

**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
ANTHONY STRABONE
AND
HEATHER M. TEBBETTS**

May 26, 2020

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1 **I. INTRODUCTION AND BACKGROUND**

2 **Q. Mr. Strabone, please introduce yourself.**

3 **A.** My name is Anthony Strabone, my business address is 9 Lowell Road, Salem, New
4 Hampshire, and I am employed by Liberty Utilities Service Corp. (“Liberty”). I am the
5 Manager of Electrical Engineering for Liberty and I am responsible for the electric
6 capital work plan whereby I manage engineering and construction resources for capital
7 projects.

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

9 **A.** I graduated from Merrimack College in 2004 with a Bachelor of Science degree in
10 Electrical Engineering. I received a Master’s of Business Administration from Southern
11 New Hampshire University in 2006. I received a Project Management Professional
12 (PMP) Certification in 2017 from the Project Management Institute. In 2019, I received
13 my license as a Professional Engineer in the State of New Hampshire.

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

15 **A.** I joined Liberty in November 2014. Prior to my employment at Liberty, I was employed
16 by PSNH as a Substation Supervisor in Substation Maintenance from 2010 to 2014.
17 Prior to my position in Substation Maintenance, I was a Substation Engineer in
18 Substation Engineering from 2008 to 2010 and an Engineer in the System and Planning
19 Strategy department from 2004 to 2008.

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

2 **A.** Yes, I presented direct and rebuttal testimony in this docket, and I testified in support of
3 the Company's 2019 step adjustment in Docket No. DE 16-383.

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

5 **A.** My name is Heather M. Tebbetts, my business address is 15 Buttrick Road, Londonderry,
6 New Hampshire, and I am employed by Liberty Utilities Service Corp. I am Manager of
7 Rates and Regulatory Affairs and am responsible for providing rate-related services for
8 the Company.

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

10 **A.** I graduated from Franklin Pierce University in 2004 with a Bachelor of Science degree in
11 Finance. I received a Master's of Business Administration from Southern New
12 Hampshire University in 2007.

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

14 **A.** I joined Liberty in October 2014. Prior to my employment at Liberty, I was employed by
15 Public Service Company of New Hampshire ("PSNH") as a Senior Analyst in NH
16 Revenue Requirements from 2010 to 2014. Prior to my position in NH Revenue
17 Requirements, I was a Staff Accountant in PSNH's Property Tax group from 2007 to
18 2010 and a Customer Service Representative III in PSNH's Customer Service
19 Department from 2004 to 2007.

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

2 **A.** Yes, I have testified on numerous occasions before the Commission, including direct and
3 rebuttal testimony in this docket.

4 **II. PURPOSE OF TESTIMONY**

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

6 **A.** The purpose of the testimony is to request an increase in distribution rates, to be effective
7 July 1, 2020, as provided in Section B of the Settlement Agreement filed on May 25,
8 2020, in this docket. This is the first requested step increase referenced in the Settlement
9 Agreement and pertains to certain projects placed in service during calendar year 2019.

10 **III. CAPITAL PROJECTS**

11 **Q. Please explain each project for which the Company is seeking to commence cost
12 recovery in this first step increase, as provided for in the Settlement Agreement.**

13 **A.** The Company seeks approval to commence cost recovery for each of the capital projects
14 discussed below that were placed in service during 2019. The breakdown of budget and
15 spending by year is provided on page 1 of each of Attachments 2 through 13.

16 **Q. Before discussing the details of each project, please explain why the proposed
17 requests for cost recovery for each project may differ from the figures on in the
18 respective project close out forms.**

19 **A.** Project close out forms are completed on an annual basis and, therefore, address only the
20 spending for that particular project for that calendar year. When a project incurs costs

1 during more than one calendar year, its costs will be reflected in more than one project
2 close out form.

3 This annual process occurs because, each year, all ongoing projects receive a new project
4 number using the Company's established naming convention. For example, a project
5 opened in 2019 and named "8830¹-19xx XYZ Substation" will receive a new project
6 number in 2020 of "8830-20xx XYZ Substation" for that same substation project. Each
7 year the Company will prepare a project close out form for every open project number
8 that addresses all costs incurred during that calendar year, until a project is completed and
9 put into service. Then, when calculating the full cost of a project to support a request for
10 recovery, the Company will draw from each of the applicable annual close out forms.

11 Therefore, the total amount reflected in a single year's project close out form may not
12 match the amount for which the Company ultimately seeks recovery.

13 "Blanket" projects follow the same logic. A blanket project number is used for a task
14 that the Company routinely performs every year, such as Meter Replacements, or Public
15 Requirements (work requested by municipalities and the state each year to, for example,
16 move poles and wires for road widening projects). Rather than having a separate project
17 number for every one of these municipal and state projects (there are often hundreds),
18 there is a Public Requirements Blanket project number to cover all such jobs, and each

¹ The "8830" prefix identifies the project as a Granite State Electric matter within the Company's accounting system. "8840" indicates an EnergyNorth project.

1 specific job within that blanket will be issued a “work order” number, the costs for which
2 will roll up into the overall Public Requirements Blanket project number.

