



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

Docket No. DE 19-064

Liberty Utilities (Granite State Electric) Corp. d/b/a Liberty Utilities
Distribution Service Rate Case

**DIRECT TESTIMONY
OF
JOEL RIVERA,
ANTHONY STRABONE,
AND
HEATHER M. TEBBETTS**

April 30, 2019

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1 **I. INTRODUCTION AND BACKGROUND**

2 **Q. Mr. Rivera, please state your full name and business address.**

3 A. My name is Joel Rivera and my business address is 9 Lowell Road, Salem, New
4 Hampshire.

5 **Q. By whom are you employed and in what position?**

6 A. I am employed as the Manager of GIS and Electric System Planning by Liberty Utilities
7 Service Corp. (“Liberty”), which provides services to Liberty Utilities (Granite State
8 Electric) Corp. (“Granite State” or “the Company”). In my capacity as Manager of GIS
9 and Electric System Planning, I am responsible for managing Granite State’s electric
10 system capacity, reliability, integrity, interconnections, protection systems, equipment
11 and system upgrades, prioritization, and associated budget estimates.

12 **Q. Please describe your educational background and certifications.**

13 A. I graduated from Universidad Interamericana de Puerto Rico in 2003, earning a
14 bachelor’s degree in electrical engineering. I also earned a master’s degree in electrical
15 engineering from the University at Buffalo in 2017.

16 **Q. Please describe your professional experience.**

17 A. In 2006, I began my engineering career as an associate engineer with National Grid USA
18 (“National Grid”) in Buffalo, New York. By 2009, I had progressed to senior engineer in
19 the distribution planning department for National Grid’s electric distribution system in
20 Buffalo. In 2009, I was promoted to lead engineer and was responsible for distribution
21 planning, asset management, protection, and reliability functions for National Grid’s

1 electric distribution system in both New England and New York. In 2013, I assumed the
2 role of Planning Engineer - Electric for Liberty. In 2018, I was promoted to Manager of
3 GIS and Electric System Planning and I am responsible for electric and gas map records
4 and for developing and implementing the company's electric system planning initiatives
5 in the electric delivery business.

6 **Q. Have you previously testified before the New Hampshire Public Utilities**
7 **Commission (“the Commission”)?**

8 A. Yes, I testified before the Commission on the Company's Reliability Enhancement
9 Program for program years 2016, 2017, and 2018.

10 **Q. Mr. Strabone, please state your full names, business address, and position.**

11 A. My name is Anthony Strabone and my business address is 9 Lowell Road, Salem, New
12 Hampshire. I am the Manager of Electrical Engineering for Liberty and I am responsible
13 for the electric capital work plan whereby I manage engineering and construction
14 resources for capital projects.

15 **Q. Please describe your educational background and training.**

16 A. I graduated from Merrimack College in 2004 with a Bachelor of Science degree in
17 Electrical Engineering. I received a Master's of Business Administration from Southern
18 New Hampshire University in 2006. I received a Project Management Professional
19 (PMP) Certification in 2017 from the Project Management Institute.

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

2 A. I joined Liberty in November 2014. Prior to my employment at Liberty, I was employed
3 by PSNH as a Substation Supervisor in Substation Maintenance from 2010 to 2014.
4 Prior to my position in Substation Maintenance, I was a Substation Engineer in
5 Substation Engineering from 2008 to 2010 and an Engineer in the System and Planning
6 Strategy department from 2004 to 2008.

7 **Q. Have you previously testified before the Commission?**

8 A. Yes, I testified in support of the Company's 2019 step adjustment in Docket No. DE 16-
9 383.

10 **Q. Ms. Tebbetts, please state your full name, business address, and position.**

11 A. My name is Heather M. Tebbetts and my business address is 15 Buttrick Road,
12 Londonderry, New Hampshire. I am Manager of Rates and Regulatory Affairs for
13 Liberty and am responsible for providing rate-related services for Granite State.

14 **Q. Please describe your educational background and training.**

15 A. I graduated from Franklin Pierce University in 2004 with a Bachelor of Science degree in
16 Finance. I received a Master's of Business Administration from Southern New
17 Hampshire University in 2007.

