FILED January 25, 2019 INDIANA UTILITY REGULATORY COMMISSION

#### **STATE OF INDIANA**

#### INDIANA UTILITY REGULATORY COMMISSION

PETITION OF CWA AUTHORITY, INC. FOR (1) AUTHORITY TO INCREASE ITS RATES AND CHARGES FOR WASTEWATER UTILITY SERVICE IN THREE PHASES AND APPROVAL OF NEW SCHEDULES OF RATES AND CHARGES APPLICABLE THERETO; (2) APPROVAL OF A LOW-INCOME CUSTOMER ASSISTANCE PROGRAM; AND (3) APPROVAL OF CERTAIN CHANGES TO ITS GENERAL TERMS AND CONDITIONS FOR WASTEWATER SERVICE.

OFFICIAL

XHIBITS

IURC INTERVENOR'S - IG EXHIBIT NO.\_\_\_\_\_ 5-9-19 DATE REPOR

CAUSE NO. 45151

Verified Direct Testimony and Attachments of

Jessica A. York

On behalf of

#### **CWA Authority Industrial Group**

January 25, 2019



Brubaker & Associates, Inc.

Project 10679

#### STATE OF INDIANA

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CAUSE NO. 45151

#### Verified Direct Testimony of Jessica A. York

#### 1 Q PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

- 2 A Jessica A. York. My business address is 16690 Swingley Ridge Road, Suite 140,
- 3 Chesterfield, MO 63017.

#### 4 Q WHAT IS YOUR OCCUPATION?

- 5 A I am a consultant in the field of public utility regulation and a Senior Consultant with the
- 6 firm of Brubaker & Associates, Inc. ("BAI"), energy, economic and regulatory
  7 consultants.

#### 8 Q PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND AND EXPERIENCE.

9 A This information is included in Appendix A to this testimony.

#### 1 Q ON WHOSE BEHALF ARE YOU APPEARING IN THIS PROCEEDING?

A I am testifying on behalf of the CWA Authority Industrial Group ("Industrial Group").
The Industrial Group is an *ad hoc* group of large volume industrial customers served
by the wastewater system of CWA Authority, Inc. ("CWA" or "Authority"). As industrial
customers of CWA's wastewater system, the members of the Industrial Group are
substantially affected by the cost of CWA's wastewater system.

#### 7 I. Summary

#### 8 Q WHAT IS THE PURPOSE OF YOUR DIRECT TESTIMONY?

- 9 A The purpose of my testimony is to respond to the Authority's class cost of service study
- 10 sponsored by Ms. Prabha Kumar. My silence on any issues addressed by the Authority
- 11 in its testimony should not be taken as tacit approval or agreement with that issue.

#### 12 Q PLEASE SUMMARIZE YOUR CONCLUSIONS AND RECOMMENDATIONS.

- 13 A My conclusions and recommendations are as follows:
- 14
   1. CWA's cost of service study uses capacity allocation factors that do not reasonably reflect the peak load characteristics of individual customer classes. It simply assumes that all retail customers have the same capacity factor, and that Satellite customers have a higher capacity factor. I recommend that CWA be directed to conduct a detailed study calculating class-specific capacity factors for use in its next cost of service study.
- 20
  2. The Authority's proposed allocation of infiltration and inflow ("I/I") volumes and strengths based on 75% customer and 25% volume improves the accuracy of the cost of service study relative to CWA's cost of service study in the prior case, Cause No. 44685. I/I is largely tied to the number of customers and location of customers on the system, and is unrelated to customers' wastewater volume contributions. The Industrial Group continues to support an allocation of I/I volumes on a 90% customer 10% volume basis.
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  29
  3. CWA proposes to allocate bad debt expense on a total cost of service basis. Bad debt expense is largely attributable to non-Industrial customers. It would be more appropriate to allocate this expense on the number of customers.

#### 1 II. CWA's Proposed Revenue Spread

#### 2 Q PLEASE DESCRIBE THE AUTHORITY'S PROPOSED REVENUE SPREAD.

3 А The Authority's class cost of service results and proposed revenue allocations for 4 Phase 1, Phase 2, and Phase 3 are shown on my Attachment JAY-1. The proposed 5 revenue spread for each phase follows the results of CWA's proposed class cost of 6 service study. However, CWA's proposed revenue allocations attempt to mitigate the 7 significant increases to the non-Industrial, and Satellite customers, in an effort to 8 gradually move these customers to full cost of service. This gradual movement to cost 9 of service requires Self Reporter and Industrial customers to pay higher rates than the 10 Authority's cost of service study indicates in order to subsidize non-Industrial and 11 Satellite customers.

