

TENNESSEE-AMERICAN WATER COMPANY, INC

DOCKET NO. 20-00128

DIRECT TESTIMONY

OF

GRADY STOUT, P.E.

ON

**CHANGES TO THE QUALIFIED INFRASTRUCTURE IMPROVEMENT PROGRAM
RIDER, ECONOMIC DEVELOPMENT INVESTMENT RIDER AND SAFETY AND
ENVIRONMENTAL COMPLIANCE RIDER**

SPONSORING PETITIONER’S EXHIBITS

NONE

1
2 **Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

3 A. My name is Grady Stout and my business address is 1500 Riverside Drive, Chattanooga,
4 Tennessee 37406.

5 **Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?**

6 A. I am employed by the Tennessee American Water Company (“TAWC” or “Company”) in
7 the role of Manager of Engineering.

8 **Q. HAVE YOU PREVIOUSLY FILED TESTIMONY BEFORE THIS OR ANY**
9 **OTHER COMMISSION?**

10 A. Yes. I have previously provided written and oral testimony before the Tennessee Public
11 Utility Commission (“TPUC” or “Commission”) in TPUC Docket No. 20-00011.

12 **Q. PLEASE STATE YOUR EDUCATIONAL AND PROFESSIONAL**
13 **BACKGROUND.**

14 A. I received a B.S. degree in Civil Engineering from Tennessee Technological University in
15 2011. I am a licensed Professional Engineer in the State of Tennessee. Upon graduation
16 from Tennessee Technological University, I began working with Tysinger, Hampton, &
17 Partners, an engineering consultant firm in Johnson City, Tennessee. While with this firm,
18 I served as the inspector over the Little Milligan Water System project that included the
19 installation of wells, a chemical building, a storage tank, and distribution system. In 2012,
20 after the project was complete, I became a Construction Project Manager for Bob Stout
21 Construction Company, Inc. In this role I was the project manager of a 16” water main
22 replacement project. I began working with TAWC in 2013 as an Engineer in the
23 Engineering Department. My primary role was to design and manage water main
24 replacements and other production projects in the Chattanooga, Whitwell, and Suck Creek

1 districts of TAWC. In 2016, I was promoted to Project Manager. In this role I had both
2 engineering and managerial responsibilities, along with managing relationships of key
3 stakeholders, elected officials, and regulators. In 2019, I was again promoted to Manager
4 of Engineering of TAWC. In January 2020, I was promoted to Interim Vice
5 President of Operations. After serving as Interim Vice President of Operations until April
6 of 2020, I returned to my duties of Manager of Engineering I am an active member of
7 American Water Works Association (AWWA), American Society of Civil Engineers
8 (ASCE), and serve as the 2020 President of the Chattanooga Engineer's Club.

9
10 **Q. WHAT ARE YOUR DUTIES AS MANAGER OF ENGINEERING?**

11 A. I am responsible for the coordination and administration of the TAWC Engineering
12 Department. This includes the planning, development, and implementation of all aspects
13 of construction projects. My responsibilities include working with developers for all new
14 main extensions, replacement of existing mains, water treatment plant upgrades and
15 modifications, new construction and improvement to network facilities. I also coordinate
16 technical assistance to all other TAWC departments as needed and oversee the capital
17 budget development and implementation. I report directly to the President of TAWC and
18 indirectly to the Director of Engineering for the Southeastern Division, which consists of
19 TAWC and Kentucky American Water Company ("KAWC").

1 **Q. WHAT TOPICS WILL YOUR TESTIMONY ADDRESS?**

2 A. I will present the planned investment for the Qualified Infrastructure Investment Program
3 Rider (“QIIP”) for 2021.