3 Some of the specific tasks, or “work orders” in the Company’s vernacular, are not
4 completed and placed into service in a single calendar year. Those work orders will incur
5 costs during their first calendar year, but since they are not complete and placed into
6 service during that first calendar year, they will incur additional costs in subsequent
7 calendar years. The spending for that specific work order will thus be reflected in the
8 appropriate blanket project’s close out forms for each calendar year during which the
9 specific work order incurred costs.

10 Similar to the substation project example above, when a multi-year work order operating
11 under a blanket project number is placed into service, its costs are summed from each of
12 the applicable blanket project’s annual close out forms, and that total is the amount for
13 which the Company will seek recovery.

14 **Q. Attachment 1, page 2 has a column titled Total Spend. Please explain what is**
15 **populated in this column.**

16 **A.** As noted above, not all work orders taken out under project numbers go in to service in
17 that same year they are started. In this proceeding, the Company is seeking cost recovery
18 for capital projects that went in to service in 2019 under the listed project numbers in
19 Attachment 1, page 2. Some of these project numbers have actual spending of less than
20 the budget amounts provided in the description of each project below and on page 1 of
21 each project’s backup documentation, Attachments 2 through 13. Those projects had

1 work orders that started in prior years, but did not go in to service until 2019. The
2 spending for those prior years was captured in the business cases, change order forms if
3 necessary, and prior year project close out forms. Any spending for those work orders in
4 2019 is captured in the 2019 business cases, change order forms if necessary, and project
5 close out forms. Supporting information for all years of spending for the capital projects
6 covered in this testimony was provided to the Commission's Audit Staff for review.

7 **Q. Please explain blanket projects.**

8 **A.** As discussed above, blanket projects are those "projects" that have numerous "work
9 orders" taken out for smaller jobs, sometimes hundreds of them. These charges come, for
10 example, from requests from municipalities for jobs such as relocating poles for road
11 widening (Public Requirements Blanket), and from damage to equipment (Damage
12 Failure Blanket) that are unknown until the request arrives at the Company or the
13 equipment fails. Each year the Company looks at spending from previous years to
14 determine an appropriate spending amount, or budget, for these blankets. For example,
15 in 2017 and 2018, the final spending for the Public Requirements Blanket was \$414,432
16 and \$441,939, respectively. The 2019 budget was set at \$520,000, above the spending
17 for the previous two years, yet the total charges for 2019 came in at \$668,186. These are
18 difficult budgets to create due to the unknown quantity and cost of those requests when
19 the budget is created and approved. Also, the Company cannot elect to defer these
20 requests due to their nature, as we may do with other types of work orders such as
21 replacing conductor for reliability (Enhanced Bare Conductor project).

1 **Q. Please describe the particular projects for which the Company seeks recover in this**
2 **first step adjustment.**

3 **A.** Following are the 12 projects for which the Company seeks to commence cost recovery:

4 ***1. 8830-1911 Public Requirements Blanket***

5 The Public Requirements Blanket provides funding for projects that arise during the year
6 in response to requests from municipalities and the State of New Hampshire to relocate
7 the Company's poles, associated equipment on the poles, and guy wires to accommodate
8 various state and municipal projects, such as road widening projects. Depending on the
9 scope of the job, Liberty crews or contractors may perform the work. For work requiring
10 contractors, the Company engages in a competitive bid process, the bids are analyzed for
11 price, timeline, and qualifications of the contractors, and the Company awards the project
12 to the bidder with the best solution, in which, all things being equal, price is usually the
13 deciding factor.

14 The total cost recovery request for project 8830-1911 is \$431,329. Please see the table
15 below for the breakdown of the budget and actual spend for work orders in service in
16 2019.

<u>Year</u>	<u>Total Budget</u>	<u>Total Spend</u>	<u>Total Spend - 2019</u>		<u>Request for Cost</u>
			<u>In Service</u>	<u>WO</u>	<u>Recovery</u>
(a)	(b)	(c)	(d)	(e)	
2017	\$387,000	\$414,432	\$1,336		\$1,336
2018	\$725,000	\$441,939	\$16,725		\$16,725
2019	\$520,000	\$668,186	<u>\$413,268</u>		<u>\$413,268</u>
		Total	\$431,329		\$431,329

- (b) Approved budget for all work orders under this project for that calendar year
- (c) Final amount spent in calendar year for all work orders
- (d) Total amount spent only for work orders in service in 2019. Some work orders may span multiple years, thus multiple years of spending is shown. WO denotes "work orders"
- (e) Amount Company is requesting for cost recovery. This request is *only* for projects in service in 2019.

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For mandated projects such as these public requirement projects, the Company's Liberty Way Policy & Procedures Capital Expenditures Planning and Management document does not require a business case and, as such, only a capital expenditure form is provided, along with the change order and project close out forms. Page 1 of Attachment 2 provides the breakdown by cost element of the project. The internal costs on the project close out form are captured in the cost of construction and as such the total Internal Costs are shown as zero. The 2017 costs shown on page 1 in column Total Spend are engineering charges for the projects that went in to service in 2019. The 2018 costs shown on page 1 in column Total Spend are construction costs associated with projects that did not go into service until 2019. Projects that were placed in service in 2017 and 2018 are not included in the Total Spend column, although they are included in the Total Budget column.