#### 12 Q IS CWA'S PROPOSED REVENUE SPREAD REASONABLE?

13 А No. CWA's spread generally follows the results of it its proposed class cost of service 14 study, and allocates the Satellite Special Contract Revenue Adjustment ("Satellite 15 subsidy") in accordance with the settlement agreement in Cause No. 44685-S1. 16 However, CWA's spread is based on a class cost of service study that does not 17 accurately measure its cost of providing wastewater service to each customer class. 18 As a result of CWA's class capacity factor assumptions, along with its I/I allocation 19 method and the allocation of bad debt expense, CWA's class cost of service study 20 inappropriately allocates far too much cost to the Self Reporter class.

### 1 Q ARE YOU PROPOSING ANY CHANGES TO CWA'S REVENUE SPREAD ACROSS 2 RATE CLASSES?

A Yes. Based on my revised class cost of service study, I recommend the revenue
 deficiency be spread based on my class cost of service study as shown on my
 Attachment JAY-2. Under my proposed revenue allocation, no class will receive a
 decrease. Extra Strength Surcharge rates will be brought to cost of service. Satellite
 and non-Industrial customers will continue their gradual transition to cost of service
 based rates.

#### 9 Q WHY IS YOUR PROPOSED REVENUE SPREAD MORE REASONABLE?

10 A My proposed revenue spread is based on the results of a cost of service study that 11 more accurately assigns CWA's costs to the classes that cause the costs to be 12 incurred. Further, it continues a gradual movement to cost of service for the non-13 Industrial and Satellite customers, while limiting the total increase for the non-Industrial 14 class to an amount less than 1.2x the system average increase. To the extent that the 15 Commission approves a revenue increase that is less than the amount requested by 16 CWA, my proposed revenue changes for each class would be reduced proportionately.

#### 17 III. CWA's Proposed Class Cost of Service Study

### 18 Q HAVE YOU REVIEWED THE AUTHORITY'S CLASS COST OF SERVICE STUDY?

Yes. CWA's cost of service study is sponsored by witness Prabha N. Kumar. Ms.
Kumar states she relied on the cost of service allocation and rate design methodology
recommended by the Water Environment Federation ("WEF"), in its Manual of Practice
Number 27 ("MoP27" or "Manual").

### 1 Q DO YOU AGREE WITH THE AUTHORITY'S PROPOSED CLASS COST OF 2 SERVICE STUDY?

A I generally support Ms. Kumar's class cost of service study in this proceeding, but have
concerns with three aspects of her cost study: (1) the class capacity factors, (2) the
allocation of I/I costs, and (3) the allocation of bad debt expense.

#### 6 III.A. Capacity Factors

# 7 Q PLEASE DESCRIBE THE CAPACITY FACTORS USED IN MS. KUMAR'S CLASS

8 COST OF SERVICE STUDY.

9 A Ms. Kumar relied on a single estimated capacity factor of 133% of average day
10 contributed volumes to develop the peak volumes for all retail customers, and an
11 estimated capacity factor of 322% for Satellite customers. She used an estimated
12 capacity factor of 450% for all I/I costs for retail customers. Pursuant to Cause No.
13 44685-S1's settlement agreement, no I/I costs were assigned to CWA's wholesale
14 customers.

#### 15 Q HOW WERE THESE CAPACITY FACTORS DEVELOPED?

A As described in Attachment PNK-6 to Ms. Kumar's testimony, Black & Veatch
determined the maximum day and average day pumped volumes using data from the
winter quarter of 2012 through 2016. The ratio of the maximum day to average day
pumped volumes for the system was 133%. The Satellite class capacity factor of 322%
was determined using actual flow data for those customers.

1 CWA multiplied the capacity factors by the average daily volumes of its retail 2 and Satellite customer classes and confirmed that those capacity factors resulted in an 3 approximation of the actual average peak day flow experienced at its plants during 4 2015 and 2016.

5 The technical memorandum does not include any information describing any 6 efforts by CWA or Black & Veatch to develop customer class-specific capacity factors 7 for use in its cost of service study.

# 8 Q WHY DO YOU BELIEVE THE CLASS CAPACITY FACTORS USED IN MS. 9 KUMAR'S CLASS COST OF SERVICE OF STUDY ARE NOT ACCURATE AND 10 SHOULD BE CORRECTED?

11 А The Authority's retail customers fall into the Residential, Multi Family, Commercial, 12 Industrial, and Self Reporter rate classes. As described above, Ms. Kumar has relied 13 on a single estimated capacity factor of 133% to determine the contributed peak 14 volumes for each of the retail rate classes, even though water usage patterns, and thus wastewater flows, vary significantly across those rate classes. For instance, smaller 15 16 non-Industrial customers typically have higher water use during daytime hours, while 17 larger Industrial customers exhibit a more steady usage pattern around the clock. 18 Because water use is generally more volatile for non-Industrial customers, those 19 customers should have a higher capacity allocation relative to contributed volumes than 20 CWA Industrial customers.

