b>    | 673,195          |
| River Road Force Main                                         | 1,218,469            | 412,268        | <b>452,636</b>    | 864,904          |
| Asset Management                                              | 3,058,274            | 2,203,572      | <b>408,146</b>    | 2,611,718        |
| Country Haven Pump Station Upgrade                            | 2,604,940            | 212,277        | <b>399,374</b>    | 611,651          |

Accounts receivable at June 30, 2012 were \$16.1 million, which is net of \$2.7 million in allowance for uncollectable accounts. The Authority is actively pursuing collection of these receivables utilizing shut-off procedures, the State's debt setoff program, and a collection agency.

The following are some of the accomplishments for fiscal year 2011-2012 by the Finance department:

- Maintained the AA2 bond rating with Moody's and AA bond rating with stable outlook with Standard & Poor's.
- In preparation of the FY13 budget, Finance performed a detailed analysis of all expenditure accounts for each department/division in order to prepare the budget based on past actual expenditures. The FY13 Budget was adopted by the Board at the June 13, 2012 meeting.
- Staff worked with the Board to update the rate model reflecting the Authority's mission.
- Purchasing has continued its effort to get various services under contract, such as equipment maintenance, generator maintenance, and server/network maintenance.
- Prepared the Authority's third Comprehensive Annual Financial Reports (CAFR) for Fiscal Year Ended June 30, 2011, obtained an unqualified opinion on the annual independent audit, and was awarded the Government Finance Officers Association's Certificate of Achievement for Excellence in Financial Reporting. Subsequent to year end, Finance worked on the CAFR for fiscal year ended June 30, 2012. This will be presented at the November Board meeting.
- Provided disclosure information to bondholders and bond rating agencies through timely disclosures to the Municipal Securities Rule Making Board (MSRB) required on the Authority's outstanding debt.

- Provided all required financial filings to the State of North Carolina State Treasurer's Office through the Local Government Commission related to the Authority's deposits and investments.
- Continued the refinement and adoption of various Finance, Accounting and Purchasing policies including the Procurement Manual, Procurement Card Manual, Uniform Policy, Food Policy, Internal Controls for Equipment Policy, Post-Issuance Monitoring of Compliance for Tax Exempt Debt Policy, Inventory Management Policy, Time & Attendance Policy and Payroll Policy. A Cell Phone Policy and Fuel Card Policy are currently in draft form.
- Continuously reviewed bills for accuracy and potential savings.

## INFORMATION TECHNOLOGY

*Cord M. Ellison, CGCIO, Manager*

The Information Technology Division has completed the second phase of the Authority Landfile cleanup project also known as the data scrub program. Staff validated over 110,000 parcel records (using various GIS techniques), reviewing over 70,000 location records located in the SunGard billing system against address point and tax data, and conducting intensive research to cross reference account information on addresses that did not match in multiple legacy systems to correct and/ or eliminate.

As a by-product of the field verification process mentioned above, the Authority was able to inform the City of Wilmington and New Hanover County of over 400 address discrepancies located within their 911 data. In addition, the Geographical Information System (GIS) received new aerial photography, updated over 50 GIS users to the latest versions of the desktop application, as well as installed service pack upgrades to prepare for the upcoming GIS/Maximo Server upgrade.

This year all of the Authority's 38 servers were updated to the latest Operating System, as well as receiving upgrades for all applications and data backup software. A new tracking process for technology assets was implemented within the Authority Help Desk software to better track technology assets, their related peripheral equipment, and to allow for the scheduled recycling of old technology equipment. New methods have been developed to improve purchasing procedures and cross training was conducted for departmental hardware purchases.

The IT Division helped implement the latest module in Laserfiche to accommodate purchase orders and invoices. The benefit of this latest module is that Finance staff can scan and then query these documents more easily. Not only is this a more efficient process, but as mentioned in previous reports, this protects the documents by eliminating the physical damage that can occur, helps reduce physical storage space, and makes them accessible from any CFPUA location.