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The blanket is funded to address relocation of electrical equipment per the request of municipalities and the New Hampshire Department of Transportation. The spending in excess of the budgeted amount for this project was driven by higher than estimated

1 burdens (overhead) applied to the project. Burdens are applied ratably to projects on a
2 monthly basis to each open job for which charges were incurred in the particular month.

3 **2. 8830-1912 Damage Failure Blanket**

4 The purpose of the Damage Failure Blanket is to provide funding to repair damage to the
5 Company's equipment arising from unplanned, but regularly occurring, instances such as
6 lightning strikes, animal contacts, and motor vehicle accidents. Depending on the scope
7 of the job, Liberty crews or contractors may perform the work. For work requiring
8 contractors, the Company engages in a competitive bid process, the bids are analyzed for
9 price, timeline, and qualifications of the contractors, and the Company awards the project
10 to the bidder with the best solution, in which, all things being equal, price is usually the
11 deciding factor.

12 The total request for cost recovery for project 8830-1912 is \$1,184,186. Please see the
13 table below for the breakdown of the budget and actual spend for work orders placed in
14 service in 2019.

<u>Year</u>	<u>Total Budget</u>	<u>Total Spend</u>	<u>Total Spend - 2019</u>	<u>Request for Cost</u>
			<u>In Service WO</u>	<u>Recovery</u>
<u>(a)</u>	<u>(b)</u>	<u>(c)</u>	<u>(d)</u>	<u>(e)</u>
2017	\$800,000	\$1,111,529	\$17,193	\$17,193
2018	\$800,000	\$364,069	\$72,465	\$72,465
2019	\$700,000	\$1,128,495	<u>\$1,094,527</u>	<u>\$1,094,527</u>
		Total	\$1,184,186	\$1,184,186

(b) Approved budget for all work orders under this project for that calendar year

(c) Final amount spent in calendar year for all work orders

(d) Total amount spent only for work orders in service in 2019. Some work orders may span multiple years, thus multiple years of spending is shown. WO denotes "work orders"

(e) Amount Company is requesting for cost recovery. This request is *only* for projects in service in 2019.

1 For mandated projects such as these damage failures, the Company's Liberty Way Policy
2 & Procedures Capital Expenditures Planning and Management document does not require
3 a business case and, as such, only a capital expenditure form is provided, along with the
4 change order and project close out forms. Page 1 of Attachment 3 provides the
5 breakdown by cost element of the project. The internal costs on the project close out
6 form are captured in the cost of construction and thus the total Internal Costs are shown
7 as zero. The 2017 costs shown on page 1 in column Total Spend are engineering charges
8 for the projects that went into service in 2019. The 2018 costs shown on page 1 in
9 column Total Spend are construction costs associated with projects that went into service
10 in 2019. Projects that went in service in 2017 and 2018 are not included in the Total
11 Spend column, although they are included in the Total Budget column.

12 The additional spending in 2019 for this project is driven by two factors. The first
13 contributing factor is a carryover of \$32,281.08 associated with labor, burdens, and
14 materials from jobs started in 2018 but not completed until 2019. The second
15 contributing factor is a higher than estimated burden rate as provided in the Change Order
16 Form.

17 **3. 8830-C18620 Charlestown DSub and 8830-C18630 Charlestown DLine**

18 The 2019 charges for the Charelestown DSub and DLine projects involved removal of
19 assets at the Charlestown substation. The items removed consisted of a station
20 transformer, recloser, disconnect switches, foundations, and supporting structures. The
21 majority of the "charges" in 2018 and 2019 are material returns (i.e., credits) and

1 associated burden reimbursements to the projects, thus there are no business cases or
2 project close out forms.

3 The total for projects 8830-C18620 and 8830-C18630 is a credit of (\$92,766) as shown in
4 Attachment 4.

5 **4. 8830-1929 Walk In Center Relocation Salem**

6 The Company relocated the Salem walk in center from 9 Lowell Road, Salem, to a
7 central location on Main Street in Salem to better support customers and to make more
8 office space available at 9 Lowell Road. The location change also reduced the safety
9 risks of customers entering and leaving the working electric yard at 9 Lowell Road,
10 which includes large equipment and trucks moving in and out at the same time the walk
11 in center was open.

12 The total for project 8830-1929 is \$567,737 as shown in Attachment 5. The total budget
13 was \$300,000. The project costs increased due to an increased scope that required
14 additional changes to incorporate a conference room build out, furnishings, and
15 conference room audio/video equipment, as provided in the Change Order Form. Since
16 the walls were opened for construction, it was prudent to install the audio/video
17 equipment and make these changes at this time, rather than after construction was
18 completed, which would have created additional unnecessary costs.