21 Ms. Kumar's retail capacity factor assumption fails to recognize important 22 differences in the load characteristics of CWA's various retail customer classes, and 23 therefore fails to correctly allocate capacity costs across rate classes. As a result of 24 Ms. Kumar's retail capacity factor assumption, capacity costs are largely allocated based on wastewater volume, which shifts a disproportionately large share of capacity
 costs to larger Industrial customers.

# Q DO CITIZENS WATER'S RETAIL CUSTOMER CLASSES HAVE THE SAME 4 CAPACITY FACTOR?

A No. As shown in the water cost of service studies filed in Cause No. 43645 and Cause
No. 44306, the maximum day capacity factors are notably different between Citizens
Water's customer classes. The class-specific capacity factors for Citizens Water's
customers largely reflect the lower load factor characteristics of the Residential, MultiFamily, Commercial and Sale for Resale customer classes relative to the Industrial
class. The maximum day capacity factors for Citizens Water customer classes are
shown below in Table 1.

# 12 Q WHAT IS THE SIGNIFICANCE OF CITIZENS WATER'S MAXIMUM DAY WATER

#### 13 CAPACITY FACTORS WITH RESPECT TO CWA'S WASTEWATER SYSTEM?

14 Water capacity factors provide an indication of the degree to which a customer class's А 15 maximum water demand exceeds its average water demand. Customer classes who 16 experience very high peak water demand relative to their average water demand, such 17 as the Residential class, have higher capacity factors than the Industrial class, whose 18 usage is more stable over time. Because wastewater volumes are tied to water usage,<sup>1</sup> 19 and Industrial water use tends to be more stable over time than non-Industrial water 20 use, the Industrial class should have a lower wastewater capacity factor than the non-21 Industrial class. Thus, the difference in water capacity factors between rate classes

<sup>&</sup>lt;sup>1</sup>Direct testimony of Sabine Karner at 15.

provides further evidence that the use of a single capacity factor for all of CWA's

2 wastewater customers is inappropriate.

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TABLE 1													
Citizens Water <u>Maximum Day Capacity Factors</u>													
Cause No. Cause No. <u>Line Customer Class 43645<sup>1</sup> 44306<sup>2</sup></u>													
1	Residential	265%	260%										
2	Multi Family	200%	160%										
3	Commercial	200%	205%										
4	Industrial	140%	180%										
5	Sale for Resale	140%	245%										
6	Irrigation	200%	440%										
Source	95												
1	Petitioner's Exhibit KAH-	5, Schedule 8.											
	These factors were appro	oved by the IURC.											
<ul> <li><sup>2</sup> Attachment MCB-2, Schedule 6.</li> <li>A settlement was reached in this case. No determination on capacity factors was made by the IURC.</li> </ul>													

3 Q DOES WEF MOP27 PROVIDE ANY GUIDANCE ON DEVELOPING

INDIVIDUALIZED CLASS WASTEWATER PEAKING ESTIMATES?

5 A Yes. At page 130, MoP27 states the following:

6	Individual	class	wastewater	peaking	estimates	may	be	based	on
7	estimates	of no	n-coincidenta	class	maximum	day	water	demar	nds
8	(excluding	allowa	ances for irrig	ation and	l other non-	sewe	red us	sage). <sup>2</sup>	

<sup>&</sup>lt;sup>2</sup>*Financing and Charges for Wastewater Systems*, Water Environment Federation Manual of Practice No. 27 [hereinafter "*WEF MoP27*"], at 130 (McGraw-Hill 2004).

# 1QSHOULDCLASS-SPECIFICWASTEWATERCAPACITYFACTORSBE2DEVELOPEDFROMMAXIMUMDAYWATERCAPACITYFACTORSINTHIS3CASE?

A No. As noted above in Table 1, the Commission made no determination as to whether
or not the capacity factors proposed by CWA in Cause No. 44306 were appropriate
because a settlement was reached in that case that did not specifically approve a cost
of service study. Additionally, the capacity factors used in Cause No. 43645 were
established circa 1990 and were only approved by the Commission because there was
no better data available at the time.<sup>3</sup>

#### 10 Q ARE YOU PROPOSING CORRECTIONS TO CWA'S CLASS COST OF SERVICE

## 11 STUDY TO PROVIDE MORE ACCURATE ESTIMATES OF EACH CLASS'S 12 CAPACITY FACTOR?

- 13 A No, not at this time because of the lack of available data. Solely for purposes of this 14 case given the circumstances, I am using CWA's 133% capacity factor for both the 15 non-Industrial and Self Reporter customer classes. However, for the next rate case, I 16 recommend CWA conduct a more detailed study to more accurately estimate capacity 17 factors by rate class. I believe this kind of study would be important for CWA system 18 capacity planning, and also for cost of service and rate-setting purposes. This capacity 19 factor study data should include at least the following:
  - Average daily volumetric use, with particular emphasis on measuring whether or not the volume use is during specific hours of the day, or is it a uniform flow of effluent throughout the day.
  - Supervisory Control And Data Acquisition ("SCADA") data on major load centers on the system including lift stations and other areas where pumping takes place. These lift stations then should be evaluated to determine whether the waste is largely being derived from the various rate classes on

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<sup>&</sup>lt;sup>3</sup>Cause No. 43645. Final Order at page 77.