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

19 A. I joined Liberty in October 2014. Prior to my employment at Liberty, I was employed by
20 PSNH as a Senior Analyst in NH Revenue Requirements from 2010 to 2014. Prior to my
21 position in NH Revenue Requirements, I was a Staff Accountant in PSNH's Property Tax

1 group from 2007 to 2010 and a Customer Service Representative III in PSNH's Customer
2 Service Department from 2004 to 2007.

3 **Q. Have you previously testified before the Commission?**

4 A. Yes, I have testified on numerous occasions before the Commission.

5 **II. PURPOSE OF TESTIMONY**

6 **Q. What is the purpose or your testimony?**

7 A. The purpose of our testimony is to provide the capital spending breakdown for calendar
8 years 2017 and 2018 in support of the Company's request for a permanent rate increase.
9 In addition, since the Company is also proposing a series of annual step increases for
10 non-growth related capital spending projects, we provide details of some of the
11 significant planned capital spending in future years. These step increases are needed to
12 address the issue of earnings attrition that Granite State experiences between rate cases,
13 even when it files rate cases on a relatively frequent basis. With more prompt cost
14 recovery for capital investments, the timing of rate cases for Granite State will be less
15 frequent since the primary factor driving the need for rate cases is recovery of capital
16 investment, particularly non-growth related capital investments. This issue is further
17 discussed in the testimony of Steven E. Mullen.

18 **III. GRANITE STATE'S OPERATIONS AND SYSTEM INVESTMENT**

19 **Q. Please provide an overview of Granite State's operations.**

20 A. Granite State distributes electricity to approximately 44,600 residential, commercial, and
21 industrial customers in 21 communities in Southern and Western New Hampshire. To

1 serve its customers, the Company utilizes 15 distribution substations supplying 48
2 distribution and sub-transmission feeders. Approximately 80 percent of the 1,140 miles
3 of distribution and sub-transmission circuits on the Company's system are overhead
4 facilities operating at voltage levels ranging from 2.4 kV to 23 kV. Roughly 99 percent
5 of the distribution and sub-transmission system operates in the 15 kV class range or
6 below (2.4kV to 13.8 kV).

7 **Q. What is the Company's operational philosophy?**

8 A. The Company's fundamental goal is to provide safe and reliable electric service to its
9 customers at reasonable cost, while placing a strong emphasis on maintaining a local
10 focus. We develop local reliability and integrity programs that are tailored to our New
11 Hampshire system. We also plan and develop our system to reflect our resource and
12 outage response capabilities to weather events and system contingencies. We believe this
13 planning and operating model allows the Company to be more responsive to the needs of
14 its customers and stakeholders.

15 **Q. How much capital has the Company invested in its distribution system since its last
16 distribution rate case, Docket No. DE 16-383?**

17 A. The DE 16-383 rate case had a 2015 test year and included capital investments for that
18 year, and also provided for a step increase to recover non-growth related capital
19 investments in 2016. Since then, the Company has invested approximately \$36.0 million
20 of capital in its distribution system and general plant from 2017 through December 2018.
21 Of the \$36.0 million total, approximately \$3.7 million is related to the Company's

1 Pelham Substation and related getaway cable projects, which costs were included in the
2 step increases¹ that were approved in Docket No. DE 16-383. The remaining plant
3 investments subject to cost recovery in this proceeding total approximately \$32.3 million.
4 Using the gross amount invested for the period of \$36 million, less \$2.8 million
5 recovered for REP projects through the annual reconciliation, approximately \$9.3 million
6 was invested in mandated categories, which includes the following: \$3.9 million in new
7 services to residential and commercial customers (new business), \$0.8 million in public
8 requirements, \$1.5 million in response to equipment damage and failure, \$0.3 million in
9 third party attachments, \$0.2 million in outdoor lighting, with the remainder split among
10 many smaller projects. Non-mandated investments include \$26.6 million relating to
11 projects such as the Salem Depot getaway cables, Rockingham substation,
12 reconductoring Brookdale Road in Salem, providing service to new residential and
13 commercial customers, and REP investments (which are discussed later in the testimony),
14 \$3.5 million relating to capacity, \$4.2 million relating to asset replacement, \$0.3 million
15 in facilities, and \$0.5 million in IT-related infrastructure and applications.

