

**STATE OF NEW HAMPSHIRE
BEFORE THE
NEW HAMPSHIRE PUBLIC UTILITIES COMMISSION**

**RE: PENNICHUCK WATER WORKS, INC.
DW 17- ____**

**2017 WATER INFRASTRUCTURE
AND CONSERVATION ADJUSTMENT FILING**

**DIRECT TESTIMONY
OF
DONALD L. WARE**

JANUARY 31, 2017

1 **Professional and Educational Background**

2 **Q. What is your name and what is your position with Pennichuck Water Works,**
3 **Inc.?**

4 **A.** My name is Donald L. Ware. I am the Chief Operating Officer of Pennichuck
5 Water Works, Inc. (“Pennichuck” or the “Company”). I have been employed with
6 the Company since April 1995. I am a licensed professional engineer in New
7 Hampshire, Massachusetts, and Maine.

8 **Q. Please describe your educational background.**

9 **A.** I have a Bachelor in Science degree in Civil Engineering from Bucknell University
10 in Lewisburg, Pennsylvania. I have a Master’s in Business Administration from the
11 Whittemore Business School at the University of New Hampshire.

12 **Q. Please describe your professional background.**

13 **A.** Prior to joining the Company, I served as the General Manager of the Augusta
14 Water District in Augusta, Maine from 1986 to 1995. I served as the District’s
15 engineer between 1982 and 1986.

16 **Q. What are your responsibilities with the Company?**

17 **A.** As the Chief Operating Officer, I am responsible for the overall operations of the
18 Company, including water quality and supply, distribution, engineering, and
19 customer service.

20 **Description of WICA Filing**

21 **Q. What is the purpose of your testimony?**

22 **A.** I will be providing details of the Company’s fourth annual Water Infrastructure and
23 Conservation Adjustment (“WICA”) filing. This filing will describe the WICA

1 projects completed in 2016 and provide a calculation of the WICA surcharge that
2 the Company seeks to implement on or after June 1, 2017, subject to the approval
3 of the New Hampshire Public Utilities Commission (“Commission”). The filing will
4 also present the WICA projects proposed for 2017, 2018, and 2019.

5 **Q. What is the authority for the Company’s filing?**

6 **A.** The Commission authorized the WICA pilot program in Docket No. DW 10-091, by
7 Order No. 25,230 (June 9, 2011). The Commission subsequently authorized
8 PWW to continue the pilot. See Docket No. DW 13-130, Order No. 25,694 (July
9 15, 2014). In Docket No. DW 13-358, the Commission, by Order No. 25,261 (May
10 5, 2014), changed the WICA filing deadline to January 31.

11 **Q. Did the Company provide notice to customers at least thirty (30) days in**
12 **advance of this WICA filing as required by its tariff?**

13 **A.** Yes. The Company provided notice of the pending WICA filing to all of the
14 Company’s customers via a message on their December bills. The last set of
15 December bills were mailed to customers on December 29, 2016. A sample of the
16 bill notification is included as Attachment D to this testimony. The message on the
17 bill informed customers of the pending WICA surcharge filing and directed them to
18 Pennichuck’s website for more information. The content of the website page
19 describing Pennichuck’s pending WICA filing is also included in Attachment D.

20 **Q. How does this WICA petition compare to the WICA petition filed in January**
21 **2016?**

22 **A.** The petition follows the format of the previous petition. It advances the elements
23 of the WICA cycle by one year; provides a list of the proposed projects for the next

1 three years, 2017 through 2019, inclusive; and presents the projects that were
2 completed during 2016, for which the Company is seeking a surcharge. See
3 Attachment B, page 1 of 4 for the specific list and costs of WICA projects
4 completed in 2016. For the surcharge calculations, see Attachment A, Pages 1
5 through 8, which were produced to conform with Staff's recommendations
6 approved by the Commission in Docket No. DW 15-043. The WICA surcharge
7 incorporates depreciation, property tax expense, income tax expense, and
8 associated rate of return on completed projects, as contemplated by the approved
9 WICA tariff.

