

FILED
August 4, 2016
**INDIANA UTILITY
REGULATORY COMMISSION**

Petitioner's Exhibit No. 1

THE CITY OF EAST CHICAGO, INDIANA

INDIANA UTILITY REGULATORY COMMISSION

CAUSE NO. 44826

DIRECT TESTIMONY

OF

GREGORY D. CROWLEY

SPONSORING ATTACHMENTS GDC-1 THROUGH GDC-7

CITY OF EAST CHICAGO, INDIANA

CAUSE NO. 44826

DIRECT TESTIMONY OF GREGORY D. CROWLEY

1 **Q. Please state your name, occupation, and business address.**

2 A. My name is Gregory Crowley, and my business address is 5201 Indianapolis Boulevard,
3 East Chicago, IN 46312.

4 **BACKGROUND**

5 **Q. Please describe your formal education.**

6 A. I received a Bachelor of Science in Mechanical Engineering from the University of
7 Notre Dame in 1993. I received a Master of Science in Mechanical Engineering from
8 the University of Maryland at College Park in 1996. And I received a Master of
9 Business Administration from the Johnson Graduate School of Management at Cornell
10 University in 2000.

11 **Q. Are you a registered professional engineer in the State of Indiana?**

12 A. Yes, I am.

13 **Q. What are your roles with the City of East Chicago?**

14 A. I serve as the Director of Utilities and serve at the direction of the Board of Water
15 Works, the Sanitary Board, and the Storm-water Board.

16 **Q. What is your role specifically with the Board of Water Works?**

17 A. I establish strategic direction for the utility. I help identify infrastructure needs and
18 provide planning and coordination for large infrastructure projects. I typically meet with
19 engineers, consultants, legal advisors, and vendors to discuss different project elements
20 and issues.

1 **Q. Who are you employed by?**

2 A. I am employed by my engineering firm, Crowley Engineering LLC.

3 **Q. What is the arrangement between the City of East Chicago and Crowley**
4 **Engineering LLC?**

5 A. Crowley Engineering LLC is contracted by the City to perform the services I provide.
6 The contract began in September 2013.

7 **Q. When did you begin working with the Water Department?**

8 A. I began working with the Water Department in early 2013. I was asked to provide some
9 engineering consulting services at that time.

10 **Q. How long have you been Director of Utilities?**

11 A. I began serving as the Director of Utilities in September 2013, so nearly three years as of
12 the time of filing this testimony.

13 **Q. How many employees do you oversee?**

14 A. Approximately fifty-nine employees report to me total across all utilities. I have five
15 employees that report to me directly. The Water Department has approximately twenty-
16 two employees.

17 **Q. What is the purpose of your direct testimony in this proceeding?**

18 A. My purpose in testifying is to update the Commission on new infrastructure, discuss
19 operating expenses, and explain additional capital projects that are required.

20 **Q. Are you sponsoring any exhibits?**

21 A. Yes. Attachment GDC-1 is a copy of my current resume. Attachment GDC-2 is a copy
22 of the Petition in this matter. Attachment GDC-3 is a copy of three Resolutions adopted
23 on July 21, 2016, and August 1, 2016, authorizing the request for Commission authority
24 to increase water rates by an amount not to exceed 55% as well as other actions related

1 to the relief requested in this Cause. Attachment GDC-4 reflects the capital
2 improvement plan projects and their anticipated costs, over the next five years. I refer in
3 my testimony to these projects collectively as East Chicago's "CIP." Attachment GDC-
4 5 is a summary of our meter replacement program. Attachment GDC-6 is the SRF
5 Application that we have submitted related to the CIP projects. My work papers
6 calculating anticipated purchased power, natural gas, and chemical operating expenses
7 comprise Attachment GDC-7.

8 **Q. When was East Chicago's last rate increase?**

9 A. East Chicago petitioned for a rate increase in 2004 and Step 1 rates went into effect in
10 2005 and were trued-up and approved for use effective November 8, 2006. It has been
11 more than a decade since East Chicago sought a rate increase.

12 **Q. How do East Chicago's rates compare with other municipal water departments?**

13 A. According to information published by the IURC, East Chicago has some of the lowest
14 average monthly bills of regulated water utilities. Even if East Chicago obtains the rate
15 increase requested in this cause, customers' average monthly bills for a customer using
16 4,000 gallons per month will still be less than \$17/month and among the very lowest. It
17 is important to note, however, that the City has been losing money on its water service
18 for a number of years, and a rate increase is direly needed. Mr. Theodore Sommer, one
19 of the City's accountants, explains the need in greater detail in his testimony.

20 **CONSTRUCTION OF NEW PLANT**

21 **Q. Have there been any material changes to the Water Department's facilities since**
22 **the last rate case?**

23 A. Yes. In 2011, East Chicago completed construction of a \$52 million new water
24 treatment and filtration plant ("New Plant") to replace the 1965 conventional filtration

1 plant ("Old Plant"). Construction of the New Plant was financed in large part by a 2009
2 SRF loan in the amount of \$27,200,000 supported by gaming revenue. As Mr. Sommer
3 references in his testimony, East Chicago is not seeking at this time to recover that
4 \$27,200,000 capital expense even though it reflects an expenditure of funds for used and
5 useful utility property. The work papers do adjust for the operating expenses of the
6 New Plant as I explain further below.

7 **Q. Tell us about the New Plant.**

8 A. The new membrane filtration plant is state-of-art water treatment plant. It is designed to
9 filter water down to .02 microns, which exceeds current environmental standards. This
10 is done to attempt to capture small viruses and avoid those contaminants being
11 introduced to the drinking water system. This is the first such plant built in the State of
12 Indiana, but it is not new technology.

13 **Q. What is the operational status of the New Plant?**

14 A. The New Plant is currently undergoing performance testing, which began in April 2016.
15 Performance testing is going well, but we have not yet finished that testing.

16 **Q. Can you explain further?**

17 A. The New Plant has six banks of 240 membrane modules; currently the sixth bank is not
18 available due to Performance testing. This affects capacity of the New Plant, so it is
19 presently operating but not at full capacity. However, we expect the Performance
20 testing to go as well as the testing on the first five banks and the sixth bank will be
21 operational by the end of October 2016. At that time, the New Plant will be fully
22 operational and used and useful.

23 **Q. Were there prior problems with initial Plant operation?**

1 A. Yes. I was originally consulted in 2013 when the New Plant strainers did not perform as
2 expected when the New Plant was initially operated. Although it has taken some time
3 and final testing continues, those initial issues generally have been resolved through
4 modifications to the membranes in close coordination with the contractor. The New
5 Plant is expected to provide reliable and high quality drinking water for East Chicago
6 residents for a substantial time into the future.

7 **Q. Is the Old Plant still operating?**

8 A. Yes.

9 **Q. When do you plan to take the Old Plant offline?**

10 A. We currently believe that the earliest time we could decommission the Old Plant is
11 October 2016.

12 **CAPITAL IMPROVEMENTS PLAN**

13 **Q. Please describe East Chicago's CIP.**

14 A. East Chicago's CIP involves the construction of additional storage facilities, meter
15 replacement/upgrades, hydrant repair and replacement, integration of a leak detection
16 system, water main valve replacements, a lead/copper line replacement program,
17 demolition of the old treatment plant, and related waterworks improvements.

18 Attachment GDC-4 reflects the five-year CIP projects.

19 **Q. Please describe East Chicago's current storage facilities.**

20 A. East Chicago currently has three storage tanks. There is a 4 MG storage tank located at
21 the Old Plant, a 4 MG storage tank at the New Plant, and a 1.5 MG storage tank located
22 directly across from the Water Department building.

23 **Q. Do you have plans for new storage tanks?**

1 A. Yes. When we take the Old Plant off line, the storage tank at the Old Plant will likely
2 no longer be feasible to use because of piping and other reasons, including age and
3 deterioration. We therefore need a new 4 MG storage tank at the New Plant; that
4 storage tank was part of the original plans for facilities at the New Plant. We would like
5 to see design underway by spring 2017 and construction begin late 2017 or early 2018
6 on that replacement 4 MG storage tank.

7 **Q. Do you need any other additional storage?**

8 A. Yes. The Indiana Department of Environmental Management (IDEM) has discussed
9 with us the need for additional storage to maintain at least a 24-hour storage reserve.
10 The CIP therefore includes plans for an additional 4 MG storage tank with a location to
11 be determined. The storage facilities are the most expensive aspects of the CIP, but they
12 have been deemed to be critical as a matter of health and safety.

13 **Q. What other infrastructure needs does the Water Department have?**

14 A. One of the most pressing needs is to complete the conversion of customer meters and
15 install new meters with radio frequency (RF) technology and automated metering
16 infrastructure (AMI) capabilities.

17 **Q. Why is this important?**

18 A. Many of the Water Departments meters are old and outdated; in some cases, we are
19 unable to get replacement parts. These old meters, particularly pit meters, have
20 exceeded their useful life expectancy. I believe that the outdated meters contribute to
21 billing problems that the Water Department has experienced as discussed by Ms.
22 Patricia Bodnar in her testimony and line loss.

23 **Q. What is the advantage of new meters?**

1 A. Newer technology available today allows for more streamlined and efficient meter
2 reading. The RF meters we are evaluating allow us to use new technology, including
3 drive-by meter reading. The ultimate plan is to transition fully to AMI which would
4 allow the Department access to much more advanced and up-to-date data on a daily
5 basis.

6 **Q. Has the Water Department begun this transition?**

7 A. Yes. The City implemented a meter replacement program in 2011, and started making
8 the conversion to RF technology. Approximately one-third of residential and
9 commercial meters have been replaced with RF technology meters. However, not all of
10 the replacement meters installed in the conversion have AMI capability, so some of the
11 first generation RF replacement meters will themselves need to be replaced in order to
12 have a universal meter reading program. We feel this is critical.

13 **Q. Is there a summary of the meter replacement program?**

14 A. Yes. Attachment GDC-5 provides a summary of the meter replacement program.

15 **Q. How has the meter replacement program been financed?**

16 A. The Department has paid for meter replacement expenses out of current revenues.
17 Although the Department has been operating at a loss, the meter replacement program is
18 deemed vital to making the entire system more efficient.