16 **IV. DESCRIPTION OF 2017 AND 2018 PROJECTS**

17 **Q. Please describe some of the specific capital projects that have been undertaken since**
18 **Docket DE 16-383.**

19 **A. 2017**

¹ As of the date of writing this testimony, the Company's request for approval of the second step adjustment with respect to recovery of the revenue requirement associated with \$1.25 million of those capital investments was pending as part of Docket No. DE 16-383.

- 1 • The Pelham substation and getaway cable projects were completed and
2 subsequently reviewed by the Commission Audit Staff. Those projects were part
3 of the step adjustments in DE 16-383. The total cost of the project was
4 \$5,014,490. Much of that total, \$3,650,000, was included in requests for recovery
5 in accordance with the Settlement Agreement in that case. The Company is
6 requesting recovery of the difference of \$1,364,490 through permanent rates in
7 this case.
- 8 • The Company also installed one feeder position at the Michael Avenue substation
9 to allow for retirement of the Charlestown substation due to issues with asset
10 condition. The total cost of project was \$0.4 million.

11 2018

- 12 • The New Hampshire Department of Transportation (“NH DOT”) rebuilt Route 12
13 in the Walpole/Charlestown area, which involved widening the road. The road
14 widening required Granite State to move its poles in accordance with the NH
15 DOT set back requirements. The road widening project impacted the Company’s
16 distribution system assets over approximately 2.5 miles. The overall cost of the
17 project was \$1.5 million.
- 18 • In preparation for Dartmouth College combining its north and west campuses, the
19 Company replaced and relocated approximately 1,700 feet of direct buried
20 underground cables from one side of the road to the other, and installed a manhole
21 and duct system, all to comply with the Company’s latest underground

1 construction standards. The total cost of that project was approximately \$1.3
2 million.

- 3 • Tuscan Village, a 170 acre development in Salem, required improvements along
4 Central Street, including running water and sewer into the development. This
5 required the Company to replace and relocate direct buried underground cables
6 for the 9L3 and 9L2 circuits along Central Street and Main Street to accommodate
7 the water and sewer infrastructure. A manhole and duct system was installed to
8 comply with the Company's latest underground construction standards. The total
9 cost was approximately \$1.3 million.

10 **Q. Is all of the capital investment described above included in rate base in this case**
11 **used and useful in providing service to the Company's customers?**

12 A. Yes. All of these projects included in rate base as of the end of calendar year 2018 are
13 operational and providing service to the Company's customers.

14 **Q. Does the Company have any significant capital projects planned for the near**
15 **future?**

16 A. Yes, the Company will be undertaking several system capacity and infrastructure
17 improvement projects through 2021. These projects are necessary to provide additional
18 capacity in areas that have experienced load growth, and are expected to see load
19 increases in the future. These projects will also provide for distribution system
20 redundancy consistent with the Company's planning criteria, and allow for the phased

1 retirement of substation assets that have exceeded their useful operating and economic
2 lives.

3 **V. DESCRIPTION OF FUTURE PROJECTS**

4 **Q. Please describe the significant future capital projects that the Company plans to**
5 **undertake over the next few years, including the need for each project.**

6 A. The Company will undertake the following system capacity and reinforcement projects in
7 the years 2019 through 2023. These projects are necessary to allow for the phased
8 retirement of substation assets that have exceeded their useful operating and economic
9 lives, as well as to provide additional capacity in specific areas that have experienced
10 residential and commercial load growth over time. They will also resolve existing and
11 forecasted violations of the Company's planning criteria.

12 **A. Golden Rock Substation Upgrade**

13 The Salem area relies on the 23kV supply system emanating from the Golden Rock
14 substation and the National Grid sub-transmission system in Massachusetts. The existing
15 23/13kV substations do not have the necessary capacity to supply the upcoming planned
16 customer expansions in the area. Two of the substations, Salem Depot and Barron
17 Avenue, were built in the mid-1950s and early 1960s, respectively, and have reached the
18 end of their useful economic lives.

