



Office of the Chief Executive Officer
735 Randolph, Suite 1900
Detroit, Michigan 48226
www.glwater.org

September 28, 2016

The Honorable
Board of Directors
Great Lakes Water Authority

Dear Chairman Daddow and Directors:

Regarding: CEO's Report - September, 2016

Much of our attention in September has been devoted to preparations for GLWA's inaugural public financing transaction. Preparation of the preliminary offering statements, meetings with the Rating Agencies last week and planning for Investor meetings scheduled for the first week in October, have provided an opportunity to look in our rear view mirror at our accomplishments as well as share our vision and plans for what comes next. Through this process, we have received significant positive feedback about the GLWA Story.

As a precursor to the selection and/or development of metrics and dashboards that align with the Effective Utility Management framework we adopted early this year, this month's report includes a first glance at several key metrics that we are using in the various operating areas to monitor, drive and report performance. Over the upcoming months, we will be working with the Board and our customers to determine the metrics that provide insight into the organization's performance in the most meaningful manner aligned with their interests. In the interim, the metrics that we report may vary from month to month to provide a broader view of the many things we measure and track to assure effective operations and drive continuous improvement.

We are pleased to report that the wastewater staffing assessment has been completed. Staff met with the MDEQ to present the report and its findings in August, and just this week the MDEQ noted their concurrence with the conclusions and acceptance of a revised staffing number of 407 (441 previously) for the wastewater treatment plant operations, maintenance, engineering and laboratory staff. Major elements of the plan include the addition of a supervisory level in some process teams, a hybrid approach to maintenance which incorporates both centralized and decentralized maintenance teams and a process optimization team. An important focus to assure successful implementation of the plan will be demonstrating successful recruiting and a robust training program, both of which are underway.

I had the privilege of representing GLWA at the Michigan Section AWWA Annual Conference and the Michigan Public Service Institute in September where I was invited to speak about Leadership in a time of change and Developing a Culture of Service Excellence. This week we will be participating in the Macomb County Chamber of Commerce Business Preparedness Conference. Details of the many significant efforts and accomplishments across the organization this past month are highlighted in the following staff reports.

PLANNING SERVICES

Asset Management and CIP Group

The Asset Management and Capital Improvement Plan Work Group continues to be well attended by customers and consultants throughout the region. All participants are engaged to help to continuously improve the GLWA Asset Management Program and the CIP process. This work group is scheduled to meet Thursday, October 27th. It is anticipated that the first draft of the FY 2018 CIP will be presented to the work group in October.



Systems Planning Group

The evaluation team for selection of the Comprehensive Wastewater Master Plan consultant, which includes DWSD, GLWA and several customer community representatives is finalizing its evaluations. A recommendation for award is anticipated for Board consideration in late October or early November. The next meeting of the Wastewater Master Plan Steering Committee is scheduled for Wednesday October 19th primarily to discuss regional perspectives, concepts and approaches to ensure successful outcomes of the master plan.

Staff continues to work actively with prospective water customers. Principles outlined in the System Optimization documents are providing valuable direction and guidance during these discussions.

System Analytics and Meter Operations Group

The West Side Sewer Monitoring and Modeling Program efforts continue. The project team continues to meet monthly to review progress and provide program updates. The program is going well with an additional 74 monitoring devices installed for monitoring. This includes 45 flow meters, 26 level sensors and two rain gauges.

In line with our desire to continuously improve, the System Analytics and Meter Operations Group has developed and implemented a new programmable logic controller program that has resulted in 29 sewer meters reporting real time reads to the Greater Detroit Regional Sewerage



System (GDRSS) Portal. This allows internal and external customers to view the real-time data over the internet. Several improvements have been made to the GDRSS Portal including: customer dashboards to monitor sewer meter flows depths, customizable meter information in the data review screen and meter issues notes available from the data review screen.

PLANNING SERVICES (continued)

The Sewer Shares Assessment Team has conducted 10 meetings since February of this year. On September 6th the team reviewed sewer strength of flow sampling, sanitary, wet weather and dry weather inflow and infiltration flows. As the data collection and analyses phases of the project come to a close, conclusions are beginning to emerge. The team is on track to complete the project and render its recommendation by the end of October.

The evaluation team for the project entitled Units of Service for Non-Master Metered Customers of GLWA and System Water Audit has nearly completed its evaluation of the proposals received. The evaluation team is comprised of representatives from GLWA, DWSD, Wayne, Oakland and Macomb Counties. The Procurement Group is presently working through the final details of the evaluation stage.

A solicitation document for support services for GLWA's water and sewage metering is being drafted. Support services for the Metering Group will include meter pit construction, mechanical piping work, hatch installation and repair, as well as the installation, calibration and monitoring of meters and other system monitoring devices. These services are fundamental to assuring the accuracy and availability of water and sewer meter data. It is anticipated that a request for proposals for these services will be published in October.

Energy Management Group

The Energy Management Group continues its work alongside GLWA's Business Intelligence staff to collect and compile energy consumption data. The effort is evolving from the original concept of monitoring pumps' electric consumption to a broader vision of modeling the entire set of business activities that bring value to our customers. As this specifically relates to energy management, we are looking to compile consumption data across multiple Departments to enable the cross-referencing between business units by using a single data warehouse. This allows for flexibility in data mining, dashboard construction and process tracking.

The Energy Management Group met with DTE to discuss digital billing options for the data warehouse project. We are seeking to obtain 10 years of historical billing data as well as current bills in a digital format to populate the data warehouse. This information is critical in assessing our energy use and prioritizing next steps.

The Energy Management Team's review and analysis of utility billings continues to identify opportunities to change billing rate classifications to obtain savings. This month, staff identified such a benefit for one of our wastewater treatment buildings. The change in classification is anticipated to save over \$350,000 annually. DTE has agreed to credit the difference for the prior month in addition to applying the new rate moving forward.

PLANNING SERVICES (continued)

An agreement has been reached with DTE and the State of Michigan regarding the addition of 14 small GLWA gas accounts to the master natural gas cooperative agreement. By switching the natural gas commodity from DTE to the State's program, GLWA will reduce the energy spend for the 14 accounts, an estimated \$20,000 per year.

WASTEWATER OPERATIONS***Wastewater Operations and Compliance***

The Wastewater Treatment Plant was in compliance with all National Pollutant Discharge Elimination System and Michigan Department of Environmental Quality water quality permits in the month of August 2016. There were a total of three fecal coliform samples that exceeded the permit limits, one single sample at each of the three CSO basins. This was due to an excess amount of rain in a short period of time.

The August 2016 Wastewater Treatment Plant biosolids inventory and production are shown in the Sludge Inventory and Sludge Disposal graphs attached.