4 **QUALIFIED INFRASTRUCTURE INVESTMENT PROGRAM**

5 **Q. WHAT IS THE QUALIFIED INTRASTRUCTURE INVESTMENT PROGRAM?**

6
7 A. A substantial portion of the Tennessee American Water’s distribution infrastructure is
8 between 50 and 100 years old and is nearing the end of its useful service life. The pace of
9 infrastructure replacement is a continuing concern for TAWC. The anticipated level of
10 distribution infrastructure improvement projects is increasing at a rapid pace. This is due,
11 in part, to the advanced age of the Company’s water facilities. The Qualified Infrastructure
12 Investment Program (QIIP) is an alternative ratemaking mechanism that allows TAWC to
13 recover costs associated with the replacement of critical infrastructure in a more efficient
14 manner. The QIIP more accurately reflects the ongoing investments and improvements
15 that are made in the water distribution and production systems versus the less frequent but
16 larger step increases that would result from a base rate increase without QIIP. The timely
17 recovery of the fixed costs of infrastructure replacement through the QIIP provides an
18 incentive for increased and continued levels of capital replacement. This results in a
19 stronger and more reliable water distribution and production system for both current and
20 future Customers. The Company is focusing its replacement program on small diameter
21 mains and mains that have shown a chronic level of breaks. These types of mains are
22 responsible for the majority of the distribution system leaks and failures. The need to
23 replace service lines, meters, hydrants, treatment structures, pumps and equipment is
24 critical to maintaining public safety and imperative to maintaining a reliable system.

Q. WHAT ARE THE BUDGET LINES THAT ARE INCLUDED UNDER THE QUALIFIED INFRASTRUCTURE INVESTMENT PROGRAM FOR 2021?

A. The budget lines that are included in the QIIP are Line B - Mains Replaced, Line C - Mains Unscheduled, Line D - Mains Relocated, Line F - Hydrants and Valves Replaced, Line H - Services Replaced, Line J - Meters Replaced, and Line R - Capitalized Tank Rehabilitation/Painting. These budget lines represent investment to replace aging infrastructure that is non-revenue producing. This means infrastructure that does not produce additional revenue by adding new customers. Examples of infrastructure that would produce additional revenue are main extensions for new development and new services or new meters for new customers.

Q. WHAT WORK IS ASSOCIATED WITH MAINS REPLACED - LINE B AND WHY DOES IT FALL UNDER THE QIIP?

A. This investment plan line includes the scheduled replacement, renewal or improvement of existing water mains, including valves and other appurtenances that are necessary to perform the work. Work under this line is the planned and scheduled proactive replacement of water main that has been determined to have reached its useful life or is causing service problems to the area serviced by the main. Water main replaced under Main Replaced – Line B will result in a stronger and more reliable water distribution system. By replacing the aged water main infrastructure on an accelerated basis, and on a proactive rather than reactive basis, the distribution system will provide direct Customer benefits in the form of improved and sustained water quality, improved fire protection, fewer service disruptions and lower operating and maintenance costs over time. The Company believes that this type of replacement work is appropriate and should be included in the QIIP.

1 **Q. WHAT IS THE PROPOSED REPLACEMENT SCHEDULE FOR WATER MAIN**
2 **REPLACEMENTS ASSOCIATED WITH LINE B?**

3 **A.** TAWC plans to spend approximately \$2,383,224 to replace various size water mains
4 within eleven (11) projects during 2021. TAWC will replace approximately 13,597 feet of
5 main during the period. These projects are not only important in addressing the aging
6 infrastructure needs of the community, but also allows the Company to take a leadership
7 role in reducing its carbon footprint. By replacing infrastructure that is leaking or has a
8 high potential for failure, we are able to reduce the amount of water that is produced and
9 reduce the amount of electricity that we use. The overall result is a reduction in the amount
10 of fossil fuel generation required for our facilities.

11 **Q. WHAT ARE THE PROPOSED PROJECTS THAT ARE INCLUDED IN THE**
12 **WATER MAIN REPLACEMENTS ASSOCIATED WITH LINE B?**

13 **A.** TAWC currently has included the following projects as part of the scheduled work
14 associated with Line B:

15
16 1) Install 3,275 linear feet of 8-inch ductile iron main along the 3700 to 4700 block
17 of Dodds Avenue to replace 2-inch galvanized main.

18
19 2) Install 2,257 linear feet of 8-inch ductile iron main and 240 linear feet of 4-inch
20 ductile iron main along the 500 to 1200 block of Flynn Street to replace 2-
21 inch galvanized main.

22
23 3) Install 3,000 linear feet of 6-inch C900 PVC main along the 3300 to 3800 block
24 of Old Dunlap Road to replace failing 6-inch SDR 21 PVC main.