Phase one of the SCADA (Supervisory Control and Data Acquisition) Master plan was completed. This allowed for SCADA radios' related to the Authority's Pump Stations to be selected. Many of these antiquated radios are well over 20 years old and are failing without available hardware support.

The Sweeney Expansion Project required reconfiguration of the CFPUA network to accommodate the ever-changing (due to the construction process) physical layout of the facility. This reconfiguration was critical to Sweeney staff, as IT had to ensure their data, access control, CCTV, and telephone connectivity remained intact so that the facility could continue its operations.

As was the case last year, this Division has provided support for the Authority's 38 servers, over 300 PC's, and has worked diligently to increase our response times to resolving helpdesk requests. We have reduced costs and continued to find ways to increase operational efficiencies. We will strive to improve the services that we provide our customers and continue to find more ways to reduce costs and streamline performance this upcoming fiscal year.

The following are some of the accomplishments for the 2011-2012 Fiscal Budget Year by the Information Technology Division:

- The Authority Board documentation was redesigned so that it now appears on the Authority website making it more accessible to our customers.
- Additional CCTV cameras have been added throughout the year to outlying facilities for the security of Authority personnel and assets.
- IT assisted with the installation and configuration of all new point of sale credit card machines in the Customer Service department.
- Wireless Access Points were installed at Utility Services, the Nano plant, and Northside plants to allow staff to be more mobile and reduce the costs associated with physical cabling.
- All Authority FCC licenses have been renewed and verified.
- Responded to over 4,200 helpdesk requests throughout the year.
- IT Staff has completed over 127 hours of training to include topics such as SQL server, ArcSDE, Server, NIMS, SunGard, Laserfiche, Defensive Driving, Insource, and Accident Investigation and Claims Reporting.

## CUSTOMER SERVICE

*Nancy Johnson, Director*

Customer Service continues to strive to deliver exceptional service to our customers while focusing on reducing costs and improving business results. During FY 2012, routine departmental Customer Service functions included processing over 443,000 bills with an accuracy rate of 99.4%, reading nearly 400,000<sup>1</sup> meters, and working over 55,300 service orders. With calls answered numbering 119,800, the call center achieved an average service level of 95.3% and answered the phones in an average 78 seconds. Customer Service processed 398,146 total payments in FY 2012. The staff in two customer service centers and the call center processed 105,650 of those payments. Online payments increased to 32,306 compared to prior year's 22,145. All remaining payments went through the lock box. In addition to the routine customer service duties, there was a focus on improving business results by cost containment, revenue growth, process changes, and staff development and training.

A major accomplishment in the past year was the transition to a new credit card processor saving \$11,000 annually in Merchant Service Fees. Merchant Fees are fees charged by the credit card processor when customers pay using credit cards or debit cards. The cost is dependent on the type of card. The savings are realized by lower processing fee costs. Additional cost containment initiatives included process changes when depositing checks over \$20,000, which saved another \$1,000.

Process improvements that result in risk reduction or productivity enhancements contribute to cost efficiencies. The Customer Service Department implemented a new Policy for Water Turn On, which requires a responsible person to be present prior to turning water on. This policy should result in a reduction of insurance claims against the Authority and will protect customers' property. Other process improvements included establishment of a Loan Subordination Policy and revised Loan Processing Policy. The Loan Subordination Policy supports customers by allowing them to subordinate the Authority loan during a refinancing of their property. It protects the Authority by ensuring we are listed immediately behind the Mortgage provider. The revised Loan Processing Policy protects the Authority by completing a Deed of Trust on the property for which a loan is being applied. Meter Reading, Billing and Operations partnered to establish a tracking process to monitor failed radio read antennas in the Automated Read routes. This process assists Operations in meter replacement and reduces service orders for Meter Reading.