Wastewater Maintenance

As we continue to refine our staffing model at the Wastewater Treatment Plant, we have reassigned both the engineering and maintenance staff to the newly appointed Director - Engineering and Maintenance, Daniel Alford. With the intent to improve equipment operational reliability and longevity, this is the first step in creating a team focused on equipment reliability from daily maintenance activities through to capital equipment replacement. Current maintenance activities stress thorough preventative maintenance. Going forward, we will further integrate and expand the use of Asset Management and Engineering support in our maintenance activities.

Wastewater Engineering***Fire Remediation***

Remediation of the area of Incinerator Complex II that was damaged by the March fire continues. A variety of construction activities related to this are ongoing including the following: selective roof demolition and replacement roof support steel; monorail replacement; preparation for cleaning and painting in the dewatering complex; replacement of lighting and emission monitoring system umbilicals; and conveyor frame repairs. The conveyor frame repairs are on the critical path to restarting the Complex II incinerators by year end.

WASTEWATER OPERATIONS (continued)

The conveyor manufacturer met with the construction and engineering teams to coordinate remaining frame repairs, and has committed to providing conceptual designs as necessary to allow a local shop to fabricate the portions of the framework to be replaced.

As we prepare to restart the incinerators in Complex II, a number of items must be completed. At this time burner control panel checkout has been completed for the first four incinerators and is proceeding to the remaining incinerators. The control system contractor is reviewing checks and calibrations as requested. With about 3,400 points and 800 analog instruments, these checks are expected to take at least two months to complete.

Staff and contractors continue to press to keep to a very tight construction schedule that targets year end for the start-up of all eight Complex II incinerators. It should be noted that although the incinerators are planned to be operational at that time, additional remedial work will continue well into 2017. This work includes incinerator testing as well as roof and conveyor replacement.

Rouge River Outfall (RRO) Disinfection Project Update

Work on the Rouge River Outfall Disinfection Project is progressing according to schedule. Recent developments include resubmittal of the 30% drawings and specifications along with the 30% estimate, schedule, scope of work, value engineering/constructability list, risk register, and change management log.

Bio-Solids Dryer Facility Update

We are happy to report that on several occasions in September, the BDF has exceeded the required processing requested by GLWA. During the same time period, all four trains were available with only a few brief exceptions. This is a direct result of targeted work by NEFCO to improve throughput as well as address some components that required more robust mechanical parts.

NEFCO is planning to begin pilot-testing of the addition of ferric chloride to the sludge to reduce sulfur dioxide (SO₂) air emissions. If the pilot is successful, this treatment option will be implemented to ensure SO₂ emissions are in full compliance with the permit.

Research and Innovation

GLWA was asked to provide plant operating data to support the calibration of a model that is being developed by the U.S. Department of Energy, Pacific Northwest National Laboratory, to more accurately forecast the potential amount of energy embodied within Wastewater Treatment Plant residuals nationwide.

WASTEWATER OPERATIONS (continued)

The Wastewater Treatment Plant is providing biosolids to the Pacific Northwest National Laboratory to support their bench scale testing of Hydrothermal Liquefaction (HTL). This process is one of the processes being investigated by the Water Environment Federation and Water Environmental Research Foundation's Leaders Innovation Forum for Technology program. HTL is a thermal depolymerization process used to convert wet biomass into crude-like oil sometimes referred to as bio-oil or biocrude under moderate temperature and high pressure. The biocrude, after further refinement, has potential to be used as diesel fuel. Early economic feasibility studies are promising.



GLWA joined the Water Research Foundation's project Fostering Innovation within Utilities. This project is aimed at compiling experiences from global industry leaders and developing a research and innovation framework that will be broadly applicable to assist water and wastewater utilities to foster new ideas and implement approaches that enhance the ability to meet future challenges.

WATER OPERATIONS



Water Works Park Water Treatment Plant road and parking lots reconstruction is in full swing under GLWA Contract No. WW-538. The contractor is moving swiftly with the reconstruction efforts. Chemical deliveries to the plant and maintenance of traffic routes at the plant continue to be uninterrupted while the road reconstruction is being performed.

WATER OPERATIONS (continued)***Field Services***

GLWA Contract No. WS-681, 42-inch water main along 24 Mile Road from Romeo Plank to Rochester, has 100% of total water main work complete with substantial completion inspection complete, and a punchlist issued. The Contractor is completing the punchlist in movement toward final acceptance. To date, the percent of time elapsed is 98%, and the percent of monies expended is 100%, with no change orders.

Approximately 1,000 linear feet of 48-inch water main have been installed toward completion of Wick Road Phase I– 4,000 linear feet of 48-inch water main along Wick Road west of the Wick Road Pumping Station. Work on Contract No. WS-684(A), 36-Inch Water Main along Telegraph from Cherry Hill to Warren is anticipated to start near the end of September. The project team is working through the contractor's restraint of the ductile iron system.

INFORMATION TECHNOLOGY

The Information Technology team has decommissioned over 75% of the legacy systems on the network that are running obsolete operating systems. This greatly reduces the security exposure on our network, as obsolete operating systems are no longer supported by their vendors and cannot receive security patches. We plan to have less than 10 legacy systems on the network (down from over 70 at the beginning of this year) by the end of 2016. A Verizon signal booster was installed near the Emergency Command Center area at the Waste Water Treatment Plant. This has resulted in increased signal strength to the Authority's mobile issued cellular devices in the area. A long term mobile building solution project is being planned.

Discussions with AT&T related to charges for telecommunications network, data security services and for the phone services are continuing and substantial progress has been made. As a result, regular AT&T monthly payments, which had earlier been placed on hold, have resumed as of September. Hold-backs from prior months, will be paid after the remaining concerns are addressed.

With the successful split of WAM to accommodate the needs of both GLWA and DWSD, ongoing efforts are underway to optimize the usage and business process for each organization. An example is a Pilot Project for Paper-Free Work Order Processing for the Waste Water Treatment Plant utilizing WAM and Service-Link Mobile. This new solution will allow us to work proactively and efficiently collect data for understanding asset condition and criticality.

The IT team is supporting the FSG's development of its strategic plan, including participating in meetings to define goals and respective action items from an IT perspective (e.g., BS&A configuration regarding internal controls and streamlining processes).

INFORMATION TECHNOLOGY (continued)

Also, the IT team continues to work with Finance to enhance the BS&A systems and improve the processes for supporting the system including responsibilities and communications related to upgrades and training end users.

SECURITY AND INTEGRITY

Chief W. Barnett Jones attended the 2016 Michigan Section American Water Works Security Summit in Bath, Michigan. The goal of the summit was to provide municipal management with updates on governmental security guidelines and networking events with other municipals security and integrity leaders, outlining such topics as National Water Security Preparedness and Water Sector Cyber Risk Management.

During the months of August and September, the Security and Integrity Group has participated in several extensive training efforts, such as Pressure Point Control and Defensive Tactics, and FEMA Incident Command training.