25
26 4) Install 500 linear feet of 8-inch ductile iron main along the 4500 block of Highland
27 Avenue to replace 2-inch galvanized main.

28
29 5) Install 1,300 linear feet of 8-inch ductile iron main along the 2100 to 2300 block of
30 James Avenue to replace 2-inch galvanized main.

31
32 6) Install 1,050 linear feet of 6-inch ductile iron main along the 100 to 200 block of
33 Drew Road to replace 1-inch galvanized main.

1
2 7) Install 420 linear feet of 6-inch ductile iron water main along the 1000 block
3 of Winthrop Street and 215 linear feet of 4-inch ductile iron water main along the 1000 to
4 1200 block of Hanover Street to replace 2-inch galvanized main.

5
6 8) Install 330 linear feet of 6-inch ductile iron water main along the 300 to 400 block
7 of Hillsview Drive to replace 2-inch cast iron main.

8
9 9) Install 575 linear feet of 6-inch ductile iron main along the 2400 to 2500 block of
10 Ashmore Avenue to replace 1-inch galvanized main.

11
12 10) Install 500 linear feet of 6-inch of ductile iron main along the 100 to 200 block of
13 Lincoln Street to replace 2-inch cast iron main.

14
15 11) Install 390 linear feet of 6-inch ductile iron main along the 2500 block of McCrae
16 Street to replace 2-inch galvanized main.
17

18 **Q. WHY IS THE MAJORITY OF THE MAIN BEING REPLACED CAST IRON AND**
19 **GALVANIZED?**

20 **A.** Within the TAWC distribution system, cast iron main and galvanized main represents
21 approximately 50% of the total footage of main in the system. However, these two
22 types of pipe material have experienced approximately 82% of all the breaks within the
23 system during the period of January 2010 to October 2020. Over the past several years,
24 TAWC has concentrated on replacing cast iron and galvanized main to begin the
25 process of removing the main to start to reduce the number of main breaks the system
26 experiences. TAWC expects this effort of replacing cast iron and galvanized main will
27 continue for several decades as the approximately 697 miles of this material is removed
28 from the system.

29 **Q. WHAT IMPACT HAVE MAIN REPLACEMENT PROJECTS FROM THE B**
30 **LINE HAD ON CAST IRON AND GALVANIZED MAINS?**

1 A. Between 2014 and November 2020, the percentage of galvanized and cast iron water
2 mains in the TAWC distribution system has dropped from 54.2% in 2014 to 49.2% in
3 November 2020. Removing these mains from the distribution system has had a positive
4 impact on system reliability. In fact, the overall number of main breaks and the percentage
5 of breaks caused by galvanized and cast iron main have both decreased, going from a 10
6 year average of 82% to a 2020 average of 78%. These are all indications that main
7 replacement projects through Budget Line B are having an impact on decreasing Customer
8 disruptions due to main breaks.

9 **Q. WHAT IMPACTS ARE EXPECTED FROM ADDITIONAL LINE B SPENDING**
10 **IN 2021?**

11 A. It is expected that these additional main replacement projects will continue the positive
12 trends described above. Reducing the amount of galvanized and cast iron mains in the
13 TAWC distribution system should continue to drive down the total number of main breaks
14 as the percentage of these pipes in the distribution system decreases. The average yearly
15 main breaks from 2007-2013 was 458 main breaks per year, comparatively the average
16 yearly main breaks from 2014-2020 is 341 main breaks per year. These trends represent a
17 real benefit to Customers and help decrease the Company's carbon footprint.

18 **Q. HOW DOES THE PROPOSED 2021 SPEND COMPARE TO RECENT YEARS**
19 **SPEND ASSOCIATED WITH LINE B?**

20 A. TAWC anticipates spending more on main replacements during 2021 than it has in recent
21 years. The proposed 2021 expenditures for Line B, is about \$854,584 more than the five-
22 year average taken between 2015 and 2019 of \$1,528,640. This line has been increasing
23 over the past few years to focus on replacing water mains. This increase is due to the ability

1 of TAWC to refocus on replacing water main that is nearing its useful life following several
2 major rehabilitation projects at the Citico Water Treatment Plant that were intended to
3 improve the facility's ability to reliably meet regulatory requirements.

