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COMMITTEES

Public Works, Chair
Public Safety
Budget and Finance

TO: Water and Sewer Compliance Review Board
Councilperson Glazier, John Bartol, Arundhati Khanwalkar,
FROM: Joe Davis, Water and Sewer Compliance Review Board Chair
DATE: May 21, 2015
SUBJECT: **Compliance Review Board Agenda**

The Water and Sewer Compliance Review Committee will meet on Wednesday, May 27 at 6:00 PM in Council Chambers.

Call to Order

Introductions

Mission

Review of Annual Report:
Performance Standards
- Customer Service
Water Quality Issues
Maintenance
Capital programs

Compliance Board Comments
Public Comments
Board: Future Topics to be considered

CC:
Public Agenda List
Neighborhood Groups

If you have any questions on the legislation, please contact Council Office at 610.437.7556
or email the City Clerk at Michael.Hanlon@allentownpa.gov.

*Council meetings are held on the first and third Wednesday of each month beginning at 7:00 pm in Council Chambers.
For copies of the agenda or meeting announcements, please visit our website at www.allentownpa.gov.*

2013-
2014

Concession Lease Annual Report



Office of Compliance
Department of Public Works
City of Allentown
May 27, 2015

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EXHIBITS:	
Exhibit A	Regulatory Report Requirements
Exhibit B	Concession Agreement and Operating Standards Reports and Requirements

INTRODUCTION

Following a very detailed and engaging bidding process, Lehigh County Authority (LCA) emerged as the successful bidder for the operation of the City's water and sewer systems. The City and LCA signed the *Allentown Water and Sewer Utility System Concession and Lease Agreement* (Lease) on May 1, 2013. In addition to the terms and conditions, the Lease includes the Operating Standards (OS) manual, which contains definitions, metrics, and performance requirements to which LCA must comply. The focus of the OS is on water quality for drinking water and sewage effluent, customer service, and operation and maintenance of the facilities to ensure that all the systems are properly and continuously maintained throughout the term of the Lease.

LCA's actual tenancy of operation of the utility systems started on August 8, 2013. This first annual report covers the Transition Period (8/8/2013-2/8/2014) and the first year of the Lease (2/8/2013-12/31/2014).

PERSONNEL – Eighty-three former City employees became part of LCA's Allentown Division (Allentown) which has 107 employees. The breakdown of personnel includes 60 out of 76 (79%) of the SEIU (Service Employees International Union), and four who accepted non-union/management positions. Twenty-three out of 26 supervisory employees (88%) also transferred to LCA. As evidenced by the high number of transfers, a very significant amount of direct experience and institutional knowledge was retained for the successful operation of the water and sewer systems.

The City's Office of Compliance (OoC) was established to oversee LCA's performance and compliance with the Lease and OS. In addition to conducting the monthly COA/LCA Regular Compliance meetings; the OoC reviews all reports and is empowered to conduct reviews and inspections. The OoC can assess liquidated damages (penalties) if LCA does not comply with its obligations under the Lease or OS.

REPORTING - LCA is required to submit to the OoC copies of all regulatory reports in Exhibit A and the those reports listed in Exhibit B which are required by the OS or Lease. Additionally, copies of all correspondences between LCA and regulatory agencies are to be submitted to the OoC. The OoC reviews all submissions to determine, verify, or confirm that the requirements of the Lease and OS are being followed. As holder of water and wastewater permits, the City must meet regulatory requirements included in the permits. The OoC consults with LCA and regulatory authorities regarding these conditions. Additionally, the OoC reviews all water/sewer applications relevant to construction, permit renewals, etc. and advises the Director of Public Works of its findings.

In addition to fulfilling all regulatory reporting obligations, LCA is required to file various monthly, quarterly, and annual reports to document compliance with the performance requirements in the OS. All work recorded in the submitted reports can be verified by work orders which are completed on site. During the first year, performance standards which have an annual requirement, such as the number of fire hydrants inspected and tested, were reduced to 50% to allow whomever was the successful bidder the opportunity get acclimated, provide adequate staffing, train the staff, develop operating procedures,

integrate with City operations, develop and maintain required computerized recording and reporting systems, etc. The reduced requirements were in most cases equal to or greater than performance levels in place prior to the Lease. All water quality standards were in full effect from the first day of operation.

This annual report is formatted and presented to provide the reader with specific information on the performance standards and associated metrics, LCA's performance relative to compliance with the required standards, significant issues during the reporting period, and other information relative to the water and sewer systems operations under the terms of the Lease.

- **Wastewater Treatment**

The wastewater treatment plant (WWTP), known as the Kline's Island Wastewater Treatment Plant, is designed to treat 40 million gallons per day (MGD) of sewage and is operated under the National Pollutant Discharge Permit Elimination System (NPDES) Permit # PA0026000. The annual average daily volume of sewage treated at the WWTP in 2014 was 32.39 MGD, which was 5.5% more than the 30.71MGD treated in 2013.

The WWTP is staffed 24 hours a day, seven days a week. Operational decisions and guidance is provided primarily by a manual of standard operating procedures (SOP).

CMMS - LCA utilized the Computerized Maintenance Management System (CMMS), transferred as part of the Lease. CMMS is the basis for recording and maintaining the treatment facilities and equipment. All equipment is catalogued and assigned a discrete identification number. Information from the data plate, product literature, and the entire maintenance history including references to specific work orders is on file. The CMMS is used to schedule and issue work orders for predictive, preventative, and repair maintenance.

FLOW METERS - Meters throughout the WWTP are tested and calibrated annually. The communities and authorities (sewer signatories) whose sewage is treated test and calibrate their own meters. All calibrations and certifications are provided to the OoC.

EFFLUENT QUALITY -The 2014 average daily concentration of the permitted parameters and the allowed concentrations under the NPDES permit and the Lease were as follows:

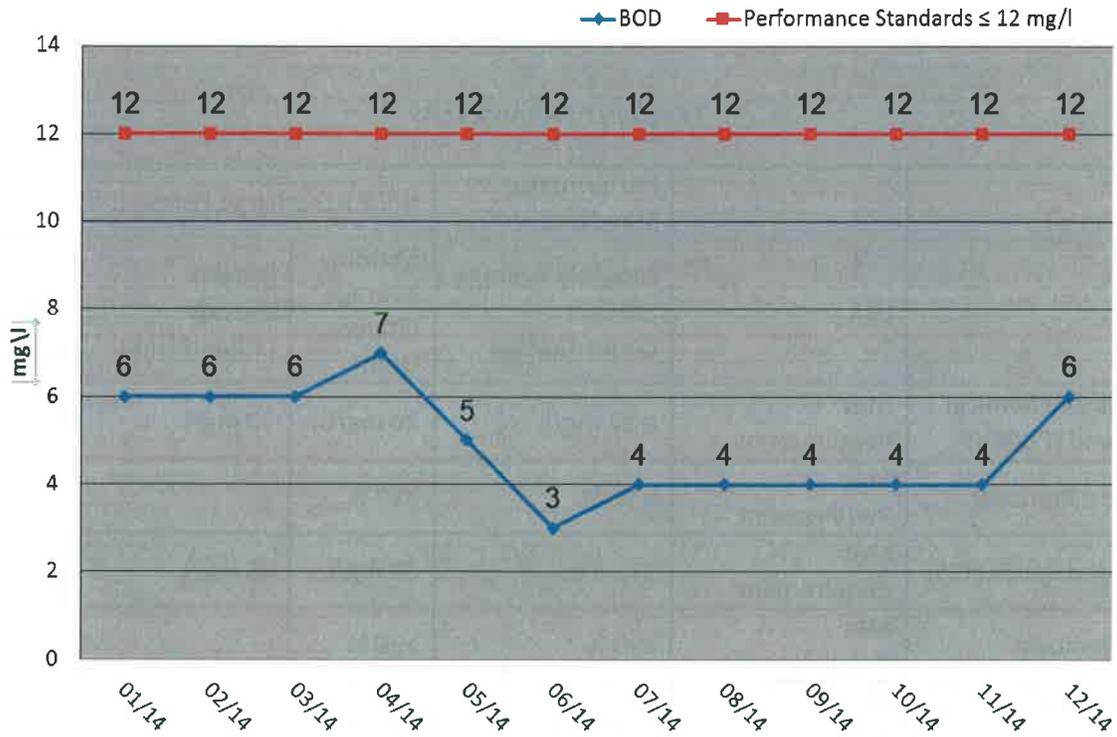
EFFLUENT PARAMETERS

Parameter	LCA	Performance Standards	NPDES Discharge Permit Effluent Limitations		
		Monthly Average Effluent Concentration	Monthly Average Effluent Limit	Weekly Average Effluent Limit	Instantaneous (Daily) Maximum Effluent Limit
Carbonaceous Biochemical Oxygen Demand (CBOD ₅)	Met Requirement	≤ 12 mg/L	20 mg/L	30 mg/L	40 mg/L
CBOD ₅ Percent Removal	Met Requirement	≥ 90 %	≥90 %	---	---
Total Suspended Solids (TSS)	Met Requirement	≤12 mg/L	30 mg/L	45 mg/L	60 mg/L
TSS Percent Removal	Met Requirement	≥90 %	≥90 %	---	---
Ammonia Nitrogen (NH ₃ -N) May 1 to October 31	Met Requirement	≤4.0 mg/L	5 mg/L	---	10 mg/L
Ammonia Nitrogen November 1 to April 30	Met Requirement	≤12.4 mg/L	15 mg/L	---	30 mg/L
Fecal Coliform May 1 to September 31	Met Requirement	200/100 ml geometric mean		---	---
Fecal Coliform October 1 to April 30	Met Requirement	2,000/100 ml geometric mean		---	---
Residual Chlorine	Met Requirement	≤0.5 mg/L		---	---
pH	Met Requirement	6.0 to 9.0 SU		---	---
Dissolved Oxygen	Met Requirement	5.0 mg/L minimum		---	---

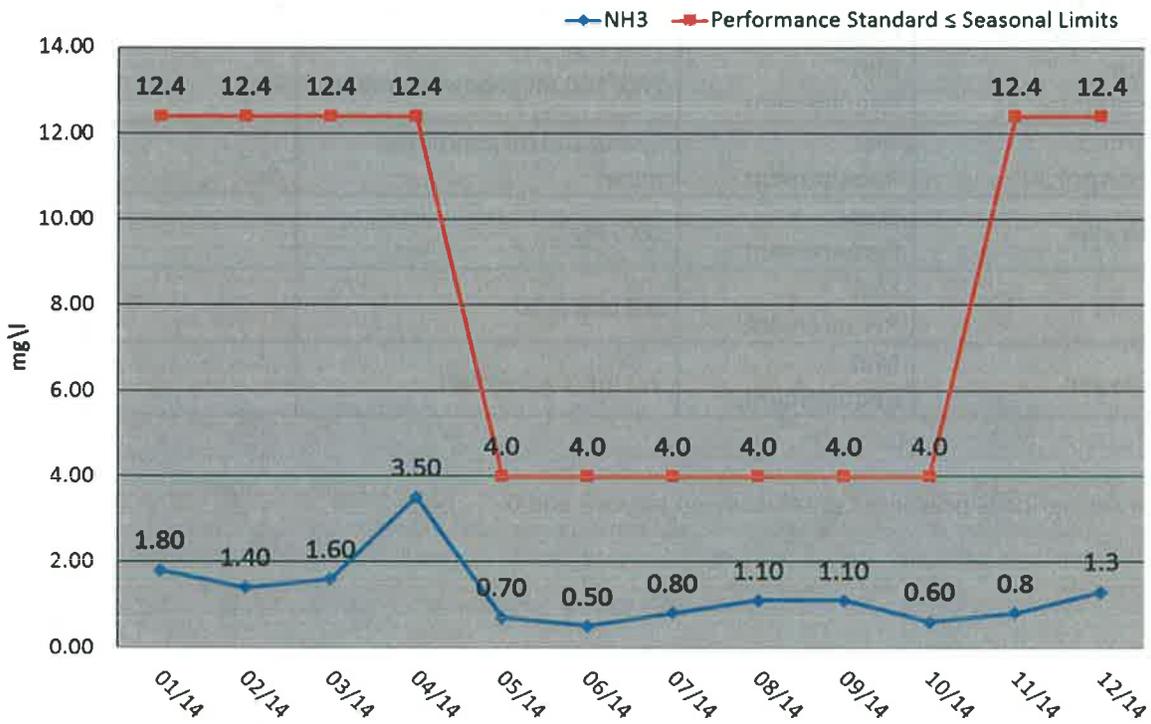
The information is presented graphically on pages 5 and 6.