19 **5. 8830-1944 Golden Rock Substation**

20 The Golden Rock substation work done in 2019 accommodated the new feeders built in
21 2019, the 19L6 and 19L8. This substation work consisted of installing structural

1 aluminum with foundations and associated electrical bus work. The Company installed
 2 electrical equipment such as disconnect switches, a load break switch, and two 13.2 kV
 3 circuit breakers. The existing control house received two new relay cabinets, which
 4 consisted of control switches and protective relays. The obsolete Remote Terminal Unit
 5 (RTU) was also replaced. This work was completed by a contractor. The Company
 6 engaged in a competitive bid process, the bids were analyzed for price, timeline, and
 7 qualifications of the contractors, and the Company awarded the project to the bidder with
 8 the best solution which, in this case, price was the deciding factor.

9 The total request for recovery for project 8830-1944, which came in under budget, is
 10 \$2,012,483. The table below provides the high level budget and spending for this project
 11 spanning three years.

<u>Year</u>	<u>Total Budget</u>	<u>Total Spend</u>	<u>Total Spend - 2019</u>	<u>Request for</u>
			<u>In Service WO</u>	<u>Cost Recovery</u>
<u>(a)</u>	<u>(b)</u>	<u>(c)</u>	<u>(d)</u>	<u>(e)</u>
2017	\$100,000	\$27,169	\$27,169	\$27,169
2018	\$400,000	\$309,324	\$309,324	\$309,324
2019	\$2,000,000	\$1,675,990	<u>\$1,675,990</u>	<u>\$1,675,990</u>
		Total	\$2,012,483	\$2,012,483

- (b) Approved budget for all work orders under this project for that calendar year
 (c) Final amount spent in calendar year for all work orders
 (d) Total amount spent only for work orders in service in 2019.
 (e) Amount Company is requesting for cost recovery.

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 13 Page 1 of Attachment 6 provides the breakdown by cost element of the project. The
 14 internal costs on the project close out form are captured in the cost of construction and as
 15 such the total internal costs are shown as zero.

1 **6. 8830-1945 Golden Rock Distribution Feeder 19L2**

2 This project consisted of reconductoring approximately 3,500 feet of three phase bare
3 conductor with 477 aluminum tree wire and spacer cable configuration. The scope of this
4 work included installation of poles, switches, and relocation of overhead equipment such
5 as transformers and services. Portions of the 10L1 and 10L2 circuits coming out of
6 Baron Ave substation have been repurposed to serve load from Golden Rock substation
7 at 13 kV by changing the source of the feed from Baron Ave to Golden Rock. During the
8 course of 2019, the circuit name changed from what was in the original business case,
9 19L2, to the 19L6 circuit because of space constraints within the substation associated
10 with keeping the 23 kV in service. This work was completed by a contractor. The
11 Company engaged in a competitive bid process, the bids were analyzed for price,
12 timeline, and qualifications of the contractors, and the Company awarded the project to
13 the bidder with the best solution in which, all things being equal, price is usually the
14 deciding factor. For this project, the lowest bidder was not selected because they were
15 working on the Tallant Rd project for us at the same time and would be unable to start the
16 project at the Company's requested start date. The Company awarded this project to the
17 second lowest bidder instead. This information has been provided to the PUC Audit Staff
18 for review.

19 The total request for cost recovery for project 8830-1945, which came in under budget, is
20 \$522,516. The table below provides the high level budget and spending for this project
21 spanning two years.

<u>Year</u>	<u>Total Budget</u>	<u>Total Spend</u>	<u>Total Spend - 2019</u>	<u>Request for</u>
			<u>In Service WO</u>	<u>Cost Recovery</u>
<u>(a)</u>	<u>(b)</u>	<u>(c)</u>	<u>(d)</u>	<u>(e)</u>
2018	\$60,000	\$13,081	\$13,081	\$13,081
2019	\$600,000	\$509,435	<u>\$509,435</u>	<u>\$509,435</u>
		Total	\$522,516	\$522,516

(b) Approved budget for all work orders under this project for that calendar year

(c) Final amount spent in calendar year for all work orders

(d) Total amount spent only for work orders in service in 2019.

(e) Amount Company is requesting for cost recovery.

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Page 1 of Attachment 7 provides the breakdown by cost element of the project. The

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internal costs on the project close out form are captured in the cost of construction and as

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such the total internal costs are shown as zero.

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7. 8830-1951 Enhanced Bare Conductor Replacement

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The Enhanced Bare Conductor replacement project provides funding for reconductoring

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bare wire with tree resistant wire, using either open cross arm construction or spacer

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cable configuration. The work associated with this project in 2018 and 2019 included

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reconductoring of one mile in Pelham and 1.65 miles in Walpole. This work was

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completed by a contractor. The Company engaged in a competitive bid process, the bids

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were analyzed for price, timeline, and qualifications of the contractors, and the Company

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awarded the project to the bidder with the best solution, in which, all things being equal,

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price is usually the deciding factor. There are two jobs associated with this project and

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the lowest bidder was chosen for the Tallant Road job. For the Wentworth Road job, the

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second lowest bidder was chosen because the lowest bidder was working on another

1 project for the Company at the time the work on Wentworth Road was to be completed.

2 This information has been provided to the PUC Audit Staff for review.

3 The total request for cost recovery for project 8830-1951 is \$1,060,252. The table below
4 provides the high level budget and spending for this project spanning two years.