4 **Q. DOES THE COMPANY EXPECT THAT ALL OF THE PROJECTS LISTED**
5 **ABOVE WILL BE COMPLETED DURING 2021?**

6 A. TAWC believes that the projects listed above will be completed during 2021. However,
7 based on history, TAWC understands that some projects may be delayed or moved into
8 next year due to unexpected situations. TAWC recognizes that implementation of the
9 capital infrastructure program requires significant management, as project timelines may
10 be shifted by factors outside of TAWC's control.

11 **Q. WHY ARE CERTAIN MAIN REPLACEMENT PROJECTS DELAYED AND**
12 **PLACED IN THE NEXT YEAR?**

13 A. During the year, unexpected changes in priorities occur due to outside influences or
14 recognition of unfavorable trends that are occurring that affects infrastructure. The
15 majority of the changes are caused by unexpected conflicts between the Company's
16 infrastructure and outside agency projects that require the water main in specific locations
17 to be relocated. The other significant driver for changes in priorities involves the
18 recognition of a trend for increasing main breaks on a section of water main that requires
19 the main to be replaced sooner than expected. In both of these cases, a new project is
20 initiated to address the need to relocate or replace the water main. Since these projects
21 were not identified during the original budgeting process, the need to offset the new
22 projects' expected costs are required to ensure that the overall Company budget is

1 maintained. As a result, projects that were originally identified within the budget are
2 changed or delayed to make room for the new projects.

3 **Q. WHAT IS THE PROCESS FOR APPROVING THESE CHANGES?**

4 A. Throughout the year, TAWC actively manages each budget line to ensure that the overall
5 spending is consistent with the approved budget levels. The management of the budget
6 lines is carried out during monthly Capital Investment Management Committee Meetings
7 that compare the current capital expenditures to the budgeted levels. If changes in the
8 budgets are required due to changes in priorities or unexpected changes in projects, the
9 committee reviews the need for the changes and approves the movement of available
10 capital from other budget lines to offset the changes in capital spend and maintain the
11 overall projected spend for the year.

12 **Q. WHAT WORK IS ASSOCIATED WITH UNSCHEDULED MAIN**
13 **REPLACEMENTS - LINE C AND WHY DOES IT FALL UNDER THE QIIP?**

14 A. This investment plan item includes the unscheduled replacement or restoration of existing
15 water mains, including valves and other appurtenances that are necessary to perform the
16 work. The work associated with the Unscheduled Main Replacements of Line C is similar
17 to that of Main Replaced on Line B and addresses water mains that have started to
18 experience chronic issues. However, unlike the Main Replaced on Line B, the work
19 associated in Line C is a result of an unexpected failure of the main or valve that causes
20 impact to the Customer and requires immediate work to correct the failure. The nature of
21 the work is a reaction to an unexpected event. The work associated in Line C cannot be
22 planned and scheduled, thus TAWC considers this work as unscheduled. The majority of
23 work associated with Line C is replacement of water mains that have experienced an

1 unscheduled break or failure, and the Company has determined that the replacement of a
2 section of the main will allow the service life of the main to be extended rather than just
3 repairing the failure with a temporary clamp and replacing the main through Line B. The
4 Company believes that this type of replacement work is appropriate and should be included
5 in the QIIP.

6 **Q. WHAT IS THE PROPOSED REPLACEMENT RATE FOR WATER MAIN**
7 **REPLACEMENTS ASSOCIATED WITH THE UNSCHEDULED MAIN**
8 **REPLACEMENTS OF LINE C?**

9 A. TAWC plans to spend approximately \$1,565,000 to replace various size water mains
10 during unscheduled events. This number is less than the three-year average of \$1,745,647
11 for 2017, 2018 and 2019. This is consistent with the spending trend that has occurred in
12 Line C as spend had reduced in the line for 5 straight years (2015-2019). As we replace
13 sections of main, the existing main will be more stable and the life of the main will be
14 extended, which will allow for a more concentrated effort for main replacements on mains
15 that have a larger history of breaks.