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Carbonaceous Biochemical Oxygen Demand

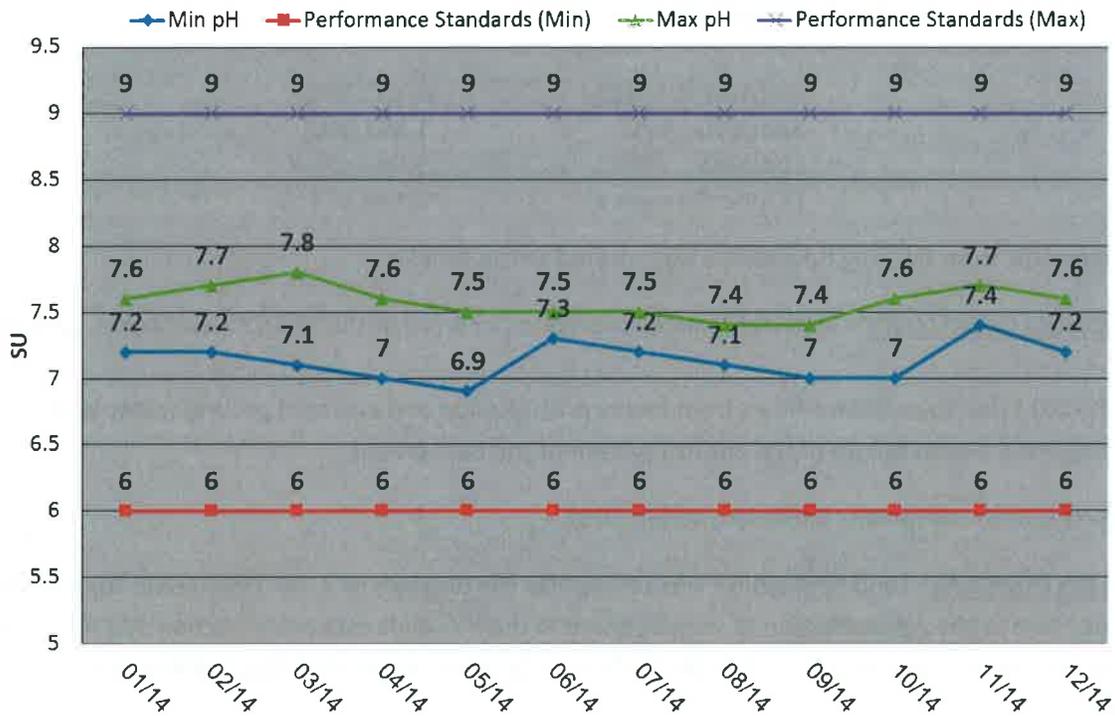


Ammonia Nitrogen

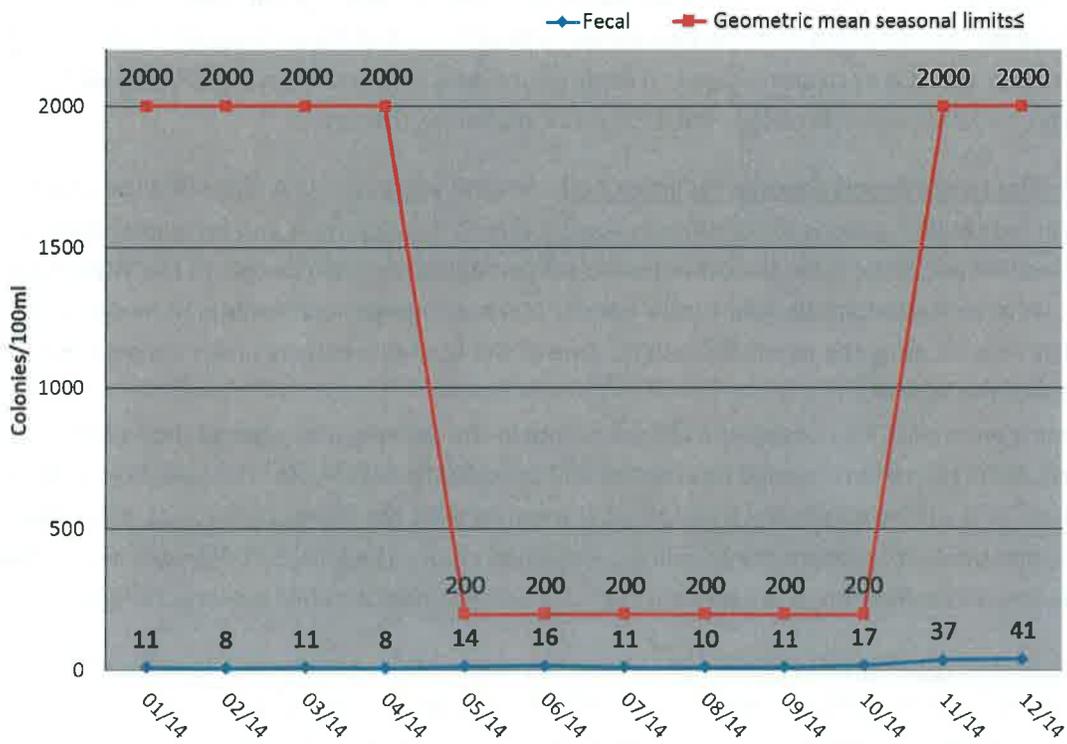


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pH Max and Min Limits



Fecal Coliform



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HAULED WASTE – Septage and landfill leachate are hauled into the WWTP for treatment. The total volume of hauled wastes treated at the WWTP in 2014 was:

HAULED WASTES	GALLONS
Septic Haulers	1,562,000
Leachate	5,080,473
LCA Performance	6,642,473

No wastewater from fracking operations was treated at the WWTP.

HEADWORKS OVERFLOWS – Two incidents of overflows occurred at the WWTP Headworks, or entrance area:

- 4/30/2014 due to excessive flows from heavy precipitation and elevated ground water levels.
- 10/29/2014 due to failure of the control system of the bar screens.

ODORS – No odor complaints were received in 2014.

BIOSOLIDS DISPOSAL - Land application was utilized for the disposal of 2,347 Dry Metric Tons (DMT) of biosolids. Due to the concentration of molybdenum in the biosolids exceeding *Section 503* limits of 40 CFR EPA regulations, approximately 130 DMT of biosolids were required to be landfilled in September and October.

PERMIT RENEWAL - In June 2014, a NPDES (National Pollutant Discharge Elimination System) permit renewal application was filed with the Pennsylvania Department of Environmental Protection (PaDEP) listing the City and LCA as co-permittees. A draft permit was received from PaDEP; and on 7/24/2014, a joint response letter was submitted. PaDEP has not replied to that letter.

ACT 537 (The Pennsylvania Sewage Facilities Act) - Several years ago, LCA identified the need for an additional four million gallons of treatment capacity due to development and increased operations of existing businesses. Since then, the other municipal and authority contributors to the WWTP, including the City, were contacted about their future needs. LCA has engaged consultants to investigate alternatives for securing the needed capacity. One of the four alternatives under consideration is the expansion of the WWTP.

The ongoing work of LCA's consultants will culminate in the delivery and presentation of the 537 Plan which will detail the recommended alternative and provide the reasons for the selection of the preferred alternative. LCA will be scheduling a stakeholder meeting with the sewer signatories, local planning agencies, and others to present their findings and solicit input. The Final 537 Plan will be available for public review and comment. It is expected that LCA will also hold a public presentation(s).

INDUSTRIAL PRETREATMENT PROGRAM - Under the Lease, LCA is responsible to administer the Industrial Pretreatment Program (IPP) in accordance with federal regulations, the City Sewer Ordinance, and guidance from EPA. Thirty eight industries were permitted to discharge to the system-wide collection system in 2014. Of those, 37 were inspected by LCA in 2014 and 34 whose discharge was sampled by

LCA. This sampling is in addition to the sampling and testing that each of the permitted industries is required to perform as a condition within the industry’s discharge permit. Ten Notices of Violation (NOV) were issued in 2014. The City reviews industrial permits and permit violations with LCA. LCA is also required to prepare and submit an annual IPP report to EPA.

- **Sewage Collection System**

Allentown’s sewage collection system consists of approximately 285 miles of pipe, about 80% of which is eight to ten inches in diameter. There are approximately 7,100 manholes. Similar to the drinking water system, most of the collection system was installed years ago:

<u>Time Frame</u>	<u>Percent Installed</u>
1910-1930	21%
1930-1950	34%
1950-1970	36%
1910-1970	91%

Maintenance of the collection system focuses on two primary concerns to prevent surcharging and sanitary system overflows (SSO): preventing blockages and minimizing extraneous flows. Inflow and infiltration (I&I), due to significant precipitation, snow melt, and elevated ground water levels, is a major source of the extraneous flows. There are no pumping stations within the City to move sewage to the WWTP. Sewage conveyance relies on gravity. Velocities within most of the gravity collection system are slow a significant amount of the time and result in the settling of materials which contribute to blockages. The problem is compounded by customers improperly disposing of materials, principally fats, oils, and grease (FOG) which congeal and promote blockages. Tree roots are also responsible for blockages. SSOs which are caused by blockages typically occur within the City in smaller diameter pipes. In order to address maintenance of the collection system for the issues noted, in compliance with the Lease, LCA developed a Collection System Inspection and Maintenance Plan (CSIMP) to provide a systematic approach for inspecting, televising, cleaning, and flushing the collection system. The CSIMP includes daily, weekly, and monthly preventative maintenance to flush and jet areas where blockages are known or anticipated to occur. Additional collection system areas are added to the preventative maintenance program based on inspections and televising the lines.

FOG - LCA is continuing the dedicated FOG abatement program.

SSO - Other than the SSOs noted in the Administrative Order section of this report, six SSOs occurred in the Allentown collection system in 2014. All six SSOs were caused by blockages which were cleared by LCA personnel. Notification and reporting to PaDEP were provided in a timely manner.

The OoC conducted a review/inspection of the routine preventative maintenance programs. All noted items of concern were addressed in a timely manner.

