
Columbus Utilities Department

2013 Annual Report





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This Annual Report is prepared for the citizens of the City of Columbus and the following 2013 public officials:

Columbus Mayor:
The Honorable Kristen Brown

Columbus City Council:
*Dascal Bunch
Ryan Brand
Frank Jerome
Frank Miller
Tim Shuffett
Jim Lienhoop
Kenneth Whipker*

Utility Board Members:
*Barry Turner
Clayton Force
Cheryl McAvoy
Nancy Ann Brown
Greg Lacy
Tim Shuffett, City Council
Liaison*



Overview

2013 was a year of organizational change and improvements at the Columbus City Utilities. Front-line managers in two sections were replaced following retirements and both have injected new initiatives and a new focus on accountability in their areas of responsibility.

There was a concentrated effort on documentation follow through with new documents being adopted for a department comprehensive safety plan and an updated combined sewer management plan as well as new permits issued for a new state initiative on air quality standards for stationary generators.

The City wastewater facility completed its second year of operation and continued to adjust and monitor its unique sludge reduction process. To further control costs the department obtained permits for, and experimented with a renewed land application program that was believed not to have been possible in the plant's original design.

Water Supply

In 2012 Indiana, and most of the nation, experienced record setting drought. While Columbus fared better than many because of the abundant aquifer below it, water levels did reach record low levels in observation wells.

The CCU draws water from two primary places in the aquifer, the northern or "Lincoln Park" zone and the southern or "Fairgrounds" area. The CCU maintains several monitoring wells outside and within both well zones. In 2013 water levels within the Lincoln Park area had returned to normal and the seasonal fluctuations very closely followed the "five-year-average" curve. Water levels in the Fairgrounds area were still below the five-year-average curve until late in the year, but were well within expected variations. In the following charts, the blue dots represent historic observed ground water elevations through the seasons. The black curves line is the average of these observations and the red line is the 2013 observations. From all observations the water supply for the community continues to be more than adequate to meet current and future needs.