16 **Q. WHAT BENEFIT HAS TAWC SEEN WITH THE WATER MAIN**
17 **REPLACEMENTS ASSOCIATED WITH UNSCHEDULED MAIN**
18 **REPLACEMENTS OF LINE C AND MAIN REPLACEMENTS OF LINE B?**

19 A. TAWC is projecting an approximate 15% reduction in water main breaks during 2020
20 based on breaks through October 2020 when compared to the ten-year average from 2010
21 to 2019. TAWC contributes this reduction, in part, due to the focus on replacing main with
22 a chronic history of main breaks rather than the previous initiative of repairing mains.
23 TAWC further believes that the reduction in the average number of main breaks between

2010 and 2019 is directly correlated to the level of spending in the Unscheduled Main Replacement of Line C and Main Replacements of Line B.

Q. WHAT WORK IS ASSOCIATED WITH MAINS RELOCATED - LINE D AND WHY DOES IT FALL UNDER THE QIIP?

A. This budget line includes the relocation of existing water mains, including valves and other appurtenances, which are necessary due to ongoing municipal or state agency projects. These costs are not reimbursable. The work associated with the Main Relocated –Line D is a replacement of infrastructure that is impacted by improvements being proposed by municipal or state agency that causes a conflict with the Company’s infrastructure. The Customer benefits by work associated with the Main Relocated – Line D since the replacement main that is installed to eliminate the conflict with the municipal or state agency projects is typically a newer main that is stronger and more reliable than the main being replaced. TAWC believes this type of relocation work is appropriate and should be included in QIIP.

Q. WHAT MAINS HAVE BEEN IDENTIFIED FOR RELOCATION THAT IS ASSOCIATED WITH LINE D?

A. TAWC plans to spend approximately \$215,000 to replace various size water mains within the distribution system that is required to be relocated due to the work of a municipal or state agency. Historically, the five-year average spend (2015-2019) for this category has been \$793,551. The 2021 spend is well below the five-year average. The average spend has been driven by large Tennessee Department of Transportation (TDOT) projects. TAWC is not aware of any large TDOT projects. TAWC is aware of one Chattanooga

1 Department of Transportation (CDOT) project, the 3rd and 4th Street Improvements that
2 will require relocation of existing infrastructure.

3 **Q. WHAT WORK IS ASSOCIATED WITH HYDRANTS AND VALVES REPLACED**
4 **- LINE F AND WHY DOES IT FALL UNDER THE QIIP?**

5 A. This line item includes the replacement of leaking, failed or obsolete hydrants, including
6 hydrant assemblies and valves that are Company funded. Through the replacement of
7 hydrants and valves that have been determined to not function properly through ongoing
8 inspections allows TAWC to maintain public safety and ensure the distribution system is
9 able to provide adequate and reliable service to the community. Since the work is
10 associated with the replacement of infrastructure to maintain public safety and provide
11 reliable service, the Company believes it is appropriate and should be included in QIIP.

12 **Q. WHAT IS THE PROPOSED REPLACEMENT SCHEDULE FOR HYDRANTS**
13 **AND VALVES?**

14 A. TAWC plans to spend approximately \$486,000 to replace hydrants and valves. Of this
15 amount, TAWC plans to spend just under half of this amount on replacing 17 broken valves
16 that have been identified during valve inspections over the past several years. The estimate
17 to replace these valves is \$214,000. Within this line, TAWC expects to replace 62 hydrants
18 that have been determined during inspections to be damaged or in need of extensive repair.
19 The estimate to replace these hydrants is \$272,000. The amounts proposed for Line F
20 during 2021 is higher to the 2-year average spend between 2018 and 2019 of \$316,722.
21 The increased spend is due to a higher than average number of replacements scheduled for
22 this period

23 **Q. WHAT BENEFIT HAS LINE F SPENDING HAD ON VALVES AND HYDRANTS?**

1 **A.** From January 2014 through November of 2020, the Company has replaced 352 fire
2 hydrants and 700 valves. These replacements are identified through routine valve and
3 hydrants inspections, which allows TAWC to proactively replace assets found to be
4 damaged or broken. This budget line provides a significant benefit to Customers through
5 increased system reliability and ensures fire hydrants are ready to be operated in the event
6 of a fire.