1 the system. This can help approximate load factors for various rate classes. For example, if the lift station generally is serving only predominantly Rate 1 2 3 customers, then the SCADA data would measure the lift or hourly pump 4 electric power use on the system, and then estimates can be made of the 5 hours in the day volume increases, relative to the daily average use. 6 As described above, class-specific wastewater capacity factors may also be 7 able to be estimated using non-coincident maximum day water capacity factors for 8 each class.

#### 9 III.B. I/I Cost Allocation

#### 10 Q WHAT ARE I/I COSTS?

A At page 29 of her testimony, Ms. Kumar defines I/I costs as infiltration and inflow costs produced by ground water or rainfall that enters the wastewater system through direct connections, manhole covers, service laterals, or cracks, that occur throughout the collection and conveyance system. She states that these costs are typically allocated across rate classes based on number of customers and contributed volumes. Ms. Kumar proposes to assume 75% of I/I costs are related to number of customers and 25% of I/I costs are related to contributed customer volumes.

#### 18 Q DOES THE WEF MANUAL CITED BY MS. KUMAR DESCRIBE HOW I/I COSTS

#### 19 SHOULD BE TREATED IN A COST OF SERVICE STUDY?

- A Not specifically. However, the Manual does clearly describe that I/I costs are not directly related to service volumes. Rather, the Manual recognizes that I/I costs are more of a function of the length and age of the infrastructure, and the geographic area served. At page 130, the Manual states as follows:
- 24Infiltration and inflow costs pose a special challenge in wastewater25ratemaking because these costs are not a consequence of directly26measurable service demands by utility customers. Groundwater levels,27age of pipe, and soil conditions may influence the amount of I/I that

enters the system from different basins. Administering a system of wastewater charges that differs by drainage basin, age of pipe, or soil conditions would be difficult and costly. Therefore, cost allocation approaches must be based on factors that estimate service requirements to equitably distribute I/I cost responsibilities.<sup>4</sup>

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The Manual goes on to identify allocation options including: contributed wastewater volumes, number of customers, land area, and property valuations.

8 Q HOW DID CWA DETERMINE THAT 75% OF I/I COSTS ARE RELATED TO THE

9 NUMBER OF CUSTOMERS AND 25% OF I/I COSTS ARE RELATED TO 10 CONTRIBUTED VOLUMES?

11 А Pursuant to the Commission's order in Cause No. 44685, CWA hired Black & Veatch 12 to conduct a study to determine an appropriate allocation of I/I between its non-13 Industrial and Self Reporter rate classes. The study is attached to Ms. Kumar's direct testimony as Attachment PNK-7. As described in Attachment PNK-7, Black & Veatch 14 15 calculated the I/I volumes that would be allocated to the Self Reporter class using six 16 different methods that considered several elements such as length and diameter of 17 mains, number of connections, contributed volumes, land use, and a system size 18 differential. Black & Veatch then took an average of the I/I volumes allocated to the 19 Self Reporter class under each analysis, and determined that this average was best 20 approximated by a 75% customer / 25% volume allocation factor.

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Q

### DO YOU BELIEVE THAT MS. KUMAR'S PROPOSED ALLOCATION OF I/I COSTS

- 22 IS REASONABLE?
- A Ms. Kumar's I/I allocation based on 75% customer and 25% volume improves the
   accuracy of CWA's cost of service study relative to the methodology CWA used in the

<sup>&</sup>lt;sup>4</sup>WEF MoP27 at 130 (emphasis added).

prior rate case, Cause No. 44685. While this is an improvement, the Industrial Group continues to support an I/I allocation that is more heavily weighted toward the number of customers on the system. I/I costs are largely created through the collection infrastructure and geographic area, length of pipe, number of lift stations and infrastructure age. Not all of these factors were necessarily fully considered in Black and Veatch's analysis.