10 **Q. What is the nature of the WICA eligible projects being submitted by the**
11 **Company?**

12 **A.** The projects are limited to those eligible under the Company's WICA tariff:
13 replacement or rehabilitation of water mains, services, gate valves, and hydrants
14 in the Company's core system. The majority of the 2016 projects were approved
15 for construction by the Commission in Order No. 25,896. Subsequent to the
16 Commission approval, the Company filed Notices of Project Substitution to include
17 an emergency water main replacement and defer other projects to 2017. The net
18 of these changes reduced the estimated 2016 project total. The 2017, 2018, and
19 2019 projects are summarized by type and amount in Attachment B, pages 2 to 4,
20 to this testimony.

21 **Q. Please describe the composition of the Company's core water system.**

22 **A.** As of the end of 2016, the Company had approximately 2,056,000 linear feet
23 ("LF") of water main in its core water system. The water main targeted for

1 replacement includes unlined cast iron water mains, steel and galvanized steel
2 water mains, and Asbestos-Cement (“A-C”) water mains. The Company currently
3 has approximately 243,700 LF of unlined cast iron water main, approximately
4 24,400 LF of steel water main, and approximately 213,400 LF of A-C water mains
5 in its core distribution system. The Company also has approximately 890 steel
6 water services.

7 **Q. Please describe the Company’s rating system for replacing the targeted**
8 **main.**

9 **A.** The Company is entering its fourth year of a five-year implementation of a new
10 asset management program. This program ranks main replacement or
11 rehabilitation projects by assigning an asset management rating based upon:
12 Likelihood of Failure x Consequence of Failure. The Company is on target to rate
13 all the core water mains using the asset management rating system by the end of
14 2017. When completed, the Company will use the output from the asset
15 management program to determine the type and quantity of water main it will
16 include in its replacement program, regardless of whether the recovery is through
17 the existing WICA program or the annual Step Increase mechanism requested in
18 its rate case, Docket No. DW 16-806.

19 **Q. Does the instant filing include the Likelihood of Failure x Consequences of**
20 **Failure rating system?**

21 **A.** No. For the current filing, the Company will continue to use information on the
22 frequency of failure, critical customers served, water quality complaints, fire
23 protection capabilities, and geography to assess its main replacement priorities.

1 The Company notes that it has had an infrastructure replacement program in place
2 since 1996.

3 **Q. Did the Company consider other information in proposing its 2017, 2018,**
4 **and 2019 main replacement projects?**

5 **A.** Yes. The Company considered efficiencies gained from coordinating with the City
6 of Nashua (“City”) and Town of Amherst’s (“Town”) paving and storm and sewer
7 projects. Additionally, the Company considered industry guidelines. The
8 American Water Works Association has indicated that a typical water main has an
9 average life of approximately 100 years. Using an average life of 100 years, the
10 Company’s target for water main replacement would be approximately 20,000 LF
11 of water main per year. The Company believes 15,000 LF per year is more
12 reasonable. The Company considers this rate to be reasonable because the new
13 asset management system will bring a more scientific approach to its main
14 replacement plan, such that water mains will not be replaced either too early or too
15 late in their useful lives. The rating system will not appreciably change the rate of
16 steel water service replacements. The Company plans to continue replacing steel
17 water services at a rate of 25 to 30 services per year, primarily due to the ability to
18 save costs by coordinating with the City’s street paving, sewer, and storm drain
19 projects. The Company’s replacement plan for the next three years, however,
20 produces an annual average replacement of approximately 12,300 LF. The
21 reasons for this are more fully explained below.

22 **Q. How did the Company select the projects included in the 2017 through 2019**
23 **WICA list?**

1 The 2017 projects were selected primarily due to the ability to coordinate with City
2 and Town paving and sewer and storm drain replacement projects as well as gas
3 company projects. This coordination will allow the Company to benefit from
4 construction efficiencies. The water mains listed for 2017, which do not involve
5 coordination with the City, as well as those listed for the years 2018 and 2019,
6 were selected taking the following criteria into consideration:

- 7 1. Water main break history;
- 8 2. Water quality problems;
- 9 3. Fire protection flows;
- 10 4. Key customers;
- 11 5. Coordination with gas company replacement projects; and
- 12 6. Geographical proximity of mains to be replaced/rehabilitated.