7 **Q. WHAT WORK IS ASSOCIATED WITH SERVICES REPLACED - LINE H AND**
8 **WHY DOES IT FALL UNDER THE QIIP?**

9 **A.** This investment plan item includes the replacement of water services or the small diameter
10 pipe that connects the Customer to the Company's distribution main. The work includes
11 the replacement of the water service between the Company's distribution main and the
12 Customer's property line, including the replacement of corporation stops, or shut-off
13 valves. The replacement of water service that is causing reduction in water service or
14 concerns with water quality are included in the work performed within this spending line.
15 By replacing these services, the Company is able to provide better service to Customers.
16 TAWC believes this type of replacement work is appropriate to maintain reliable service
17 to a Customer and should be included in QIIP.

18 **Q. WHAT IS THE PROPOSED REPLACEMENT SCHEDULE FOR SERVICES**
19 **WITHIN LINE H?**

20 **A.** TAWC plans to spend approximately \$425,557 to replace services during this period.
21 Based on the average cost per service replacement of \$2,375, TAWC will replace
22 approximately 179 services. The anticipated spend of \$425,557 during 2021 is slightly
23 lower than the five-year average spend of \$546,722 between 2015 and 2019.

1 **Q. WHAT IS THE WORK ASSOCIATED WITH METERS REPLACED - LINE J**
2 **AND WHY DOES IT FALL UNDER THE QIIP?**

3 A. This investment plan item includes the replacement or improvement of existing Customer
4 meters and meter settings with or without technology changes. The work associated with
5 this spending line allows for the replacement of meters and meter settings that are nearing
6 the end of their useful service life and could cause service disruptions or inconveniences
7 to a Customer if they were to fail. The Company believes this type of replacement work
8 is appropriate to maintain reliable service to a Customer and should be included in QIIP.

9 **Q. WHAT IS THE PROPOSED REPLACEMENT SCHEDULE FOR METERS?**

10 A. The total estimated meter replacement cost for the period is \$1,341,618. Based upon an
11 average cost of meter replacements of approximately \$187 per meter, TAWC will replace
12 approximately 7,175 meters.

13 **Q. HOW DOES THIS COMPARE TO PAST YEARS OF METER REPLACEMENTS?**

14 A. The proposed 2021 investment of \$1,341,618 is a decrease as compared to the five-year
15 average between 2015 and 2019 of \$2,169,375. Spending on this budget line substantially
16 increased in 2019 due to a high number of meters reaching the end of their useful life.
17 Therefore, the five-year average is higher than normal. If you remove the above normal
18 year of meter replacements in 2019 and look at the five-year average of 2014-2018 of
19 \$1,373,215, the 2021 spend is comparable. The transition to Automatic Meter Reading
20 (“AMR”) will be completed by 2022, providing Customers with increased confidence they
21 are being billed correctly for the amount of water they use. Also, efficiencies gained
22 through less manual meter reads means that Company personnel can be re-tasked to

maintaining AMR equipment and be positioned to respond to Customer inquiries more efficiently.

Q. WHAT IS THE WORK ASSOCIATED WITH CAPITALIZED TANK REHABILITATION/ PAINTING – LINE R AND WHY DOES IT FALL UNDER THE QIIP?

A. This investment plan item includes the rehabilitation and painting of water storage tanks within the distribution system. Performance of periodic rehabilitation and painting of these water storage tanks maintains the ability of the water distribution system to provide reliable service and ensure the system is able to meet the demands during peak Customer demand periods and during firefighting periods. In addition, this rehabilitation work allows the system to ensure that it is able to provide safe water to its Customers. Through the rehabilitation of the tank, the system's reliability is maintained and should be included in QIIP.

Q. DISCUSS THE WORK ASSOCIATED WITH CAPITALIZED TANK REHABILITATION/ PAINTING INCLUDED WITH LINE R?

A. TAWC plans to spend \$1,026,210 on two tank rehabilitations in 2021. The two tanks scheduled for rehabilitation are Missionary Ridge 2 Tank and the Ryall Springs Tank. The three-year average for capitalized tank rehabilitation/painting is \$741,587 for the years 2017 to 2019. The 2021 spend is higher than average. Rehabilitations of the Missionary Ridge 2 Tank is capital intensive due to its large size.