FINANCIAL SERVICES GROUP

This month the Financial Services Group has focused on the potential bond refunding and water bond issue. In addition, intensive effort is underway related to multiple key “closing” and audit dates (December 31, 2015 for pre-bifurcation Detroit Water and Sewerage Department, January 1, 2016 opening balance sheet for GLWA, and June 30, 2016 year end for GLWA). The Procurement Team has been working with operational partners on review of construction projects in process. The Transformation Team has facilitated a number of meetings and gathered data to advance the key performance indicators and their relation to effective utility management.

WRAP Update

The Water Residential Assistance Program (“WRAP”) began accepting applications for customer assistance on March 2, 2016. The first community to opt into WRAP was the City of Detroit. Subsequently, outreach meetings were held in Wayne, Oakland and Macomb Counties to educate GLWA customer communities on details of the WRAP and what was required to “opt-in” to the program. Since those meetings, Wayne Metro, along with the Community Action Alliance partners, have been working with individual communities to get them opted into the WRAP. As of August 31, 2016, 48 communities have opted into the program.

FINANCIAL SERVICES GROUP (continued)

Below is a summary of committed and spent WRAP funds as well as home audits and home repairs performed through August 31, 2016 for the City of Detroit and Suburban participants.

**WRAP Funding Status
As of August 31, 2016**

	Detroit	Suburban	Total
Completed Applications	4,943	947	5,890
Households Assisted	1,525	427	1,952
Shutoffs Avoided	649	142	791
Home Audits	287	59	346
Number of Home Repairs	130	34	164
Amount of Home Repairs	\$103,774	\$18,337	\$122,111
Total Bill Assistance Committed	\$395,621	\$141,621	\$537,242
Total Arrearage Assistance Committed	\$843,115	\$180,507	\$1,023,622
Total Assistance Committed	\$1,238,736	\$322,128	\$1,560,864
Total Bill and Arrearage Assistance Paid to Date:	\$25,750	\$12,775	\$38,525

ORGANIZATIONAL DEVELOPMENT

New employee orientations' continue at a regular pace with 185 employees having attended to date. GLWA has hired 118 employees since January 1, 2016, however, all employees are 'New' to GLWA and are being scheduled to attend orientation.

Organizational Development began negotiations with the Senior Water Systems Chemist Association and the Building Trades Council. Each contract has a provision that allows the contract continue during these negotiations.

Training Highlight: Doug Cartland's Hungry Leadership Development Series

GLWA's leadership team is in the ninth week of the 10-week training series. The goal of the training is to enhance the organization's leadership skills through participation in the same learning experience.

ORGANIZATIONAL DEVELOPMENT (continued)

The leadership team members are given the opportunity to practice leadership skills by interacting with each other through role-playing, behavioral modeling and other group activities. This will help to build consistency as well as momentum toward creating a common leadership culture across the organization.

KUDOS and STAFF ACCOLADES

Congratulations to Springwells Water Treatment Plant staff Andrew Ross (Team Leader) and Allen Wilson (Water Technician) for being selected to receive the 2016 Edward Dunbar Rich Service Award from the Department of Environmental Quality (DEQ) for serving 25 years or more in the public water supply field in Michigan. In cooperation with the Michigan Section, American Water Works Association (MI-AWWA), the awards were presented at the MI-AWWA Annual Conference on September 14, 2016, at the Boyne Highland Resort in Harbor Springs, Michigan. The Water Supply Operations team is very proud of their accomplishment.

Thank you goes out to Daniel Edwards, Construction and Contract Services Procurement Manager and Carla Smith, Procurement Specialist, both of the Financial Services Group for assisting Mr. G. Ramanujam of Somat Engineering. In an email received, he wrote that he received an expedient response and quick assistance regarding his inquiry on two (2) contracts that are now being administered by DWSD. Thank you both for building the DWSD Brand through exceptional service! Kudos!

LEGAL

General Counsel's September Report will be provided separately from the Chief Executive Officer's Report.

Respectfully submitted,



Sue F. McCormick
Chief Executive Officer

SFM/dlr

Attachments (2)

- Key Metrics Dashboard - Effective Utility Management
- WWTP Sludge Inventory and Sludge Disposal Graphs

General Counsel-September, 2016

General Counsel worked on the following matters:

1) Contract matters

Contracts reviewed as to form: General Counsel reviewed 24 contracts as to form and execution.

Contracts drafted or revised: General Counsel drafted or revised 24 contracts.

We are actively preparing for water contract reopener season. This year there are only 3 regularly scheduled reopeners (Almont, NOCWA, Romeo). We have 2 confirmed requests to reopen out of sequence from Commerce Twp and Washington Twp. We have heard that Northville Twp may also request a reopener. Additionally, we are trying to secure the execution of 2 new contracts with Imlay Twp and Grosse Ile Twp. Meetings are currently being schedule for October.

General Counsel is preparing draft MOU's with Wayne County for their Northeast and Rouge Valley sewage systems to address the process by which poor performing meters will be replaced.

2) Subpoenas / Information Requests:

General Counsel received 4 subpoenas/ information requests and responded to 8 subpoenas/ information requests.

GLWA has responded to an appeal of its denial of material related to mediation proceedings in the City of Detroit's bankruptcy case by upholding its original decision to deny the request and clarifying that since the Effective Date of the Leases, GLWA has no responsive documents.

3) New Cases

No new cases.

4) Cases Closed:

None

5) EJCDC. General Counsel continues to work with GLWA staff to implement the use of EJCDC form contracts for GLWA procurements.

- 6) Detroit July Rain Event. GLWA has received approximately 700-800 claims from counsel for DWSD customers who claim their basements were flooded during this event. We anticipate working with DWSD on the disposition of these claims.

GLWA has received FOIA requests from Plaintiff s counsel related to this event.

General Counsel has prepared and DWSD's counsel has reviewed, a Joint Defense and Common Interest Agreement that will facilitate GLWA and DWSD's cooperative response to these incidents.

- 7) Main Break Claims. General Counsel continues to work on the disposition of main break claims filed by Madison Heights and Redford Township
- 8) AFSCME v IUOE, DWSD, and GLWA Appeal. The briefing in this appeal has been completed.
- 9) Gordie Howe International Bridge. General Counsel continues to support this ongoing project to manage, among other things, the purchase/condemnation by the State of the Livernois/IWC building and various water and sewer infrastructure relocations/impacts. Activity on this project has been minimal while we await offers to purchase from the state.
- 10) Lapeer County Property Acquisition: Properties for locating the booster chlorination stations for continuing service to Lapeer County customers Imlay City, Mayfield Twp and Lapeer have been identified and appraised for condemnation purposes. The Mayfield Twp property owner, Kamax, L.P., has offered to sell their parcel for \$5945. Our expectation is to take the offer and an easement for this parcel to the Board for approval on October 26th. Regarding the property located in Goodland Twp, a Good Faith Written Offer, based on the condemnation appraisal report, was made to the owner in the amount of \$4000; the owner rejected the offer. GLWA will, upon Board approval, begin eminent domain proceedings for this parcel.
- 11) DWSD v Highland Park: Highland Park has filed an Interlocutory Application for appeal to the Michigan Supreme Court the Court of Appeals' ruling denying its request to remand the case to the trial court for further fact finding. GLWA responded in opposition to Highland Park's requested relief. On September 27, 2016, the Michigan Supreme Court denied Highland Park's application. The case returns to the Court of Appeals and awaits a hearing and decision on the merits of Highland Park's appeal.