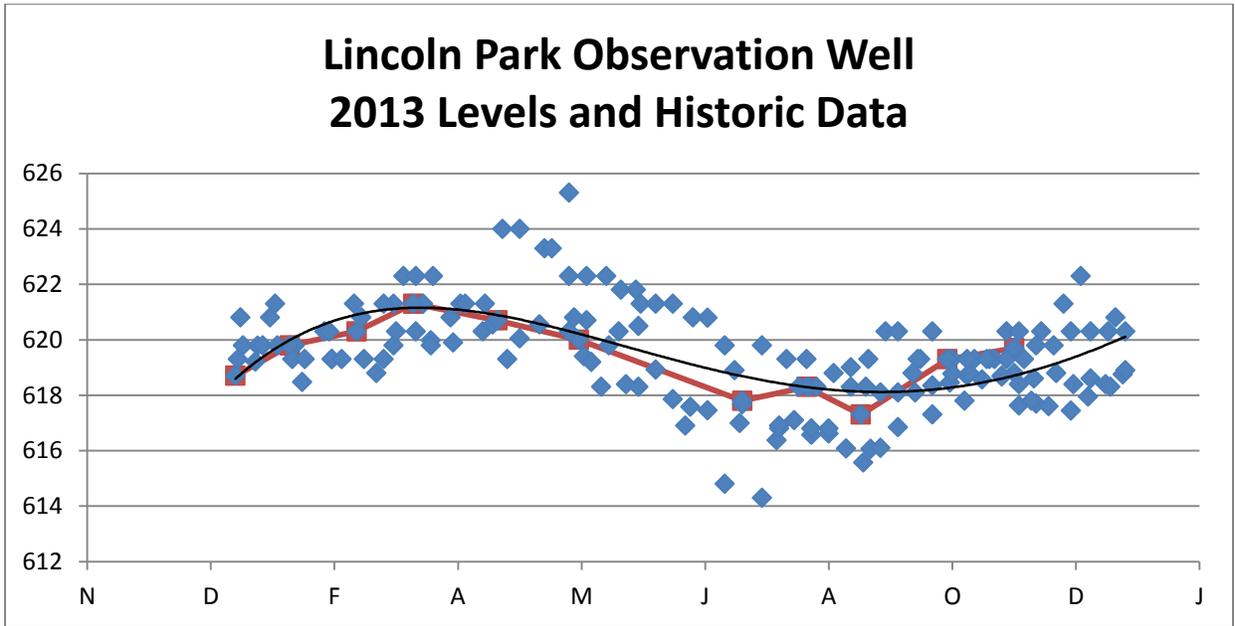


Figure A: Water Table Elevations - Lincoln

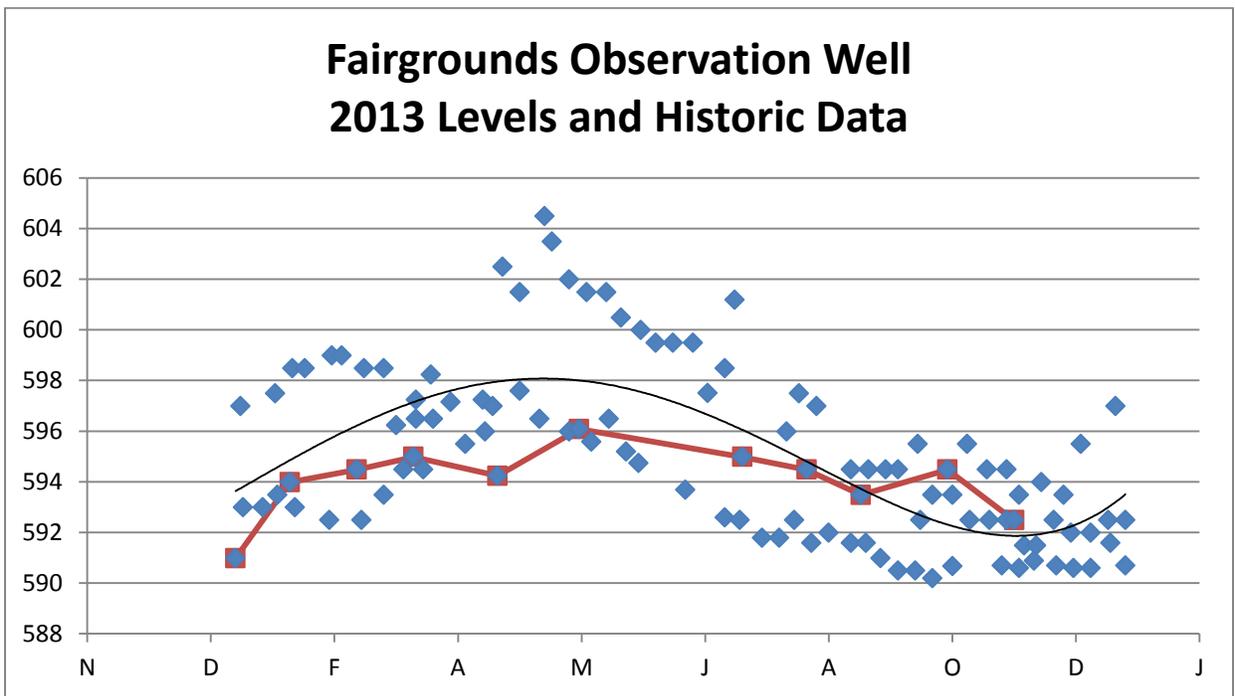


Figure B: Water Table Elevations - Fairgrounds

Water Quality

The porous natures of the local soils make the local water supply abundant and easy to acquire. This same feature makes it vulnerable to contamination. The CCU has established a well head protection program that involves a diverse cross section of the community to assist the department in the continuing education and monitoring of local issues that could potentially affect water quality. A zoning overlay layer has been previously established that will assure that water quality is adequately protected for future developments.

Last year the USEPA was asked to consider and eventually placed a ground water contamination in the Garden City area on its superfund priority list. The contamination was first noted in the early nineties and has been investigated by the CCU at the local level and IDEM at the State level. Observable levels of Trichloroethylene (TCE) have been found in the ground water within north Garden City near Indianapolis Road and Garden Street. Earlier investigations discovered a gasoline additive MTBE present in the water, but this appears to be contained at present. Recent tests in the area also show elevated levels of nitrates most likely related to agricultural activities. The department's activities have been to model and monitor the aquifer to ensure these contaminants do not endanger the public water supply. We have also been involved in at least three failed attempts to provide public water to first the entire area, then a portion of the area and then finally one property in the area. In 2013, we renewed our pledge to provide public water to this area pending finding solutions to the difficult questions of right of way and funding.