*...my appreciation for the exceptional customer service I received from **Mandy Zieke** ...did a magnificent job...professional...a job well done!*

*Douglas V.*

The Collections team continues to have successes. Collections of outstanding debt will assist in offsetting operational expenses. The state of North Carolina has a program called Debt Set Off that allows the Authority to collect lottery winnings and State Tax refunds to pay for outstanding debt.

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<sup>1</sup>The variance in number Meters read and number of Bills produced is due to 1) compound meters are read by Operations and 2) 3<sup>rd</sup> party customers will receive duplicate bills.

Customer Service utilizes this program and collected \$110,450 in FY2012. Additionally, Customer Service pursued delinquent accounts through the use of an outside collections agency which collected an additional \$41,140. To assist customers with financial hardships in the payment of utility bills, the *CFPUA Assist* program, in coordination with the United Way, was developed. During this past year, the *CFPUA Assist* program contributed \$36,200 towards the payment of customers' utility bills. Collections also developed a Bankruptcy Policy and Procedure that ensures proper treatment of bankrupt accounts. Collections also took the lead in payment plan reduction and collected in full 485 outstanding payment plans.

With a focus on improving business results, data integrity is essential. A major focus for the last two years was the Data Scrub Project. This project was a combined effort between IT and Customer Service. Customer Service had two dedicated FTE's (full-time equivalents) supporting this project that was completed on June 30, 2012. The goal for Customer Service was referred to as active service verification and consisted of 19 different priorities such as validation of rate class, account status, actual services used, and duplicate locations. As of the end of FY 2012, Customer Service had completed 100% of the 19 priorities. This review resulted in \$380,400 back billed revenue since March 2011. Another outcome, in addition to the back billed revenue, is the future value of those discovered services/revenue. Payment plans were offered to customers with extenuating circumstances that would cause hardships to pay any back billed amount that was discovered as part of the data scrub process. This decision is made by the Authority for water and sewer charges and by the City of Wilmington for stormwater and trash.

Customer Service plays an important role in the billing and collection of fees associated with new service. In FY 2012, there were 975 individual System Development Charge fees processed for 529 locations in the amount of \$3.7 million. To assist customers in establishing the most correct services for their immediate needs, Customer Service partnered with Engineering, Operations and New Hanover County in the establishment of three new service options - subtraction meters, dock meters and 1" fire flow meters. Subtraction Meters offer alternatives to customers to reduce their bi-monthly billing for sewer and water for irrigation use. Dock meters offer alternatives to customers that have a meter on their dock to reduce their bi-monthly bill for sewer. The 1" fire flow meter was a partnership with New Hanover County Fire Department to allow new construction to use a 1" meter for fire protection while only charging the 5/8" base rate.

*Susan Jackson was amazing  
...went above and beyond...nice  
and caring...represents the  
Authority well!*

*Peter K.*

Development of staff is critical to the continued success and achievement of the goals within Customer Service. In FY 2012, the department focused on formal training for new hires, a blue print to measure quality assurance across all teams, and internal and external leadership training. This process will continue into FY 2013.

The following are some of the accomplishments for 2011-2012 Fiscal Year by the Customer Service department:

- Transition credit card processor saving \$11,000 annually in Merchant Service Fees
- Changed process for depositing checks of \$20,000 resulting in a savings of \$1,000 annually in fees
- Completed a two-year project to scrub Authority data to ensure customers are properly billed for services being received and in preparation of potential billing system conversion, resulting in \$380,400 of back billed revenue.
- Implemented multiple new service options: Subtraction Meters, Dock Meters and 1" Fire Flow Meters
  - Subtraction meters offer alternatives to customers to reduce their bi-monthly billing for sewer and water for irrigation use.
  - Dock meters offer alternatives to customers who have a meter on their dock to reduce their bi-monthly bill for sewer.
  - 1" fire flow meters was a partnership with New Hanover County Fire Department to allow new construction to use a 1" meter for fire protection while only charging the 5/8" base rate.
- Protected Authority through a new Water Turn On Policy and revised loan process, as well as a new Loan Subordination Policy
  - Water Turn On Policy protects the Authority from damage claims by requiring a responsible party to be present prior to turning on water at a location.
  - Revised loan process protects the Authority by completing a Deed of Trust on the Property for which a loan is being applied.
  - Loan Subordination Policy supports customers by allowing them to subordinate our loan during a refinancing of their property. It protects the Authority by ensuring we are listed immediately behind the Mortgage provider.
- Customer Service meter readers' productivity can be greatly impacted by the number of failing ERTs (radio read antennas) within an automated read route. Customer Service put a tracking process in place to assist Operations with maintaining these devices, thereby positively impacting productivity.
- Established a Bankruptcy Policy and Procedure
- Separation of Cape Fear Public Utility Authority and City of Wilmington delinquencies on delinquent notices has been completed.

- Service Facts:
  - Penn Credit collections: \$41,140.
  - Debt Set Off Collections: \$110,450.
  - Customer Service handled 119,800 calls with a service level of 95.3% for the year and answered all calls within an average 78 seconds.
  - Customer Services processed 398,146 total payments in FY 2012. The two lobbies and call center processed 105,650 of those payments. Online payments grew to 32,306 compared to prior year's 22,145. All remaining payments went through the lock box.
  - Payment plans decreased by 33% during FY 2012 with 485 plans paid in full.
  - Customer Service processed 975 individual System Development Charge fees for 529 locations in the amount of \$3.7 million during FY 2012.

## ADMINISTRATION

### COMMUNICATIONS

*Mike McGill, Chief Communications Officer*

*Jacqueline Valade, Public Information/Community Outreach Specialist*

The Cape Fear Public Utility Authority's internal and external communications efforts continued their paths towards improvement, building on the foundation that has been laid over the course of previous years. In 2011 and 2012, this groundwork allowed CFPUA to reach its customers and its staff with important information about CFPUA's projects, plans and policies in the appropriate amount of time. This allowed all of the informed stakeholders the opportunity to provide their input and feedback about the work being undertaken by CFPUA.

The Public Information/Community Outreach Specialist's continued work on developing and coordinating internal and external information and outreach efforts allowed my predecessor, the former Chief Communications Officer, to shift her efforts to coordination on major projects and liaison duties with key area stakeholders.

The communications efforts are centered on five areas: 1) external communications, such as customer letters, outreach and community service; 2) internal communications, including newsletters and Intranet updates; 3) project outreach and stakeholder meetings and other coordination efforts; and finally, 4) required regulatory notices.

#### External Communications, including Community Service



The Authority's efforts to improve the consistency of its communications with the public were demonstrated by the frequency and diversity of the messages it put forth to the public. Print and radio ads, placed throughout the months of October and November, delivered a constant stream of information about the need for our customers to Cease the Grease during the holidays, when FOG is produced in residential areas in higher quantities than during any other time of the year.

Communications staff also undertook public information efforts surrounding CFPUA's new subtraction meter program, designed to help those customers with lines too small to be split or who found the cost to irrigation prohibitive. Staff produced an informational flyer, bill insert and Web content to help customers get educated about the program, determine their eligibility and start the request process.

Detailed and consistently updated information on CFPUA's distribution system flushing was a staple on the Authority's website and in print. Flyers and Web content explained why the very visible work was necessary throughout the service area in order to properly maintain our water lines. For the first time, the flushing was conducted on the entire system, requiring quick, consistent messaging to all of our customers at one time or another.

Another major project undertaken by CFPUA where significant support was provided by Communications was the Authority's sewer smoke testing program. Because an uninformed customer may mistake seeing smoke coming out of the ground of our sewer system as a major emergency, Communications staff worked closely with our Wastewater Collections team to proactively inform the affected communities of the presence of the non-toxic smoke. Written materials were developed for distribution to our customer via print and the Web to inform CFPUA customers of the project and a comprehensive list of FAQs was also drafted to provide people with questions answers prior to them felling the need to pick up the phone.