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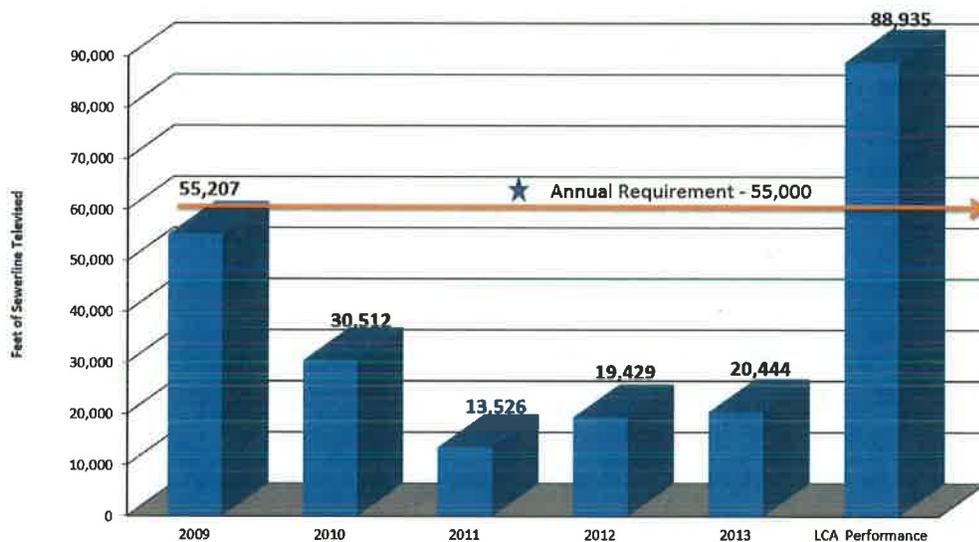
ROOT INTRUSION - Root intrusion is addressed by the application of a specially formulated chemical. The OS require that 40,000 to 50,000 linear feet of areas where root intrusion was identified to be treated annually. Treatment is not once and done; application will typically last a few years and then re-application is necessary.

Root Control Application	
Requirement	Linear Feet
OS annual	40,000 to 50,000
First Year	20,000 to 25,000
LCA Performance	59,232

TELEVISIONING COLLECTION SYSTEM - Analytical assessments of the internal condition of collection system pipes are done by skilled personnel operating specialized vehicles with CCTV (closed circuit television). The operators televise the lines after they have been flushed to look at structural conditions, signs of leakage, sags in the lines, FOG accumulations, accumulations of materials, etc. The televised footage is preserved in the Geographical Information System (GIS) system for closer review and for future reference. The televising process is a key component of the CSIMP and is the source for determining the need for remedial repairs and additional preventive maintenance. The OS requires that LCA televise at least fifty five thousand (55,000) linear feet of the collection system annually.

Sewer Lines Televised	
Requirement	Linear Feet
OS annual	55,000
First Year	27,500
LCA Performance	88,935

Sewer Lines Televised



★ Operating Standards (OS) section A.19 and B1.5: During the first full year following the end of the Transition Period performance requirements for all Operating Standards with an annual requirement will be reduced to fifty percent (50%) of the performance requirements.

Similar to the pipes in the collection system, the manholes are old and are often the source of leaks. Over time, the side walls have become porous and/or the upper sections are no longer able to withstand the hydraulic forces during surcharging. LCA inspects and rates the condition of each manhole specifically looking for candidates for the Sanitary Sewer Manhole Lining or Manhole Collar and Frame capital projects, as part of the response to the Administrative Orders. The purpose of these capital projects is to prevent infiltration by reinforcing the manhole's internal wall and bolting down covers and/or adding concrete collars to the upper portions of the manhole to reinforce the structure.

Also included in the collection system program are the inspection of new lines and participation in the City's Streets Program. Major resurfacing projects under the City's Streets Program require the collection system pipes be televised and cleaned. Any damaged or leaking sections of the lines need to be repaired or replaced. Manhole rim elevations must be aligned with the new street elevation.

- **Drinking Water Treatment and Production**

The City's permits allow the discharge of 39 million gallons of drinking water a day with a maximum of 30 million gallons a day being treated at the Water Filtration Plant (WFP). Allentown's drinking water sources are: Schantz Spring (SS), Crystal Spring (CS), the Little Lehigh Creek (LLC), and the Lehigh River (LR). In 2014, approximately 58% of the finished water originated from the two springs. Raw water from the LLC and the LR require treatment at the WFP before entering the distribution system. The LR is considered a backup supply source in the event of a drought or a problem with the LLC's water quality as the tributaries to these supplies originate from different geographic areas. The LR supply is engaged periodically to ensure it is available if needed. The LR provided 1.3% of the drinking water in 2014. The volume of drinking water discharged from the WFP in 2014 averaged 18.55 MGD which was essentially identical to 2013's 18.54 MGD.

Removing contaminants during water treatment employs two basic processes. Chemical addition, mixing, and settling removes the majority of contaminants from the raw water which results in the generation of sludge. The sludge is removed from the settling basins and transported to the WWTP where it is dewatered and subsequently disposed. Approximately 111 tons, on a dry weight basis, were generated in 2014.

The second process is filtration of the clarified effluent from the settling process through filter beds utilizing anthracite and sand as the primary filtering agents. This method removes smaller particulate matter not previously removed. The quality of the effluent from filtration is based on turbidity which measures the clarity of the water or analogously the absence of materials that would impede the passage of light during analytical testing procedures. The filters are routinely backwashed and the waste is discharged to the WWTP for treatment. The filtered water is chlorinated, fluoridated, and then discharged to the distribution system.

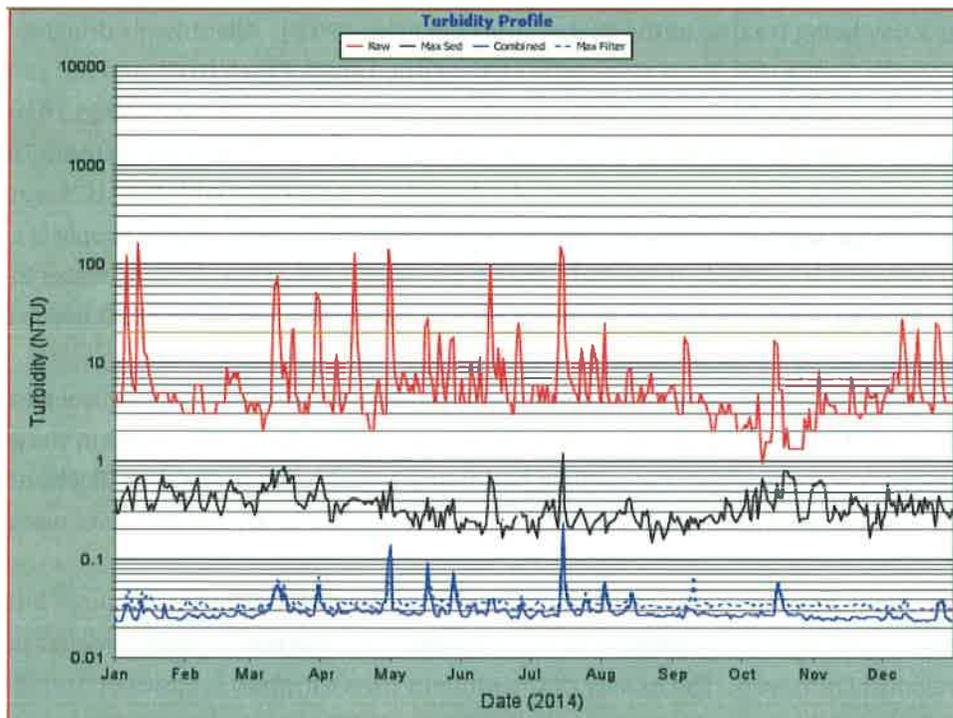
SCADA - The Water Filtration Plant's facilities and equipment are maintained using CMMS (see Wastewater Treatment). The operation of the WFP is similarly guided by a manual of SOPs. However, when the WFP was upgraded in 1998, a Computerized Systems and Data Acquisition system (SCADA) was incorporated into the design. The SCADA system allows operations personnel to monitor treatment

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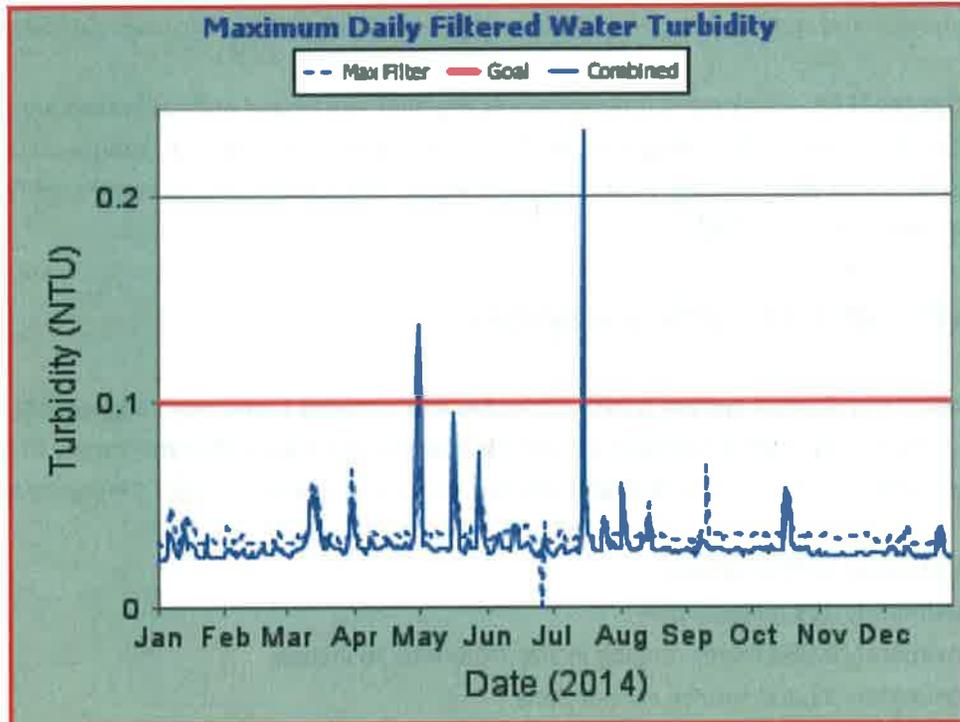
processes, control chemical feed rates, adjust various flow rates and pump rates, etc. from a centralized operations control room. The SCADA system also records information throughout the treatment facility. Although operations are principally controlled from the operations center, the WFP is staffed 24 hours a day, 7 days a week and the operators make routine checks and inspections of the facilities and the processes. Operator training includes running all operations manually.

PARTNERSHIP for SAFE WATER - During the public hearing on the Lease Concession, concern was expressed that drinking water quality might suffer under the control of the selected bidder. The OS were written to provide “Allentown Standards” which essentially mirror the performance standards required by the Partnership for Safe Water. The Partnership promotes the optimization of operations to produce drinking water quality to much higher standards than required under state or federal laws.

TURBIDITY - The more stringent turbidity standards, which are too detailed and technical to convey in this report, require LCA to conduct a significant amount of sampling, religiously oversee operations (particularly filtration), and complete required reporting obligations. LCA has complied with all the requirements of the OS (see Awards and Acknowledgements). See graph below.



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ANNUAL DATA	Avg (NTU)	Min (NTU)	Max (NTU)	RSQ	95% (NTU)	Opt. Goal % Values	Reg % Values
Raw Turbidity	9.23	0.96	164	n/a	25	n/a	n/a
Max. Settled Turbidity	0.36	0.15	1.18	0.08	0.67	99.7	n/a
Max. Filtered Turbidity	0.036	0	0.159	0.12	0.049	99.7	n/a
Combined Filtered Turbidity	0.03	0.023	0.231	0.81	0.042	99.4	100

Nearly 100 chemicals, called Primary Contaminants, must be tested for on an annual basis per Pennsylvania Code Title 25. Environmental Protection, Chapter 109. Safe Drinking Water. No maximum contaminant levels were exceeded.