# Q CAN YOU DESCRIBE HOW CWA'S INFRASTRUCTURE AND GEOGRAPHIC 8 REACH CONTRIBUTE TO I/I?

9 А As described by CWA witness Jeffrey Willman, CWA provides wastewater collection 10 and treatment service to over 242,000 retail customers in Marion County. This county 11 encompasses an area of about 277 square miles, and consists of 3,200 miles of pipe 12 between 2 inches and 144 inches, and about 265 lift stations to accommodate the 13 primarily gravity flowing system. He goes on to describe that parts of CWA's system 14 are over 100 years old, and that lengths of CWA's collector system mains are 15 constructed in brick and clay materials, which need to be replaced to reinforce the 16 structural integrity of CWA's main collector system.<sup>5</sup>

17 The geographic diversity and the significant length of pipe are large factors in 18 determining the amounts of I/I costs that CWA incurs. As such, I/I costs have little to 19 do with customers' contributed volume, and are largely driven by CWA's large 20 geographic footprint and substantial length of collector mains.<sup>6</sup>

<sup>&</sup>lt;sup>5</sup>Direct Testimony of Jeffrey Willman at pages 8-9, and 12. <sup>6</sup>*Id.* at 9.

# 1QWHY WOULD ALLOCATING I/I COSTS ON 75% CUSTOMER AND 25% VOLUME2NOT PRODUCE A BALANCED ALLOCATION OF I/I COSTS?

A CWA's wastewater collector system encompasses a large geographic area, and over
3,000 miles of collector mains, some in need of modernization or repair. I/I costs are
caused by the infrastructure size and material. The retail customers' contributions to
the wastewater water volumes have little to no impact on I/I costs. As such, even 25%
of the allocation on volume is not balanced.

8 It is worthy of note that customers cannot reduce their amount of I/I collections 9 by reducing their wastewater flow. Indeed, I/I costs in the wastewater system are 10 simply unrelated to customers' wastewater flows, making a volume heavy allocation 11 inappropriate.

#### 12 Q HOW WERE I/I COSTS TREATED IN CWA'S RATE PROCEEDING IN CAUSE NO.

#### 13 **44305?**

A In a prior CWA proceeding, Cause No. 44305, the Industrial Group, and the Office of
Utility Consumer Counselor ("OUCC") agreed to a revenue allocation that utilized a
90% customer and 10% volume allocation of I/I costs. CWA did not oppose that
settlement.

Q DO YOU BELIEVE THAT THE FUNCTIONALIZATION AND ALLOCATION OF I/I
 COSTS IN THIS CASE SHOULD BE BASED ON THE SETTLEMENT IN CAUSE NO.

20 **44305?** 

A Yes. The allocation of I/I costs should be heavily weighted on the number of customers,
and only minimally weighted on contributed volumes. The number and location of
customers is the best cost-causation factor which describes I/I costs.

1 Therefore, like in Cause No. 44305 with a revenue allocation that reflected a 2 90% customer and 10% volume allocation, I propose to allocate 90% of the I/I units of 3 service on number of customers, and the remaining 10% on contributed volume. This 4 allocation more closely reflects the relationship between I/I costs and the number and 5 location of customers on the wastewater system.

#### 6 III.C. Bad Debt Expense

# Q PLEASE EXPLAIN WHY MS. KUMAR'S ALLOCATION OF BAD DEBT EXPENSE 8 IN THE CLASS COST OF SERVICE STUDY IS INAPPROPRIATE.

9 A Ms. Kumar's allocation of bad debt expense is flawed. CWA is proposing to allocate 10 bad debt expense on a total cost of service basis. However, bad debt expense is 11 mainly attributable to non-Industrial customers. By allocating bad debt expense on 12 total cost of service, larger customers pay a disproportionate share of it, even though 13 they are not the customer group that is largely responsible for this cost. I propose to 14 allocate bad debt expense based on the number of customers, rather than the total 15 cost of service.

#### 16 Q WHY IS ALLOCATION OF BAD DEBT EXPENSE ON CUSTOMERS RATHER THAN

#### 17 TOTAL COST OF SERVICE MORE REASONABLE?

A Bad debt expense is simply caused by customers on the system. More customers on
 the system lead to more bad debt expense likely to be incurred. Therefore, the most
 cost-causative factor describing bad debt expense is number of customers on the
 system. For this reason, I believe bad debt expense should be allocated across rate
 classes based on number of customers.

#### 1 IV. Corrected Class Cost of Service Study

### 2 Q HOW WOULD CWA'S CLASS COST OF SERVICE STUDY CHANGE BASED ON 3 YOUR PROPOSED CORRECTIONS?

A I have revised CWA's class cost of service study to reflect my proposed allocation of I/I
cost, and bad debt expense. My revisions are shown on Attachment JAY-2. In order
to reach cost of service, the non-Industrial class would require an increase that is above
the system average. The TSS class would require a below system average increase.
Rate decreases would be warranted for the remaining retail customer classes.

#### 9 V. Proposed Revenue Spread

# 10QARE YOU PROPOSING ANY CHANGES TO THE REVENUE REQUIREMENT11SPREAD ACROSS RATE CLASSES AS PROPOSED BY CWA?

A Yes. I am recommending the revenue deficiency be spread based on my class cost of
 service study as shown on my Attachment JAY-2. As described at the beginning of my
 testimony, under my proposed revenue allocation, no class will receive a decrease.
 The Extra Strength Surcharge rates will be brought to cost of service. Satellite and
 non-Industrial customers will continue their gradual transition to cost of service based
 rates.