<u>Year</u>	<u>Total Budget</u>	<u>Total Spend</u>	<u>Total Spend - 2019 Request for Cost</u>	
			<u>In Service WO</u>	<u>Recovery</u>
<u>(a)</u>	<u>(b)</u>	<u>(c)</u>	<u>(d)</u>	<u>(e)</u>
2018	\$600,000	\$15,206	\$15,206	\$15,206
2019	\$875,000	\$1,045,046	<u>\$1,045,046</u>	<u>\$1,045,046</u>
		Total	\$1,060,252	\$1,060,252

(b) Approved budget for all work orders under this project for that calendar year

(c) Final amount spent in calendar year for all work orders

(d) Total amount spent only for work orders in service in 2019.

(e) Amount Company is requesting for cost recovery.

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6 Page 1 of Attachment 8 provides the breakdown by cost element of the project. The
7 internal costs on the project close out form are captured in the cost of construction and
8 thus the total Internal Costs are shown as zero. The 2018 costs shown on page 1 in
9 column Total Spend are construction costs associated with projects that went in to service
10 in 2019. Projects that went in service in 2017 and 2018 are not included in the Total
11 Spend column, although they are included in the Total Budget column.

12 The additional spending in 2019 for this project is driven by higher than estimated costs
13 associated with tree trimming, police/flagging costs, and actual labor costs. Liberty
14 incurred additional trimming costs due to Liberty adhering to increased clearances
15 required by Puc 307.10. In addition to these increased costs, Liberty incurred additional
16 trimming costs as a crane was needed to safely remove trees located near customer

1 homes. Liberty also incurred additional police detail costs as the Town of Walpole
2 recently required the use of police officers, not flaggers, to be utilized during
3 construction.

4 **8. 8830-1958 Install Service to Tuscan Village South Line**

5 This project provided service to the South parcel of Tuscan Village. The project
6 consisted of installing approximately 5,500 feet of 1000 MCM underground cable and the
7 outfit of eight manholes, which includes (but is not limited to) installation of frames,
8 cable supports, bonding and grounding, and cathodic protection. This work was
9 completed by a contractor. The Company engaged in a competitive bid process, the bids
10 were analyzed for price, timeline, and qualifications of the contractors, and the Company
11 awards the project to the bidder with the best solution, in which, all things being equal,
12 price is usually the deciding factor. Only the main line part of the project was bid. This
13 portion of the project was installation of 1000 MCM underground cable. The other work
14 orders were completed by internal crews. The lowest bidder was originally awarded the
15 bid, but due to potential ethical issues with the bid, we pulled the award and gave it to the
16 second lowest bidder.

17 The total request for cost recovery for project 8830-1958 is \$803,676. Please see the
18 table below for the breakdown of the budget and actual spend for work orders in service
19 in 2019.

<u>Year</u>	<u>Total Budget</u>	<u>Total Spend</u>	<u>Total Spend - 2019 In Request for Cost</u>	
			<u>Service WO</u>	<u>Recovery</u>
(a)	(b)	(c)	(d)	(e)
2017	\$200,000	\$6,923	\$844	\$844
2018	\$400,000	\$674,260	\$282,895	\$282,895
2019	\$900,000	\$1,368,857	<u>\$519,938</u>	<u>\$519,938</u>
		Total	\$803,676	\$803,676

(b) Approved budget for all work orders under this project for that calendar year

(c) Final amount spent in calendar year for all work orders

(d) Total amount spent only for work orders in service in 2019. Some work orders may span multiple years, thus multiple years of spending is shown. WO denotes "work orders"

(e) Amount Company is requesting for cost recovery. This request is *only* for projects in service in 2019.

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Page 1 of Attachment 9 provides the breakdown by cost element of the project. The internal costs on the project close out form are captured in the cost of construction and as such the total Internal Costs are shown as zero. The 2017 costs shown on page 1 in column Total Spend are engineering charges for the projects that went in to service in 2019. The 2018 costs shown on page 1 in column Total Spend are construction costs associated with projects that went in to service in 2019. Projects that went in service in 2017 and 2018 are not included in the Total Spend column, although they are included in the Total Budget column.

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The additional spending for this project is driven by higher than estimated burden rate as provided in the Change Order Form.

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9. 8830-1959 Golden Rock Distribution Feeder 19L4

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This project consisted of reconductoring approximately 1,900 feet of three phase bare conductor with 477 tree wire and spacer cable configuration. The scope of this work included installation of poles, switches, and relocation of overhead equipment such as

1 transformers and services. Portions of the 10L1 and 10L4 circuits coming out of Baron
2 Ave substation have been repurposed to serve load from Golden Rock substation at 13
3 kV by changing the source of the feed from Baron Ave to Golden Rock. During the
4 course of 2019, the circuit name changed from the name used in the original business
5 case, 19L4, to the 19L8 circuit because of space constraints within the substation
6 associated with keeping the 23 kV in service. This work was completed by a contractor.
7 The Company engaged in a competitive bid process, the bids were analyzed for price,
8 timeline, and qualifications of the contractors, and the Company awarded the project to
9 the bidder with the best solution, in which, all things being equal, price is usually the
10 deciding factor. For this project, the lowest bidder was not selected because they were
11 working on another project for us at the same time and would be unable to start the
12 project at the Company's requested start date. The Company awarded this project to the
13 second lowest bidder instead. This information has been provided to the PUC Audit Staff
14 for review.