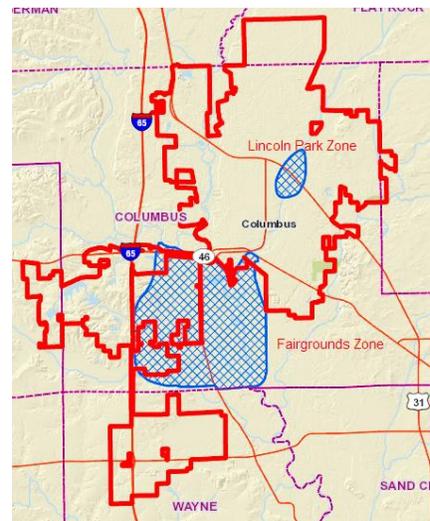


Figure C: Wellhead Protection Zones

Water Production

Jeffery Fish was appointed as water superintendent over drinking water supply and treatment in late 2012. This year, Jeff has made significant improvements to the operations and maintenance of the drinking water facilities. Personnel have been cross trained in all tasks in the section and new preventive maintenance procedures have been put in place to reduce equipment failures. Control valving for half the filter banks at the Fairgrounds Filtration facility were replaced and updated using CCU personnel.

2012 was a year of record sales and production for the CCU. 2013 was a return to water demand levels that were much closer to normal and actually slightly less than the most recent five year average (see chart below). This was fortunate since the aforementioned valve replacement project reduced the overall capacity of the Fairgrounds facility by half during the early part of the peak pumping season.

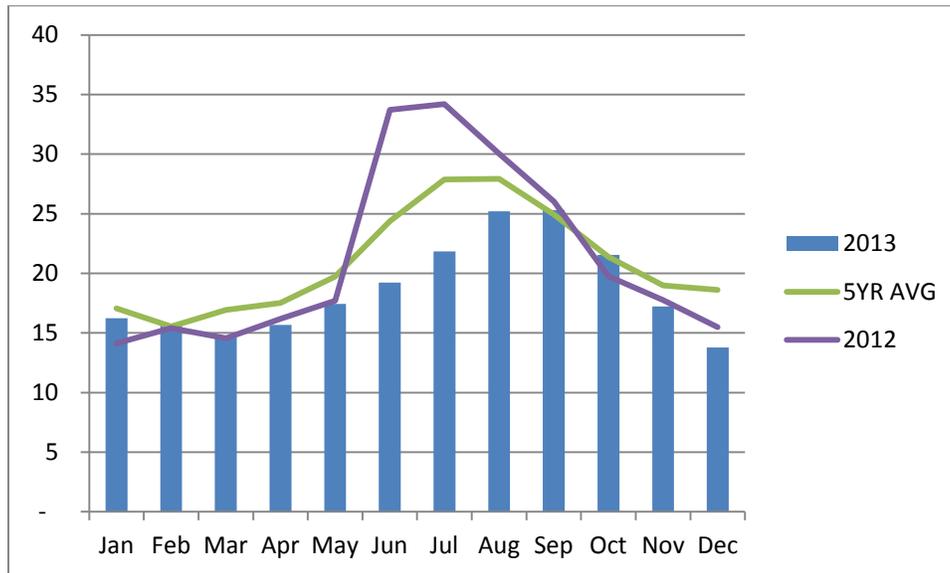


Figure D: Water Sold - 2013 vs 2012 and Average

Water Distribution

In January, James Wright, a longtime employee of the department, was promoted to Water Distribution Supervisor following the retirement of James Sons. Working with department management, goals were set for the section to improve and better document its responsiveness and efficiencies. Guidelines were established where 90% of all new service requests were to be handled within 14 days of application and 90% of all reported leaks are to be resolved within 30 days of notice. Jim exceeded these goals in that 100% of requests met the guidelines for 2013.

Jim initiated the re-establishment of a dedicated hydrant and valve crew that would concentrate on ensuring the long term functionality of these valuable assets. A goal was set to service 25% of the fire hydrants during 2013. Unfortunately, a non-work related injury and subsequent extended leave of absence to one of the key employees involved in this program caused us to fall short of that goal by half. Still as the chart below indicates the effort has been a significant improvement over the previous program.