GLWA continues to meet with MDEQ to discuss concerns raised in the Board's letter to Governor Snyder regarding Highland Park's continued non-payment. The State has indicated that it hopes to have an additional response in the near future

- 12) IPP Program Transfer: General Counsel continues to support this initiative. A meeting was held with selected stakeholders and comments were received. General Counsel is making revisions to the regulatory rules based upon those comments. Once this process is completed, the draft rules will be presented to the GLWA Board of Directors with an opportunity for public input and comment.
- 13) NPDES Permit Renewal. General Counsel continues to support this initiative.
- 14) Flint. General Counsel continues to assist in responding to investigators and litigants.
- 15) NEFCO: The first amended operating agreement with NEFCO has been completed. Under this agreement, when there are issues with production at the BDF, NEFCO has agreed to dispose of the sludge at its expense.
- 16) EPA Consideration of Revisions to CSO Discharge Policy: Completed Comments which were submitted to USEPA on New CSO Discharge Policy.
- 17) MDEQ NOV regarding staffing levels at WWTP: General Counsel has supported WWOG in seeking modifications to the staffing levels at the Wastewater treatment Plant reflected in the Administrative Consent Order. A formal request to revise the levels and dismiss the NOV was filed on September 27, 2016.
- 18) EEOC Claims: Claims filed Sharon Jordan and Terrance White have been dismissed by the EEOC.
- 19) ATT: General Counsel is assisting GLWA and DWSD IT in addressing this issue. A conference call was held with ATT officials including its president to discuss the mutual concerns. A follow-up meeting is scheduled next week. Further detail on these issues is contained in the IT section of the CEO's report.

Great Lakes Water Authority

Key Metrics Dashboard and Effective Utility Management (EUM)
September 28, 2016



Key Performance Metrics Dashboard

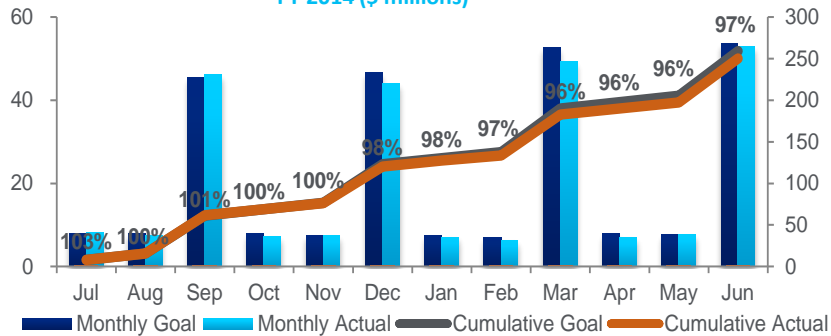
- Purpose
 - Provide insight into daily GLWA operations
 - Communicate level of performance on critical water system needs
- Parameters
 - Calendar Year 2016 (aligns with GLWA Operational as of 1.1.2016)
 - Monthly Data Points
 - Phase I - Introductory Metrics
 - Phase II - Establishing vetted metric goals for the new organization
- Precursor to rollout of Effective Utility Management (EUM) framework

Cross-functional Collaboration and Stakeholder Engagement – Key to Performance

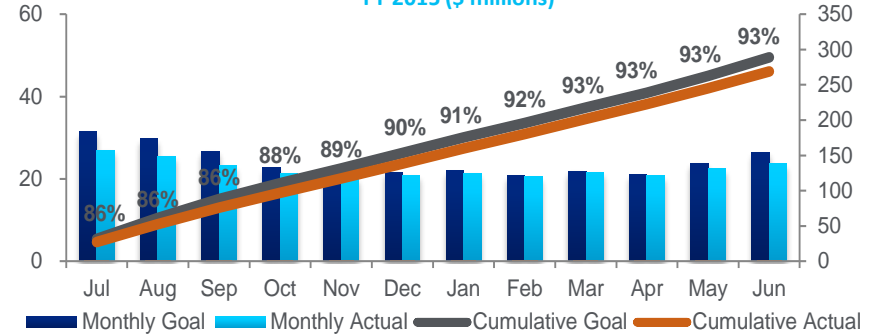


Financial Viability – Recent Revenue Performance Continues Successful Implementation of Wholesale Charge Reforms

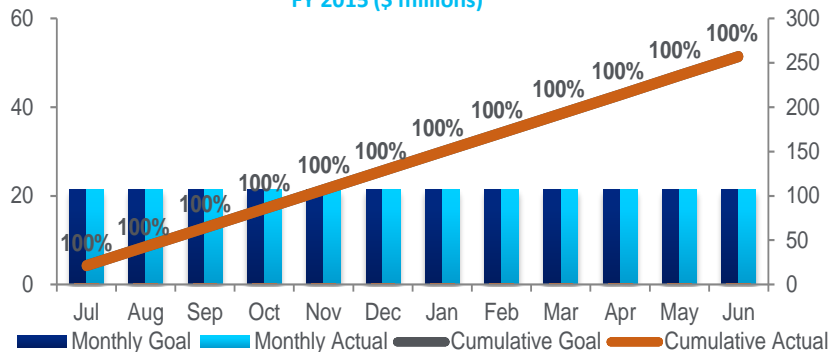
Pre Sewer Rate Simplification
FY 2014 (\$ millions)



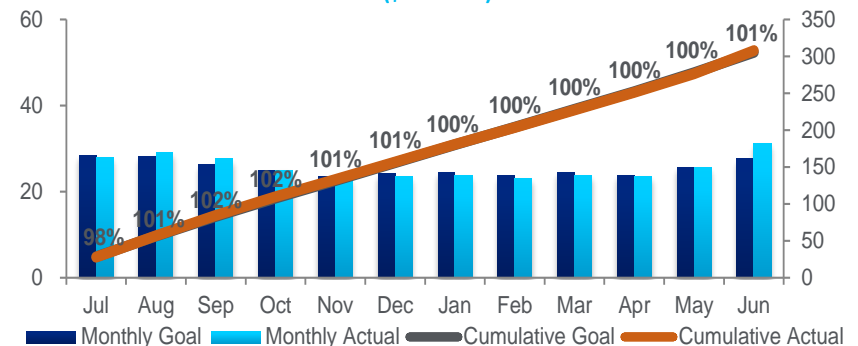
Pre Water Service Charge Structure Modifications
FY 2015 (\$ millions)