WATER AESTHETICS - As required in the OS, LCA must also address customer complaints regarding the aesthetic qualities of the water such as odor, discoloration or taste. A total of 29 complaints about aesthetics was received in 2014. Most complaints can be resolved over the phone by suggesting that the customer let the water run, check other taps, etc. Periodically it is necessary to visit the customer's property to verify through testing and inspection the cause of the water quality issue. In 2014, three investigations were conducted and in all cases, no water quality problem existed as determined through testing. All complaints and responses are recorded and followed-up with the complainant.

Information about water quality is supplied to all customers in the annual *Consumer Confidence Report*.

PRIMARY FLOW METERS - All primary flow meters at the WFP are tested and calibrated annually. Bulk water users (South Whitehall Township, Salisbury Township, Hanover Township, Whitehall Water Authority, and LCA) test and calibrate their meters annually. All calibration and meter certification information is provided to the OoC.

• **Drinking Water Distribution System**

Allentown's water distribution system is very extensive and contains numerous components. Maintenance, renovation, and updating of the distribution system is critical to the supply of drinking water from both a day to day perspective and relative to maintaining the system's integrity into the future.

The water distribution system includes:

- Approximately 325 miles of pipe.
- Approximately 8,060 valves ranging in size from 4 to 36 inches.
- Approximately 33,400 service connections.
- Four booster pump stations which provide adequate pressure to service connections in higher elevations.
- Three finished water storage reservoirs with a combined storage capacity of 50 million gallons. These reservoirs store water to meet customer demands, provide the water system's operating pressure and ensure an adequate supply for fire protection.

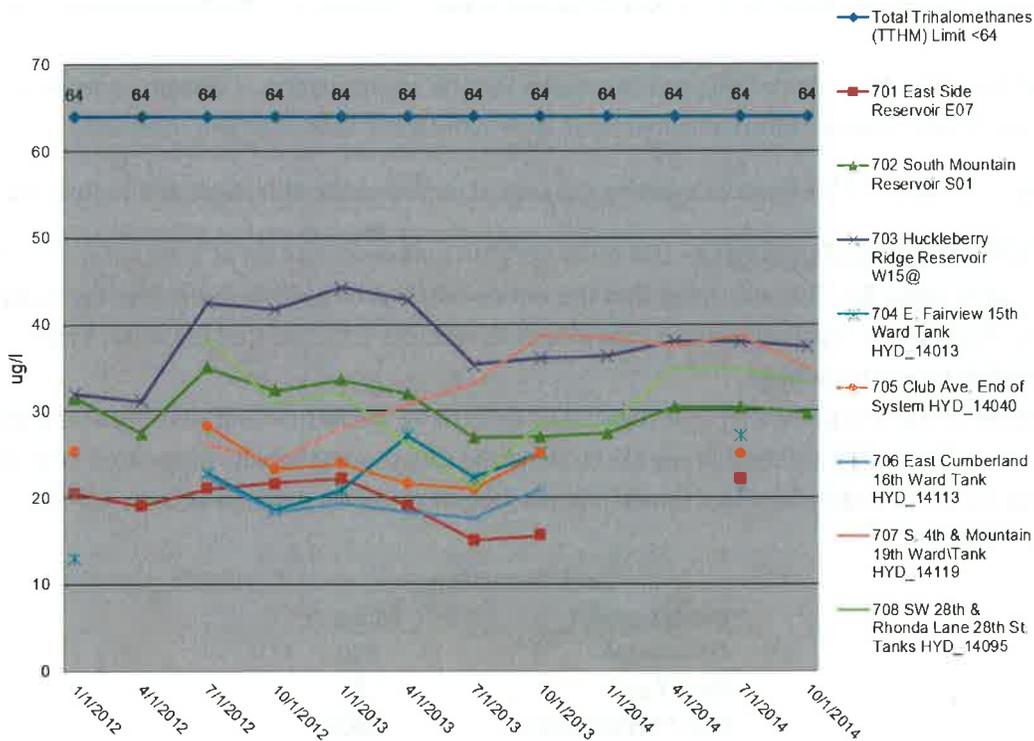
FLUSHING THE SYSTEM - As with any water utility, LCA is required to insure that both chlorine residuals for continued disinfection and minimum operating pressures are maintained throughout the distribution system. To achieve this objective, LCA has developed a program of flushing distribution system pipes. Flushing typically leads to the disturbance of sediment in the lines, causing cloudy or brownish water which can appear at the customer's tap for a short period of time. LCA provides the "flushing schedule" on its website and in billing mailers. Although it is difficult to determine exactly where discolored water might migrate, efforts are made to advise residents in the immediate area. LCA flushed the entire system in 2014.

SAMPLING - A distribution system sampling plan which includes locations throughout Allentown has been approved by PaDEP. Samples are collected routinely and tested by a certified laboratory to verify that the water is safe and meets regulatory requirements. Sampling results which do not comply with regulations and necessitate re-testing must be reported to the OoC. LCA installed six new sampling stations in 2014.

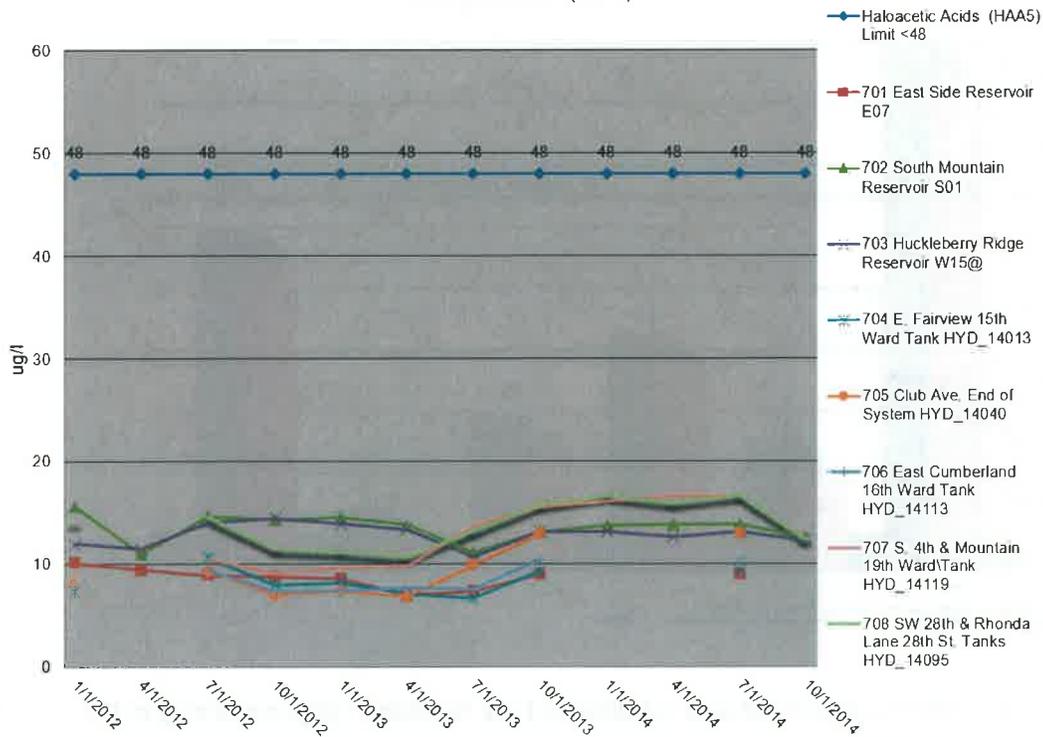
OS Part A 4.1 Performance Requirements stipulate that the maximum four quarter running average calculated at each required distribution system sample location is 64 parts per billion (ppb) for Total Trihalomethanes (TTHM) and 48 ppb for Haloacetic Acids (HAA5). Reduced monitoring was achieved in 2014. See graphs below.

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Total Trihalomethanes (TTHM)



Haloacetic Acids (HAA5)



In 2014, no boil water advisories were issued.

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The OS contain specific performance standards for the water distribution system components listed above.

Requirements for the booster stations and reservoirs include maintenance of system components, annual external inspections, periodic internal inspections, and hydrostatic testing of the reservoirs.

The requirements and LCA's efforts in meeting OS annual performance standards are as follows:

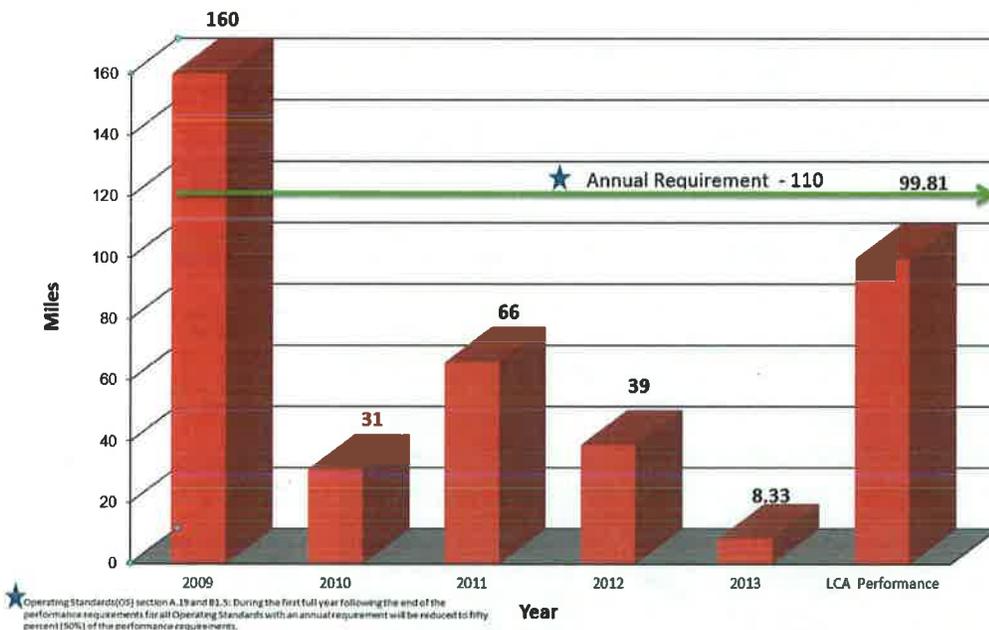
LEAK DETECTION AND WATER LOSSES - LCA must perform leak detection on at least 110 miles of distribution pipe annually. This will mean that the entire distribution system is checked for leaks every three years. Finding and repairing leaks is cost effective, reduces unaccounted for water losses, and can prevent possible property damage.

Any leaks identified are to be further investigated to determine the nature and severity of the leak. No time frame for repairs is established in the OS to avoid the City sharing liability associated with repairs if an identified leak is not addressed in a timely manner before property damage occurs. LCA is aware of this liability concern.

Leak Detection

Requirement	Miles
OS annual	110
First Year	55
LCA Performance	98.8

Miles Leak Surveyed



Based on the estimated size of the leak repaired and the number of days remaining in the year, it was estimated that 118,444,400 gallons of water were saved in 2014. This estimate is calculated by determining the volume of each leak multiplied by the number of days remaining in the year.

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ANNUAL WATER AUDIT - In addition to the Leak Detection Program, LCA is required to complete and submit an annual water audit to the Delaware River Basin Commission to document and demonstrate their efforts in controlling water loss. The purpose of this report is to track and evaluate the water loss trends.