19 **Q. You mentioned line loss. Does the Department have any other projects planned to
20 prevent line loss?**

21 A. Yes. The Department intends to repair or replace hydrants that have been identified for
22 necessary maintenance and to install hydrant locks on certain hydrants targeted for
23 illegal use or which are difficult to monitor. We also intend to pursue a bulk water
24 dispensing station. We would likely install this station on the rear yard of the New Plant

1 and designate the dispensing station as the location for contractors to purchase bulk
2 water. We believe this is important because we have some evidence of water theft,
3 particularly from hydrants, and we believe the bulk water dispensing station will help
4 control the process to obtain bulk water.

5 **Q. Are you proposing a new, separate rate for this service?**

6 A. Yes. Mr. Sommer addresses this rate in his testimony.

7 **Q. Does the CIP include any other measures to prevent line loss?**

8 A. Yes. We know that some lost water is due to aging infrastructure and non-functioning
9 valves. The CIP therefore includes a valve exercising program and a leak detection
10 survey. The Department also has instructed its staff to be as aggressive as possible to
11 identify and remedy losses from line breaks. In particular, once the Department
12 becomes aware of a line break, staff is instructed to have contractors repair it
13 immediately.

14 **Q. Please describe the lead pipe replacement project that you mentioned?**

15 A. We are developing a lead pipe replacement program. We know that some of the service
16 pipes in the City's system are lead pipes. We are also aware that there are lead pipes in
17 some of our customers' homes and are investigating certain neighborhoods. Due to
18 these issues, we are developing a program to replace lead pipes that are owned by the
19 City as well as pipes inside homes. Because many of our customers are low-income, we
20 believe the program to replace pipes in customers' homes will need to be subsidized. At
21 present, the Department anticipates a 50/50 match of Department money and customer
22 payment. We believe that this is an important program to protect our residents' health
23 and well-being. This program has no connection to the lead and arsenic contamination

1 at the West Calumet Housing Complex, which is being separately addressed by the EPA
2 and the City.

3 **Q. How do the City's water lead levels compare to EPA guidelines?**

4 A. The City samples its water for lead and copper every 3 years per federal and state
5 reporting requirements. The most recent samples were collected in summer 2013 and
6 indicated a 90th percentile measurement for lead of .0078 mg/L, which is lower than the
7 U.S. EPA action level of .015. Additional samples are presently being gathered for
8 analysis.

9 **Q. Does the City plan to demolish the Old Plant?**

10 A. Yes. After the New Plant is fully operational, the Old Plant will be demolished. The
11 CIP includes funds related to the demolition expense.

12 **Q. Are the costs specified for the various components East Chicago's CIP final costs?**

13 A. No. The costs set forth are estimates, but they are based on careful analysis by me and
14 my staff. We have met with vendors for a number of the projects described, and I
15 believe the numbers listed reflect good faith estimates of likely costs.

16 **Q. Is it possible that priorities could change and other projects might be substituted
17 for those currently in the CIP?**

18 A. Yes, it is possible. The projects specified are known and identified needs of the water
19 works system. However, it is always possible that other priorities and needs may arise
20 that would require expenditure of funds. The City currently does not have a separate
21 "rainy day" fund to address extraordinary and unexpected expenses. The CIP therefore
22 reflects the best estimate of the improvements needed over the next five years. It is near
23 certainty that as these improvements are made it will become apparent that other
24 infrastructure improvements need to be made as well.

1 **Q. How does the Department propose to finance the CIP?**

2 A. The Department intends to seek funds through revenue bonds through the State
3 Revolving Fund Drinking Water Fund (SRF). The Department has filed an application
4 with SRF, and that application is Attachment GDC-6.

5 **OPERATING EXPENSES FOR NEW PLANT**

6 **Q. Did you provide estimates related to operational expenses for the New Plant to the**
7 **Department's accountants, LWG?**

8 A. Yes.

9 **Q. What estimates did you provide?**

10 A. I provided estimates for purchased power, natural gas, and chemical expenses. I
11 reviewed usage numbers for the current operational status of the New Plant and then
12 scaled that data assuming full operation of the New Plant. I then multiplied those
13 numbers by NIPSCO's newly approved rates for purchased power and average natural
14 gas rates. I made similar calculations as to chemical expenses although chemical
15 expenses do not vary as much based on full or partial capacity operation. I attach as
16 Attachment GDC-7 my work papers for these calculations.

17 **RATE INCREASE REQUEST**

18 **Q. As a municipal water utility, East Chicago is not assessed taxes on its property. Do**
19 **the new rates you are seeking contemplate a payment to the Civil City in lieu of**
20 **property taxes?**

21 A. Yes. The proposed rates include recovery of East Chicago's cost to make annual
22 payments in lieu of taxes in the amount of \$600,000. The determination of this amount
23 is explained by Mr. Sommer.

1 **Q. How much of a rate increase is the Department seeking in this proceeding?**

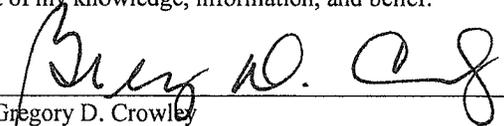
2 A. The Department is seeking a rate increase not to exceed 55%. We recognize that is a
3 significant increase on a percentage basis, but, as noted, the City of East Chicago has
4 some of the lowest average water bills in the State. The increase is less than \$6 per
5 month for an average residential household using 4,000 gallons. After working closely
6 with our accountants over the past several months, we have determined that a rate
7 increase of this magnitude is necessary for two primary reasons. First, the Department
8 has operated at a loss for a number of years and that alone is unsustainable. Second, the
9 Department must implement the capital projects described to ensure safe, reliable, and
10 efficient water supply to customers. It is therefore in our customers' interest for East
11 Chicago to increase its water rates.

12 **Q. Does this conclude your direct testimony in this cause?**

13 A. Yes.

VERIFICATION

I, Gregory D. Crowley, affirm under penalties of perjury that the foregoing representations are true and correct to the best of my knowledge, information, and belief.



Gregory D. Crowley

Date: Aug. 1, 2016

Gregory D. Crowley, P.E.

**Curriculum Vitae****Gregory D. Crowley, P.E.****Professional Experience**

Greg Crowley is the founder and president of Crowley Engineering LLC and has over 20 years of engineering experience. Specific areas of expertise include building inspections, site assessments, building codes and standards, HVAC and energy management systems, and analysis of mechanical equipment.

Recent forensic engineering and risk assessment projects include: combustible dust process hazard analysis in manufacturing applications; toxic mold assessment in a residential structure, household hazards related to mold, lead, carbon monoxide, and asbestos; household appliance scalding incident; and commercial swimming pool safety act compliance.

Additional facility investigations have included: pretreatment system failure of municipal membrane water filtration plant; water treatment system analysis for municipal drinking water and wastewater plants; health and safety inspection of boilers, furnaces, water heaters, plumbing and insulation for residential and multifamily weatherization; energy systems audit of commercial buildings; evaluation of municipal and commercial solid waste and recycling operations.

Licensure and Professional Certification

Professional Engineer, State of Indiana, No.: PE10504699
 Professional Engineer, State of Illinois, No.: 620.58475
 Professional Engineer, State of Ohio, No.: PE.74496
 Professional Engineer, State of Missouri, No.: PE-2010011664
 Professional Engineer, State of Michigan, No.: 6201057269
 Professional Engineer, State of Colorado, No.: PE-44479
 Professional Engineer, State of Wisconsin, No.: 41213-006
 Professional Engineer, State of Florida, No.: P.E. 73466
 Professional Engineer, State of Texas, No.: PE 109400
 Professional Engineer, State of Arizona, No.: PE 54989
 National Council of Examiners for Engineering and Surveying (NCEES) Certificate No.: 36005

Contact Information

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 2224 US Highway 41
 Schererville, Indiana 46375
 Office: (219) 322-4422
 Fax: (219) 322-2277
 Web: www.crowleyengineering.com

Education

Johnson Graduate School of Management
 Cornell University
 Ithaca, New York
 Master of Business Administration, 2000

University of Maryland at College Park
 College Park, Maryland
 Master of Science in Mech. Eng., 1996

University of Notre Dame
 Notre Dame, Indiana
 Bachelor of Science in Mech. Eng., 1993

Work Experience

Crowley Engineering LLC
 President/Project Eng., 2011 - Present

Crowley Engineering Group, LLC
 President 2003 - 2011

PPG Industries, Inc.
 Account Representative, 2002 - 2005

Kinetic Energy Consultants, LLC
 Energy Consultant, 2000 - 2002

Sargent & Lundy, LLC
 Mechanical Engineer, 1997 - 1999

University of Maryland at College Park
 Research Associate, 1994 - 1997

Texas A&M University
 Research Assistant, 1993 - 1994



Professional Affiliations

Director of Utilities, City of East Chicago (Indiana), 2013 – Present

Chairman, Town of Schererville (Indiana), Board of Zoning Appeals, 2007 – Present

Treasurer, Indiana Society of Professional Engineers, Calumet Chapter, 2008 – Present

Adjunct Instructor, Prairie State College, Mathematics Department, 2005 – 2012

Member, National Society of Professional Engineers, 2008 – Present

Member, Association of Energy Engineers, 2011 – Present

Member, U. S. Green Building Council, 2012 – 2013

Member, National Fire Protection Association, 2012 – Present

Member, American Society of Safety Engineers, 2012 – 2013

Member, American Society of Heating, Refrigerating, and Air-Conditioning Engineers, 2008 – Present

Member, Association for Facilities Engineering, 2012 – 2013

Member, Board of Trustees, Forest Ridge Academy, 2013 - Present

Courses Taught

Technical Mathematics (Pre-Engineering), Prairie State College, Fall 2011.

Math for Nurses (Dosages and Conversions), Prairie State College, Summer 2009, 2010.

General Education Statistics, Prairie State College, Spring 2007.

Probability & Statistics, Prairie State College, Spring 2005.

8th Grade Science Fair Mentoring Program, Illinois Institute of Technology, Fall 2005, 2006.

Seminar and Course Presentations

“Have Those New Swimming Pool Main Drain Covers Reduced Your Potential Liability,” *Great Lakes Park Training Institute, Angola, Indiana, March 3, 2011.*

“Considering Gas, Bleach, or Tablet Chlorination? Let’s Evaluate the Options,” *Indiana Section American Water Works Association, Northeast District Spring 2006 Meeting, Kendallville, Indiana, May 25, 2006.*

Work Experience

Franklin County (Ohio) Engineer’s Office
Engineering Co-op, *Summer 1992*

URS Consultants
Engineering Co-op, *Summer 1991*

Burgess & Niple, LLC
Engineering Co-op, *Summer 1988, 1989, 1990*

Professional Development

Institute of Electrical and Electronic Engineers (IEEE)

- Engineering Ethics, April 17, 2012.
- 2011 Solar Decathlon, Jan. 11, 2012.
- NIPSCO Feed-In Tariff for Green Power, October 18, 2013.