13
14 As noted in prior filings, the Company developed this rating system in order to
15 determine the highest priority water mains and consider geographic proximity of
16 unlined cast iron, steel, or A-C water mains to these highest rated mains.
17 Additionally, completing rehabilitation or replacement work in the same geographic
18 area helps minimize community disruption and better manage costs associated
19 with mobilizing and demobilizing equipment to different parts of the core system.

20 **Q. Please explain how the above criteria are scored in the Company's rating**
21 **system.**

22 **A.** The rating system scoring is as follows:

- 23 1. Water Main Break History. One point is assigned for each break that has
24 happened during the past 20 years up to a maximum of 5 points.
- 25 2. Water Quality Problems. Based on a review of the history of colored water
26 complaints on the streets over the past 10 years, 1 point is assigned for each
27 incidence of water quality complaints during the past 10 years up to a maximum of
28 5 points.

- 1 3. Fire Protection Flows. One point is assigned for every 500 gallons per minute
2 that the current fire flows are below the ISO required fire flows, up to a maximum
3 of 5 points.
- 4 4. Key Customers. If there is a key customer (medical facility, major industry,
5 school, nursing home, municipal facility, etc.) fed from a single water main, 3
6 points are assigned. If there is a key customer fed from two water mains - 1 point
7 is assigned.
- 8 5. Geographical Proximity. If the street the project is located on is connected to a
9 street that contains a highly-rated project, based on points assigned in other
10 categories, it is awarded 3 points. If the project is within 5 blocks of a highly rated
11 project, it is awarded 2 points.
- 12 6. Project coordination with the City and the gas company. The ratings
13 associated with project coordination are as follows:
- 14
- 15 i. When a project involves sewer or storm drain work in conjunction with
16 gas work, a rating of 10 is given. The completion of sewer or storm
17 drain work requires the replacement of the water main. The fact that the
18 gas company is relocating its facilities as part of this project type means
19 that the Company is only responsible for 1/3 of the paving restoration
20 cost.
 - 21 ii. When a project involves sewer or storm drain work only (no gas work), a
22 rating of 9 is given. The completion of sewer or storm drain work
23 requires the replacement of the water main. The fact that the water
24 main is being replaced in conjunction with a City project means that the
25 Company is only responsible for 1/2 of the paving restoration cost.
 - 26 iii. When a project involves gas work in conjunction with a City paving
27 project, a rating of 8 is given. The completion of the gas project and City
28 paving does not require the replacement of the water main. The fact
29 that the water main is being replaced in conjunction with a gas and City
30 paving project means that the Company is only responsible for 1/3 of the
31 paving restoration cost. Additionally, if the water main is not replaced
32 prior to the Street paving, it cannot be replaced for another 5 years due
33 to a street-opening moratorium.
 - 34 iv. When a project involves City paving work only, a rating of 6 is given.
35 The completion of a City paving project does not require the
36 replacement of the water main. The fact that the water main is being
37 replaced in conjunction with a paving project means that the Company is
38 only responsible for 1/2 of the paving restoration cost. Additionally, if
39 the water main is not replaced prior to the Street paving, it cannot be
40 replaced for another 5 years due to a street-opening moratorium.

1 v. When a project involves gas work only, a rating of 5 is given. The
2 completion of the gas project does not require the replacement of the
3 water main. The fact that the water main is being replaced in
4 conjunction with a gas project means that the Company is only
5 responsible for 1/2 of the paving restoration cost.
6

7 **Q. Is it important when the City or Town is working on a street where**
8 **Pennichuck has an unlined cast iron, steel, or A-C water main for the**
9 **Company to replace the water main even though it is not highly rated?**

10 **A.** Yes, because of cost and integrity issues. There are cost savings in pavement
11 repair and traffic control associated with completing projects while the City or gas
12 company is working on a street. Furthermore, it is rare that the City can replace
13 sewers or storm drains and not undercut the existing water main. Often, the water
14 main is located in the same trench as the sewer main, with the sewer main being
15 installed first and the water main laid higher in the same trench. This generally
16 makes it impossible to replace the sewer main without adversely affecting the
17 integrity of the water main. Unlined cast iron, steel, and A-C water main usually
18 cannot survive loss of soil support or the vibration of heavy construction equipment
19 without experiencing high levels of breakage.