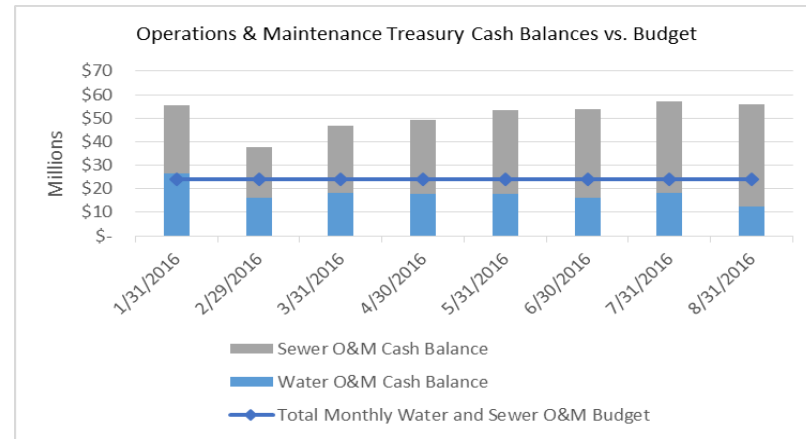
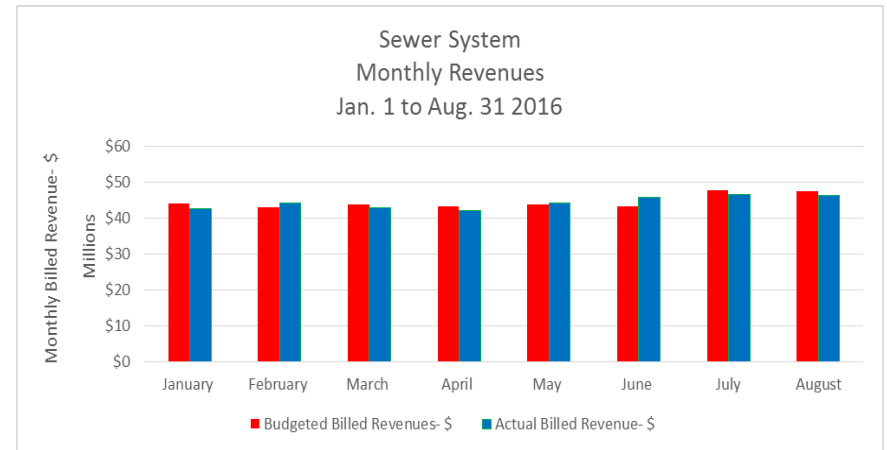
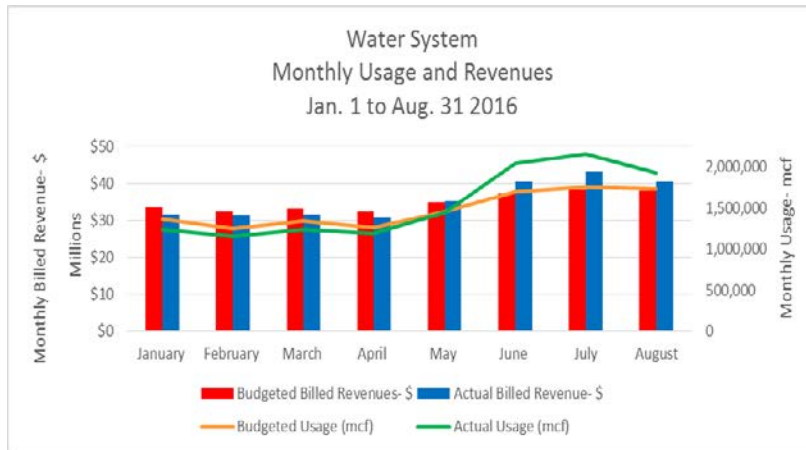
Post Sewer Rate Simplification
FY 2015 (\$ millions)



Post Water Service Charge Structure Modifications
FY 2016 (\$ millions)