Energy Center of Wisconsin

- Industrial Steam and Commercial Boilers, Jan. 23, 2013.
- Controls and Upgrades for Advanced Lighting Retrofits, Sep. 28, 2011.

American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE)

- Assessing Building Energy Performance: From Principles to Practice, April 18, 2013.
- Ground Source Heat Pump Systems – Putting the Earth to Work for You, April 11, 2011.

International Code Council

- Right-Sized HVAC Design, The Missing Ingredient in Most Homes, Jan. 18, 2013
- Overview of the Chicago Energy Conservation Code, March 18, 2011.

Indiana Community Action Association

- Mold Awareness, Dec. 15, 2010.
- Lead Safe Practices, Dec. 14, 2010.
- Weatherization Auditor Training Program, Sep. 8 – 11, 2009.



Technical Reports and Publications

Agwu Nnanna, C. Sheng, K. Conrad, and G. Crowley, 2015, "Performance Assessment of Prefiltration Strainer of UltraFiltration Membrane by Particle Size Analysis," Proceeding of ASME IMECE201553447, November 13-19, 2015, Houston, Texas.

Powerful Incentives: Tapping Into State Incentives to Improve Energy Efficiency, Building Indiana magazine, March/April 2013.

Geometric Staging Effects on Fuel/Air Mixing in Advanced Gas Turbine Combustors," Master of Science Research Paper, University of Maryland, College Park, Maryland, 1996.

Flow Visualization of Fuel/Air Mixing for Advanced High Pressure and Temperature Gas Turbine Combustor Flows," Combustion Laboratory Research Paper, Department of Mechanical Engineering, University of Maryland, College Park, Maryland, 1996.

Use of NWS Weather Measurements for Cross-checking Local Weather Measurements," co-authored with Jeff S. Haberl, *Proceedings of the 9th Symposium on Improving Building Conditions in Hot & Humid Climates*, Texas A&M University, College Station, Texas, 1994.

"Energy Savings due to Floating Insulating Objects," Research Paper, Energy Management in Industry, Texas A&M University, College Station, Texas, 1994

Analyzing Light Transmissivity Effects of a Modified Fresnel Prism to a Solar Greenhouse Covering," co-authored with E.D. Johnson, Undergraduate Research Project, University of Notre Dame, Notre Dame, Indiana, 1993.

Honors, Recognition & Awards

Nominee, Northwest Indiana Society of Innovators, 2009.

Keynote Speaker, Minority Engineering Program Awards Dinner, University of Notre Dame, Notre Dame 2001.

Outstanding Minority Engineering Student Award, University of Notre Dame, Notre Dame, Indiana, 1993.

Professional Development

Prairie State College

- Intermediate AutoCAD, Fall 2009.

Association of Energy Engineers

- Energy Auditing 101: Identifying Cost Savings Opportunities in Plants & Buildings, Spring 2005.
- Fundamentals of Buying & Selling Energy, Spring 2002.

Inspection Training Associates

- Fast Track Home Inspection Course, Summer 2004.

Schneider Electric

- Precision Room Cooling that offers Technology, Form & Function, Jun. 28, 2012.

Modine Mfg & Callahan Mechanical Sales

- Dedicated /High Outdoor Air Systems: ASHRAE 90.1, 62.1 & 189.1, EER versus SEER and the New Generation of Condensing Rooftops, Jun. 21, 2012.

Mestek, Inc.

- Energy, Efficiency, Application, Controls, Codes, Product Selection, and Troubleshooting Heating Boilers and Domestic Hot Water Systems, October 22-23, 2013.

American Water Works Association

- Financial Management of Service Rate Making Seminar, September 17-19, 2014.

STATE OF INDIANA
INDIANA UTILITY REGULATORY COMMISSION

PETITION OF THE CITY OF EAST CHICAGO,)
INDIANA FOR AUTHORITY TO ISSUE)
BONDS, NOTES, OR OTHER OBLIGATIONS)
FOR AUTHORITY TO INCREASE ITS RATES) CAUSE NO. 44826
AND CHARGES FOR WATER SERVICE, AND)
FOR APPROVAL OF NEW SCHEDULES OF)
WATER RATES AND CHARGES.)

PETITION

Petitioner, the City of East Chicago, Indiana (“Petitioner”), respectfully petitions the Indiana Utility Regulatory Commission (“Commission”) for authority to increase its rates and charges for water utility service, approval of a new schedule of rates and charges applicable thereto, and authority to issue notes, bonds, or other obligations. In support of its Petition, the Petitioner states:

1. Petitioner owns and operates a municipal water system. Municipal Ordinance 3004, passed by the City of East Chicago Common Council on August 7, 1972, authorizes the operation of a water department as a municipal utility pursuant to Ind. Code § 19-3-27-1 (now Ind. Code 8-1.5-4). The City of East Chicago Department of Waterworks collects rates and charges for the use of the services rendered by its water system pursuant to Ind. Code § 8-1.5-3-8.
2. Petitioner is subject to the jurisdiction of this Commission in the manner and to the extent provided in Ind. Code § 8-1.5-1-1 et seq., as amended, and other laws of the State of Indiana.
3. Petitioner, by its Department of Waterworks, operates, manages, and controls plants, property, pipelines, equipment, and facilities which are used and useful in the production, treatment, distribution, and sale of water and provision of water service to residential,

commercial, industrial, and other consumers. Petitioner's water utility properties are used and useful in its public service and operated and maintained so as to provide adequate, dependable, and efficient water sales and service to its customers.

4. Petitioner's existing water rates were established pursuant to Commission Orders dated November 9, 2005, and April 6, 2006, in Cause No. 42680.

5. Petitioner has experienced increased cost and expense since its last rate increase approved by the Commission.

6. Petitioner must also make necessary additions, extensions, replacements, and improvements to its waterworks system to continue to provide reasonable and adequate service.

7. Petitioner proposes to obtain the necessary funds for these additions, extensions, replacements, and improvements from revenues and from the issuance of new waterworks revenue bonds through the Drinking Water State Revolving Fund ("SRF"). Petitioner has applied to issue \$16,545,000 in bonds through the SRF, which is a reasonable method for financing the planned improvements. The principal and interest of the new waterworks revenue bonds will be payable solely from future revenues of the Petitioner's waterworks.

8. Petitioner's revenues provided by its current rates are inadequate to meet the carrying cost and expense of operating either its present or planned future additional plant and facilities, as well as the costs and expenses to meet or exceed environmental and other legal and customer service requirements.

9. In particular, the existing rates and charges for water service rendered by Petitioner do not produce sufficient revenue to pay all the necessary expenses incident to the operation of the utility, including maintenance costs, operating charges, upkeep, repairs, depreciation, and interest charges on bonds or other obligations, including leases; provide a sinking fund for the liquidation of bonds or other evidence of indebtedness, including leases;

provide a debt service reserve for bonds or other obligations, including leases; provide adequate money for working capital; provide adequate money for making extensions and replacements to the extent not provided for through depreciation; provide money for the payment of any taxes that may be assessed against the utility; compensate the City for taxes that would be due the City on the utility property were it privately owned; and provide a return on the utility plant. The issuance of the proposed revenue bonds for Petitioner's necessary additions, extensions, replacements, and improvements would increase the shortfall. The existing rates and charges are therefore insufficient and unlawful pursuant to Ind. Code § 8-1.5-3-8.

10. It is necessary to increase the present rates and charges in order to provide sufficient funds to meet the financial requirements of Petitioner's waterworks and maintain the utility property in a sound physical and financial condition, and to meet all environmental and other water services requirements to enable Petitioner to continue rendering adequate and efficient utility service.

11. Petitioner's Board of Directors of the Department of Waterworks ("Board") acts as the City's legislative body pursuant to Ind. Code §§ 8-1.5-3-4 and 8-1.5-3-8.

12. At its meeting on July 21, 2016, the Board approved the filing of this Petition with the Commission seeking authority for an across-the-board rate increase not to exceed 55%.

13. At its meeting on August 1, 2016, the Board also approved, pursuant to Ind. Code § 8-1.5-4-15, the acquisition, construction, installation and equipping of certain improvements and extensions to the waterworks of the City, including additional storage facilities, meter replacement/upgrades, fire protection improvements, leak detection system, water main valves, lead/copper line replacement, demolition of the old treatment plant, and related waterworks improvements. The Board further adopted a resolution authorizing the issuance of bonds to

finance the construction of the improvements and extensions and addressing certain other matters.

14. The extensions, replacements, and improvements for which authority is sought to issue the bonds, notes, or other obligations are reasonably necessary for Petitioner to provide adequate and efficient utility service. The revenue bonds which Petitioner seeks authority to issue are a reasonable method of financing such extensions, replacements, and improvements. The new schedule of rates and charges will represent rates and charges which are lawful, nondiscriminatory, necessary, reasonable, and just. Therefore, the issuance of the proposed revenue bonds and the establishment of the new schedule of rates and charges should be approved by the Commission.

15. Petitioner plans to utilize a historical test year for purposes of determining Petitioner's actual and pro forma operating revenues, expenses, and revenue requirement under present and proposed rates based on the twelve (12) months ended December 31, 2015, and believes the financial and accounting data, when properly adjusted pursuant to Petitioner's evidence, including, but not limited to, the substantial additional capital requirements Petitioner must meet and finance over the next few calendar years, fairly reflect the Petitioner's annual operations. Therefore, such historical test year, as adjusted, is a proper basis for fixing the requested new rates for Petitioner and testing the effect of those rates.

16. Petitioner considers Ind. Code §§ 8-1-2-42, 8-1-2-42.7, 8-1.5-2-19 and 8-1.5-3-8, among others, applicable to the subject matter of this proceeding.