19 Under this project Granite State will install three new 13kV feeder positions including
20 overhead and underground street construction in 2019 and 2020. As part of this project,
21 National Grid will provide a second 115kV transmission line and a new 115/13kV

1 transformer. This will provide distribution capacity to back up the Spicket River
2 substation, which is currently supplied via a single 23kV supply line from National Grid
3 in Massachusetts. The Company will also retire the Baron Avenue Substation as part of
4 this project.

5 During Winter Storm Quinn in 2018, the Company saw significant outages in the area
6 that is fed by the Spicket River substation. With this project, the Company will have the
7 ability to reduce the load at risk at the Spicket River substation and restore additional
8 customers through switching more quickly. The Golden Rock project will help reduce
9 the Salem area feeder loading to comport with Granite State's planning criteria allowing
10 for improved reliability and storm/contingency performance, and will mitigate issues
11 with asset condition at the Baron Avenue substation by allowing for its retirement.

12 **B. Rockingham Substation**

13 In the fall of 2020, Granite State will begin construction of the Rockingham substation,
14 which is needed to serve increased load in the Salem area from Tuscan Village and other
15 commercial developments in the area. The substation is also needed due to age and asset
16 condition of the Barron Avenue and Salem Depot substations and, in connection with the
17 upgrade to the Golden Rock substation, will replace those substations. The Barron
18 Avenue and Salem Depot substations, and the existing supply system, lack the necessary
19 capacity to supply upcoming and planned customer expansions in the area. The project
20 includes installing a new metal-clad switchgear with a control house, two 55 MVA

1 transformers, and eight 13 kV distribution feeders, and is expected to be in service in
2 2021.

3 **C. Rockingham Supply Lines**

4 To provide the necessary firm capacity to the Rockingham substation, two parallel 115kV
5 supply lines, two miles in length, with 23kV distribution under build, will be installed
6 along the existing 23kV right-of-way. The Company has worked with National Grid to
7 design a solution to feed Rockingham. The most cost effective solution was for Granite
8 State to build the supply line because National Grid did not need the power and, had
9 National Grid built the line, the Company would have paid the full cost. Along with
10 paying for the full cost, the Company would not have been able to connect its 23 kV
11 overhead lines to the structures because those structures would have been National Grid-
12 owned assets. The Company would have been required to install a manhole and duct
13 system to provide power from the 23 kV line to its existing Olde Trolley, Barron Avenue,
14 and Salem Avenue substations while the Rockingham substation was being built. The
15 Company will avoid these costs by building the supply line itself.

16 **Q. What are the estimated costs for each project?**

17 A. The estimated costs for each project are shown in Attachment JR/AS/HT-1. The
18 information shows the estimated capital expenditure in each year and the amount that is
19 expected to be used and useful at the end of each year.

1 **VI. REQUEST FOR FUTURE STEP ADJUSTMENTS**

2 **Q. Please describe the request for step adjustments for capital projects placed in**
3 **service in years beyond 2019.**

4 A. Granite State continues to invest in its infrastructure and is requesting a series of step
5 adjustments to account for a return on additions to the Company's net plant as well as a
6 return on capital additions resulting from the Company's REP-related activities. For
7 capital projects placed in service during 2019, the Company's request for a step
8 adjustment related to those projects is described in the joint testimony of Philip Greene
9 and David Simek. For capital projects placed in service in years after 2019, the Company
10 proposes to file documentation demonstrating the change in its net plant between January
11 1 and December 31 each year. The actual change would be compared to forecasted
12 increases derived from its annual forecast. If the amount of the actual change is equal to
13 or greater than the amount forecasted, the step increase will take effect on July 1 of each
14 year, subject to prudence review. The amounts of the step increases would be associated
15 with 80 percent of the non-REP changes in net plant. If the Company's net plant
16 additions are less than the forecasted amount, then the total net utility plant balance will
17 be compared to the forecasted amount for a given year. If the plant balance meets the
18 forecasted amount, the step increase would take effect as scheduled and subject to a
19 prudence review.