Financial Viability – Revenue Stability and Appropriate O&M Cash Reserves

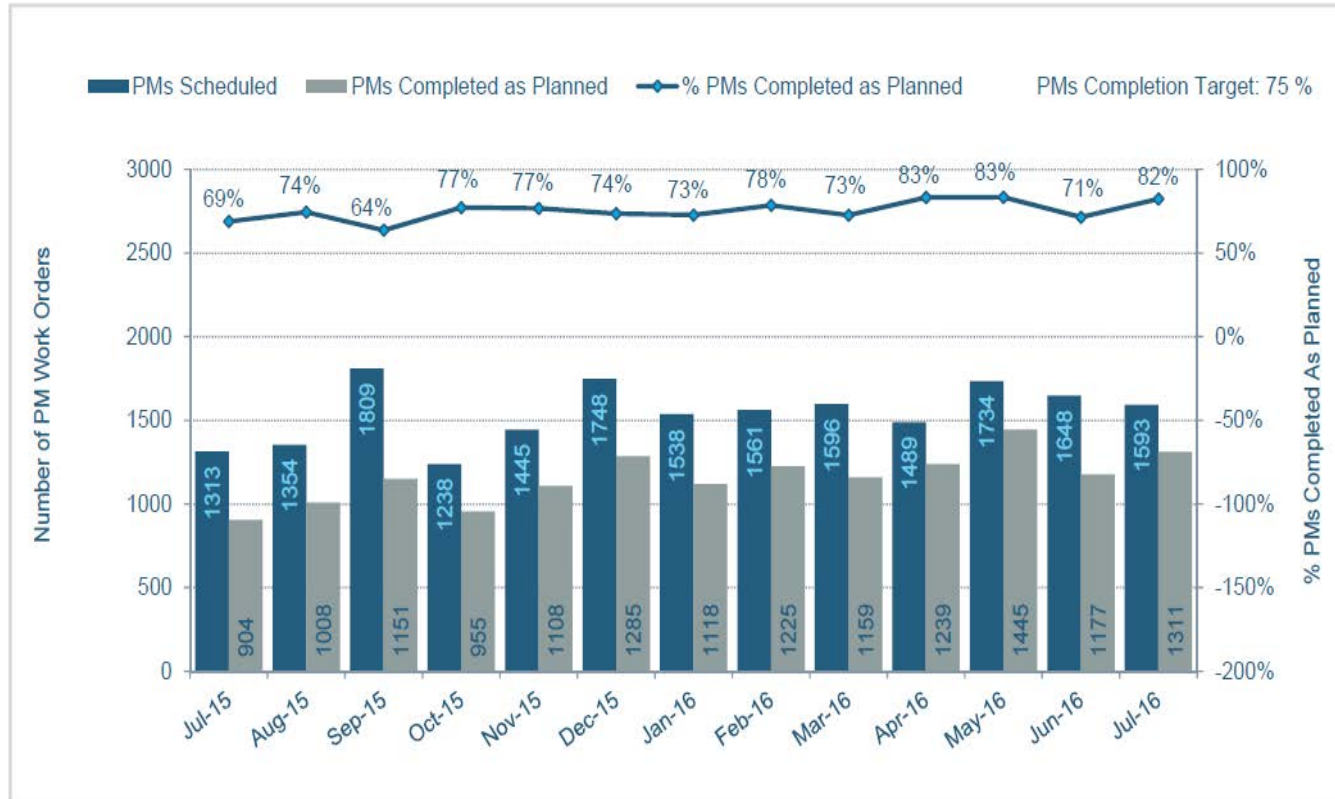


- Total Water System Regional and Local System Revenues are stable with actual at 101.8% of Budget and actual usage at 104.8% of Budget.
- Total Sewer System Regional and Local System Revenues are also stable at 99.4% of Budget .
- Cash balances are appropriate to fund monthly budgeted O&M with an average ratio of cash to budget of 1.92x for water and 2.28x for sewer (i.e. approximately 60 days cash transferred to O&M).

Infrastructure Strategy and Performance: Wastewater System – Maintenance and Service

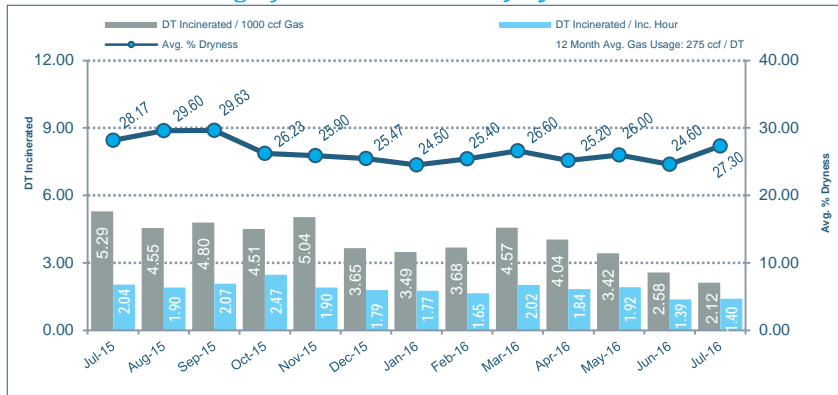
Preventive Maintenance – July 2016

Highlights percent completed of
planned preventive maintenance
activities



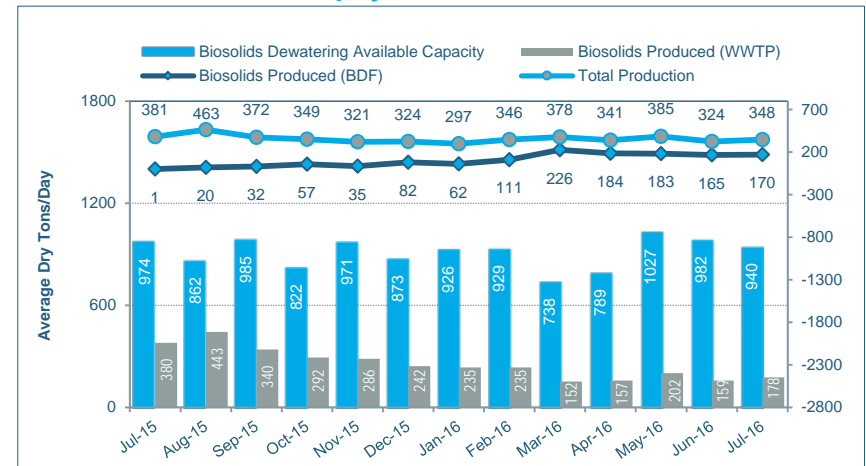
Operational Optimization Wastewater System – Performance Indicators

Natural Gas Usage for Incineration– July 2016



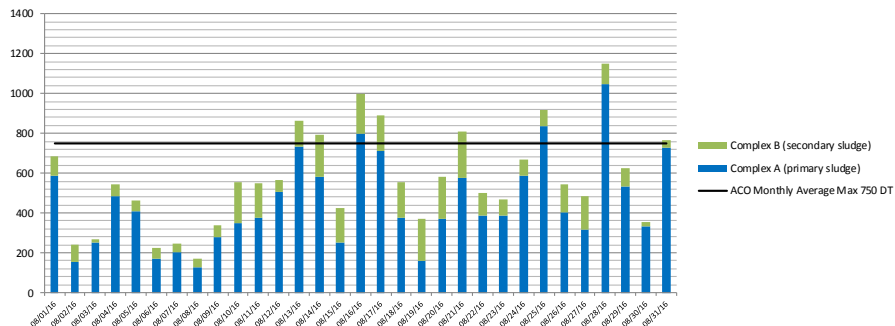
- Measures the efficiency levels for incinerating bio-solids
- Higher dryness levels provide cheaper incineration and land disposal costs

Biosolids Production – July 2016

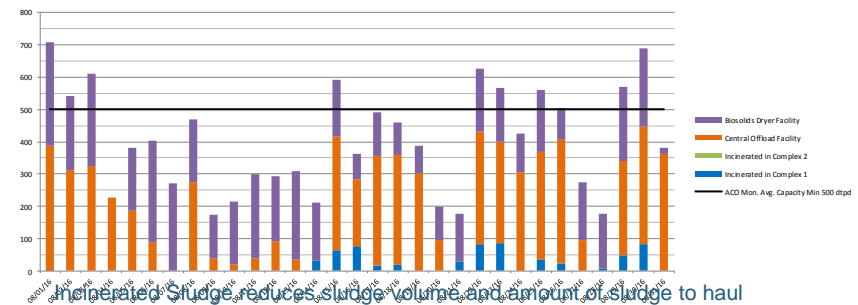


- Measures compliance with NDPES permit relative to capacity (930 dry tons)
- (Grey/shorter bars) highlight de-watering average per day

Sludge Inventory (dry tons)