CFPUA Communications staff has often enlisted the support of employees in other departments to represent the Authority in community events. Earlier this year, CFPUA staff took part in Wilmington's 3<sup>rd</sup> Annual Touch-a-Truck event, which provides children with a hands-on opportunity to see and touch all sorts of machinery, along with the people that work in them to build, protect and serve the Wilmington community.

Communications and ESMD staff also joined together with other Wilmington groups in support of the city's environment. In April, CFPUA took part in the city's annual Earth Day event, educating everyone who came by their booth to "Cease the Grease". In return, participants received free Fat Trappers, grease spatulas and valuable information to spread on to their friends and neighbors. Finally, Communications staff routinely takes part in school career days to highlight how important water and wastewater workers are in their daily lives and how maybe they should take an interest in working for CFPUA in the future.

Reaching out to the city's youngest water users is also a focus of Communications staff. Each month, CFPUA places an article in the Kidsville News!, a fun, educational resource for children grades Kindergarten through 5<sup>th</sup>, their parents and their teachers in southeastern North Carolina. This year, the articles focused on the different jobs that it takes to deliver water to their taps and take it away to be cleaned and returned to the environment. Customer Service, Finance, Environmental Compliance, Water Treatment, Wastewater Treatment were all highlighted, along with a piece on how the kids can figure out their "water" footprint.

### Internal Communications

Building upon last year's expansion of internal communications to inform CFPUA staff of both the short-term and long-term developments, Communications staff has been consistently updating CFPUA personnel, both on the website and in print to help supply them with important information that could immediately be passed along to the customer, resolving confusion or information gaps before they begin. For example, Customer Service now receives all of the notifications for road closure and water main breaks prior to the information being released to the media. If a customer calls with a complaint, staff is immediately able to serve our customers with the latest news or notifications that could affect their lives or daily routines.

These updates litter the website and print documents produced by the organization. Monthly newsletters pack helpful news our employees can use, both at work and at home, while also detailing the good work being done by CFPUA staff in a variety of departments. The Intranet is a valuable resource; any employee can find a wealth of information about CFPUA.

The communications work also highlights the work being done by CFPUA in the community and with the United Way. Numerous messages encouraging employees to participate in our Annual Food Drive and the United Way campaign helped those efforts help hundreds of residents in our service area. Traditionally, CFPUA hosts a food drive during the winter holiday months; however, discussions with the Food Bank representatives identified a broader need for food and support in the spring. To better serve those impacted and, beginning with the 2013 season, CFPUA will host the food drive in February 2013.

Finally, Communications was central in producing the pieces surrounding employee service awards for Human Resources to ensure that staff who had earned their due received the “moment in the sun” they deserved.

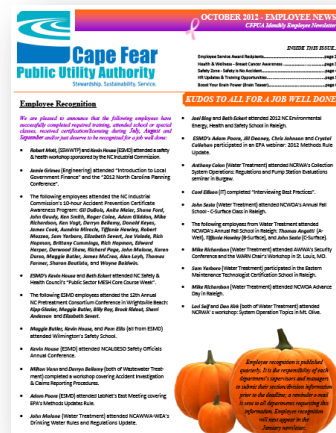
### Project Outreach and Stakeholder Meetings

Communications staff played an integral role in assisting CFPUA with its project outreach performance and stakeholder meeting goals. One particular effort that assisted CFPUA staff in other departments was the coordination Communications undertook with Engineering to produce the Building & Development Process Workshop, a session requested by the Business Alliance for a Sound Economy.