17. The attorneys authorized to represent Petitioner in this proceeding, who are authorized to accept service of papers in the proceeding on behalf of Petitioner, are:

Jane Dall Wilson, Atty. No. 24142-71
Peter Hatton, Atty. No. 7970-45
FAEGRE BAKER DANIELS LLP
300 North Meridian Street, Suite 2700
Indianapolis, Indiana 46204
317-237-0300
317-237-1000 (facsimile)
jane.wilson@faegrebd.com
peter.hatton@faegrebd.com

18. Petitioner requests that a date be promptly fixed for a preliminary hearing in this proceeding.

19. WHEREFORE, Petitioner respectfully prays the Commission promptly conduct a prehearing conference, determine a procedural schedule, conduct an evidentiary hearing, and take such further action as it deems appropriate, and thereafter issue a final order in this Cause

- a) authorizing an increase in Petitioner's rates and charges for water service as requested by Petitioner;
- b) approving the establishment of new schedules of water rates and charges applicable thereto, with such schedules properly to reflect and establish the proposed rate increase;
- c) approving the issuance of bonds, notes, or other obligations; and
- d) making such other and further orders as the Commission may deem appropriate and proper.

Respectfully submitted,

By: 

Jane Dall Wilson (#24142-71)

Peter Hatton (#7970-45)

FAEGRE BAKER DANIELS LLP

300 North Meridian Street, Suite 2700

Indianapolis, Indiana 46204

317-237-0300

317-237-1000 (facsimile)

*Attorneys for Petitioner, The City of East
Chicago, Indiana*

CERTIFICATE OF SERVICE

The undersigned hereby certifies that the foregoing was served this 4th day of August,
2016, electronically or by hand delivery to:

Daniel LeVay
Indiana Office of Utility Consumer Counselor
PNC Center
115 West Washington Street, Suite 1500 South
Indianapolis, Indiana 46204
infomgt@oucc.in.gov
dlevay@oucc.in.gov


Jane Dall Wilson

RESOLUTION NO. WD-16-02

RESOLUTION AUTHORIZING A NEW SCHEDULE OF
RATES AND CHARGES FOR SERVICES RENDERED BY
THE DEPARTMENT OF WATER WORKS OF EAST
CHICAGO, INDIANA, AND RELATED MATTERS

WHEREAS, the Board of Directors ("Board") of the Department of Water Works of the City of East Chicago, Indiana ("Department of Water Works") has under consideration the necessity for an increase in water rates and charges; and

WHEREAS, the Board of Directors has caused a study to be made by London Witte Group, LLC, certified public accountants ("Rate Consultants") to determine whether or not an increase in water rates and charges for water service rendered by the Department of Water Works, is required in order to enable the Department of Water Works to pay its necessary expenses of operating, including the payment of its bonded indebtedness, funds for extensions and replacements and all the other costs of operation as set forth in the applicable statute, I.C. § 8-1.5-3-8; and

WHEREAS, the Department of Water Works has been advised by the Rate Consultants that the Department of Water Works is in immediate need of a rate increase in order for the Department of Water Works to realize sufficient revenues to promptly operate its water works as required by statute; and

WHEREAS, the Rate Consultants have provided to the Board of Directors a recommendation to implement upon approval by the Indiana Utility Regulatory Commission a proposed increase of not to exceed 55%; and

WHEREAS, the Board of Directors now finds that it will be necessary to increase the water rates and charges for water service rendered by the Department of Water Works in order

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for the revenues produced by the Department of Water Works' facilities to comply with the statutory requirements of the State of Indiana; and

WHEREAS, the Board of Directors is empowered by I.C. § 8-1.5-4-1.5 to act as the municipal legislative body for the purpose of I.C. § 8-1.5-3-4 and I.C. § 8-1.5-3-8; and

WHEREAS, a petition will be filed in the near future and assigned an IURC Cause Number; and

WHEREAS, the full extent of the rate relief to be sought in the referenced petition to the IURC remains to be finalized; and

WHEREAS, after full review, discussion and due consideration of the aforesaid matter presented, reported, and recommended, upon motion duly made and seconded, the following resolutions were adopted:

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF DIRECTORS OF THE DEPARTMENT OF WATER WORKS OF THE CITY OF EAST CHICAGO, INDIANA

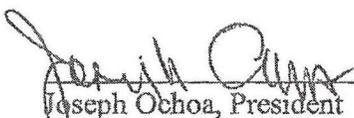
1. That a new schedule of water rates and charges shall be established reflecting an increase not to exceed fifty-five percent (55%) of the current per thousand gallons rate.
2. That the Director of Utilities for the City of East Chicago and the Department of Water Works employees and agents, are hereby authorized to secure the approval of the rates and charges established by this Resolution by the Indiana Utility Regulatory Commission, and to take any and all actions that are necessary to put said rates and charges in effect for the Department of Water Works of the City of East Chicago, Indiana.
3. That all resolutions and parts of resolution in conflict herewith are hereby repealed; provided, however, that all existing rules and regulations of the Department of Water Works are to continue in effect and that the existing schedule of water rates and charges for

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ATTORNEY WORK PRODUCT

service rendered shall also remain in effect until a new schedule of rates and charges is established and approved by the Indiana Utility Regulatory Commission, and further until such time as the order of said Commission approving said new rates and charges shall direct.

4. That this Resolution shall be in full force and effect from and after its passage and adoption.

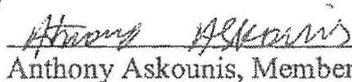
Adopted this 21st day of July, 2016



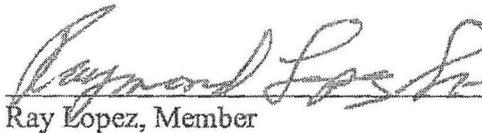
Joseph Ochoa, President



John Bakota, Vice President



Anthony Askounis, Member



Ray Lopez, Member



Henry Ventura, Member

RESOLUTION NO. WD-16-03

**DECLARATORY RESOLUTION OF THE BOARD OF
DIRECTORS OF THE DEPARTMENT OF WATERWORKS
OF THE CITY OF EAST CHICAGO, INDIANA,
AUTHORIZING THE REBUILDING, REPAIRING,
EXTENDING AND IMPROVING OF THE WATERWORKS
SYSTEM OF THE CITY AND RELATED MATTERS**

WHEREAS, the Board of Directors (the "Board") of the Department of Waterworks (the "Department") of the City of East Chicago, Indiana (the "City"), the governing body of the Department and the Waterworks District of the City (the "District"), exists and operates under the provisions of Indiana Code 8-1.5-4, as amended from time to time; and

WHEREAS, the Board hereby finds, upon investigation, that in order to properly protect the public health and welfare and safeguard the property within the District, it is necessary to rebuild, repair, extend and improve the waterworks system of the City; and

WHEREAS, the Board has begun preparing maps, plan, specifications and drawings with full details and descriptions for the proposed work, consisting of the acquisition, construction, installation and equipping of additional storage facilities, meter replacement/upgrades, fire protection improvements, leak detection system, water main valves, lead/copper line replacement, demolition of the old treatment plant, and related waterworks improvements (collectively, the "Project"), together with an estimate of the cost thereof;

NOW, THEREFORE, BE IT RESOLVED by the Board of Directors of the Department of Waterworks of the City of East Chicago, Indiana, as follows:

Section 1. The Board hereby declares that the Project is necessary for the protection of the public health and welfare of the inhabitants of the District and the safeguarding of the property within the District.

Section 2. The Board hereby declares that the Project is of public utility and benefit.

Section 3. The preliminary plans, maps, specifications, drawings, details, descriptions and estimates prepared in connection with the Project, as submitted to the Board at this meeting, are hereby adopted. Such plans, maps, specifications, drawings, details, descriptions and estimates and this Resolution shall be made available for inspection during normal business hours by all persons interested in or affected by the Project at the Office of the East Chicago Waterworks Department, located at 400 E. Chicago Avenue, East Chicago, Indiana.

Section 4. The Board's cost estimate for the Project is in excess of Sixteen Million Five Hundred Thousand Dollars (\$16,500,000). The Board further finds that the precise property rights and locations needed to complete the Project are impossible to determine at this time. If the final plans, maps, specifications, drawings, details, descriptions and estimates require the purchase or appropriation of land, easements or rights-of-way not currently owned by the Department, then the Board will amend this Resolution to comply with Indiana Code 8-1.5-4. The Board proposes that the Project proceed and that the Project be financed by the issuance of one or more series of bonds of the District to be issued pursuant to Indiana Code 8-1.5-4, to include all of the costs of the Project and the costs of issuance of said bonds in an estimated amount not to exceed Sixteen Million Seven Hundred Thousand Dollars (\$16,700,000).

Section 5. The Secretary of the Board is hereby authorized and directed to schedule a public hearing on the adoption of this Resolution at which the Board will receive or hear remonstrances from the persons interested in, or affected by, this Resolution, and determine the public utility and benefit of the Project and take final action confirming, modifying or rescinding this Resolution. The hearing shall be held at a meeting of this Board, and the Secretary of the Board is further authorized and directed to publish notice of such hearing at the time and in the

manner provided by law, including, without limitation, the provisions of Indiana Code 8-1.5-4-15 and Indiana Code 5-3-1.

Section 6. This Resolution shall be in full force and effect upon its passage.

* * * * *

ADOPTED AND APPROVED this 1st day of August, 2016.