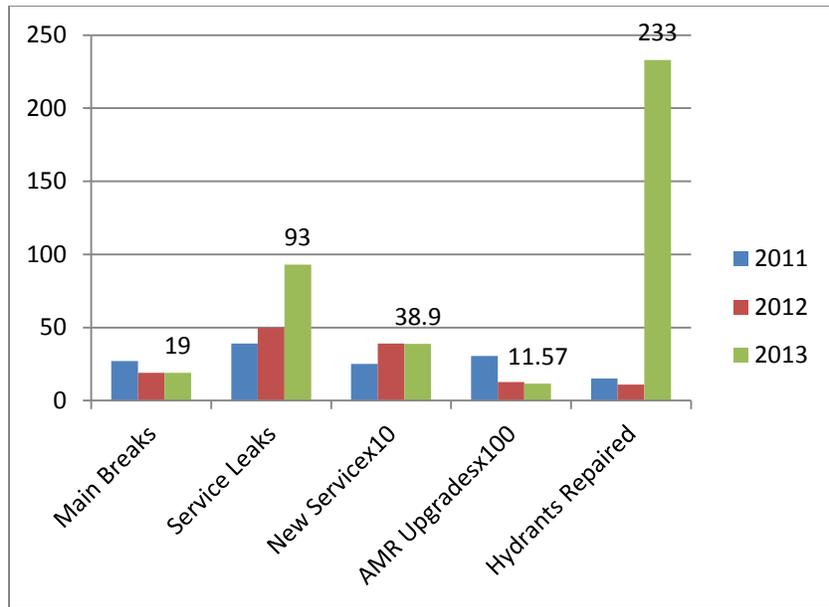


Figure E: Water Distribution Totals

Wastewater Collection

The wastewater collection crew oversees the maintenance and cleaning operations of the roughly 250 miles of sanitary sewers that serve the City. These gravity sewers range in size from six inches in diameter up to 108 inches in diameter. This section is also responsible for the maintenance of the eighty-one sewage pumping stations that serve the community.

In 2013, the newly accepted Walesboro pumping station came on-line and has been performing admirably. On the other hand temperature extremes (both hot and cold) adversely affected the operation of the Southside station accepted two years previous. Odor issues also plagued this station due to redirection of another waste stream to this location. Remedies to both issues will be sought during 2014.

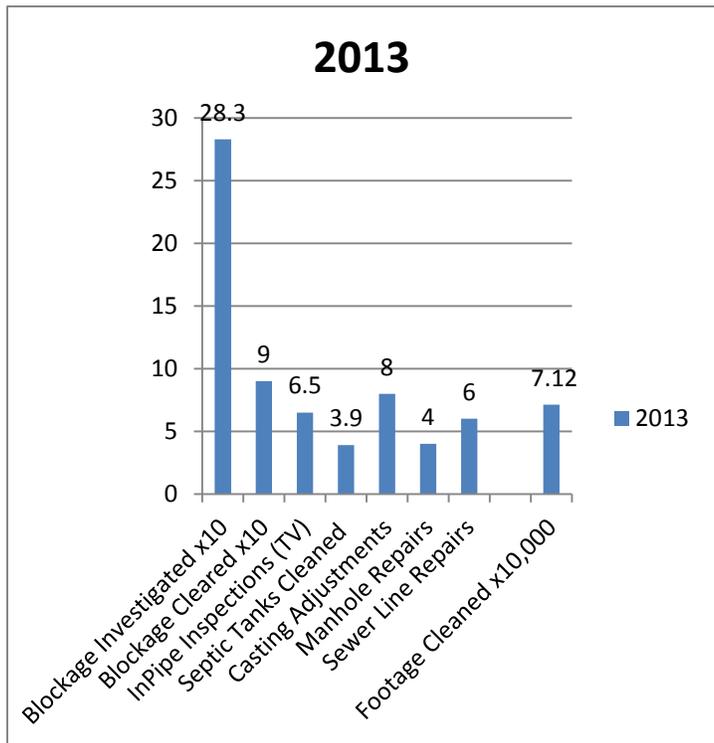


Figure F: Collection Totals

Operational numbers appear on the chart above and are consistent with previous years.