#### 18 Q DOES THIS CONCLUDE YOUR VERIFIED DIRECT TESTIMONY?

19 A Yes, it does.

#### **Qualifications of Jessica A. York**

#### 1 Q PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A Jessica York. My business address is 16690 Swingley Ridge Road, Suite 140,
Chesterfield, MO 63017.

#### 4 Q PLEASE STATE YOUR OCCUPATION.

5 A I am a consultant in the field of public utility regulation and a Senior Consultant with the 6 firm of Brubaker & Associates, Inc. ("BAI"), energy, economic and regulatory 7 consultants.

# Q PLEASE STATE YOUR EDUCATIONAL BACKGROUND AND PROFESSIONAL 9 EMPLOYMENT EXPERIENCE.

- A I graduated from Truman State University in 2008 where I received my Bachelor of
   Science Degree in Mathematics with minors in Statistics and Actuarial Science. I
   earned my Master of Business Administration Degree with a concentration in Finance
   from the University of Missouri-St. Louis in 2014.
- I joined BAI in 2011 as an analyst. Then, in March 2015, I joined the consulting
  team of BAI.

16 I have worked in various electric, natural gas and water and wastewater 17 regulatory proceedings addressing cost of capital, sales revenue forecasts, revenue 18 requirement assessments, class cost of service studies, rate design, and various policy 19 issues. I have also conducted competitive power and natural gas solicitations on behalf 20 of large electric and natural gas users, have assisted those large power and natural 21 gas users in developing procurement plans and strategies, assisted in competitive 22 contract negotiations, and power and natural gas contract supply administration. In the regulated arena, I have evaluated cost of service studies and rate designs proffered by
 other parties in cases for various utilities, including in Wisconsin, Illinois, Indiana,
 Kansas, and others. I have conducted bill audits, rate forecasts and tariff rate
 optimization studies.

5 I have also provided support to clients with facilities in deregulated markets, 6 including drafting supply requests for proposals, evaluating supply bids, and auditing 7 competitive supply bills. I have also prepared and presented to clients reports that 8 monitor the electric market and recommend strategic hedging transactions.

9 BAI was formed in April 1995. BAI and its predecessor firm have participated
10 in more than 700 regulatory proceedings in forty states and Canada.

BAI provides consulting services in the economic, technical, accounting, and financial aspects of public utility rates and in the acquisition of utility and energy services through RFPs and negotiations, in both regulated and unregulated markets. Our clients include large industrial and institutional customers, some utilities and, on occasion, state regulatory agencies. We also prepare special studies and reports, forecasts, surveys and siting studies, and present seminars on utility-related issues.

17 In general, we are engaged in energy and regulatory consulting, economic18 analysis and contract negotiation.

In addition to our main office in St. Louis, the firm also has branch offices in
Phoenix, Arizona and Corpus Christi, Texas.

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#### **STATE OF INDIANA**

#### INDIANA UTILITY REGULATORY COMMISSION

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**CAUSE NO. 45151** 

#### Verification

I, Jessica A. York, a Senior Consultant of Brubaker & Associates, Inc., affirm under penalties of perjury that the foregoing representations are true and correct to the best of my knowledge, information and belief.