20 **Q. What action does the Company propose if the level of work by the City or**
21 **gas company does not result in the Company hitting its desired target**
22 **replacement levels of 15,000 LF of rehabilitation/replacement of targeted**
23 **water main?**

24 **A.** As seen in the 2017 project list, the Company included both projects that can be
25 done in conjunction with municipal or gas company projects and projects that do
26 not capitalize on joint work. Over the past several years it has become apparent

1 that the City may not complete sufficient sewer and drain line replacement to
2 match the Company's targeted level of water main replacement work. As a result,
3 the Company has added to its evaluation list water mains that can be safely
4 rehabilitated or replaced without obstructing future sewer or storm drain
5 replacement.

6 **Q. With regard to the choice of rehabilitating versus replacing a water main,**
7 **over the past three years the Company has not rehabilitated any water main**
8 **but instead has replaced all of its aging water main. Why hasn't the**
9 **Company rehabilitated any water main?**

10 **A.** As stated earlier, a cast iron water main will not stand up to being undermined. If
11 the cast iron water main to be rehabilitated or replaced is within 5 feet of the sewer
12 or storm drain that is being replaced, the bedding under the cast iron water main
13 will likely be compromised and result in numerous failures. The common practice
14 up to 1940 was to dig one trench and place the sewer first and the water main
15 second. This pre-1940's construction practice eliminates the feasibility of
16 rehabilitating the majority of the Company's cast iron water mains.

17 **Q. Why did the Company include a 10% contingency in its WICA budget?**

18 **A.** The City budgets, operates, and plans based on a July 1 to June 30 fiscal year
19 basis while the Company budgets, operates, and plans on a calendar year basis.
20 The City will be establishing its budgets for paving, sewer and storm drain
21 replacement work in the late spring of 2017 for work to be completed in the
22 summer and fall of 2017 and into the spring of 2018. The Company will not obtain

1 the list of streets with approved paving, sewer, and storm drain work in the City
2 Budget for FY 2017 (July 1, 2017 through June 30, 2018) until mid-July of 2017.
3 At the time of this WICA filing, the City was still evaluating the list of streets that it
4 will be completing in spring of 2017 for its current fiscal year. Therefore, the
5 Company does not know which City streets will be the subject of paving, sewer,
6 and storm drain replacement work in the fiscal year beginning in July of 2017. For
7 this reason, the Company has included a 10% contingency in its WICA budget to
8 allow it to react to the City's final plans. The scope of the City paving, sewer and
9 storm drain replacement work for the majority of 2017 is reflected in the
10 Company's 2017 WICA list. The City has historically added additional streets to its
11 sewer replacement work in the second half of the calendar year, which is a new
12 fiscal year for the City.
13 About half of the proposed 2017 WICA projects are associated with City or Town
14 sewer, storm drain or paving projects. The Company believes that a mix of the
15 10% contingency and street swaps, as needed, will allow it to keep the planned
16 2017 WICA projects under the total projected dollars detailed.

17 **Q. Please explain why the Company's 2017 WICA projects total 10,790 LF of**
18 **replacement is significantly less than its stated target replacement level of**
19 **15,000 LF.**

20 **A.** 2017 represents a unique year for the Company. As was seen in the Company's
21 Notices of Project Substitutions filed in 2016, the Department of Environmental
22 Services ("DES") has requested assistance in expanding public water supply in the
23 Town of Litchfield in light of the presence of perfluorooctanoic acid ("PFOA")

1 contamination in the groundwater. This expansion involves the design and
2 oversight of over 52,000 LF of new water main to serve approximately 400 new
3 customers and will temporarily divert a significant portion of the Company's
4 Engineering staff capacity in 2017. For this reason, the Company does not expect
5 to achieve its 15,000 LF replacement rate in 2017 and this is reflected in its
6 attached schedules.