1 **Q. ARE THERE ANY CAPITAL INVESTMENT PROJECTS (“IP”) THAT ARE**
2 **INCLUDED UNDER THE QUALIFIED INFRASTRUCTURE INVESTMENT**
3 **PROGRAM?**

4 A. Yes. TAWC has two Capital Investment Projects that will be placed in service during
5 2021. The projects are Lookout Valley System Redundancy Phase One Citico Tank and
6 Replacement of the Citico Plant High Service Header.

7 **Q. CAN YOU EXPLAIN THE LOOKOUT VALLEY SYSTEM REDUNDANCY PLAN**
8 **AND WHAT THE PHASE ONE CITICO TANK PROJECT CONSISTS OF AND**
9 **HOW IT WILL BENEFIT CUSTOMERS?**

10 A. Certainly. The Lookout Valley System Redundancy Plan is a multi-project plan that will
11 span multiple years and improve reliability in TAWC’s Lookout Valley Pressure System.
12 The Lookout Valley System Redundancy Plan includes a new booster pump station, water
13 main river crossing, multiple water storage tanks, and upgrades to an existing booster pump
14 station. The first phase of this plan involves constructing a new water storage tank in the
15 Citico Pressure Zone. The Citico Pressure Zone is established by discharge from the high
16 service pumps at the Citico Water Treatment Plant. The Moccasin Bend area of
17 Chattanooga is in the Western corner of this pressure zone. A new water storage tank will
18 be needed in the Citico Pressure Zone on the east side of the Tennessee River to support
19 these proposed improvements. This tank will provide a storage buffer for a future booster
20 station to pull flows from and help to maintain more stable pressures in the surrounding
21 areas. The storage tank will also serve to increase flow capacity and fire flow for the
22 surrounding area of Moccasin Bend, which includes the Moccasin Bend Wastewater

1 Treatment Plant. The spend for this project will be approximately \$2,480,302 and will go
2 into service in November of 2021.

3 **Q. CAN YOU EXPLAIN WHAT THE REPLACEMENT OF THE CITICO PLANT**
4 **HIGH SERVICE HEADER PROJECT CONSISTS OF AND HOW IT WILL**
5 **BENEFIT CUSTOMERS?**

6 A. Gladly. The Replacement of the Citico Plant High Service Header will replace sections of
7 high service water pipeline with new ductile iron pipe, fittings, valves, restraints and thrust
8 blocking. The work includes isolation of the pipeline requiring two line stops, demolition
9 of existing pipe, fittings and valves; installation of three 36-inch valves, three 30-inch
10 valves and one 24-inch valve, various fittings, approximately 150 linear feet of 24-inch,
11 30-inch and 36-inch ductile iron pipe, transition couplings and other fittings to allow
12 connection to existing piping in five locations. The spend for this project is estimated to be
13 approximately \$2,295,498 and will go into service in August of 2021. The project will
14 replace valves and pipe that are in poor operating condition and provide operational
15 flexibility at the Citico Water Treatment Plant, and thus increase system resiliency.

16 **Q. ARE THERE ANY QIIP IP PROJECTS THAT WILL START IN 2021 THAT WILL**
17 **GO IN TO SERVICE IN FUTURE YEARS AFTER 2021?**

18 A. Yes. Some projects can span multiple years from planning/design to construction
19 completion. TAWC plans to spend an estimated \$2,681,655 for design, planning,
20 permitting, and construction on multiple projects that will go in to service after 2021.


21 **Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?**

22 A. Yes.

STATE OF Tennessee)
)
COUNTY OF Hamilton)

BEFORE ME, the undersigned authority, duly commissioned and qualified in and for the State and County aforesaid, personally came and appeared Grady Stout, being by me first duly sworn deposed and said that:

He is appearing as a witness on behalf of Tennessee-American Water Company before the Tennessee Public Utility Commission, and if present before the Commission and duly sworn, his testimony would be as set forth in his pre-filed testimony in this matter.


Grady Stout

Sworn to and subscribed before me
this 23rd day of November, 2020.


Notary Public ID #KYNP9273

My Commission Expires: 7/25/24