Jeonie & ym Jessica A. York

January 25, 2019

#### CWA Authority, Inc.

### Comparison of Cost of Service and Proposed Revenue Spread

					Phase 2						Phase 3								
	Increase / (Decrease) Proposed		ed Increase / (Der			se)	Pro	posed		Increas	e / (Decrea	se)	Proposed						
		Revenues	from Exi	sting Rates	Increase	Increase / (Decrease)		from Existing Rates to Reach COS <sup>2,4</sup>		Increase / (Decrease) from Existing Rates <sup>5</sup>			from Existing Rates to Reach COS <sup>2,6</sup>			Increase / (Decrease) from Existing Rates <sup>7</sup>			
		at Existing	to Rea	ch COS <sup>1,2</sup>	from Exi	from Existing Rates <sup>3</sup>													
Line	Description	Rates <sup>1</sup>	Amount	Percent Index	Amount	Percent Ir	ndex	Amount	Percent	Index	Amount	Percent	Index	Amount	Percent	Index	Amount	Percent	Index
		(1)	(2)	(3) (4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
	Wastewater																		
1	Non Industrial	\$220,283,400	\$38,725,600	17.6% 1.19	\$37,600,300	17.1%	1.16	\$50,541,800	22.9%	1.13	\$49,788,200	22.6%	1.12	\$59,134,700	26.8%	1.10	\$58,599,000	26.6%	1.09
2	Self Reporter	22,939,500	1,575,400	6.9% 0.47	1,575,200	6.9%	0.47	2,606,300	11.4%	0.56	2,607,400	11.4%	0.56	3,335,400	14.5%	0.59	3,335,400	14.5%	0.59
	Extra Strength																		
3	BOD	\$ 12,192,100	\$ (1,128,200)	-9.3% (0.63)	\$ (1,126,900)	-9.2% (0	0.63)	\$ (823,400)	-6.8%	(0.33)	\$ (1,126,900)	-9.2%	(0.46)	\$ (645,900)	-5.3%	(0.22)	\$ (1,126,900)	-9.2%	(0.38)
4	TSS	2,285,900	86,100	3.8% 0.26	85,800	3.8%	0.25	144,000	6.3%	0.31	85,800	3.8%	0.19	177,400	7.8%	0.32	85,800	3.8%	0.15
5	NH3	280,600	(39,800)	-14.2% (0.96)	(39,900)	-14.2% (0	0.96)	(33,400)	-11.9%	(0.59)	(39,900)	-14.2%	(0.70)	(29,900)	-10.7%	(0.44)	(39,900)	-14.2%	(0.58)
6	Septic Haulers	\$ 152,600	\$ (16,900)	-11.1% (0.75)	\$-	0.0%	-	\$ (13,000)	-8.5%	(0.42)	\$-	0.0%	-	\$ (10,700)	-7.0%	(0.29)	\$-	0.0%	-
7	Grease Haulers	-	-	0.0% -	-	0.0%	-	-	0.0%	-	-	0.0%	-	-	0.0%	-	-	0.0%	-
8	Commercial FOG	1,374,600	(1,107,900)	-80.6% (5.47)		0.0%	-	(1,107,800)	-80.6%	(3.99)		0.0%	-	(1,107,800)	-80.6%	(3.30)		0.0%	-
9	Subtotal - Retail	\$259,508,700	\$38,094,300	14.7% 1.00	\$38,094,500	14.7%	1.00	\$51,314,500	19.8%	0.98	\$51,314,600	19.8%	0.98	\$60,853,200	23.4%	0.96	\$60,853,400	23.4%	0.96
10	Satellite - Special Contract	\$ 5,769,900	\$ 1,275,200	22.1% 1.50	\$ 1,275,200	22.1%	1.50	\$ 2,727,300	47.3%	2.34	\$ 2,727,300	47.3%	2.34	\$ 4,486,800	77.8%	3.18	\$ 4,486,800	77.8%	3.18
11	Satellite - Tariff	686,100	172,800	25.2% 1.71	172,800	25.2%	1.71	214,700	31.3%	1.55	214,700	31.3%	1.55	246,600	35.9%	1.47	246,600	35.9%	1.47
12	Total	\$265,964,700	\$39,542,300	14.9% 1.01	\$39,542,500	14.9%	1.01	\$54,256,500	20.4%	1.01	\$54,256,600	20.4%	1.01	\$65,586,600	24.7%	1.01	\$65,586,800	24.7%	1.01
13	Other Operating Revenue	2,373,100	-	0.0% -		0.0%	-		0.0%	-		0.0%	-		0.0%	-		0.0%	-
14	Total System	\$268,337,800	\$39,542,300	14.7% 1.00	\$39,542,500	14.7%	1.00	\$54,256,500	20.2%	1.00	\$54,256,600	20.2%	1.00	\$65,586,600	24.4%	1.00	\$65,586,800	24.4%	1.00

Sources

<sup>1</sup> Attachment PNK-2, Schedule 10.

<sup>2</sup> COS after allocation of Satellite subsidy.

<sup>3</sup> Attachment PNK-3, Schedule 5.

<sup>4</sup> Attachment PNK-4, Schedule 2.

<sup>5</sup> Attachment PNK-4, Schedule 6.

<sup>6</sup> Attachment PNK-5, Schedule 2.

<sup>7</sup> Attachment PNK-5, Schedule 6.