7 **Q. Please explain any factors that can contribute to changes in the list of WICA**
8 **projects proposed in this filing.**

9 **A.** The Company's WICA tariff provides for the ability to change or substitute projects
10 previously proposed and preliminarily approved by the Commission. Factors that
11 can change the priority of projects and which may result in project substitutions are
12 as follows:

- 13 1. Schedule Coordination. The scheduling of City paving, sewer and storm drain
14 replacement projects affects the Company's project priorities and schedule for
15 the reasons previously discussed.
- 16 2. Main Breaks. The frequency of breaks on any given segment of pipe may
17 increase in coming years, which will increase the score for that water main.
18 Also, the specific locations of some main breaks create more problems when
19 compared to others such that the Company's top choices for main
20 replacements may not be based strictly on score.
- 21 3. Criticality. Other system improvements may reduce the relative importance of
22 a particular pipe segment. For example, a loop project may create redundancy
23 and/or eliminate a bottleneck resulting in a lower criticality score.
- 24 4. Water Quality Problems. The frequency and nature of water quality issues
25 may change over time, due to factors such as adjustments in treatment or
26 other operating conditions, which could increase or decrease the score for
27 any particular pipe segment.
- 28 5. Staff Input. The experience and field knowledge of the Company's staff with
29 distribution mains change over time through ongoing operating and
30 maintenance activities. Staff opinion regarding the relative priorities of
31 different main replacement projects changes in response to day-by-day
32 working experience with the system.

- 1 6. Capital Budget Constraints. Main replacements cannot be scheduled in strict
2 order of their priority scores because the estimated project costs may exceed
3 available capital funds in some years. Projects must be shifted from year to
4 year depending on what other projects, both WICA and non-WICA, are also
5 being considered by the Company.
- 6 7. Gas Company Projects. The Company and gas company are making efforts to
7 coordinate the replacement of their aging infrastructure. If both companies can
8 work jointly on replacement projects for the same streets it results in shared
9 paving and traffic control costs as well as a one-time versus multiple project
10 disruptions of the neighborhood with construction noise, dust, and traffic.

11
12 **Q. Please describe the proposed 2017 WICA replacement projects.**

13 **A.** The Company's planned 2017 WICA projects are as follows:

- 14 1. The replacement of about 2,200 LF of Asbestos-Cement water main in the
15 Town of Amherst along Dodge and Mack Hill Roads. The water main
16 replacement is occurring in conjunction with the Town's rebuilding of these
17 two roads and the installation of new storm drainage facilities.
- 18 2. The replacement of about 1,470 LF of unlined 6" and 8" cast iron water
19 main in and along Gilman Street in conjunction with the City's repaving and
20 the gas company replacing its gas mains on this street.
- 21 3. The replacement of about 300 LF of 8" water main along Temple Street in
22 conjunction with the City's replacement of a failed sewer line and the gas
23 company replacing an existing gas main.
- 24 4. The completion of the SRF-funded Amherst Street Area water main
25 replacement project that was started in 2016. This project involves the
26 replacement of about 1,565 LF of unlined cast iron water main along
27 Amherst, Berkshire, Terrace, and Bruce Streets in Nashua. The project is
28 being completed in conjunction with the City's paving program.
- 29 5. The replacement of 6 side-street water main taps and leads constructed
30 with unlined cast iron water main in Kinsley Street in conjunction with the
31 City's repaving of Kinsley Street. This work will insure that when the water
32 main needs to be replaced on the side streets that it can be done without
33 impacting the new pavement on Kinsley Street.
- 34 6. The replacement of about 950 LF of unlined cast iron water main and
35 abandonment of about 650 LF of unlined cast iron water main along Factory
36 Street in Nashua. There was a significant break on the existing 12" water
37 main in 2016. The exterior and interior condition of the 12" water main was
38 in very poor condition. The fire protection in this area is over 1000 gallons
39 per minute below the Insurance Service Organizations required flow.

1 Based on the age of the pipe, type of the pipe, observed condition of this
2 water main, and the parallel 8" unlined cast iron, the Company made the
3 decision to replace the existing 12" water main and tie the existing services
4 over from the existing 8" water main to the new 12" water main in order to
5 abandon the existing 8" water main.