VALVE EXERCISING PROGRAM - Water main valves in the distribution system typically remain in the open position for years. Eventually, a valve may need to be closed to facilitate addressing breaks, repairs, and pipe replacements. The ability to close valves to isolate pipe sections and redirect the flow of water becomes critical. Too often in many utilities, the inability to close valves, particularly in cold weather when most breaks occur, can lead to significant problems.

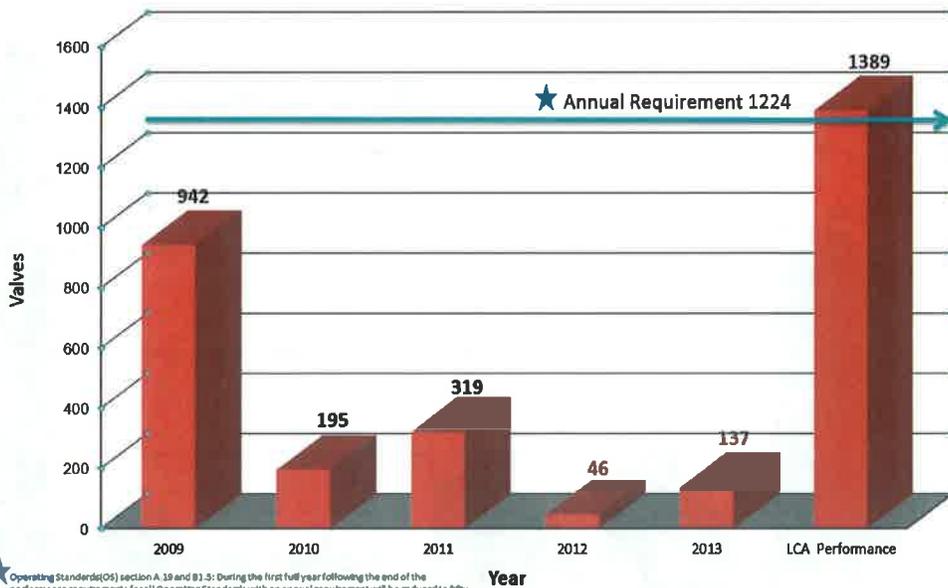
LCA is required to exercise all valves between 4 and 12 inches at least once every five years. These are the valves within the distribution system which directly serve customers.

Any valve which is found to need repair or replacement must be addressed within one year of the initial identification.

Valves Exercised

Requirement	# of Valves
OS annual	1,224
First Year	612
LCA Performance	1,389

Valves Exercised



★ Operating Standards(OS) section A.19 and B1.5: During the first full year following the end of the performance requirements for all Operating Standards with an annual requirement will be reduced to fifty percent (50%) of the performance requirements.

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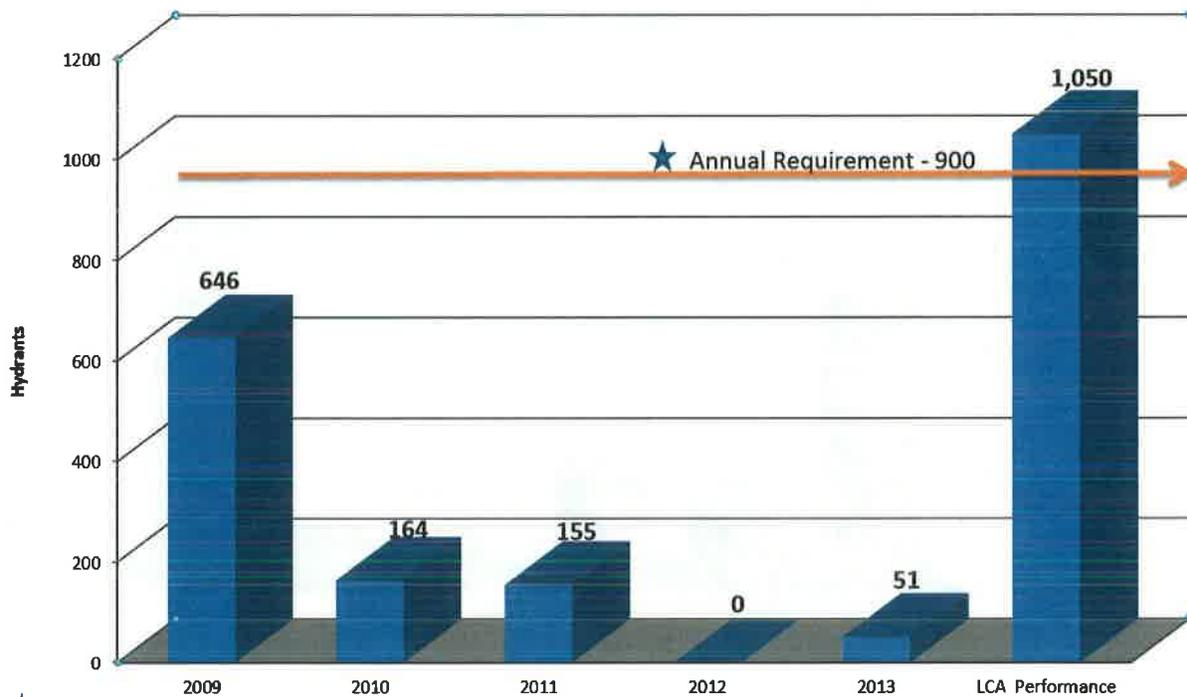
HYDRANT MAINTENANCE AND TESTING - There are approximately 1800 fire hydrants in the system. It is critical that fire hydrants be serviceable at all times. LCA is required to inspect, test, and monitor pressure and flow on 900 hydrants annually. This requirement will result in every hydrant being checked at least every two years. Hydrants which require repair or replacement must be completed within six months of the problem(s) being identified. Hydrants reported by the Fire Department as not functioning properly are handled similarly. Painting of hydrants subsequent to inspection to ensure visibility is an additional requirement.

As a result of this program:

- 128 hydrants were repaired
- no hydrants were replaced
- approximately 1,500 hydrants were painted

Hydrants Inspection & Testing	
Requirement	# of Hydrants
OS annual	900
First Year	450
LCA Performance	1,050

Hydrants Inspected & Tested



★ Operating Standards(OS) section A.19 and B1.5: During the first full year following the end of the performance requirements for all Operating Standards with an annual requirement will be reduced to fifty percent (50%) of the performance requirements.

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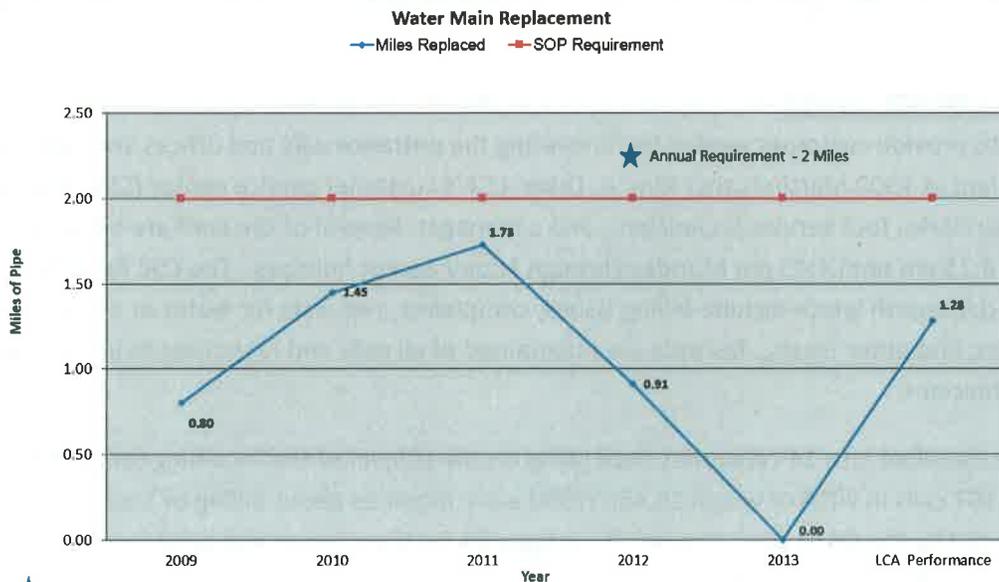
PIPELINE REPLACEMENT - Approximately 325 miles of water distribution pipes were inventoried during the bidding process. That inventory indicated that 49% were installed between 1870 and 1944. Between 1944 and 1963, the City utilized spun cast iron pipe, which accounts for another 19% of the system pipes. Unfortunately, this type of pipe has been shown to be the most prone to breakage. Replacement of the spun cast iron pipe has been a City priority for several years. There were 17 main breaks in 2014; 13 breaks involved spun cast pipe.

A study by the City's Chief Utility Engineer in 2010 showed that the overall annual water main breakage rate is increasing from 1960 to 2008.

PIPE ASSESSMENT PROGRAM - LCA was required to develop an assessment program which looked at variables such as age of pipe, type of pipe and breakage history to determine which pipe segments should be replaced most immediately. Spun cast iron pipes and pipes over 100 years old were to be prioritized along with consideration for dovetailing pipeline replacement into the City's Streets Program. When a street is to be totally resurfaced, the pipe underground will be replaced to minimize the potential for a water line break in a newly resurfaced street.

WATER MAIN REPLACEMENT - The OS requires two miles of pipeline to be replaced annually. Service lines are also replaced and information on all the new lines are to be entered into the Geographic Information System (GIS) so that information on the City's infrastructure is kept current.

Water Main Replacement Program	
Requirement	Miles of Pipe
OS annual	2.0
First Year	1.0
LCA Performance	1.28



★ Operating Standards(OS) section A.19 and B.13: During the first full year following the end of the performance requirements for all Operating Standards with an annual requirement will be reduced to only percent (50%) of the performance requirements.

CUSTOMER METERING - All customer metering devices must follow American Water Works Association guidelines. In 2012, before the Lease, the City began a major meter residential replacement program to replace the existing meters with Automatic Meter Readers (AMR). These meters are more accurate and have greater data collection capabilities which allow for information on water use patterns to be determined. Meter reading is accomplished by driving by a customer's property with a specially equipped vehicle thus eliminating the need for entry onto property. It was anticipated that the increased accuracy would reduce the level of unaccounted for water.

Approximately 32,800 of the 33,400 customer account have been converted to AMRs. The remaining 600 meter replacements are currently being done by LCA personnel.

- **Customer Service**

Customer service was a primary concern during public meetings on the Lease. Consequently, significant effort was undertaken in order to make the transition from the City's Water Resources (WR) operation to LCA as seamless and as transparent as possible.

LCA kept all existing phone numbers the same as those used by WR. LCA and the City developed a service agreement wherein the City Communications Center functioned in exactly the same capacity as it had with WR, receiving calls and notifying designated response personnel for emergency situations during off hours and on weekends. The radios used by WR plant and field personnel were included in the agreement which also provided an interconnection with Police and Fire for emergency situations. The majority of the rolling stock used by WR was transferred to LCA. As noted in the Introduction, the majority of WR personnel transferred to LCA. Service technicians are available to respond to emergencies 24 hours a day 7 days a week. For all intents and purposes, other than different logos on the vehicles and different uniforms, Allentown customers essentially saw no change in the delivery of services under the Lease.

CUSTOMER SERVICE CENTER - As required by the Lease, LCA established an office within the City of Allentown to provide customer service by renovating the entrance way and offices area at the Water Filtration Plant at 1300 Martin Luther King Jr. Drive. LCA's customer service center (CSC) is staffed with five full time clerks, four service technicians, and a manager. Several of the staff are bilingual. The CSC is open from 8:15 am until 4:45 pm Monday through Friday except holidays. The CSC fields approximately 1,600 calls per month which include billing issues, complaints, requests for water or sewer services, emergencies, and other issues. Records are maintained of all calls and responses to include dispatching service technicians.