20 For illustration, Attachment JR/AS/HT-2 provides a revenue requirement calculation
21 showing that if the Company spends \$20 million in capital expenditures during calendar
22 year 2020, the step increase in rates that is presumed for July 1, 2021, is \$2,340,100.

1 Under this proposal, if the change in Company's net utility plant between January 1 and
2 December 31, 2020, is at least \$14.8 million (that is, if the increase in the Company's
3 distribution plant for that period, after taking into account accumulated depreciation, is
4 greater than or equal to \$14.8 million) and the plant additions following review by the
5 Staff and OCA and approval of the Commission are found to be prudent, used and useful,
6 and providing service to customers, then the Company will be permitted to increase its
7 revenues by \$2,340,100, which represents the revenue requirement associated with 80
8 percent of that change in net plant. If the Company does not add \$14.8 million in net
9 plant assets, the lower net amount of the change will be used in calculating the revenue
10 requirement for the adjustment. Should the Company add more in assets than is forecast,
11 it will not receive a corresponding increase to the step adjustment provided for in the
12 agreement.

13 **Q. Is this methodology similar to step adjustments provided to other New Hampshire**
14 **electric utilities in the past?**

15 A. Yes. Step increases involving a similar methodology have been approved in the past for
16 Eversource (Docket No. DE 09-035) and Unitil (Docket Nos. DE 10-055 and DE 16-
17 384).

18 Given the similarity in the underlying non-growth capital investments by Granite State
19 and those other utilities, the Company believes it would be appropriate and consistent to
20 propose a step adjustment mechanism that has previously been approved by the
21 Commission and used by the other New Hampshire electric utilities.

1 **VII. RELIABILITY ENHANCEMENT PLAN**

2 **Q. Are there any other ratemaking methodologies in place that provide for prompt**
3 **commencement of recovery of certain capital investments?**

4 A. Yes. In Docket No. DG 06-107, the Commission approved Granite State's Reliability
5 Enhancement Program ("REP"). Under that program, recovery of the cost of capital
6 investments in specific projects that are made for the sole purpose of improving
7 reliability performance commences by May 1 of the following year, substantially
8 reducing the regulatory lag that would otherwise occur if recovery did not commence
9 until completion of the next rate case.

10 **Q. Does Granite State currently have approval for a reliability enhancement program?**

11 A. Yes. The Company has been operating its REP that was originally approved in Docket
12 DG 06-107, with its continuation being approved by the Commission in Order No.
13 26,005 issued in Docket DE 16-383. The Company also has a vegetation management
14 program ("VMP"); testimony on that program is provided jointly by Heather Green and
15 Heather Tebbetts.

16 **Q. The purpose of the REP is to maintain and improve Granite State's reliability**
17 **performance as measured against the five-year average reliability indices. Has the**
18 **Company met that performance level?**

19 A. Yes. The REP and VMP have achieved positive trends in reliability performance.
20 Underscoring this trend, in CY 2018 the Company achieved a SAIFI of 0.737 against the
21 five-year target of 1.195, and a SAIDI of 121.786 against the five-year target of 126.265

1 minutes. It is worth noting that the Company has achieved both SAIDI and SAIFI targets
2 since 2014 and, during that same time span, has reduced the SAIDI five year rolling
3 average by 40 minutes and the SAIFI five year rolling average by 0.54. The current
4 projection for CY 2019 indicates that we are tracking slightly above the five-year targets
5 of 1.01 for SAIFI and 118 minutes for SAIDI, due primarily to storm events. This
6 tracking is within the general year-to-year variability of weather patterns and non-
7 excludable storms. The Company continues to believe that the REP and VMP are
8 achieving their intended overall performance results, provide vehicles for significant
9 program focus and collaboration with Commission Staff, have been instrumental in
10 improving the reliability of the company, and, accordingly, we believe that the programs
11 should continue going forward.