The workshop provided an opportunity for businesses to review our processes, receive explanations about our building and development procedures and provide many other tips to help expedite the water and/or sewer approval process. Communications designed and created flyers promoting the event and drafted the PowerPoint presentation for use by Engineering, which allowed attendees to gain valuable insight on service availability, fee information, backflow requirements, and much more.

Communications was also behind preparing and coordinating the re-dedication of the Sweeney Water Treatment Plant.

When it came to its day-to-day duties, Communications provided a countless number of updates via email and the Web to customers regarding dozens of long-range projects and emergency repairs to proactively inform our customers and the media before they picked up the phone. Whether it was a boil water advisory due to a major or minor water main break, an SSO/sewer repair, or a road closure due to our maintenance work, Communications provided a constant stream of information to the press and the public.



### Regulatory Notices

In addition to notifying the public and the media about the work we were conducting on a daily basis to repair our water and wastewater infrastructure, Communications staff also helped make sure that CFPWA complied with the notification required for the various emergency actions that took place over the last year, especially following the Barnard Creek SSO. These notices were posted in the public domain, ensuring that during difficult times, CFPWA was not taken to task for improperly notifying the public.

## CUSTOMER SERVICE QUALITY ASSURANCE

*Karen Durso, Manager*

Based on feedback received from the recent efficiency study a Customer Service Quality Assurance program was initiated by the Executive Assistant to the Chief Executive Officer in July 2011. A random selection of customers who previously contacted the Cape Fear Public Utility Authority for various reasons such as water leaks, sewer stops, water quality or water pressure concerns, and more are contacted. These customers are asked a series of questions about their experience dealing with the Authority's Customer Service staff and Utility Services staff. Each customer is provided with an opportunity to provide recommendations to improve the Authority's customer service.

This initiative has been very positive for the Authority. Ninety five percent of all customers called have been extremely happy with the service provided by the Authority staff. In most cases, customers state that Authority staff went "above and beyond". The five percent that were not completely satisfied, in most cases, had minor concerns that were brought to the attention of management and were immediately addressed.

### Accomplishments

Customer Quality Assurance calls offer benefits to the Authority and to our customers:

- The Authority has learned that most customers are generally happy with the service they receive from staff and will continue to provide excellent service.
- Customer concerns are addressed and corrected immediately.
- Customers are provided with an update on the issue and the resolution.
- Many customers have expressed their satisfaction that the Authority is taking the extra step to contact them to learn about their recent experience.
- Customers are pleased to hear directly from the office of the Chief Executive Officer.
- Customer contact information is updated.
- Customers have an opportunity to make additional inquiries about the Authority that they otherwise would not do if they had to initiate the call.
- Customers have a direct contact person for future questions or concerns.

***Danny Sullivan*** is wonderful...went above and beyond...it's been a pleasure dealing with Authority staff...

*Dallas M.*

***Derwood Shaw*** jumped in ...pleasant...hard working...a credit to CFPUA...fine work and professional!

*William N.*

***Danny Sullivan and his staff*** did an awesome job..."give them highest marks possible".

*Dave K.*

## LEGAL



*Legal Consultant, The Miles Firm, PLLC, Linda Miles, Attorney*

The Miles Firm acts as legal counsel to the Authority Board and continues to advise staff regarding in-house legal issues. Linda Miles attends all Board meetings and other Authority meetings as requested by the Board and Chief Executive Officer and represents the Authority before Administrative Agencies. She confers with various staff members and department managers, assisting with legal matters including Ordinance revisions and policy changes, contract review, bid process review, third party agreements and personnel issues. Ms. Miles holds regular meetings with several departments to answer their legal questions and stays apprised of daily operations and pending issues. The Miles Firm reviews title reports, easements acquisitions, and subordination agreements.

The Miles Firm has negotiated and settled several eminent domain condemnations and legal claims for the Authority. Members of the Miles firm litigate or advise other litigation attorneys contracted by the Authority. Ms. Miles has successfully negotiated with the Environmental Protection Agency on behalf of the Authority.