BOARD OF DIRECTORS OF THE
DEPARTMENT OF WATERWORKS OF THE
CITY OF EAST CHICAGO, INDIANA



Joseph Ochoa, President

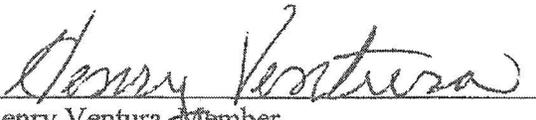


John Bakota, Vice President

Anthony Askounis, Member



Ray Lopez, Member



Henry Ventura, Member



Secretary

RESOLUTION NO. WD-16-04

**A PRELIMINARY BOND RESOLUTION OF THE
BOARD OF TRUSTEES OF THE DEPARTMENT OF
WATERWORKS OF THE CITY OF EAST CHICAGO, INDIANA,
AUTHORIZING THE ISSUANCE OF BONDS OF THE
WATERWORKS DISTRICT OF THE CITY OF EAST CHICAGO, INDIANA,
FOR THE PURPOSE OF PROCURING FUNDS FOR CERTAIN
IMPROVEMENTS AND EXTENSIONS TO SUCH WATERWORKS,
THE ISSUANCE OF BONDS OF SAID DISTRICT TO REFUND
CERTAIN OUTSTANDING WATERWORKS DISTRICT BONDS,
AND CERTAIN RELATED MATTERS**

WHEREAS, the Board of Trustees (the "Board") of the Department of Waterworks (the "Department") of the City of East Chicago, Indiana (the "City"), the governing body of the Department and the Waterworks District of the City (the "District"), exists and operates under the provisions of Indiana Code 8-1.5-4, as amended from time to time (the "Act"); and

WHEREAS, the Board finds that in order to provide funds for the payment of the costs of certain improvements and extensions to the waterworks of the City (the "Waterworks"), consisting of the acquisition, construction, installation and equipping of additional storage facilities, meter replacement/upgrades, fire protection improvements, leak detection system, water main valves, lead/copper line replacement, demolition of the old treatment plant, and related waterworks improvements (collectively, the "Project"), it will be necessary and in the best interest of the District, and the property and inhabitants thereof, to issue bonds of the District in an aggregate principal amount not to exceed Sixteen Million Seven Hundred Thousand Dollars (\$16,700,000), which shall be payable solely from the net revenues of the Waterworks (the "Net Revenues"); and

WHEREAS, certain preliminary expenditures related to the Project have been or will be incurred by or on behalf of the District prior to the issuance and delivery of such bonds; and

WHEREAS, the Board desires to express its intention to reimburse such expenditures as have been or may be incurred prior to the issuance of such bonds, pursuant to Indiana Code 5-1-14-6 and in compliance with Section 1.150-2 of the U.S. Treasury Regulations promulgated by the Internal Revenue Service (the "Treasury Regulations"); and

WHEREAS, the District has heretofore issued its City of East Chicago Waterworks Revenue Bonds, Series 2006 (the "2006 Bonds"), payable from the Net Revenues, which 2006 Bonds are currently outstanding in the principal amount of Ten Million Nine Hundred Thousand Dollars (\$10,900,000); and

WHEREAS, the Board has determined that it is in the best interest of the District to refund the 2006 Bonds, to the extent that a savings to the District will be effected by the refunding of the 2006 Bonds; and

WHEREAS, the Board hereby finds that to provide funds necessary to pay for the costs of the refunding of the 2006 Bonds, it will be necessary for the District to issue waterworks district revenue bonds in an amount not to exceed Ten Million Seven Hundred Fifty Thousand Dollars (\$10,750,000);

NOW, THEREFORE, BE IT RESOLVED by the Board of Trustees of the Department of Waterworks of the City of East Chicago, Indiana, as follows:

1. The District shall proceed to undertake the Project. For the purpose of procuring funds to pay for the cost of Project, together with the expenses in connection with or on account of the issuance of the bonds therefor, the City, acting for and on behalf of the District, shall make a loan in an amount not to exceed Sixteen Million Seven Hundred Thousand Dollars (\$16,700,000).

In order to procure funds for said loan, the Controller of the City is hereby authorized and directed to have prepared and to issue and sell the bonds of the District, in one or more series or issues, the principal of and interest on which are payable solely from the Net Revenues, which bonds shall be issued in the name of the City, for and on behalf of the District, in an aggregate principal amount not to exceed Sixteen Million Seven Hundred Thousand Dollars (\$16,700,000) (the "New Money Bonds"), with a discount not to exceed the discount set forth in or determined by the Final Bond Resolution to be adopted by the Board, and which amount (together with any investment earnings thereon, if any) does not exceed the cost of the Project, together with the expenses in connection with or on account of the issuance of the New Money Bonds, which estimated cost shall not exceed Sixteen Million Seven Hundred Thousand Dollars (\$16,700,000), plus investment earnings thereon, if any, which will be provided from proceeds of the New Money Bonds, plus any investment earnings thereon.

The New Money Bonds shall not constitute a corporate obligation or indebtedness of the City but shall constitute an obligation of the District. The New Money Bonds, together with interest thereon, shall be payable solely from the Net Revenues.

The New Money Bonds shall mature and be payable no later than January 1, 2037, and shall bear interest as set forth in the Final Bond Resolution to be adopted by the Board. The New Money Bonds may be subject to redemption prior to maturity in whole or in part in accordance with the terms set forth in the Final Bond Resolution to be adopted by the Board.

In anticipation of the issuance of the New Money Bonds, the Board hereby authorizes the proper officers of the District to issue bond anticipation notes ("BANs") in anticipation of the issuance of the New Money Bonds, subject to the provisions of the Final Bond Resolution to be adopted by the Board.

2. The District is hereby authorized to undertake the refunding of the 2006 Bonds. The Controller of the City is hereby authorized and directed to have prepared and to issue and sell the bonds of the District, in one or more series or issues, the principal of and interest on which are payable solely from the Net Revenues, which bonds shall be issued in the name of the City, for and on behalf of the District, in an aggregate principal amount not to exceed Ten Million Seven Hundred Fifty Thousand Dollars (\$10,750,000) (the "Refunding Bonds"), with a

discount not to exceed the discount set forth in or determined by the Final Bond Resolution to be adopted by the Board, and which amount (together with any investment earnings thereon, if any) does not exceed the cost of the refunding of the 2006 Bonds, together with the expenses in connection with or on account of the issuance of the Refunding Bonds, which estimated cost shall not exceed Ten Million Seven Hundred Fifty Thousand Dollars (\$10,750,000), plus investment earnings thereon, if any, which will be provided from proceeds of the Refunding Bonds, plus any investment earnings thereon.

The Refunding Bonds shall not constitute a corporate obligation or indebtedness of the City but shall constitute an obligation of the District. The Refunding Bonds, together with interest thereon, shall be payable solely from the Net Revenues.

The Refunding Bonds shall mature and be payable no later than January 1, 2028, and shall bear interest as set forth in the Final Bond Resolution to be adopted by the Board. The Refunding Bonds may be subject to redemption prior to maturity in whole or in part in accordance with the terms set forth in the Final Bond Resolution to be adopted by the Board.

3. The Board hereby declares that, for the purpose of evidencing compliance with Indiana Code 5-1-14-6 and Section 1.150-2 of the Treasury Regulations, it reasonably expects to reimburse with the proceeds of the New Money Bonds (in an amount not to exceed and payable from the sources set forth above) expenditures for the Project made by or on behalf of the District prior to the issuance of the New Money Bonds during the period beginning on the date sixty (60) days prior to the date of this Resolution until the date of issuance of the New Money Bonds, which expenditures are expected to be paid initially from other legally available funds of the District.

4. The President and the Secretary of the Board shall certify a copy of this Resolution to the Controller of the City.

5. This Resolution shall be in full force and effect after its adoption by the Board.

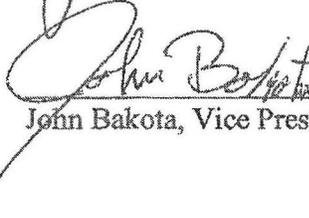
* * * * *

ADOPTED AND APPROVED this 1st day of August, 2016.

BOARD OF TRUSTEES OF THE
DEPARTMENT OF WATERWORKS OF THE
CITY OF EAST CHICAGO, INDIANA



Joseph Ochoa, President

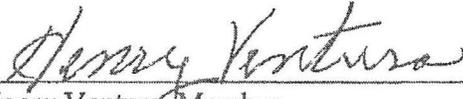


John Bakota, Vice President

Anthony Askounis, Member



Ray Lopez, Member



Henry Ventura, Member



Secretary

EAST CHICAGO WATER DEPARTMENT
SUMMARY OF BUDGETED CAPITAL IMPROVEMENTS (5-YEAR PLAN)