12 **Q. Is the Company seeking to change the elements of the previously approved REP?**

13 A. It is not. The Company has spent approximately \$1.5 million annually on REP-related
14 capital investments as approved in Docket No. DE 16-383 and will continue to spend that
15 amount as a capital investment target. The capital plan continues to reflect annual
16 funding for the reconductoring of approximately 3.5 miles of bare mainline conductor
17 with spacer cable and tree wire, and the application of single phase reclosers, “Trip-
18 Saver,” and “Fuse-Saver” fusing in rural areas. These initiatives represent the optimum
19 combination of reliability investments impacting a wide range of outage causes and
20 duration impacts. Over a three- to five-year horizon, the Company believes that
21 expanded distribution automation, SCADA applications, grid modernization initiatives,

1 and URD cable replacement would also effectively yield reliability benefits as
2 opportunities for recloser and “Trip Saver” applications are exhausted.

3 As with the current program, the Company will submit its annual REP/VMP Plan to Staff
4 in November of each year, describing its planned activities and budget, and will meet
5 with Staff prior to its implementation to obtain feedback. Consistent with the current
6 requirements of the program, each year on March 15 the Company will make a
7 reconciliation filing with the Commission to (i) either recover or refund to customers the
8 difference between the Company’s actual O&M spending and the agreed upon base
9 amount of O&M, and (ii) adjust distribution rates to recover the revenue requirement
10 associated with reliability-related capital spending that was included in the program and
11 is used and useful and providing service to customers.

12 **VIII. CONCLUSION**

13 **Q. Please summarize your testimony.**

14 A. Since the last general distribution rate proceeding, the Company has spent approximately
15 \$36 million on capital investments such as the Pelham substation upgrade, Charlestown
16 substation retirement, Michael Avenue substation expansion, and underground cable
17 replacements in Salem and Hanover. After taking into account \$3.7 million for the
18 Pelham Substation and getaway cable projects and REP projects of \$2.8 million
19 recovered through the annual REP reconciliation process, approximately \$29.5 million
20 has not been previously subject to cost recovery. This capital spending supports a
21 significant portion of the proposed distribution rate increase requested in this filing.

1 The future projects of Rockingham and Golden Rock substations and the Rockingham
2 Supply line to provide the needed asset replacement and capacity for Tuscan Village and
3 other commercial developments in the Salem area, as identified in the Salem Area Study,
4 will form the basis for requests for cost recovery through future step adjustments to allow
5 the Company to more quickly recover costs associated with safe and reliable service,
6 reducing the pressure to file more frequent rate cases.

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

8 A. Yes, it does.

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Liberty Utilities Capital Spending Plan Salem Area Study

| <u>Project</u> | <u>2019</u> <u>Costs</u> | <u>In</u> <u>Service</u> | <u>2020</u> <u>Costs</u> | <u>In</u> <u>Service</u> | <u>2021</u> <u>Costs</u> | <u>In</u> <u>Service</u> | <u>2022</u> <u>Costs</u> | <u>In</u> <u>Service</u> | <u>2023</u> <u>Costs</u> | <u>In</u> <u>Service</u> | <u>Total In</u> <u>Service</u> |
|------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------------|
| Golden Rock Substation | \$ 2,000,000 | \$ 2,000,000 | \$ 650,000 | \$ 650,000 | \$ - | \$ - | \$ - | \$ - | \$ 350,000 | \$ 350,000 | \$ 3,000,000 |
| Golden Rock D-Line | \$ 1,650,000 | \$ 1,650,000 | \$ 2,100,000 | \$ 2,100,000 | \$ - | \$ - | \$ - | \$ - | \$ 2,700,000 | \$ 2,700,000 | \$ 6,450,000 |
| Rockingham Substation | \$ 200,000 | \$ - | \$ 500,000 | | \$ 5,000,000 | \$ 5,700,000 | \$ 500,000 | \$ 500,000 | \$ - | \$ - | \$ 6,200,000 |
| Rockingham D-Line | | \$ - | \$ 500,000 | | \$ 1,000,000 | \$ 1,500,000 | \$ 100,000 | \$ 100,000 | \$ - | \$ - | \$ 1,600,000 |
| Rockingham T Line | \$ 200,000 | \$ - | \$ 500,000 | \$ - | \$ 6,000,000 | \$ 6,700,000 | \$ 6,000,000 | \$ 6,000,000 | \$ - | \$ - | \$ 12,700,000 |