- 6 7. The replacement of approximately 3,880 LF of small diameter unlined cast
7 iron water main along Lincoln Avenue, Nutt Street, Buchanan Street, Fowell
8 Avenue, Zellwood, and Pratt Streets. The leads to most of these streets
9 are from Main Street in Nashua. The leads to each street were replaced in
10 2016 as part of the City of Nashua Main Street paving project. The
11 observed interior and exterior conditions of the replaced leads from Main
12 Street were every corroded confirming the need to replace these water
13 mains. Fire flows in this area are less than 200 gallons per minute due to
14 the small diameter and heavy tuberculation of the existing water mains in
15 this area.

16
17 **Q. Why are the projected carry-over paving costs in the 2017 WICA project so**
18 **high?**

19 **A.** The City has not billed Pennichuck for the Company's share of paving costs for
20 joint water and sewer main replacement projects constructed during 2015 and
21 2016. The City plans to bill Pennichuck for its share of this paving during the 1st
22 quarter of 2017 in the amount of \$1,081,750 reflecting Pennichuck's share of
23 paving over about 15,910 LF of replaced water main, or about \$68 per LF. For
24 comparison, the current cost of paving and road reconstruction for a standalone
25 project is about \$110 per LF. Although the delay increases the total cost of
26 paving, the City's bill is actually at a reduced rate.

27 **Calculation of Surcharge**

28 **Q. What is the estimated rate impact associated with the 2017 through 2019**
29 **WICA projects contained in the Company's filing.**

1 **A.** Under the approved WICA tariff, WICA surcharges are limited to a 2% increase in
2 rates in any one year, with a maximum increase in rates of 7.5% between full rate
3 cases. Attachment A to this testimony summarizes the WICA surcharge
4 percentages, the amounts, and the impact on a typical annual residential customer
5 bill for the proposed project years 2017, 2018, and 2019. The estimated
6 surcharges by individual project year are: 1.72% for 2017; 1.91% for 2018; and,
7 1.91% for 2019.

8 **Q. Do the projected WICA surcharges for the projects completed in 2013**
9 **through 2016 result in a cumulative WICA surcharge in excess of 7.5%?**

10 **A.** No. The projected cumulative impact of each year of WICA projects is 4.69% after
11 2017, 6.41% after 2018 and 8.32% after 2019. The 2017 WICA project surcharge,
12 which would go into effect in June of 2018 will be starting from 0% as the 2013
13 through 2016 WICA project surcharges will have been eliminated and reset to zero
14 as a result of the Company's rate case in Docket No. DW 16-806.

15 **Q. What is the surcharge requested for 2017 related to 2016 projects?**

16 **A.** As shown in Attachment A Page 2, the 2016 projects produce a surcharge of
17 1.66%, which yields a cumulative surcharge of 4.69% (total of the surcharges for
18 WICA projects completed in 2013, 2014, 2015, and 2016) to be applied to water
19 service bills issued on or after June 1, 2017. The surcharge will be applied
20 proportionately to all classes of customers on a bills-rendered basis.

21 **Q. What is the impact of the 2017 surcharge on the typical residential**
22 **customer?**

1 **A.** The typical residential general metered customer using 103 CCF per year (8.58
2 CCF per month based on 2015 usage) currently pays \$50.13 monthly under
3 existing rates, inclusive of the 3.03% surcharge that the Commission granted the
4 Company for the WICA projects completed in 2013 through 2015. The proposed
5 WICA surcharge for 2016 projects, if approved, would increase the typical
6 residential customer bill by an additional \$0.81 per month, resulting in a typical
7 residential bill, including the cumulative impact of the 2013 through 2016 WICA
8 charges, of \$54.56 per month.

9 **Q. Will the 2016 WICA surcharge be collected if the Commission approves a**
10 **step adjustment in the Company's rate case, Docket No. DW 16-806?**

11 **A.** No. The Company would continue to collect the WICA surcharge approved
12 through Docket No. DW 16-220 but would not collect an additional WICA
13 surcharge for the 2016 WICA assets placed into service because the expenses
14 associated with the 2016 WICA assets would be recovered as part of the step
15 increase.