No.	Description	Budget Year					Estimated Cost (2016 Dollars)
		2016	2017	2018	2019	2020	
I. PROCESS & OPERATIONS IMPROVEMENTS							
Filtration Plant Equipment and Systems							
1	Intake Inspection/Cleaning - Cribs and 50 ft. piping	\$ 44,000.00	\$ 44,000.00	\$ 44,000.00	\$ 44,000.00	\$ 44,000.00	\$ 220,000.00
2	Full Intake Inspection						\$ -
3	Intake Replacement						\$ -
4	Membrane Replacement					\$ 1,224,000.00	\$ 1,224,000.00
5	Emergency Generator Service						\$ -
6	New SCADA System		\$ 19,600.00				\$ 19,600.00
7	New SCADA Integration		\$ 60,000.00				\$ 60,000.00
8	SCADA Support		\$ 4,700.00	\$ 4,700.00	\$ 4,700.00	\$ 4,700.00	\$ 18,800.00
9	Thinmanager Updates						\$ -
10	Thin Client Workstations						\$ -
11	Chemical Feed Flowmeters (no feedback)	\$ 486.00					\$ 486.00
12	Chemical Feed Flowmeters (with feedback)	\$ 2,550.00					\$ 2,550.00
13	Pipe Supports Analysis	\$ 30,000.00					\$ 30,000.00
14	Pipe Support Improvements						\$ -
15	PACL Bulk Storage System						\$ -
16	Large Capacity Water Storage Tank (4 MG)			\$ 4,222,847.00			\$ 4,222,847.00
TOTAL Filtration Plant Equipment and Systems		\$ 77,036.00	\$ 128,300.00	\$ 4,271,547.00	\$ 48,700.00	\$ 1,272,700.00	\$ 5,798,283.00
Distribution System Infrastructure							
17	5/8" RF Inside Set Meters	\$ 436,000.00					\$ 436,000.00
18	5/8" RF Pit Meters	\$ 385,400.00					\$ 385,400.00
19	3/4" RF Inside Set Meters	\$ 41,750.00					\$ 41,750.00
20	3/4" RF Pit Meters	\$ 29,898.00					\$ 29,898.00
21	1" RF Inside Set Meters	\$ 22,425.00					\$ 22,425.00
22	1" RF Pit Meters	\$ 3,650.00					\$ 3,650.00
23	RF Meter Installation	\$ 551,500.00					\$ 551,500.00
24	Fixed Network Receivers	\$ 66,000.00					\$ 66,000.00
25	Mobile Data Collector	\$ 7,000.00					\$ 7,000.00
26	Replacement Hydrants	\$ 111,400.00					\$ 111,400.00
27	Hydrant Installation	\$ 46,550.00					\$ 46,550.00
28	Hydrant Locks	\$ 5,250.00					\$ 5,250.00
29	Hydrant Wrenches	\$ 3,000.00					\$ 3,000.00
30	12" Mag Meter - District Metering			\$ 53,745.00			\$ 53,745.00
31	14" Mag Meter - District Metering			\$ 84,000.00			\$ 84,000.00
32	24" Mag Meter - District Metering			\$ 40,000.00			\$ 40,000.00
33	District Meter Installation			\$ 130,000.00			\$ 130,000.00
34	New Storage Tank				\$ 4,222,847.00		\$ 4,222,847.00
35	PLC Design/Implementation - Elevated Tank						\$ -
36	Automatic Valve Design/Implementation - Elevated Tank						\$ -
37	Fiber Optic Cable and Conduit Installation - Elevated Tank						\$ -
38	Cathodic Protection - Elevated Tank						\$ -
39	Painting - Elevated Tank						\$ -
40	Pre-Fabricated Bulk Water Station	\$ 34,700.00					\$ 34,700.00
41	Bulk Water Station Installation	\$ 20,000.00					\$ 20,000.00
42	Acoustic Leak Survey	\$ 15,575.00					\$ 15,575.00
43	Leak Listening Loggers			\$ 2,500.00			\$ 2,500.00
44	Leak Logger Radios			\$ 1,000.00			\$ 1,000.00
45	Valve Exercising Program		\$ 104,000.00				\$ 104,000.00
46	Hydrant Flow Testing	\$ 48,950.00					\$ 48,950.00
TOTAL Distribution System Infrastructure		\$ 1,780,098.00	\$ 104,000.00	\$ 311,245.00	\$ 4,222,847.00	\$ -	\$ 6,467,140.00
Billing Office System Assets							
47	AMI Data Server		\$ 13,000.00				\$ 13,000.00
48	AMI Meter Software		\$ 11,500.00				\$ 11,500.00
49	AMI Software Implementation/Training		\$ 5,000.00				\$ 5,000.00
50	AMI Billing Software Integration		\$ 5,000.00				\$ 5,000.00
51	Munis Software Update						\$ -
TOTAL Billing System Assets		\$ -	\$ 34,500.00	\$ -	\$ -	\$ -	\$ 34,500.00
TOTAL PROCESS & OPERATIONS IMPROVEMENTS		\$ 1,857,134.00	\$ 266,800.00	\$ 4,582,792.00	\$ 4,271,547.00	\$ 1,272,700.00	\$ 12,299,923.00
II. PLANT, PROPERTY AND EQUIPMENT IMPROVEMENTS							
Filtration Plant							
1	Maintenance/Operations Staff Trucks	\$ 37,000.00					\$ 37,000.00
2	Fire Pump Vault Rehabilitation	\$ 100,000.00					\$ 100,000.00
3	VOIP Phones						\$ -
4	Annual Fire Protection Service						\$ -
5	Security System Updates						\$ -
6	Demolition of Old Filtration Plant		\$ 854,504.00				\$ 854,504.00
TOTAL Filtration Plant		\$ 137,000.00	\$ 854,504.00	\$ -	\$ -	\$ -	\$ 991,504.00
Billing Office							
7	VOIP Phones						\$ -
8	Copier	\$ 8,000.00					\$ 8,000.00
9	Portable A/C Equipment	\$ 1,000.00					\$ 1,000.00
TOTAL Billing Office		\$ 9,000.00	\$ -	\$ -	\$ -	\$ -	\$ 9,000.00
TOTAL PLANT, PROPERTY AND EQUIPMENT IMPROVEMENTS		\$ 146,000.00	\$ 854,504.00	\$ -	\$ -	\$ -	\$ 1,000,504.00

City of East Chicago RF Meter Installations (2011-June 2015)

	2011	2012	2013	2014	2015	2016 (Jan-June)	Total
5/8"	93	220	463	542	642	562	2522
3/4"	5	19	8	33	31	27	123
1"	7	6	4	21	12	22	72
1.5"	1	0	0	0	3	2	6
Total	106	245	475	596	688	613	2723



APPLICATION FORM

Drinking Water State Revolving Fund Loan Program (DWSRF)

Return completed form to:
DWSRF Administrator
 100 North Senate Avenue, Rm. 1275
 Indianapolis, IN 46204

I. APPLICANT and SYSTEM INFORMATION:

1. Applicant Name (community or water system name): City of East Chicago Water Department
2. Public Water Supply ID #: 5245012
3. Type of Applicant (check one):

<input checked="" type="checkbox"/> Municipality (City, Town, County, Township)	<input type="checkbox"/> For-profit Utility
<input type="checkbox"/> Regional Water District	<input type="checkbox"/> School
<input type="checkbox"/> Non-profit Water Corporation	<input type="checkbox"/> Other _____
4. Location of the Proposed Project: USGS Quadrangle Map Name(s): Whiting, Highland, Township(s): 37 North
 Range(s): 9 West, Section(s): 9-11, 14-17, 20-22, 27-29, 32-34

 City / Town: East Chicago County(ies): Lake County Civil Township(s): North Township
5. State Representative District: 2nd State Senate District: 2nd Congressional District: 1st
6. Population Served (available from the U.S. Census: http://factfinder.census.gov/faces/nav/jsf/pages/community_facts.xhtml) 29,698
7. Population Trend (U.S. Census http://factfinder.census.gov/faces/nav/jsf/pages/community_facts.xhtml): 29,387
8. Unemployment Data(Bureau of Labor Statistics <http://data.bls.gov/pdq/querytool.jsp?survey=la>): 10.3% (as of Feb. 2016)
9. Median Household Income for Service Area (U.S. Census http://factfinder.census.gov/faces/nav/jsf/pages/community_facts.xhtml): \$27,215
10. Number of Connections: (current) 7,227 (post project): no change
11. Current User Rate/4,000 gal.: \$10.86 Estimated Post-Project Rate/4,000 gal.: \$16.60
12. Is the utility regulated by the Indiana Utility Regulatory Commission (IURC)? Yes
13. Applicant's Data Universal Numbering System (DUNS) number¹: 168059301

II. CAPACITY DEVELOPMENT:

Pursuant to the Safe Drinking Water Act, a DWSRF Loan Program Participant must certify that the Participant possesses the technical, managerial, and financial capacity to operate the water system or that the DWSRF Loan Program assistance will ensure compliance with the Safe Drinking Water Act (40 CFR 35.3520(d)(2)).

1. Does your system currently possess technical, managerial and financial capacity? Yes
2. If no, will technical, managerial and financial capacity be achieved after the implementation of the water system's DWSRF project? N/A

To assess the technical, managerial, and financial capacity of the water system, the Participant is encouraged to complete the "Indiana Department of the Environmental Management (IDEM) Capacity Development Self-Assessment", available at www.srf.in.gov.

¹ SRF Participants must register with the Central Contractor Registry (CCR) which requires the Participant to have a DUNS number. For more information about how to register with the CCR and obtain a DUNS number, see www.srf.in.gov.

III. CONTACT INFORMATION:

Authorized Signatory (an official of the water system that is authorized to contractually obligate the applicant with respect to the proposed project):

Name: Joseph Ochoa
Title: President, ECWD Board of Commissioners
Telephone # (include area code): 219-391-8469
Address: 400 E. Chicago Ave.
City, State, Zip Code: East Chicago, IN 46312
E-mail: _____

Applicant Staff Contact (person to be contacted directly for information if different from authorized signatory):

Name: Patricia Bodnar
Title: Manager
Telephone # (include area code): 219-391-8469
Address: 400 E. Chicago Ave.
City, State, Zip Code: East Chicago, IN 46312
E-mail: pbodnar@eastchicago.com

Certified Operator:

Name: Pete Harretos
Telephone # (include area code): 219-391-8487
E-mail: pharretos@eastchicago.com

Grant Administrator (if applicable)

Contact: _____
Firm: _____
Address: _____
City, State, Zip Code: _____
Telephone # (include area code): _____
Fax: _____
E-mail Address: _____

Consulting Engineer

Contact: Greg Crowley
Firm: Crowley Engineering, LLC
Address: 2224 US Highway 41
City, State, Zip Code: Schererville, IN 46375
Telephone # (include area code): 219-322-4422
Fax: 219-322-2277
E-mail Address: greg@crowleyengineering.com

Bond Counsel

Contact: Scott Peck
Firm: Faegre Baker Daniels LLP
Address: 300 N. Meridian St., Suite 2700
City, State, Zip Code: Indianapolis, IN 46204-1750
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Financial Advisor

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Local Counsel

Contact: Joe Allegretti
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IV. PROJECT INFORMATION:

1. **Project Name:** East Chicago Water Department Distribution System Improvements
2. **Project Need** - Describe the facility needs in terms of age, condition, date of most recent rehabilitation/replacement, and public health or Safe Drinking Water Act compliance issues or violations:

The City of East Chicago's existing water distribution infrastructure assets have deteriorated due to age, causing increased water loss and decreased operational reliability throughout the system. In 2015, non-revenue water as a percent of water supplied was 35%.

Many customer meters have exceeded their useful life expectancy, particularly pit meters. Several are more than 20 years old and are showing signs of deterioration. Beginning in summer 2011, the East Chicago Water Department implemented a meter replacement program to address these needs. To date, roughly one-third of all residential and commercial meters have been updated to a drive-by AMR system.

Many hydrants throughout the system are inoperable or do not meet the fire-fighting needs of the City. During the summer of 2013, the City identified 94 hydrants in need of repair or replacement. During the ensuing months, 44 of the identified hydrants have been repaired or replaced.

The operational status of numerous valves in the system is largely unknown. Several have been found to be inoperable during water main repairs, and it is likely others in the system are in a similar condition due to age and a lack of regular maintenance. Existing valve records are outdated and incomplete.

Water mains in the system are also deteriorating due to age; many pipes throughout the City are 60 years and older. Currently, leaks are being repaired as they are located, but it is likely there are leaks that have not been identified in the system which accounts for some of the water loss.

As a result of the age of many pipes in the distribution system, many service lines are comprised of lead pipe. City records estimate 4,000 lead service lines are currently installed. In compliance with the 1991 U.S. EPA Lead and Copper Rule, the City samples for lead and copper every 3 years per federal and state reporting requirements. The most recent samples, collected in summer 2013, indicated a 90th percentile measurement for lead of 0.0078 mg/L; this level was lower than the U.S. EPA action level of 0.015 mg/L. The City is preparing to gather lead and copper samples again from June-September 2016 to update the results for the current reporting period.