Liberty Utilities (Granite State Electric) Corp. d/b/a Liberty Utilities
Illustrative Step Adjustment Calculation
Computation of Revenue Requirement
CY 2020

| | | CY <u>2020</u> | |
|----|---|-----------------------|----------------------------|
| 1 | Total Investment | | \$20,000,000 |
| 2 | Less REP | | <u>(\$1,500,000)</u> |
| 3 | Total | | <u>\$18,500,000</u> |
| 4 | 80% of Non REP Capital | | <u>\$14,800,000</u> |
| 5 | | | |
| 6 | <u>Deferred Tax Calculation</u> | | |
| 7 | Book Depreciation Rate | 2.75% | |
| 8 | Federal Tax Depreciation Rate | 3.75% | |
| 9 | FEDERAL Vintage Year Tax Depreciation: | | |
| 10 | CY 2020 Spend | | <u>\$555,000</u> |
| 11 | Annual Tax Depreciation | | <u>\$555,000</u> |
| 12 | Cumulative Tax Depreciation | | <u>\$555,000</u> |
| 13 | | | |
| 14 | STATE Vintage Year Tax Depreciation: | | |
| 15 | CY 2020 Spend | | <u>\$555,000</u> |
| 16 | Annual Tax Depreciation | | <u>\$555,000</u> |
| 17 | Cumulative Tax Depreciation | | <u>\$555,000</u> |
| 18 | | | |
| 19 | Book Depreciation | | \$407,000 |
| 20 | Cumulative Book Depreciation | | \$407,000 |
| 21 | | | |
| 22 | Book/Tax Timer (Federal) | | \$148,000 |
| 23 | less: Deferred Tax Reserve (State) | | <u>\$11,396</u> |
| 24 | Net Book/Tax Timer (Federal) | | <u>\$136,604</u> |
| 25 | Effective Tax Rate (Federal) | | <u>21.00%</u> |
| 26 | Deferred Tax Reserve (Federal) | | <u>\$28,687</u> |
| 27 | Book/Tax Timer (State) | | \$148,000 |
| 28 | Effective Tax Rate (State) | | <u>7.70%</u> |
| 29 | Deferred Tax Reserve (State) | | <u>\$11,396</u> |
| 30 | TOTAL Deferred Tax Reserve | | <u><u>\$40,083</u></u> |
| 31 | | | |
| 32 | <u>Rate Base Calculation</u> | | |
| 33 | Plant In Service | | \$14,800,000 |
| 34 | Accumulated Book Depreciation | | (\$407,000) |
| 35 | Deferred Tax Reserve | | (\$40,083) |
| 36 | Year End Rate Base | | <u><u>\$14,352,917</u></u> |
| 37 | | | |
| 38 | <u>Revenue Requirement Calculation</u> | | |
| 39 | Year End Rate Base | | \$14,352,917 |
| 40 | Pre-Tax ROR | | <u>10.23%</u> |
| 41 | Return and Taxes | | <u>\$1,468,206</u> |
| 42 | Book Depreciation | | \$407,000 |
| 43 | Property Taxes | 3.23% | <u>\$464,894</u> |
| 44 | Annual Revenue Requirement | | <u>\$2,340,100</u> |
| 45 | | | |
| 46 | Adjusted Annual Revenue Requirement | | <u><u>\$2,340,100</u></u> |
| 47 | | | |
| 48 | | | |
| 49 | <u>Imputed Capital Structure (e)</u> | | |
| 50 | | Ratio | Rate |
| 51 | Long Term Debt | <u>45.00%</u> | <u>5.97%</u> |
| 52 | Common Equity | <u>55.00%</u> | <u>10.00%</u> |
| 53 | | | |
| 54 | | <u><u>100.00%</u></u> | <u><u>8.19%</u></u> |
| | | | <u><u>10.23%</u></u> |