16 **Q. If a step adjustment is not approved, how will the WICA surcharge be**
17 **displayed on the customer's bill?**

18 **A.** The WICA will be reflected on the customers' bills as a WICA Surcharge Amount.
19 The charge would be expressed as a percentage and applied to the effective
20 portion of the total amount billed to each customer under the Company's approved
21 tariff rate and charges with the exception of miscellaneous charges. A sample
22 customer bill is attached to this testimony as Attachment D.

23 **Q. Has the Company included revised tariff pages for the WICA surcharge?**

1 **A.** Yes. The proposed revised tariff pages are Attachment E to this testimony.

2 **Q. How did actual 2016 construction compare to the 2015 WICA plan set forth in**
3 **the Company's January 2016 WICA filing?**

4 **A.** Attachment B, Page 1 lists the WICA projects that were projected to occur in 2016
5 as part of the petition in Docket No. DW 16-220. Attachment B, page 1, reflects
6 the 2016 WICA projects, by street and community with notes explaining the
7 addition and deletion of projects that were completed in 2016 or deferred to a
8 future year. Attachment B, Page 1 provides an explanation of the changes to the
9 2016 WICA list and the projected 12,164 LF. At the time, the estimated cost was
10 \$5,017,943 (inclusive of 10% project contingency). The actual footage of water
11 main replaced in 2016 was 9,195 LF at a cost of \$3,839,715, subject to audit. The
12 January 2016 filing also included the replacement of 31 steel water services, at an
13 estimated cost of \$64,077; 7 valve replacements at an estimated cost of \$14,784;
14 and 9 hydrant replacements at an estimated cost of \$40752; for a total of
15 \$119,613. In 2016, the Company actually replaced 60 steel services at a cost of
16 \$159,492; 6 main line gate valves at a cost of \$20,628; and 14 hydrants at a cost
17 of \$59,796; for a total of \$239,916.

18 **Q. How does the cumulative WICA surcharge requested for implementation**
19 **beginning in June of 2017 compare to the cumulative surcharge projected in**
20 **DW 16-220?**

21 **A.** The cumulative surcharge requested for the WICA projects completed during
22 2013, 2014, 2015, and 2016 is 4.69%. This is less than the estimated 4.88%

1 surcharge detailed in the project update to Docket No. DW 16-220 submitted on
2 May 26, 2016.

3 **Q. Are all the projects requested for inclusion in the 2017 WICA surcharge used**
4 **and useful?**

5 **A.** All of the 2016 WICA projects requested for inclusion in the 2017 WICA surcharge
6 are used and useful. Please note that certain of the projects still require the
7 installation of permanent pavement in order to complete the projects but this does
8 not change that the projects are used and useful in service. The cost of final
9 paving associated with these projects is included as a line item in the 2017 WICA
10 project list submitted as Attachment C.

11 **Q. How does the Company intend to finance the WICA improvements?**

12 **A.** The Company will fund WICA projects with debt. The debt for the 2017 WICA
13 projects will be funded through a combination of SRF loans and proceeds from the
14 2015 Series A Bonds issued in December 2014 as well as new bonds that the
15 Company plans to seek approval for from the Commission. The source of funding
16 for the 2018 and 2019 WICA projects has not yet been determined. In the event
17 new financing is required to fund the 2018 and 2019 WICA projects, the financings
18 will result in the Company filing a petition with the Commission for approval of the
19 new debt at that time.

20 **Project Approvals**

21 **Q. What action is the Company requesting with regard to the projects shown on**
22 **Attachment B, pages 2 to 4?**

1 **A.** With regard to the projects planned for 2017, the Company requests that the
2 Commission approve these projects for inclusion in the WICA surcharge to be
3 effective as of June 1, 2018. With respect to projects planned for construction in
4 2018, the Company is providing them for the Commission's review and preliminary
5 approval. Finally, with regard to the projects planned for 2019, the Company is
6 providing the project listing for informational purposes only.

7 **Q. Does this complete your testimony?**

8 **A.** Yes.