15 The total request for cost recovery for project 8830-1959, which came in under budget, is
16 \$393,123. The table below provides the high level budget and spending for this project
17 spanning two years.

<u>Year</u>	<u>Total Budget</u>	<u>Total Spend</u>	<u>Total Spend - 2019</u>	<u>Request for Cost</u>
			<u>In Service WO</u>	<u>Recovery</u>
<u>(a)</u>	<u>(b)</u>	<u>(c)</u>	<u>(d)</u>	<u>(e)</u>
2018	\$60,000	\$3,897	\$3,897	\$3,897
2019	\$400,000	\$389,225	<u>\$389,225</u>	<u>\$389,225</u>
		Total	\$393,123	\$393,123

(b) Approved budget for all work orders under this project for that calendar year

(c) Final amount spent in calendar year for all work orders

(d) Total amount spent only for work orders in service in 2019.

(e) Amount Company is requesting for cost recovery.

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Page 1 of Attachment 10 provides the breakdown by cost element of the project. The

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internal costs on the project close out form are captured in the cost of construction and as

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such the total Internal Costs are shown as zero.

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10. 8830-1960 Golden Rock Underground

6

The Golden Rock underground project involved the installation of manholes and concrete

7

encased conduit to accommodate the underground primary cable which exited the Golden

8

Rock substation and connected to the overhead portion of the 19L6 and 19L8 feeders.

9

The costs also include outfitting manholes with frames, cable racks, grounding and

10

bonding, and cathodic protection. This work was completed by a contractor. The

11

Company engaged in a competitive bid process, the bids were analyzed for price,

12

timeline, and qualifications of the contractors, and the Company awarded the project to

13

the bidder with the best solution, in which, all things being equal, price is usually the

14

deciding factor. In this case, the lowest bidder was awarded the project.

1 For this project there were two parts to be bid, civil and electrical work. Both parts of the
2 project were awarded to the lowest bidder. This information has been provided to the
3 PUC Audit Staff for review.

4 The total request for cost recovery for project 8830-1960 is \$412,763, the total budget
5 was \$500,000. Page 1 of Attachment 11 provides the breakdown by cost element of the
6 project. The internal costs on the project close out form are captured in the cost of
7 construction and as such the total Internal Costs are shown as zero.

8 **11. 8830-1991 Granite State Meter Purchases**

9 This project number provided funding for the purchase of electric meters. These meters
10 are required to replace units which have failed in the field and for meters required to
11 serve additional customers requesting service.

12 The total for project 8830-1991 is \$952,029 as shown in Attachment 12, the total budget
13 was \$230,000. The reason for the increased costs is that during 2019, there was a higher
14 than normal demand for meter requirements due to the number of housing starts that
15 occurred in the Granite State Electric territory, including a number of buildings,
16 apartments, and condominiums in the Tuscan Village development in Salem.

17 Additionally, the budget was impacted by labor charges that are now incorporated into
18 this project as the result of an accounting change to pre-capitalize labor for meter
19 installations to follow all new meter purchases. The Company purchases meters and
20 capitalizes them at that time. Once the meter is installed the installation costs are charged

1 to expense. In the past, the meter was charged to a capital work order when installed,
2 thus no charges were incurred at the time of the meter purchase.

3 **12. 8830-1992 Transformer Purchases**

4 This project number provides funding for the purchase of electric transformers to replace
5 units which have failed in the field and for transformers required to support electric
6 reliability and new construction.

7 The total for project 8830-1992 is \$514,275 as shown in Attachment 13. The budget was
8 \$420,000. The increased costs are due to an increase in the number of required
9 transformers due to increased development in the Company's territory, as provided in the
10 Change Order Form.

11 **IV. REVENUE REQUIREMENT**

12 **Q. What is the revenue requirement associated with the requested step increase?**

13 **A.** The total cost of all 12 projects above for which the Company seeks recovery in this
14 filing is \$8,761,603, the revenue requirement for which is calculated as described below.
15 The revenue requirement associated with the projects described above is \$1,349,466 as
16 calculated in Attachment 1.

17 **Q. Please explain the inputs used to determine the revenue requirement.**

18 **A.** The investments and capital structure included in Attachment 1 are those that were in
19 service by December 31, 2019, and agreed upon in the Settlement Agreement in this
20 docket. Page 2 of Attachment 1 provides the total costs of each project and the
21 calculation of the book depreciation rate. The property tax rate is calculated using the

1 most recent FERC Form 1 (2018), which is 3.12%. This rate is also used to calculate the
2 property tax rate for the Company's annual Reliability Enhancement Plan/Vegetation
3 Management Plan, which was filed in Docket No. DE 20-036. The tax rates of 21%
4 (federal) and 7.7% (state) are for the taxable period ending December 31, 2019.

5 **Q. What is the bill impact to residential customers?**

6 **A.** A residential customer using 650 kWh per month and taking energy service from the
7 Company's default service offering will see an increase to their monthly bill of \$1.50, or
8 1.26%, from \$118.40 to \$119.89.