The City built a new state-of-the-art membrane filtration plant in 2011 to replace an aging, deteriorated conventional filtration plant that was built in 1965. Severe flow limitations due to design sizing flaws of the strainer pretreatment system caused the plant to remain idle for nearly 2 years. After completion of system troubleshooting and implementation of new strainer and membrane equipment in 2015, the membrane plant is nearing completion of a 60-day performance test to enable full-scale operation of the treatment plant. The plant is expected to be fully operational by summer 2016. Afterward, the old filtration plant will be taken out of service and eventually demolished.

From 2007-2015, the peak daily demand was 15.5 MGD and the average daily demand was 12.1 MGD. Currently, the City does not have 24 hours of storage capacity. The City currently possesses two 4 MG storage tanks and one 1.5 MG elevated tank, for a total of 9.5 MG storage capacity. However, one of the 4 MG storage tanks is located at the old filtration plant. It has not yet been determined whether this tank will remain in use after the old plant has been demolished.

3. **Proposed Project** - Describe the scope of the proposed project and how it will address the applicant's needs as enumerated above. Please provide a map showing proposed work areas, if possible. Note: Projects that are solely for fire suppression or economic development are not eligible for funding under the Safe Drinking Water Act.

In order to improve customer service through more accurate and consistent meter readings for billing purposes and customer leak detection capabilities, the City is deploying an AMR/AMI system. The new system will streamline data collection and reduce customer metering inaccuracies.

All remaining hydrants that have been identified for necessary maintenance will also be repaired or replaced. Water loss from theft of water at hydrants will also be addressed in the improvements. As a measure to enforce the current customer water purchasing policy and to allow for improved monitoring of illegal hydrant use, a new bulk water dispensing station will be built. The proposed facility will become the designated location for contractors to purchase water in bulk from the City. To aid in this effort, hydrants locks will be installed at hydrants that are known to be targeted for illegal use or that are located in remote areas and more difficult to monitor.

In an effort to further quantify where water is being lost in the system, district metered areas will be established and monitored. By

measuring where water is flowing in the system, the City will be better able to narrow down where water is lost in the system and address the probable causes of loss. Accordingly, valves in the system need to be located and exercised. A valve exercising program will be implemented to ensure valves that are broken or closed can be fixed. This program is necessary prior to the installation of district metered areas.

A complete acoustic leak survey of the system will be performed to locate leaks that are currently present in the system. Portable leak logging devices that can be integrated into the AMI system will also be purchased. After the district metered areas have been established, leak loggers will help pinpoint the location of leaks in metered areas that are indicating a water loss.

In an effort to assist residents with the replacement of lead lines, the City will initiate a program for lead line replacement for residential homes reporting elevated lead concentrations. Eligible properties will be targeted for participation in the program based on the 2013 and 2016 lead and copper sampling results. The City owns the service line from the water main to the curb stop. Beyond this point, the service line belongs to the customer. This program will fund the replacement of City-owned sections of the service lines and will partially fund customer-owned sections of the service lines. At this time, it is estimated the City will fund up to half of the customer's lead line replacement expenses.

After the new filtration plant has become fully operational, the old filtration plant will be taken out of service. Afterwards, the City plans to demolish the old plant.

The City has begun an investigation for additional storage capacity. The design of the new filtration plant included space consideration for a second 4 MG storage tank on site. Additional studies are necessary to determine tank size, location, and system pressure needs for the distribution system.

Will any part of the proposed project be constructed on previously undisturbed land²? No

If no, would it be accurate to describe the entire project as rehabilitation of existing system components? No

If no, why not?

The AMI system requires new data collection infrastructure. Additionally, the bulk water filling station and the proposed new water tanks would be new assets.

Does the utility have a back-up power source? Yes

Will the proposed project incorporate Green Project Components? Yes

If yes, complete a SRF Green Project Reserve Checklist. Checklist and more information can be found at www.srf.in.gov.

4. Project Cost Estimate:

Source (intake or wells)	\$0
Treatment	\$0
Storage	\$9,290,266
Distribution/Transmission	\$4,657,074
Other: <u>Demolition</u>	\$939,954
TOTAL CONSTRUCTION:	\$14,887,294
Non-construction Costs	\$1,657,706
TOTAL ESTIMATED PROJECT COST:	\$16,545,000

² The Division of Historic Preservation and Archaeology's definition of "undisturbed land" is "any land, including agricultural land (row-crop farmland, orchards, pasture, fallow farmland, or land that was previously farmland but is now grass or other vegetation), that has not been substantially disturbed by recent soil disturbing activities."

PROJECT COST ESTIMATE
East Chicago Water Department System Improvements
City of East Chicago, Indiana

	Unit	Unit Cost	Total
<u>SOURCE (INTAKE OR WELLS)</u>			
Total	0	0	\$0
<u>TREATMENT</u>			
Total	0	0	\$0
<u>STORAGE</u>			
Storage Tank	2	\$4,222,847	\$8,445,696
Total			\$8,445,696
Contingencies (10%)			\$844,570
Storage Total			\$9,290,266
<u>DISTRIBUTION/TRANSMISSION</u>			
<u>AMI Meter System</u>			
5/8" RF Inside Set Meters	2427	\$180	\$436,860
5/8" RF Pit Meters	1640	\$235	\$385,400
3/4" RF Inside Set Meters	167	\$250	\$41,750
3/4" RF Pit Meters	99	\$302	\$29,898
1" RF Inside Set Meters	69	\$325	\$22,425
1" RF Pit Meters	10	\$365	\$3,650
Meter Installation	4412	\$125	\$551,500
Fixed Network Receivers	4	\$16,500	\$66,000
Mobile Data Collector	1	\$7,000	\$7,000
Server	1	\$13,000	\$13,000
AMI Software	1	\$11,500	\$11,500
Software Implementation/Training	1	\$5,000	\$5,000
Billing Software Integration	1	\$5,000	\$5,000
Total			\$1,578,983
Contingencies (10%)			\$157,898
<u>Hydrant Improvements</u>			
Hydrant Replacement	50	\$2,228	\$111,400
Hydrant Installation	50	\$931	\$46,550
Hydrant Locks	33	\$250	\$8,250
Hydrant Wrenches	20	\$150	\$3,000
Total			\$169,200
Contingencies (10%)			\$16,920
<u>District Metered Areas</u>			
12" Mag Meter	5	\$10,749	\$53,745
16" Mag Meter	6	\$14,000	\$84,000
24" Mag Meter	2	\$20,000	\$40,000
Meter Installation	13	\$10,000	\$130,000
Total			\$307,745
Contingencies (10%)			\$30,775
<u>Bulk Water Filling Station</u>			
Pre-Fabricated Bulk Water Station	1	\$34,700	\$34,700
Station Installation	1	\$20,000	\$20,000
Total			\$54,700
Contingencies (10%)			\$5,470

<u>Leak Detection</u>			
Acoustic Leak Survey	89 miles	\$175	\$15,575
Leak Listening Logger	10	\$250	\$2,500
Leak Logger Radio	10	\$100	\$1,000
Total			\$19,075
Contingencies (10%)			\$1,908
<u>Water Main Valves</u>			
Valve Exercising Program	1600	\$65	\$104,000
Total			\$104,000
Contingencies (10%)			\$10,400
<u>Lead/Copper Line Replacement</u>			
Utility Owned Replacement	500	\$1500	\$750,000
Customer Owned Replacement 50% Match	500	\$2500	\$1,250,000
Total			\$2,000,000
Contingencies (10%)			\$200,000
Construction			\$4,233,703
Contingencies (10%)			\$423,371
Distribution/Transmission Total			\$4,657,074
<u>OTHER</u>			
Old Plant Demolition	1	\$854,504	\$854,504
Total			\$854,504
Contingencies (10%)			\$85,450
Other Project Total			\$939,954
<u>TOTAL CONSTRUCTION COST</u>			\$13,533,903
<u>CONTINGENCIES (10% CONSTRUCTION)</u>			\$1,353,391
<u>NON-CONSTRUCTION COST</u>			
Engineering			\$1,501,344
Bond Issuance			\$156,362
Total Non-Construction Cost			\$1,657,706
<u>TOTAL PROJECT COST</u>			\$16,545,000

5. Other Funding Sources:

	Application Round (date)	Amount Requested (dollars)	Amount Awarded (if applicable)
Office of Community and Rural Affairs Community Focus Fund			
U.S. Dept. of Commerce Economic Development Administration			
U.S. Dept. of Agriculture Rural Development			
Local Funds			
Other			

6. Will this project proceed if other funding sources are not in place? Yes

7. Anticipated SRF Loan Amount (after other funding): \$16,545,000

8. Anticipated Dates:

Preliminary Engineering Report (PER) submittal: Fall 2016

Contract Award: May-June 2017

Construction Start: July 2017

Construction Complete: January 2019

V. SIGNATURE:

I certify that I am legally authorized by the legislative body to sign this application. To the best of my knowledge and belief, the foregoing information is true and correct.