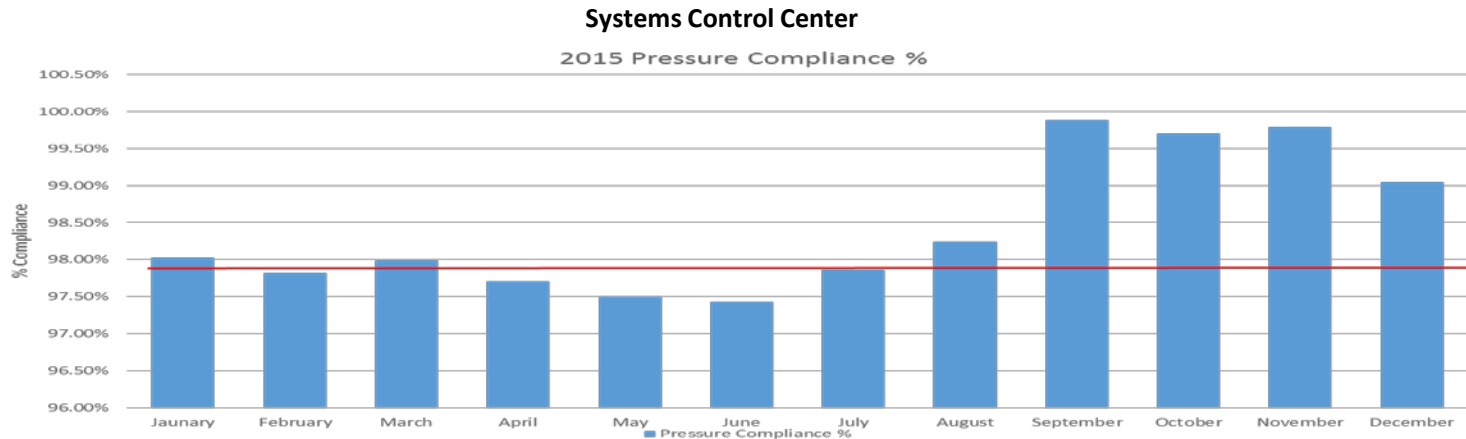


Sludge Disposal by Method (dry tons)

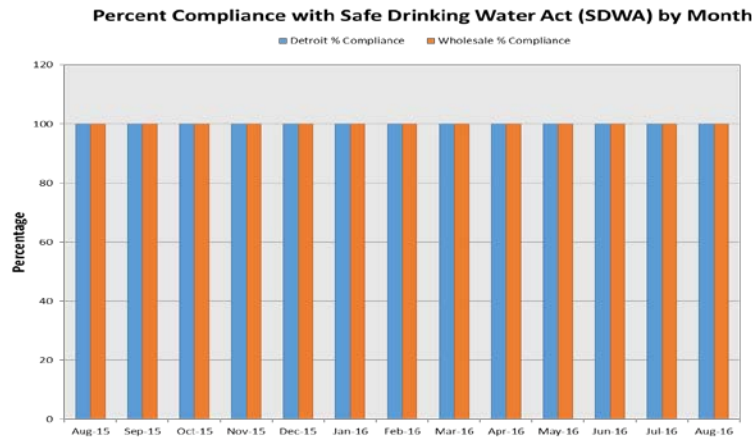


Incinerated Sludge reduces sludge volume and amount of sludge to haul

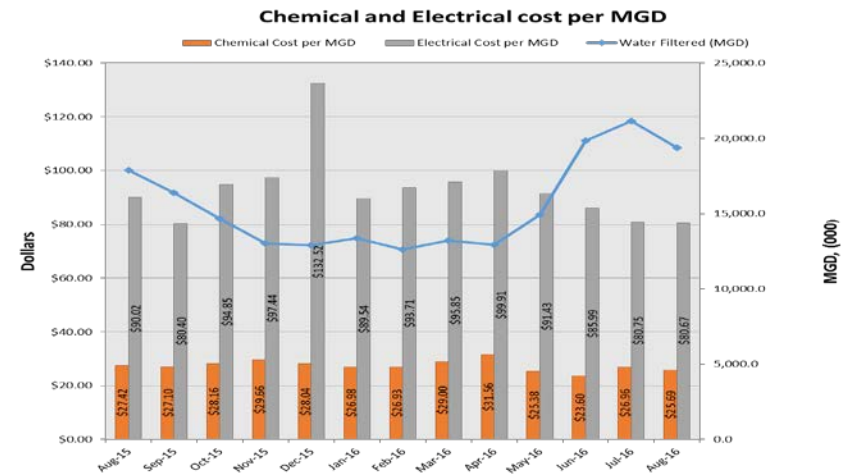
Key Performance Indicators Water & Field



Measures pressure compliance in the distribution system



Measures compliance with the SDWA and the good thing is maintaining 100% compliance



This is tracking electrical and chemical usage based on system demand and it is good for system optimization and monitoring

Social Overview: Earned, Owned (Organic & Paid)

OWNED CONTENT (AS OF AUGUST 31, 2016)

Total Owned Fan Audience****

473

Total Owned Impressions
(FB & TW)

~78K

Total Owned Engagement
(FB, TW)

3,531

OWNED FAN AUDIENCE AS OF AUGUST 31, 2016

FACEBOOK

249

Page Likes

▲ 4%

vs Last Month

+10

Facebook Page Likes

TWITTER

224

Followers

▲ 4%

vs Last Month

+8

Twitter Followers

2016 CONTENT AUGUST 2016

(MONTH OVER MONTH CHANGE)



Posts: 13

Engagements: 265 (-40%)

Impressions: 7,705 (+5%)

Avg. Impressions per Post: 550 (-3%)



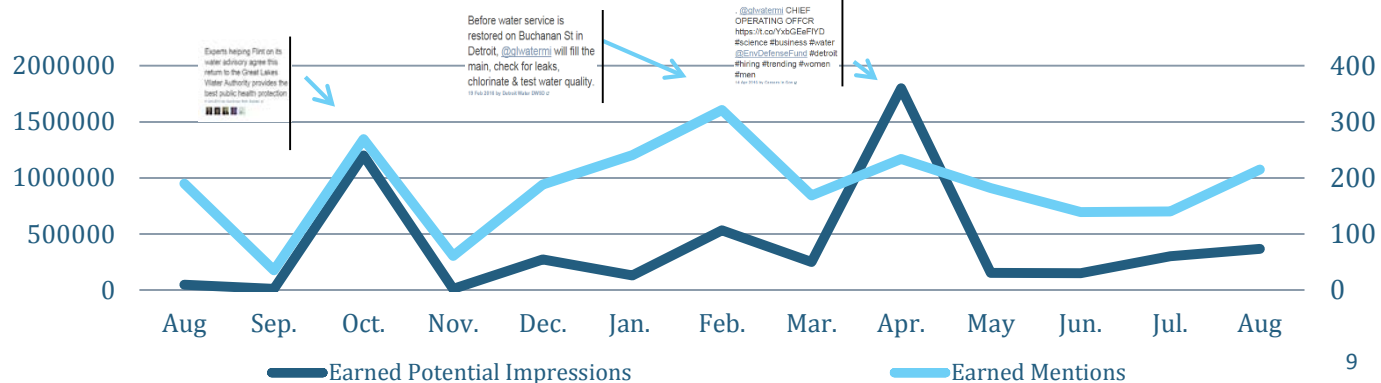
Posts: 13

Engagements: 53 (-4%)

Impressions: 3,423 (+23%)

Avg. Impressions per Tweet: 180 (-12%)