9 **V. DOCUMENTATION**

10 **Q. Has the Company provided supporting documentation for the projects described**
11 **above?**

12 **A.** Yes. Please see the following attachments for the business cases, change order forms,
13 project close out forms, and a breakdown by cost element of each project's cost.

- 14 • Attachment 2: 8830-1911 GSE Dist- Public Requirements Blanket
15 Capital Expenditure, Change Order, and Project Close Out
- 16 • Attachment 3: 8830-1912 Dist- Damage & Failure Blanket
17 Capital Expenditure, Change Order, and Project Close Out
- 18 • Attachment 4: 8830-C18620 & C18630 Charlestown DSub
19 Forms N/A as credits are due to reimbursement to projects
- 20 • Attachment 5: 8830-1929 Walk In Center Relocation Salem
21 Business case, Change Order, and Project Close Out
- 22 • Attachment 6: 8830-1944 Golden Rock Substation
23 Business case, Change Order – N/A, and Project Close Out
- 24 • Attachment 7: 8830-1945 Golden Rock Distribution Feeder 19L2
25 Business case, Change Order – N/A, and Project Close Out

- 1 • Attachment 8: 8830-1951 Enhanced Bare Conductor Replacement
2 Business case, Change Order, and Project Close Out
- 3 • Attachment 9: 8830-1958 Install Service to Tuscan Village South Line
4 Business case, Change Order, and Project Close Out
- 5 • Attachment 10: 8830-1959 Golden Rock Distribution Feeder 19L4
6 Business case, Change Order – N/A, and Project Close Out
- 7 • Attachment 11: 8830-1960 Golden Rock Underground
8 Business case, Change Order – N/A, and Project Close Out
- 9 • Attachment 12: 8830-1991 Granite State Meter Purchases
10 Business case, Change Order, and Project Close Out
- 11 • Attachment 13: 8830-1992 Granite State Transformer Purchases
12 Business case, Change Order, and Project Close Out
- 13 • Attachment 14: Tariff

14 **VI. CONCLUSION**

15 **Q. Please summarize the Company's request for the step adjustment.**

16 **A.** Through this testimony and the attached documents, the Company has established that
17 the described projects are in service, are used and useful for the provision of electric
18 distribution service, and were completed at a reasonable cost. The requested step
19 increase is thus just and reasonable and should be approved by the Commission with the
20 projects found to be prudent.

21 **Q. Does this conclude your testimony?**

22 **A.** Yes.

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Liberty Utilities (Granite State Electric) Corp. d/b/a Liberty Utilities
Computation of Revenue Requirement
CY 2019

	<u>CY 2019</u>			
1	Total Investment	\$	8,761,603	
2				
3	<u>Deferred Tax Calculation</u>			
4	Book Depreciation Rate		3.36%	
5	Federal Tax Depreciation Rate		3.75%	
6	FEDERAL Vintage Year Tax Depreciation:			
7		CY Spend	<u>\$328,560</u>	
8	Annual Tax Depreciation		<u>\$328,560</u>	
9				
10	STATE Vintage Year Tax Depreciation:			
11		CY Spend	<u>\$328,560</u>	
12	Annual Tax Depreciation		<u>\$328,560</u>	
13				
14	Book Depreciation		\$293,993	
15				
16	Book/Tax Timer (Federal)			
17	less: Deferred Tax Reserve (State)		<u>\$2,662</u>	
18	Net Book/Tax Timer (Federal)		(\$2,662)	
19	Effective Tax Rate (Federal)		<u>21.00%</u>	
20	Deferred Tax Reserve (Federal)		<u>(\$559)</u>	
21	Book/Tax Timer (State)		\$34,568	
22	Effective Tax Rate (State)		<u>7.70%</u>	
23	Deferred Tax Reserve (State)		<u>\$2,662</u>	
24	TOTAL Deferred Tax Reserve		<u><u>\$2,103</u></u>	
25				
26	<u>Rate Base Calculation</u>			
27	Plant In Service		\$8,761,603	
28	Accumulated Book Depreciation		(\$293,993)	
29	Deferred Tax Reserve		<u>(\$2,103)</u>	
30	Year End Rate Base		<u><u>\$8,465,508</u></u>	
31				
32	<u>Revenue Requirement Calculation</u>			
33	Year End Rate Base		\$8,465,508	
34	Pre-Tax ROR		<u>9.36%</u>	
35	Return and Taxes		\$791,963	
36	Book Depreciation		\$293,993	
37	Property Taxes	3.12%	<u>\$264,189</u>	
38	Annual Revenue Requirement		<u>\$1,350,145</u>	
39				
40	Adjusted Annual Revenue Requirement		<u>\$1,350,145</u>	
41				
42				
43	<u>Imputed Capital Structure</u>			
44		Ratio	Rate	Weighted Rate Pre Tax
45	Long Term Debt	48.00%	5.97%	2.87% 2.87%
46	Common Equity	52.00%	9.10%	4.73% 6.49%
47				
48		<u>100.00%</u>	<u>7.60%</u>	<u>9.36%</u>