Wastewater Treatment

The Columbus wastewater treatment facility went “on line” in July of 2011. Its design utilizes a patented process of biosolids reduction known as the Cannibal[®] system. Biosolids are the material “left over” after the treatment of wastewater. Their handling and disposal are a major cost to most wastewater treatment operations and reducing the quantity of material would be a great boon to operations. The process however has been difficult to administer and may never meet the expected levels of reduction that was originally expected. Late in 2012, the staff thought they had “turned a corner” and were starting to see fairly good numbers indicating that reduction was taking place. However, as the winter progressed the reductions diminished and disposal levels increased.

In the original design the provider indicated that biosolids reductions could be as much as 85%. The designers became concerned that the biosolids that were eventually wasted would have certain contaminants (mostly metals) concentrated in them and the product would not be eligible for beneficial reuse through land application, so the facility was designed to have all wasted biosolids taken to the public landfill.

Experience has shown that the reductions are not as great as originally thought and that metals concentrations in the resulting biosolids are not a concern. Knowing that, the CCU obtained a land application permit from the Indiana Department of Environmental Management and experimented in the fall of 2013 with a renewed land application program. The experiment was successful and has been helpful in the development of standards the CCU can now use to seek more competitive prices for future proposals.

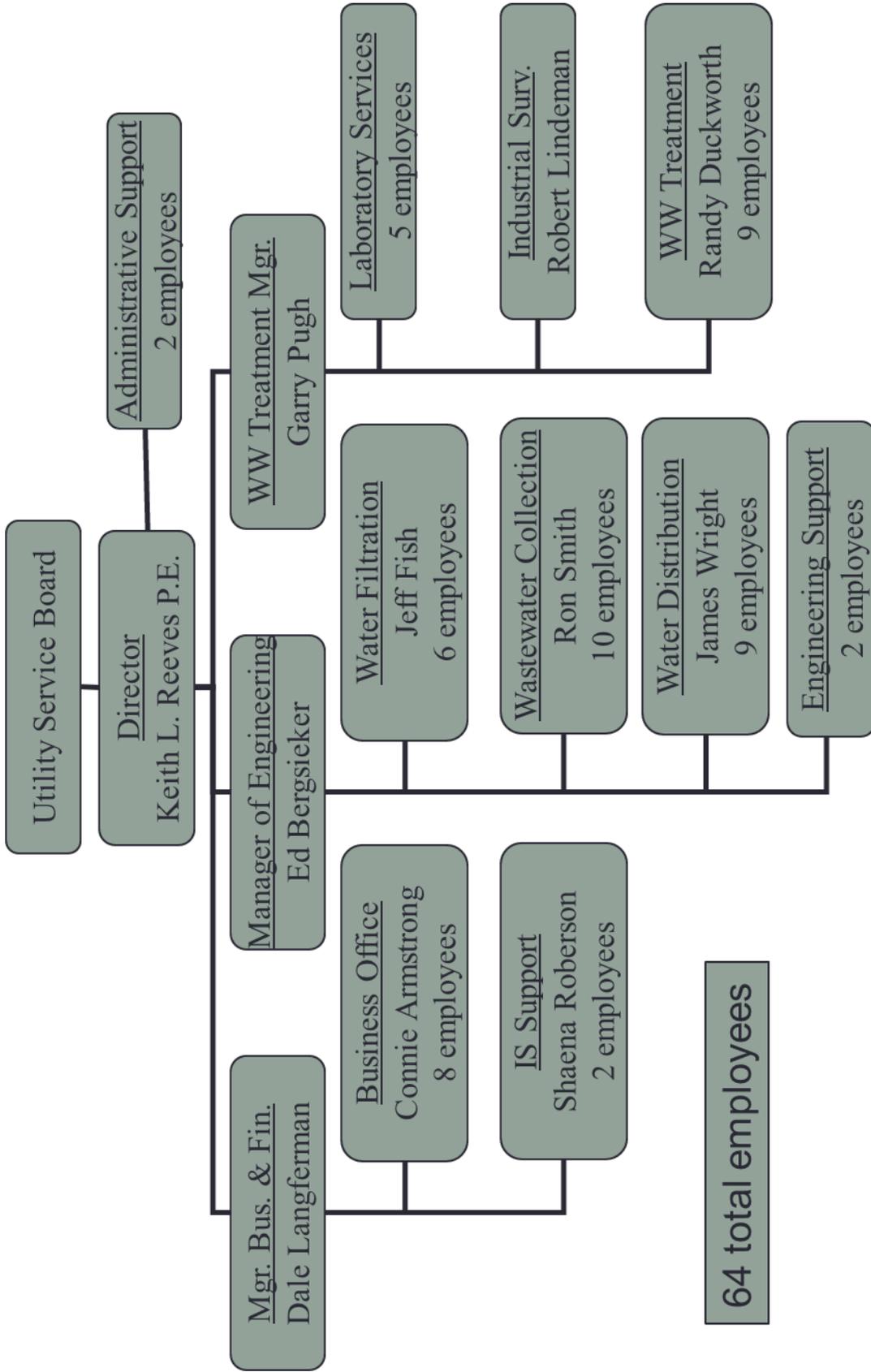
Administration and Organization

The Columbus City Utilities operates under the authority of the Utilities Service Board, which consists of five unpaid citizen members, three of whom are appointed by the Mayor and two by the City Council. The Board oversees the operations of both water and wastewater utilities and of the Director specifically. The department consists of 64 skilled individuals with education and talents in engineering, business, accounting, information systems, and laboratory science. A department organizational chart is presented on the following page.

Business and Financial

Water and wastewater income met predicted levels during 2013. When compared to 2012, water income was somewhat lower due to the higher than normal drought-related sales during that year. Wastewater income was approximately one third of one percent lower than 2012 levels.

	<u>2012</u>	<u>2013</u>	
Water Income	4,964,392	4,713,431	(-5.08%)
Wastewater Income	11,292,325	11,252,448	(-0.35%)



64 total employees



Operational expenses also remained relatively unchanged between 2012 and 2013. The slight increase in water was due to a change in accounting practices involving water meters. And even though we had strived to reduce costs related to biosolids disposal in 2013, wastewater expenses were reduced by less than one percent from 2012 levels.