All calls are classified into 14 categories depending on the subject of the incoming call. LCA received a total of 20,907 calls in 2014 of which 16,486 (79%) were inquiries about billing or credit card payments. LCA is required by the OS to track the calls by categories for the present and prior two years to look for trends. As this is the first year, no assessment was made.

The OoC conducted a review/inspection of the documentation and response of incoming calls received at the CSC. All issues of concern were addressed in a timely manner.

Bill payments by cash or credit card can be made at three windows in the CSC. There is a parking lot for customers to use which includes a secure drop box for bill payments.

CUSTOMER SURVEYS - LCA is required by the lease to conduct customer surveys to measure customer satisfaction. LCA has customer survey programs in effect in its other service areas and maintains a service satisfaction goal of 91%. The 2014 Allentown customer survey satisfaction rate was 88%. This was an increase from 82.5% recorded in the four- and- one-half months in 2013. One of the issues identified as problematic was the inability to coordinate billing cycles during the transition for residential customers, who are billed quarterly. Depending on when the City read a meter and when LCA read that same meter sometimes lead to significant variations in the number of days included in the next quarter's billing. After the second billing of an account, the issue was resolved.

CUSTOMER CONCERNS - All customer questions or concerns are directed to the CSC. LCA has very specific policies and protocols in place to address customer concerns and complaints. All actions and responses are logged. If customers do not accept that LCA has adequately addressed their concern, the next step is to contact the OoC. Not all complaints are resolvable, such as a leaky toilet which results in an unusually high bill. In 2014, 17 customers contacted the OoC.

- **Completed Major Capital Improvement Projects**

Major Capital Improvement Projects (MCIP) are necessary capital improvements to the water or wastewater systems which have a total cost of over one million dollars (\$1,000,000.00). This qualifying total project cost threshold increases annually beginning in 2016 based on the CPI-U (Consumer Price Index for all urban consumers). Costs include debt service, construction services, materials and equipment, engineering, permitting, consultants, project management, and other directly related costs. Per the Lease, LCA will provide funding and overall project management for MCIPs. The Lease details the phases and related requirements of a MCIP, all of which require presentation to the City for review. Those phases begin with inclusion of a MCIP in the Capital Plan, and then continue with conceptual design, substantially complete design, and project close-out.

Under the terms of the Lease, LCA is allowed to recover all costs associated with a MCIP. Sewer project MCIPs costs are shared by Allentown rate payers and the other sewer signatories, including LCA, in conformance to the 1981 Master Sewer Agreement. Water project MCIPs costs are shared by Allentown rate payers and bulk water customers (South Whitehall Township, Salisbury Township, and Hanover Township).

CCRC - The determination of the actual rate increases is based on a Capital Cost Recovery Charge (CCRC) which spreads the cost of a MCIP out over the life expectancy of a MCIP, not to exceed 30 years. The annual cost will be billed to the rate payer as an incremental increase to the cost per thousand gallons

which will be listed as a line item on a customer's bill. LCA will provide information on the MCIPs with the first bill of the new year. Charges for MCIPs will be added to the bill after rate adjustments (CPI-U and margin) have been made to the base rate as allowed under the Lease.

Capital projects associated with addressing the Administrative Orders (AO) may not exceed the threshold amount. However, the funding for all AO projects, regardless of project costs, is to be paid out of the Administrative Order Fund (AO Fund) which the City must maintain. Costs for AO projects will also be included as a line item on customer bills. The mechanism for determining the AO projects charge is different than the CCRC; it is based primarily on the debt service associated with the AO Fund.

Currently, there are two MCIPs for which CCRCs will be developed and will be included in the 2016 water and sewer bills. As one of the variables in determining the CCRC is the Placed In Service Date (PISD), it is possible that an additional MCIP might be completed and qualify for inclusion on the bill.

MCIPs COMPLETED -

- **Water Main Replacements** in the City's Water Distribution System, this project is a Lease requirement (see Water Distribution System) for pipeline replacements. LCA replaced 1.28 miles of water mains in 2014. The total cost of this MCIP was approximately \$2,270,000.
- **Belt Filter Press Rebuilds & Replacement** at the WWTP, this project provides for the replacement of one of three belt filter presses (BFP) and the rehabilitation of the other two. The BFPs are used to dewater biosolids and WFP sludge to facilitate disposal of the residuals in a solid form. The BFPs exceeded their life expectancies and were not reliable for continual service, nor were they always capable of producing a product which complied with PaDEP requirements. The total cost of this MCIP is approximately \$1,615,000.
- **Administrative Orders**

The United States Environmental Protection Agency (EPA) issued Administrative Orders (AO) in 2007 and 2008 as a result of excessive Inflow and Infiltration (I&I) entering the collections systems of Allentown and the sewer signatories. I&I caused SSOs in the collection systems and at the Headworks of the WWTP during periods of significant precipitation. These orders direct the parties to address the problems. Allentown and the sewer signatories have been developing and implementing projects and programs to address I&I and filing mandated update reports with EPA every six months to document those activities. Although there have been improvements, SSOs occurred in the collection systems and at the WWTP on 4/30/2014 due to hydraulic overloads from heavy rains and elevated ground water conditions. An overflow occurred at the WWTP (see Wastewater Treatment) due to a mechanical failure.

The 2008 AO was directed at system wide SSOs and had a 12/31/2014 deadline for compliance. The deadline was not met. On September 10, 2014 an informational meeting was held between representatives of EPA, PaDEP, Allentown, LCA, and other sewer signatories. The purpose of the meeting was to review the efforts made to control I&I to date, to indicate that the municipalities and authorities were truly committed to resolving the problems, and to state that a formal request would be made to EPA to extend the deadline. As part of that commitment, a list of tasks and projects with a milestone chart would be provided to EPA for its consideration. It was noted that ultimately several multimillion dollar capital projects would be required. The local representatives indicated that the magnitude of the solution(s) required extensive system wide study and planning which would be initiated by a modelling effort that would look at not only current but future needs with the goal of providing a onetime fix. Modeling specialists and engineers would look at the sizing of pipes, structures, and facilities and consider the timing and scheduling to address engineering, planning, permitting, sequencing, and financing involved in a system wide plan. The regulatory representatives indicated they would review whatever was submitted but noted that they had several options to consider.

The formal request letter was sent to EPA on November 14, 2014. No response has been given to date. As promised to EPA, the City and LCA have retained consultants who, with representatives of both organizations, have formed a technical work group focusing on development of the future treatment needs, modelling of the infrastructure, impacts from I&I, and ultimately the options available. Discussions and meetings will be held periodically when certain project milestones have been achieved.

AO PROJECTS -

Four separate projects to address the AOs were completed in 2014 or shortly thereafter:

- **Replacement of the existing influent bar screens** at the WWTP - The existing screens had reached their life expectancy and were no longer reliable; failure of the screens caused sewage to back up and potentially result in SSOs. Cost- \$783,823; funding was provided from a City Capital Program established prior to the Lease.
- **Sanitary Sewer Evaluation Study (SSES)** - A 2008 flow monitoring study identified several basins with disproportionate levels of I&I. To evaluate the potential for I&I remediation as part of modeling and program development, approximately 98,500 linear feet of collection system were televised and 499 manholes were inspected in the targeted basins. In addition to the evaluation and report, the investigation found several sections of the collection system with severe fracturing, open areas, and other signs indicating collapse or failure was likely. As a result, 6 significant repairs requiring excavation and 29 lesser repairs were made; another approximately 180 linear feet of pipe required lining. Cost- \$616,899; funding was provided from a City Capital Program established prior to the Lease.

- **Sanitary Sewer Manhole Linings** - As discussed in the Sewage Collection System section, 65 manholes were lined. Manhole linings will be an annual project per the City's commitment to EPA. The targeted goal is to line 100 manholes annually. Cost- \$182,289.
- **Sanitary Sewer Manhole Collars & Water Tight Covers** - As discussed in the Sewage Collection System section, 49 manhole structures were reinforced with collars and/or bolt down frames. Manhole collars and frames will be an annual project per the City's commitment to EPA. The targeted goal is to provide collars and frames to 100 manholes annually. Cost- approximately \$170,000.
- **Security**

Security is a significant concern to utilities because of the potential health risks to the public, the need to keep treatment systems functional and possible damage to very expensive equipment. Additional security requirements were implemented after the establishment of the Federal Department of Homeland Security.

The treatment facilities use key card systems so that access is limited to authorized personnel. Visitors to the treatment facilities are required to enter through the main entrances, note with whom they are meeting, and sign in after being cleared for entrance. Video surveillance is also utilized. Remote facilities are controlled with similar systems and employ intrusion alarms.

The perimeters of the treatment facilities are inspected daily to check the condition of the fence lines and to look for signs of breaching. In addition to this SOP, other security procedures are covered in the treatment plant SOP manuals. LCA has also developed Emergency Response Plans which are required to be reviewed annually.

A meeting was held with representatives of the Fire and Police Departments to establish procedures and protocols to be followed in the event of a security breach. As noted elsewhere, communications via radio are maintained with the City's Communications Center.

The OoC conducted a review/inspection of security measures at the Water Filtration Plant. All issues of concern were addressed in a timely manner.

No security breaches were reported in 2014.

- **Notices of Violation (NOV)**

2013 - On December 18, 2013, the OoC issued a Notice to Violation to LCA for failure to submit a sanitary sewer overflow notification to PaDEP within the required reporting period. LCA has taken corrective action to prevent a reoccurrence.

No notices of violation were issued by any regulatory agencies in 2013.

2014 - LCA received a Tier 3 Violation Notice from PaDEP for failure to complete all testing for Total Trihalomethanes and Haloacetic Acid within the required time frame. The notice was included in the 2014 Consumer Confidence Report and procedures established to prevent a reoccurrence. No notices of violation were issued by the OoC in 2014.

- **Awards and Acknowledgements**

In November 2013, the Wastewater Treatment Laboratory was given an “Award for Laboratory Excellence” by the Eastern Pennsylvania Water Pollution Control Operators Association.

LCA received the Partnership for Safe Water’s Directors Award for 2014. The award was based on LCA’s optimization of drinking water treatment processes as determined by filter data collected throughout the year. The Partnership is a program sponsored by EPA, PaDEP, and the Association of Drinking Water Administrators and established to recognize drinking water utilities who institute and maintain operating procedures which seek to optimize drinking water quality as opposed to meeting state and federal standards.