#### CWA Authority, Inc.

#### Comparison of Cost of Service and Proposed Revenue Spread Industrial Group

				Phas	se 1			Phase 3									
		Revenues at Existing	Increase / from Exis to Read	(Decrease) sting Rates sh COS <sup>2,3</sup>	Pro Increase from Exi	posed / (Decrease) sting Rates	Increase from Exi to Rea	Increase / (Decrease) from Existing Rates to Reach COS <sup>3,4</sup>		Proposed Increase / (Decrease) from Existing Rates		Increase / (Decrease) from Existing Rates to Reach COS <sup>3,5</sup>			Proposed Increase / (Decrease) from Existing Rates		
<u>Line</u>	Description	Rates <sup>1</sup> (1)	Amount (2)	PercentIndex(3)(4)	Amount (5)	Percent Index (6) (7)	Amount (8)	PercentIndex(9)(10)	<u>Amount</u> <u>Perc</u> (11) (12	2) (13)	<u>Amount</u> (14)	Percent (15)	<u>Index</u> (16)	<u>Amount</u> (17)	Percent (18)	<u>Index</u> (19)	
1 2	Wastewater Non Industrial Self Reporter	\$220,283,400 22,939,500	\$ 43,930,600 (3,577,800)	19.9% 1.35 -15.6% (1.06)	\$39,226,600 -	17.8% 1.21 0.0% -	\$ 56,016,700 (2,812,700	25.4% 1.26 ) -12.3% (0.61)	\$52,081,800 23 - 0	3.6% 1.17 ).0% -	\$ 64,811,700 (2,282,900)	29.4% -10.0%	1.20 (0.41)	\$61,408,900 -	27.9% 0.0%	1.14 -	
3 4 5	Extra Strength BOD TSS NH3	\$ 12,192,100 2,285,900 280,600	\$ (1,166,600) 77,800 (40,700)	-9.6% (0.65) 3.4% 0.23 -14.5% (0.98)	\$ (1,166,600) 77,800 (40,700)	-9.6% (0.65) 3.4% 0.23 -14.5% (0.98)	\$ (864,900 135,000 (34,300	) -7.1% (0.35) 5.9% 0.29 ) -12.2% (0.60)	\$ (864,900) -7 135,000 5 (34,300) -12	7.1% (0.35) 5.9% 0.29 2.2% (0.60)	\$ (689,500) 168,000 (30,900)	-5.7% 7.3% -11.0%	(0.23) 0.30 (0.45)	\$ (689,500) 168,000 (30,900)	-5.7% 7.3% -11.0%	(0.23) 0.30 (0.45)	
6 7 8 9	Septic Haulers Grease Haulers Commercial FOG Subtotal - Retail	\$ 152,600 <u>1,374,600</u> \$259,508,700	\$ (17,400) - <u>(1,108,800)</u> \$ 38,097,100	-11.4% (0.77) 0.0% - -80.7% (5.47) 14.7% 1.00	\$ - - - \$38,097,100	0.0% - 0.0% - 0.0% - 14.7% 1.00	\$ (13,400 - <u>(1,108,800</u> \$ 51,317,600	) -8.8% (0.43) 0.0% - ) -80.7% (3.99) 19.8% 0.98	\$ - 0 - 0 - 0 \$51,317,600 19	0.0% - 0.0% - 0.0% - 0.8% 0.98	\$ (11,100) - (1,108,800) \$ 60,856,500	-7.3% 0.0% -80.7% 23.5%	(0.30) (3.30) 0.96	\$ - - - \$60,856,500	0.0% 0.0% 0.0% 23.5%	- - - 0.96	
10 11	Satellite - Special Contract Satellite - Tariff	\$    5,769,900 686,100	\$ 1,275,200 170,000	22.1% 1.50 24.8% 1.68	\$ 1,275,200 	22.1% 1.50 24.8% 1.68	\$ 2,727,300 211,600	47.3% 2.34 30.8% 1.53	\$ 2,727,300 47 300 30	7.3% 2.34 ).8% 1.53	\$ 4,486,800 243,300	77.8% 35.5%	3.18 1.45	\$ 4,486,800 243,300	77.8% 35.5%	3.18 1.45	
12	Total	\$265,964,700	\$ 39,542,300	14.9% 1.01	\$39,542,300	14.9% 1.01	\$ 54,256,500	20.4% 1.01	\$54,256,500 20	0.4% 1.01	\$ 65,586,600	24.7%	1.01	\$65,586,600	24.7%	1.01	
13 14	Other Operating Revenue Total System	<u>2,373,100</u> \$268,337,800	\$ 39,542,300	0.0% - 14.7% 1.00	<u>-</u> \$39,542,300	0.0% - 14.7% 1.00	- \$ 54,256,500	0.0% - 20.2% 1.00	0 \$54,256,500 20	).0% - ).2% 1.00	<u>-</u> \$ 65,586,600	0.0% 24.4%	- 1.00	<u>-</u> \$65,586,600	0.0% 24.4%	- 1.00	

Notes

<sup>3</sup> COS after allocation of Satellite subsidy.

<sup>4</sup> Attachment PNK-4, Schedule 2 after modifying CWA's cost of service study to reflect the Industrial Group's proposed I/I and bad debt expense allocations.

<sup>5</sup> Attachment PNK-5, Schedule 2 after modifying CWA's cost of service study to reflect the Industrial Group's proposed I/I and bad debt expense allocations.

<sup>&</sup>lt;sup>1</sup> Attachment PNK-2, Schedule 10.

<sup>&</sup>lt;sup>2</sup> Attachment PNK-2, Schedule 10 after modifying CWA's cost of service study to reflect the Industrial Group's proposed I/I and bad debt expense allocations.