	<u>2012</u>	<u>2013</u>	
Water Expenses	4,397,949	4,436,250	(0.87%)
Wastewater Expenses	9,590,678	9,531,270	(-0.62%)

Because the expense budget does not include capital expenditures and principal payments, the primary financial indicator is cash balance. Water cash increased slightly during 2013 due to a final debt payment. Wastewater cash decreased as we continue to adapt to operations at the new wastewater plant and make debt payments on the capital projects that were completed over the last couple of years.

	<u>2012</u>	<u>2013</u>
Water Cash	4,084,750	4,143,121
Wastewater Cash	18,510,044	18,329,253

Also in 2013, the business office undertook the selection and implementation of a new financial system for the department. The implementation process is still underway, but the system was “live” by the end of 2013.

Other Accomplishments

Safety Committee Reshaped - In 2013 the CCU revamped its Safety Committee upgrading its make up to a mixture of both management and first line employees. The committee instituted training programs in fork lift safety, confined space procedures and will be catching up new employees on all suggested vaccinations for their particular job exposures.

Combined Sewer Overflow Operations Report Updated – Even though Columbus eliminated its last point of combined sewer overflow in 2010, it still operates a combined sewer system serving approximately one third of the City. There is still a requirement that the City operate its system to minimize and in our case prevent overflows of combined sewage into local rivers and streams. The CCU staff undertook to update its operational plan at IDEM’s directive and included operational directives for the new combined sewer control facilities and the new wastewater treatment plant that would maximize the gallons of flow that would receive treatment during a storms event. The plan was submitted in December and was accepted early in January 2014.

Air Pollution Permits – A new initiative on the part of IDEM’s air pollution division brought the pollution potential of the CCU’s seven stationary generators under scrutiny. These units were previously considered to be exempted from air permitting requirements, but this new initiative made it clear that they were not, though if the City chose to become compliant during 2013, certain fines would be forgiven. The



determination of the level of our permitting requirement was further questioned because of our longstanding commitment to the Duke Energy Powershare Program where participants receive discounts on the electric charges in exchange for reducing load (in our case by onsite power generation) during requested periods of peak power demands.

Because of staff's inexperience with these issues, the Utilities Service Board authorized the use of a consultant who determined that only two of our generators would actually require permitting. The consultant also confirmed the level we could use the Powershare program without jeopardizing the permit we obtained.