Exhibit A Regulatory Report Requirements

Report Name/Description	Frequency	Deadline	Regulatory Agency
Coliform Bacteria Distribution System	Monthly	10th day of following month	DEP
Chlorine Residual Distribution System	Monthly	10th day of following month	DEP
Chlorine Residual Entry Points #101 and #102	Monthly	10th day of following month	DEP
Water Filtration Plant Turbidity	Monthly	10th day of following month	DEP
pH and Alkalinity for Entry Points & Distribution System	Monthly	10th day of following month	DEP
Alkalinity and TOC for Raw and Post Filter	Monthly	10th day of following month	DEP
Water Withdrawals Monthly Report	Monthly	End of following month	DEP
NPDES Discharge Monitoring Report (DMR)	Monthly	28th day of month	DEP
WFP Surface Water Supply Monthly Turbidity Report	Monthly	10th day of following month	DEP
Surface Water Source Sampling	Monthly	2 Years Consecutive Sampling due in 2015	DEP
Consumer Confidence Reporting Sampling	Monthly		DEP
NPDES Noncompliance Report "ByPass"	Monthly, if applicable	Orally within 24 hours, Written within 5 days of unanticipated, 10 days of anticipated	DEP
Land Application Permit	Every 60 Days	Every 60 days	DEP
TTHM & HAA5 Distribution Sites & 3 Residence	Quarterly	10th day of month following end of quarter	DEP
Nitrate & Nitrite Samples for Entry Points #101 and #102	Quarterly	10th day of month following end of quarter	DEP
Alkalinity and TOC for Entry Points & Springs	Quarterly	10th day of month following end of quarter	DEP
Withdrawals from Big Lehigh River	Quarterly	End of month following end of quarter	DRBC
Lab Sampling Reports for IPP & Signatories	Quarterly	3rd week following end of quarter	Internal
Industrial SNC Evaluation	Quarterly		Internal
Monitor Priority Pollutant Scan of Influent, Effluent & Sludge	Quarterly	As available	EPA/DEP
Local Limit Parameters for Influent, Effluent & Sludge	Quarterly	As available	EPA/DEP
Little Lehigh Surface Water Quality Report	Quarterly, if applicable	Report if average Nitrate Level Increase	DEP
Pressure Vessel Inspection	SemiAnnual	As scheduled	I&I
Clean Air Act - Thickening Tanks & Settling Tanks Permit	Annual	Expires 8/14/2014	DEP
Chapter 94 Wasteload Management Report	Annual	March 31st of following year	DEP
Water Allocation Permit Compliance Report	Annual	July 8th of following year	DEP
Water Allocation Permit - Joint Funding Agreement	Annual	Billed Quarterly	USGS
Water Filtration Plant Lab Certification	Annual	Expires 1/31/2014	DEP
Wastewater Treatment Plant Lab Certification	Annual	Expires 10/31/2014	DEP
Water Filtration Plant Spill Reponse Plan Notifications	Annual	February of following year	DEP
Inorganics (IOCs) for Entry Points #101 and #102	Annual	Due by December 31st of year	DEP
Volatile Organic Compounds for Discharges & Crystal Spring	Annual	Due by December 31st of year	DEP
Water Withdrawals Annual Report	Annual	Due by January 31st of following year	DEP
Above Ground Storage Tank Permit	Annual	Expires 4/4/2014	DEP
Residuals - Form 43 for Sewage Sludge & Form 26R for Alum	Annual	Due by August 8 each year	DEP
Residuals - Analysis Result for Year & Certification	Annual	Due by Feb 19 for previous year	EPA
Residuals - Annual Report Alum Sludge	Annual	Due by April 20 for previous year	DEP
Waste Hauler Authorization	Annual	Due by October 9 for each year	DEP
Railroad Lease - S. Albert Along Canal (water pipe)	Annual	September upon receipt	Internal
Railroad Lease - Auburn Street (sewer pipe)	Annual	January upon receipt	Internal
Railroad Lease - E. Side Lehigh River (sewer pipe)	Annual	August upon receipt	Internal
Railroad Lease - Access to Hamilton Street Dam	Annual	Upon receipt	Internal
Chapter 252 Annual Proficiency Testing - WFP lab	Annual	Due in August, complete in July	DEP
Chapter 252 Annual Proficiency Testing - WWTP lab	Annual	Due in August, complete in July	DEP
Above Ground Storage Tank - Chapter 1, Wastewater	Annual	Expires May 2014	DEP
Industrial Pretreatment Program Performance Report	Annual	Due March 31 for previous year	EPA
Emergency Response Plan and Tier II Reporting	Annual	Due March 1	EPA
Consumer Confidence Reports	Annual	April 1 for Signatories, July 1 for Customers, October 1 DEP Certification Letter	DEP
Source Water Withdrawals - Act 220	Annual	Due by April 30 for previous year	DEP

Exhibit A

Regulatory Report Requirements

Report Name/Description	Frequency	Deadline	Regulatory Agency
Water System Interconnection Information - Act 220	Annual	Due by April 30 for previous year	DEP
SOCs for Entry Point #102	Annual	Second Quarter of Each Year	DEP
Arsenic Drinking Water	Annual	Due December 31st for year	DEP
Residual Waste Form 330	Biennial	Due March 1 of Odd # Years (next 2015)	DEP
SOCs	Triennial	Due 2nd and 3rd quarters of 2014	DEP
Lead & Copper Rule Followup	Triennial	Due June to September 2013	DEP
Residuals - NOI Approval	Quinquennial	Due 11/15/2017	DEP
NPDES Permit Renewal (expired 9/30/2007)	Quinquennial	To be renewed by DEP	DEP
Natural Minor State Only Operating Permit Application	Quinquennial	Expires 8/14/2014	DEP
Risk Management Plan	Quinquennial	Due 6/17/2014	EPA
UCMR3 - Entry Points #101 and 102 & Res Sites	Quinquennial	Due by July 2014	EPA
Combined Uranium - Drinking Water	Every 9 Years	Due 12/31/2020	DEP
Gross Alpha, Radium 226, Radium 228 - Drinking Water	Every 9 Years	Due 12/31/2014	DEP

Exhibit B

Concession Agreement and Operating Standards Reports and Requirements

Reporting/Notification Requirement	CA/OS	Section	Page	Deadline / Due Date	Report Name
Calculation of the City water usages for the calendar year	CA	3.22(b)	62	Annually	Annual City Water Usage Calculation
Annual Five-Year Capex Plan update	CA	4.1.(b)(iii)	64	Annually	Annual Five-Year Capex Plan Update
Payment for funding of City Rebate Program	CA	7.2.	78	December 1st of each year	Notification of Annual Payment for Funding of City Rebate Program
Certification that System was operated for previous Year in compliance	CA	8.1.(c)(iii)	79	45 days after end of Year	Certification of Previous Year System Operation Compliance
Copies of annual audited balance sheets, income statements, changes in equity and cash flows	CA	8.1.(d)	80	120 days after end of Year	Annual Audited Financial Documents for Allentown Water & Sewer Utility Systems
Monthly Average Daily Volume of Metered Water Sales Report	CA	3.23	62	Monthly	Monthly Metered Water Sales Report
Monthly reports for Major Capital Improvements	CA	4.10.	70	Monthly, as needed	Monthly Major Capital Improvement Project Summary
Provide notice of all material claims (including labor disputes)	CA	3.13(a)	55	By Occurrence	Notification of Material Claim
Provide information related to mitigation of raw water	CA	3.21(c)(iv)	60	By Occurrence	Notification of Mitigation of Raw Water
Notification of all emergencies, accidents & incidents within the system	CA	8.1(a)	79	By Occurrence	Notification of Emergency, Accident or Incident within Systems
Capital Cost Recovery Charge documentation	CA	7.1(f)	76	By Occurrence	Request for Capital Cost Recovery Charge
Notification of all claims made by or against LCA (in excess of \$50000)	CA	8.1(a)	79	By Occurrence	Notification of Claims Made by or against LCA in Excess of \$50,000
Notification of discharge, spills, dumping or other hazardous release	CA	8.1(b)	79	By Occurrence	Notification of Discharge, Spill, Dumping or Hazardous Release
Analysis of the malfunction issue and resolution	CA	8.1.(c)(f)	79	By Occurrence	Analysis of Malfunction Issue and Corrective Action
Notification of violation of Environmental Law or system malfunction	CA	8.1.(c)(f)	79	By Occurrence	Notification of Violation of EPA Environmental Law or System Malfunction
Additional notice if penalty >\$50k, OS change, CP >\$250,000	CA	8.1.(c)(ii)	79	By Occurrence	Notification of EPA penalty
Notification of notice of violation from a Governmental Authority	CA	11.1	89	By Occurrence	Notification of Notice of Violation from a Governmental Authority
Notification of any violation of Ethics & Conflict of Interest Provisions	CA	11.5(f)	91	By Occurrence	Notification of Violation of Ethics or Conflict of Interest Provisions
Renewal of Insurance Policies for Required Coverages	CA	13.2(a)	99	By Occurrence	Copy of Insurance Policy Renewals for Required Coverages
Notice of cancellation or non-renewal of Required Coverages	CA	13.2(b)	99	By Occurrence	Notice of Cancellation or Non-Renewal of Required Coverages
Notification and documentation of Additional Coverages	CA	13.2(k)	100	By Occurrence	Notification of Additional Insurance Coverages
Notification of casualty (fire or other)	CA	13.3(a)	101	By Occurrence	Notification of Casualty within Systems
Provide City with plans/costs for restoration work related to casualty	CA	13.3(a)	102	By Occurrence	Documentation for Required Restoration Work Related to System Casualty
Provide City with notice of an Adverse Action	CA	14.1.(c)	105	By Occurrence	Notification of an Adverse Action
Provide City with second notice of an Adverse Action	CA	14.1.(c)	105	By Occurrence	Second Notification of an Adverse Action
Provide City with notice of a Delay Event	CA	15.1(a)	108	By Occurrence	Notification of a Delay Event
Provide City with notice that a Delay Event has ceased	CA	15.1(b)	108	By Occurrence	Notification that Delay Event Has Ceased
Provide City with notice of Delay Event Notice	CA	15.1.(e)	109	By Occurrence	Notification of Delay Event Notice
Provide City with notice of a Compensation Event	CA	15.3(a)	109	By Occurrence	Notification of a Compensation Event
Provide City with second notice of a Compensation Event	CA	15.3(a)	109	By Occurrence	Second Notification of a Compensation Event
Annual City Payment (first installment)	CA	3.24	63	First Business Day of April	Notification of Deposit of First Installment of Annual City Payment
Annual City Payment (second installment)	CA	3.24	63	First Business Day of October	Notification of Deposit of Second Installment of Annual City Payment
Capex Fund Deposit Requirement (first installment)	CA	4.14.	72	First Business Day of April	Notification of Deposit of First Installment for Annual Capex Payment
Capex Fund Deposit Requirement (second installment)	CA	4.14.	72	First Business Day of October	Notification of Deposit of Second Installment for Annual Capex Payment
Water Sales Shortfall 3-year period report	CA	3.23	62	Feb 10th following end of period	Water Sales Shortfall Report