 Signature of Authorized Signatory (Community Official)

Joseph Ochoa

 Printed or Typed Name

President, ECWD Board of Commissioners

 Title of Authorized Signatory

6/15/16

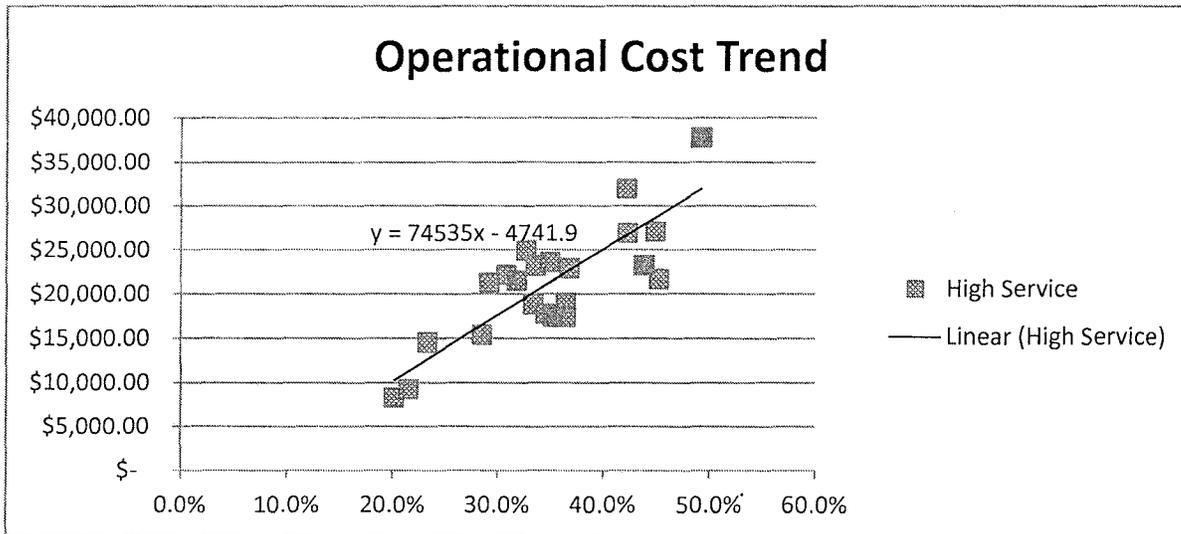
 Date

Annual Chemical Costs Estimate at Full Capacity

	Package Size	Package Unit	Unit Price	Order Unit	Orders/Year	Cost Per Delivery	Cost Per Year
1 Sodium Hexametaphosphate	2 totes (2800 lb/tote)		\$ 8,587.00	per 2 totes	6	\$ 8,587.00	\$ 51,522.00
2 Sodium Hydroxide	40000 lbs		\$ 480.00	per dry ton	2	\$ 9,600.00	\$ 19,200.00
3 Sulfuric Acid	48000 lbs		\$ 0.10	per lb	1	\$ 4,800.00	\$ 4,800.00
4 Sodium Bisulfite	2 totes (3600 lb/tote)		\$ 2.17	per gal	2	\$ 1,428.90	\$ 2,857.80
5 Citric Acid	2 totes (2600 lb/tote)		\$ 0.56	per lb	4	\$ 2,886.00	\$ 11,544.00
6 Polyaluminum Chloride	2 totes (2800 lb/tote)		\$ 0.31	per lb	16	\$ 1,763.44	\$ 28,215.04
7 Sodium Hypochlorite	47000 lbs		\$ 0.63	per gal	24	\$ 3,005.22	\$ 72,125.38
						Total Cost	\$ 190,264.22

Date	Account 941-755-008-3	Operational Power Cost (Total Cost- Baseline Power Cost)	Raw Water Plant Usage	High Service Plant Usage
Aug-13	\$ 31,224.53	\$ 17,404.73	42.3%	35.3%
Sep-13	\$ 31,224.53	\$ 17,404.73	43.7%	36.5%
Oct-13	\$ 32,831.47	\$ 19,011.67	45.5%	36.4%
Nov-13	\$ 31,603.86	\$ 17,784.06	44.0%	34.6%
Dec-13	\$ 35,328.72	\$ 21,508.92	38.6%	31.8%
Jan-14	\$ 35,084.89	\$ 21,265.09	31.4%	29.2%
Feb-14	\$ 29,223.45	\$ 15,403.65	28.4%	28.5%
Mar-14	\$ 22,115.73	\$ 8,295.93	20.8%	20.1%
Apr-14	\$ 28,373.61	\$ 14,553.81	24.4%	23.3%
May-14	\$ 23,084.74	\$ 9,264.94	22.2%	21.5%
Jun-14			23.2%	21.5%
Jul-14			22.5%	22.1%
Aug-14	\$ 37,397.39	\$ 23,577.59	35.0%	35.0%
Sep-14	\$ 32,640.26	\$ 18,820.46	33.4%	33.4%
Oct-14	\$ 36,966.34	\$ 23,146.54	34.1%	33.6%
Nov-14	\$ 35,966.34	\$ 22,146.54	31.2%	30.8%
Dec-14	\$ 38,722.24	\$ 24,902.44	33.3%	32.7%
Jan-15	\$ 40,714.09	\$ 26,894.29	42.4%	42.2%
Feb-15	\$ 51,608.66	\$ 37,788.86	49.5%	49.1%
Mar-15	\$ 51,608.66	\$ 37,788.86	49.9%	49.2%
Apr-15	\$ 40,903.18	\$ 27,083.38	45.8%	44.8%
May-15	\$ 45,732.03	\$ 31,912.23	43.2%	42.2%
Jun-15	\$ 37,065.46	\$ 23,245.66	44.1%	43.8%
Jul-15	\$ 37,065.46	\$ 23,245.66	44.6%	43.8%
Aug-15	\$ 35,504.94	\$ 21,685.14	46.4%	45.2%
Sep-15	\$ 36,733.84	\$ 22,914.04	37.0%	36.8%
Oct-15	\$ 11,464.26		0%	0%
Nov-15	\$ 12,360.07		0%	0%
Dec-15	\$ 11,484.34		0%	0%
Jan-16	\$ 15,912.32		0%	0%
Feb-16	\$ 15,770.92		0%	0%
Mar-16	\$ 15,926.86		0%	0%
Apr-16	\$ 23,334.45			
May-16	\$ 33,221.05			

Baseline Power (Plant Out of Operation Jan-16 - Mar-16)	\$ 15,870.03
Projected Operation Power at Full Capacity	\$ 69,796.10
Total Projected Monthly Electric (Operation+Baseline)	\$ 85,666.13



Raw Water Pumps**2013-2015 Raw Water Historical Demand**

Average Daily Demand Off Peak Season (Oct.-May)	12.7 MGD
Average Daily Demand Peak Season (June-Sept.)	13.0 MGD

Plant at Current Demand**50% Day, 1 Pump, 95% Pump Capacity, 10.34 MGD**

Power, BHP	352.40
Power, kW	262.89
Daily Power Consumption, kwh	3,154.68
Montly Power Consumption, kwh	94,640.54

50% Day, 2 Pumps, 65% Pump Capacity, 7.07 MGD each

	Pump 1	Pump 2
P, power, hp	302.90	302.90
P, power, kW	225.96	225.96
Daily Power Consumption, kwh	2,711.56	2,711.56
Monthly Power Consumption, kWh	81,346.82	81,346.82
Total Monthly Power Consumption, kWh	162,693.65	
Total Monthly Raw Water Power Consumption	257,334.19	

High Service Pumps**2013-2015 High Service Historical Demand**

Average Daily Demand Off Peak Season (Oct.-May)	12.2 MGD
Average Daily Demand Peak Season (June-Sept.)	12.8 MGD

Plant at Current Demand**50% Day, 1 Pump, 95% Capacity, 9.5 MGD**

Power, BHP	329.10
Power, kW	245.51
Daily Power Consumption, kwh	2,946.10
Montly Power Consumption, kwh	88,383.10

50% Day, 2 Pumps, 65% Pump Capacity, 6.5 MGD each

	Pump 1	Pump 2
P, power, hp	317.20	317.20
P, power, kW	236.63	236.63
Daily Power Consumption, kwh	2,839.57	2,839.57
Monthly Power Consumption, kWh	85,187.23	85,187.23
Total Monthly Power Consumption, kWh	170,374.46	
Total Monthly High Service Power Consumption	258,757.56	

Plant at Full Capacity		
50% Day, 1 Pump, 95% Pump Capacity, 10.34 MGD		
Power, BHP	352.40	
Power, kW	262.89	
Daily Power Consumption, kwh	3,154.68	
Montly Power Consumption, kwh	94,640.54	
50% Day, 2 Pumps, 80%, 8.7 MGD each		
	Pump 1	Pump 2
P, power, hp	340.30	340.30
P, power, kW	253.86	253.86
Daily Power Consumption, kwh	3,046.37	3,046.37
Monthly Power Consumption, kWh	91,390.97	91,390.97
Total Monthly Power Consumption, kWh	182,781.94	
Total Monthly Raw Water Power Consumption	277,422.48	

Plant at Full Capacity		
50% Day, 1 Pump, 95% Capacity, 9.5 MGD		
Power, BHP	329.10	
Power, kW	245.51	
Daily Power Consumption, kwh	2,946.10	
Montly Power Consumption, kwh	88,383.10	
50% Day, 2 Pumps, 80% Capacity, 8 MGD each		
	Pump 1	Pump 2
P, power, hp	321.90	329.10
P, power, kW	240.14	245.51
Daily Power Consumption, kwh	2,881.65	2,946.10
Monthly Power Consumption, kWh	86,449.46	88,383.10
Total Monthly Power Consumption, kWh	174,332.56	
Total Monthly Raw Water Power Consumption	263,215.66	

<u>Energy Charge</u>		
<u>Plant Consumption</u>		
	<u>Current Capacity</u>	<u>Full Capacity</u>
Raw Water Monthly Power Consumption, kWh	257,334.19	277,422.48
High Service Monthly Power Consumption, kWh	258,757.56	263,215.66
Total Monthly Power Consumption, kWh	516,091.75	540,638.14
NIPSCO Tariff		
First 30,000 kWh/month	\$ 0.079541	
Next 70,000 kWh/month	\$ 0.071841	
Next 900,000 kWh/month	\$ 0.068291	
Energy Charges		
First 30,000 kWh	\$ 2,386.23	\$ 2,386.23
Next 70,000 kWh	\$ 5,028.87	\$ 5,028.87
Remaining kWh	\$ 28,415.32	\$ 30,091.62
Total Energy Charges	\$ 35,830.42	\$ 37,506.72
Demand Charge		
Pump Demand		
Total Raw Water, 2 Pumps @ 8.7MGD, BHP	680.60	
Total Raw Water, 2 Pumps @ 8.7MGD, kW	507.73	
Total High Service, 2 Pumps @ 8MGD, BHP	643.80	
Total High Service, 2 Pumps @ 8MGD, kw	480.27	
Total, 4 Pumps, kW	988.00	
NIPSCO Tariff		
First 50 kW - Flat Fee	\$ 954.50	
Next 1,950 kW - Per kW	\$ 12.49	
Demand Charges		
First 50 kW	\$ 913.50	
Remaining kW	\$ 11,715.65	
Total Energy Charges	\$ 12,629.15	
Total Monthly Estimated Bill		
Energy Charges	\$ 35,830.42	\$ 37,506.72
Demand Charges	\$ 12,629.15	\$ 12,629.15
Baseline Power (Plant Offline Jan-16 - Mar-16)	\$ 15,870.03	\$ 15,870.03
Monthly Charge	\$ 64,329.61	\$ 66,005.90
Annual Charge	\$ 771,955.26	\$ 792,070.83
	-	