EARNED POTENTIAL IMPRESSIONS AND EARNED MENTIONS BY MONTH**



*Monitoring Period for Report: 1/1/16 - 8/31/16; **Earned Mentions / Potential Twitter Impressions via Listening Tool: ("Great Lakes Water Authority" OR glwatermi); ****Owned Data based on all Organic AND Paid content posted to channels; *****Sum of Potential Followers for each account (Twitter & Facebook as of August 31st)

GLWA's Effective Utility Management Journey – from Key Metrics to EUM

- GLWA's EUM Journey
 - Authorized in Spring 2016
 - Kick-off in Summer 2016 with Executive Leadership Team
 - Phase I in process - Fall 2016
 - Board Workshop Late 2016/Early 2017
 - Beginning to focus our language and perspective in alignment with EUM
- EUM's Beginning
 - In 2007, in collaboration with the U.S. Environmental Protection Agency, the American Public Works Association, the American Water Works Association, the Association of Metropolitan Water Agencies, the National Association of Clean Water Agencies, the National Association of Water Companies, and the Water Environment Federation signed an agreement to support effective utility management.
- The EUM Framework
 - The result, "Ten Attributes of Effectively Managed Water Sector Utilities", are a succinct indication of where effectively managed utilities focus and what they strive to achieve.

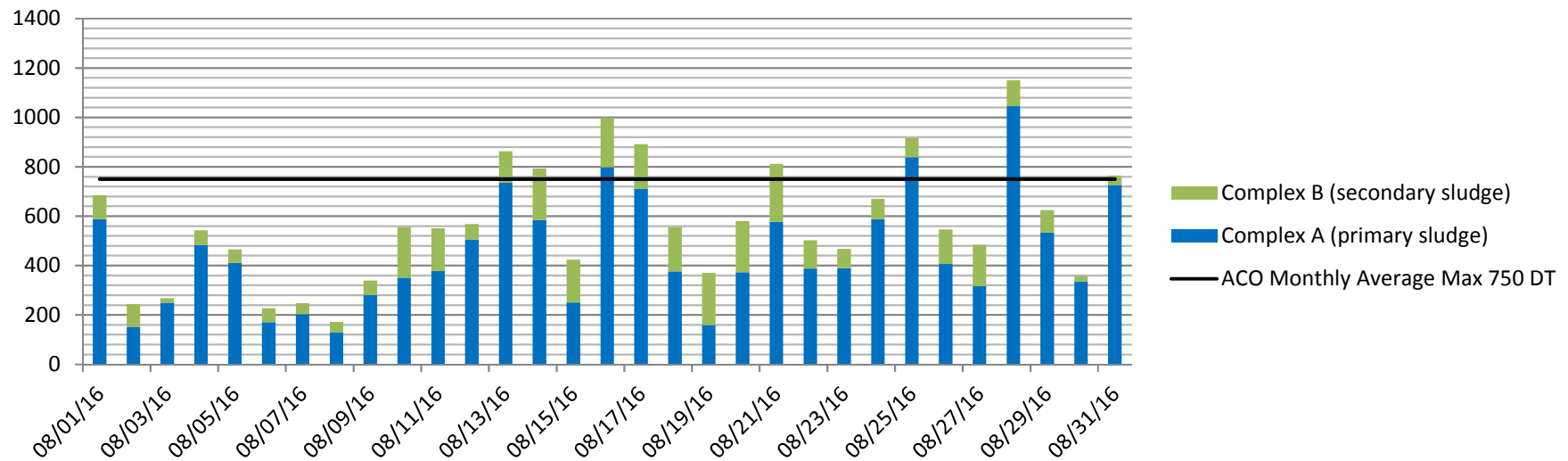
EUM Attributes

Product Quality <p>Produces potable water, treated effluent, and process residuals in full compliance with regulatory and reliability requirements and consistent with customer, public health, and ecological needs.</p>	Customer Satisfaction <p>Provides reliable, responsive, and affordable services in line with explicit, customer-accepted service levels. Receives timely customer feedback to maintain responsiveness to customer needs and emergencies.</p>
Employee and Leadership Development <p>Recruits and retains a workforce that is competent, motivated, adaptive, and safe-working. Establishes a participatory, collaborative organization dedicated to continual learning and improvement. Ensures employee institutional knowledge is retained and improved upon over time. Provides a focus on and emphasizes opportunities for professional and leadership development and strives to create an integrated and well-coordinated senior leadership team.</p>	Operational Optimization <p>Ensures ongoing, timely, cost-effective, reliable, and sustainable performance improvements in all facets of its operations. Minimizes resource use, loss, and impacts from day-to-day operations. Maintains awareness of information and operational technology developments to anticipate and support timely adoption of improvements.</p>
Financial Viability <p>Understands the full life-cycle cost of the utility and establishes and maintains an effective balance between long-term debt, asset values, operations and maintenance expenditures, and operating revenues. Establishes predictable rates (<i>charges</i>) —consistent with community expectations and acceptability— adequate to recover costs, provide for reserves, maintain support from bond rating agencies, and plan and invest for future needs.</p>	Enterprise Resiliency <p>Ensures utility leadership and staff work together to anticipate and avoid problems. Proactively identifies, assesses, establishes tolerance levels for, and effectively manages a full range of business risks (including legal, regulatory, financial, environmental, safety, security, and natural disaster-related) in a proactive way consistent with industry trends and system reliability goals.</p>

EUM Attributes (continued)

Community Sustainability	Infrastructure Strategy and Performance
Is explicitly cognizant of and attentive to the impacts its decisions have on current and long-term future community and watershed health and welfare. Manages operations, infrastructure, and investments to protect, restore, and enhance the natural environment; efficiently use water and energy resources; promote economic vitality; and engender overall community improvement. Explicitly considers a variety of pollution prevention, watershed, and source water protection approaches as part of an overall strategy to maintain and enhance ecological and community sustainability.	Understands the condition of and costs associated with critical infrastructure assets. Maintains and enhances the condition of all assets over the long-term at the lowest possible life-cycle cost and acceptable risk consistent with customer, community, and regulator-supported service levels, and consistent with anticipated growth and system reliability goals. Assures asset repair, rehabilitation, and replacement efforts are coordinated within the community to minimize disruptions and other negative consequences.
Stakeholder Understanding and Support	Water Resource Adequacy
Engenders understanding and support from oversight bodies, community and watershed interests, and regulatory bodies for service levels, rate structures, operating budgets, capital improvement programs, and risk management decisions. Actively involves stakeholders in the decisions that will affect them.	Ensures water availability consistent with current and future customer needs through long-term resource supply and demand analysis, conservation, and public education. Explicitly considers its role in water availability and manages operations to provide for long-term aquifer and surface water sustainability and replenishment.

Sludge Inventory (dry tons)



Sludge Disposal by Method (dry tons)