Exhibit B

Concession Agreement and Operating Standards Reports and Requirements

Reporting/Notification Requirement	CA/OS	Section	Page	Deadline / Due Date	Report Name
Provide City with receipts & evidence of utility payments	CA	3.11.	54	Upon request	Copy of Utility Bill, by Request
Provide City with all insurance policy endorsements	CA	13.2(a)	99	Upon request	Copy of Insurance Policy Endorsements, by Request
Provide Certificates of Insurance for contractors and subtenants	CA	13.2(i)	100	Upon request	Copy of Certificates of Insurance for Contractors and/or Subtenants, by Request
Replace all logos on rolling stock and equipment	CA	2.5(h)	41	10/7/2013	N/A
Include contact insert with first customer billing statements	CA	2.5(h)	41	12/31/2013	N/A
Five-Year Capex Plan	CA	4.1.(b)(ii)	64	10/7/2014	N/A
Development of Capex Fund	CA	4.14.	71	1/1/2033	
Add language of compliance to all contracts	CA	11.2(b)	89	Immediately	N/A
Add language of non-discrimination to all contracts	CA	11.3(f)	90	Immediately	N/A
Add provision to contracts related to Prevailing Wage	CA	11.6(b)	92	Immediately	N/A
Provide City with a Letter of Credit for \$25,000,000 (AFI)	CA	16.3(a)	116	Five years prior to Lease end	N/A
Copy of Partnership for Safe Water reports (WTP)	OS	4.1.2	9	Annually	Partnership for Safe Water Report for Water Filtration Plant
Copy of Partnership for Safe Water reports (Distribution)	OS	4.1.2	9	Annually	Partnership for Safe Water Report for Distribution System
Copy of Consumer Confidence Report (CCR)	OS	4.1.5	10	Annually	Consumer Confidence Report (CCR)
Copy of annual sampling plan	OS	6.3.2	14	Annually	Water & Wastewater Sampling Plan
2-year summary of water taste and odor complaints	OS	6.8	17	Annually	2 Year Summary of Water Taste & Odor Complaints
Water Audit	OS	6.10.1	18	Annually	Water Audit
Summary of system flushing activities	OS	6.15	24	Annually	Water System Flushing Report
Summary of meter testing & meter repair/replacement	OS	6.16.2	25	Annually	Water Meter Testing & Repair Report
Summary of meter calibration activities	OS	6.16.3	25	Annually	Water Meter Calibration Report
Summary of reservoir hydrostatic testing, inspections & maintenance program	OS	6.17.5	26	Annually	Water Storage Tank Inspection & Maintenance Report
Update of water main replacement assessment report	OS	6.19.2	27	Annually	Water Main Rehabilitation and Replacement Report
Report of pipeline leaks and breaks	OS	6.22.1	28	Annually	Water Main Leak and Break Report
Summary of all call records for previous 2 years	OS	8.2	30	Annually	2 Year Summary of Customer Call Records
Summary of all call records for previous 2 years	OS	7.2	61	Annually	2 Year Summary of Customer Call Records
Copy of Emergency Response Plan	OS	12	37	Annually	Emergency Response Plan
Copy of Emergency Response Plan	OS	10	66	Annually	Emergency Response Plan
Copy of Spill Prevention Plan	OS	12.2	37	Annually	Spill Prevention Plan
Septage & hauled waste volume report	OS	3.9	52	Annually	Septage & Hauled Waste Report
Summary of IPP monitoring activities, enforcement actions, listing of new and existing permits, other IPP activities	OS	3.8	52	Annually	Industrial Pretreatment Program Report
Certificates of calibration for all signatory, Emmaus and LMT flow meters	OS	5.1	53	Annually	Wastewater Signatory Flow Meter Calibration Report
Tank and vessel (grit chambers, digesters, etc.) inspection and repair reports	OS	5.1	54	Annually	Wastewater Tank and Vessel Inspection and Repair Report
Root Intrusion - length of sewer mains receiving treatment	OS	5.2.4	56	Annually	Sewer Main Root Intrusion Repair Report
Summary of backflow prevention & testing activities	OS	6.9	18	Annually, when applicable	Cross Connection Control & Backflow Program Report
Comprehensive Planning Study - water	OS	9.1	31	Every 5 Years	Comprehensive Planning Study for Water System
Comprehensive Planning Study - wastewater	OS	5.4.2	58	Every 5 Years	Comprehensive Planning Study for Wastewater System
Summary of all regulatory water quality reports & other water quality data	OS	4	7	Monthly	Summary of Submitted Monthly Water Quality Regulatory Reports
Report of all major water equipment taken out of service	OS	5.1.2	12	Monthly	Water Equipment Out of Service Report
Sustainability, energy use, and status of energy efficiency initiatives report for water	OS	9.2	32	Monthly	Energy Management Report for Water Systems
Operating Reports for WFP	OS	9.4	32	Monthly	Water Filtration Plant Monthly Operating Report
Copy of monthly NPDES report	OS	3.2.2	48	Monthly	Copy of National Pollutant Discharge Elimination System (NPDES) Report
Report of all major wastewater equipment taken out of service	OS	5.1	54	Monthly	Wastewater Equipment Out of Service Report

Exhibit B

Concession Agreement and Operating Standards Reports and Requirements

Reporting/Notification Requirement	CA/OS	Section	Page	Deadline / Due Date	Report Name
Sewer lateral & main construction inspection details	OS	5.2.6	56	Monthly	Sewer Main Construction Inspection Report
Sustainability, energy use, and status of energy efficiency initiatives report for wastewater	OS	5.4.3	59	Monthly	Energy Management Report for Wastewater Systems
Operating Reports for WWTP	OS	8.1	62	Monthly	Wastewater Treatment Plant Monthly Operating Report
Copy of Discharge Monitoring Report (DMR)	OS	8.2	64	Monthly	Copy of Discharge Monitoring Report (DMR)
Signatory flow report, with 12-month running average flow for 2 years	OS	8.4	65	Monthly	Contributing Municipalities (Signatory) Wastewater Flow Report
Summary of positive sample results during month, reason for problem, corrective action and plan for future prevention	OS	6.4.1	15	Monthly, if applicable	Summary of Positive Samples & Corrective Action Plan
Notification when water system minimum pressures have not been maintained	OS	6.2.1	14	By Occurrence	Notification that Water System Minimum Pressure has not been met
Positive total or fecal coliform sample results or minimum chlorine residual < 0.02 mg/L	OS	6.4.1	15	By Occurrence	Notification of Positive Total or Fecal Coliform Sample
Positive total or fecal coliform sample results or minimum chlorine residual < 0.02 mg/L	OS	6.4.1	15	By Occurrence	Notification that Minimum Chlorine Residual has not been met
Failure to comply with disinfection by-product (DBPs) monitoring and/or control requirements	OS	6.6	16	By Occurrence	Notification of Failure to Comply with DBP Monitoring and/or Control
Corrosion Control Issues	OS	6.7	17	By Occurrence	Notification of Corrosion Control Issues within Distribution System
Notification of planned service interruptions	OS	6.22.2	29	By Occurrence	Notification of Planned Water Service Interruption
Record of new water user connection installation	OS	6.23	29	By Occurrence	Notification of New Water User Connection
Individual report summarizing WWTP odor complaints & resolution	OS	8.2	30	By Occurrence	Summary of WWTP Odor Complaint Investigation & Resolution
Individual report summarizing WWTP odor complaints & resolution	OS	7.2	61	By Occurrence	Summary of WWTP Odor Complaint Investigation & Resolution
Notification of all WWTP odor complaints	OS	8.2	30	By Occurrence	Notification of WWTP Odor Complaint
Notification of WWTP odor complaints	OS	3.6.2	50	By Occurrence	Notification of WWTP Odor Complaint
Notification of all WWTP odor complaints	OS	7.2	61	By Occurrence	Notification of WWTP Odor Complaint
Notification of security breach at any water facility	OS	11	35	By Occurrence	Notification of Security Breach at a Water System Facility
Report on investigation of security breach at water facility	OS	11	35	By Occurrence	Summary of Water System Facility Security Breach Investigation
Notification of spills	OS	12.2	37	By Occurrence	Notification of Water System Spill
Advise City when IPP permits are issued to new users	OS	3.8	51	By Occurrence	Notification of New Industrial Pretreatment Program User
Record of new wastewater user connection installation	OS	5.2.5	56	By Occurrence	Notification of New Wastewater User Connection
Notification of sinkholes	OS	5.2.8	57	By Occurrence	Notification of Identified Sinkhole within Water or Wastewater System
Advise City when a capital improvement is needed for the WWTP, collection system or flood control asset	OS	5.4.1	58	By Occurrence	Notification of Needed Capital Improvement for Wastewater System
Report of failed proficiency tests & corrective action	OS	6.4	60	By Occurrence	Summary of Failed Proficiency Test Results & Corrective Actions
Report outlining exceedances or other violations related to the DMR	OS	8.2	64	By Occurrence	Summary of DMR Exceedances and/or Other Violations
Notification of security breach at any wastewater facility	OS	11	67	By Occurrence	Notification of Security Breach at a Wastewater System Facility
Report on investigation of security breach at wastewater facility	OS	11	67	By Occurrence	Summary of Wastewater System Facility Security Breach Investigation
Summary of distribution system water quality monitoring results	OS	6.3.1	14	Quarterly	Summary of Distribution System Water Quality Monitoring Results
Summary of water taste and odor complaints	OS	6.8	17	Quarterly	Summary of Water Taste and Odor Complaints
Leak Detection & Repair Report	OS	6.10.2	18	Quarterly	Leak Detection and Repair Report
Valve Exercising & Repair Report	OS	6.11.1	20	Quarterly	Valve Exercising and Repair Report
Hydrant Exercising & Repair Report	OS	6.12.1	21	Quarterly	Hydrant Exercising and Repair Report
Summary of planned & unplanned service interruptions during quarter	OS	6.22.3	29	Quarterly	Summary of Planned and Unplanned Water Service Interruptions
Certified report that all quality assurance and quality control (QA/QC) have been satisfactorily met for Certified Lab	OS	7	29	Quarterly	Certified Laboratory QA/QC Measures Report

Exhibit B

Concession Agreement and Operating Standards Reports and Requirements

Reporting/Notification Requirement	CA/OS	Section	Page	Deadline / Due Date	Report Name
Sewer line televising report (root intrusion & blockages)	OS	5.2.2	55	Quarterly	Sewer System Televising Report
Nitrification Control Report	OS	6.5	16	Quarterly, if applicable	Nitrification Monitoring and Control Report
Copy of all reports submitted to regulatory agencies	OS	9.4	34	Regulatory	Regulatory Report Summary
Report of all received customer calls	OS	8.2	30	Semi-Annually	Summary of Customer Calls
Report of all received customer calls	OS	7.2	61	Semi-Annually	Summary of Customer Calls
Documentation of all water quality complaints and process of investigation and remediation and conclusions related to the complaint. Report shall include previous 2 years worth of data.	OS	8.2	30	Semi-Annually	Summary of Water Quality Complaint Investigations & Conclusions
Customer Survey Results	OS	8.3	31	Semi-Annually	Customer Survey Results
Customer Survey Results	OS	7.3	62	Semi-Annually	Customer Survey Results
Documentation of all wastewater odor complaints and process of investigation and remediation and conclusions related to the complaint. Report shall include previous 2 years worth of data.	OS	7.2	61	Semi-Annually	Summary of Wastewater Odor Complaint Investigations & Conclusions
Proof of PA Professional Engineering License for each project	CA	4.3.	65	By Project	
Submittal of plans and specs for Major Capital Improvements	CA	4.4(b)	65	By Project	
Major Capital Improvement Conceptual Design w/ Schedule	CA	4.5(a)(i) & (ii)	66	By Project	
Major Capital Improvement Substantially Complete Design	CA	4.5(b)(i),(ii)&(iii)	67	By Project, after design approval	
Minutes from Major Capital Improvement design review meeting	CA	4.5.(a)(iii)	67	By Project, after Design Meeting	
Minutes from Major Capital Improvement substantial review meeting	CA	4.5(b)(iv)	68	By Project, after Substantial Design Meeting	
Submittal of progress schedule for Major Capital Improvement	CA	4.5(d)	68	By Project	
Alternate Project Delivery consent request	CA	4.6.	69	By Project, if applicable	
Regularly scheduled progress meetings for Major Capital Improvements	CA	4.10.	70	By Project	
Submit construction progress reports prior to meeting dates	CA	4.10.	70	By Project	
Electronic copy of As-Builts & Specs for Major Capital Improvements	CA	4.7(d)	70	By Project	
Submission of plans and engineering design information for planned improvements	OS	6.2.2	14	By Project	
EPA Administrative Order reports	OS	9	65	By Project	
State Water Plan (Act 220) reports / documentation	OS	10.1	35	As needed	