Liberty Utilities (Granite State Electric) d/b/a Liberty Utilities
Project List
In Service as of December 31, 2019

<u>Att. #</u>	<u>2019 Project #</u>	<u>Project Description</u>	<u>Priority</u>	<u>Total Spend¹</u>	<u>In Service</u>	<u>FERC</u>	<u>Book Rate</u>	<u>Book Amt</u>	<u>MACRS</u>	<u>Tax Amt</u>
Att. 2	8830-1911	GSE-Dist-Public Require Blanket	2. Mandated	\$431,329	Various - 2019	364	3.64%	\$ 15,700	3.75%	\$ 16,175
Att. 3	8830-1912	Dist-Damage&Failure Blanket	2. Mandated	\$1,184,186	Various - 2019	364	3.64%	\$ 43,104	3.75%	\$ 44,407
Att. 4	8830-C18630	Charlestown Dsub	4. Regulatory	(\$92,766)	11/9/2017	362	3.00%	\$ (2,783)	3.75%	\$ (3,479)
Att. 5	8830-1929	Walk in Center Relocation Salem	5. Discretionary	\$567,737	10/1/2019	390	1.62%	\$ 9,197	3.75%	\$ 21,290
Att. 6	8830-1944	Golden Rock Substation	3. Growth	\$2,012,483	12/4/2019	362	3.00%	\$ 60,374	3.75%	\$ 75,468
Att. 7	8830-1945	Golden Rock Distribution Feeder 19L2	3. Growth	\$522,516	12/4/2019	364	3.64%	\$ 19,020	3.75%	\$ 19,594
Att. 8	8830-1951	Enhanced Bare Conductor Replacement	5. Discretionary	\$1,060,252	10/30/2019	364	3.64%	\$ 38,593	3.75%	\$ 39,759
Att. 9	8830-1958	Install Service to Tuscan Village South Line	3. Growth	\$803,676	11/20/2019	369	3.89%	\$ 31,263	3.75%	\$ 30,138
Att. 10	8830-1959	Golden Rock Distribution Feeder 19L4	3. Growth	\$393,123	12/4/2019	362	3.00%	\$ 11,794	3.75%	\$ 14,742
Att. 11	8830-1960	Golden Rock Underground	4. Regulatory	\$412,763	12/4/2019	364	3.64%	\$ 15,025	3.75%	\$ 15,479
Att. 12	8830-1991	Granite St Meter Purchases	2. Mandated	\$952,029	Various - 2019	364	3.64%	\$ 34,654	3.75%	\$ 35,701
Att. 13	8830-1992	Granite St Transformer Purchases	2. Mandated	\$514,275	Various - 2019	368	3.51%	\$ 18,051	3.75%	\$ 19,285
Total				\$8,761,603				\$ 293,993		\$ 328,560
								3.36%		3.75%

¹ Projects that span multiple years may have a 2019 actual spend lower than the total project spend reported in the related Project Close-out Reports. Liberty will provide a breakdown of annual charges by project in each of the three step adjustment filings. The amounts shown here were provided by Liberty and are subject to review and Commission approval in the three individual step adjustment dockets.

Liberty Utilities (Granite State Electric) Corp. d/b/a Liberty Utilities
Distribution Increase for 20119 Step Adjustment
Effective July 1, 2020

(1) Increase in Annual Revenue Requirement	\$1,350,145
(2) Distribution Revenues per Settlement Agreement in Docket No. DE 19-064 & DE 20-036	\$43,919,350
(3) Percentage of Adjustment to Distribution Rates	3.07%
(4) Total Revenues	\$45,269,495

- (1) Page 1 line 40
- (2) Total revenue requirement in proceedings
- (3) Lines (1) / (2)
- (4) Lines (1) + (2)

Liberty Utilities (Granite State Electric) d/b/a Liberty Utilities
Permanent Rate Design 2019 Step Adjustment
Rates Effective July 1, 2020

<u>Rate Class</u>	<u>Distribution Rate Component</u>	Permanent Rates & DE 20-036 Distribtuion Rates July 1, 2020	2019 Capital Expenditures Step Adjustment % Increase/ % (Decrease)	Proposed July 1, 2020 Base Distribution Charges	REP/VMP Adjustment Factor	July 1, 2020 Rates
		<u>Rates</u> (a)	<u>% (Decrease)</u> (b)	<u>Charges</u> (c)	<u>Factor</u> (d)	<u>Rates</u> (e)
D	Customer Charge	\$14.74	0.00%	\$14.74		\$14.74
	All kWh	\$0.05480	4.20%	\$0.05710	0.00008	\$0.05718
	16 Hour Off Peak kWh	\$0.04732	4.20%	\$0.04930	0.00008	\$0.04938
	Farm kWh	\$0.05173	4.20%	\$0.05390	0.00008	\$0.05398
	D-6 kWh	\$0.04819	4.20%	\$0.05021	0.00008	\$0.05029
D-10	Customer Charge	\$14.74	0.00%	\$14.74		\$14.74
	On Peak kWh	\$0.11694	3.93%	\$0.12153	0.00008	\$0.12161
	Off Peak kWh	\$0.00159	3.93%	\$0.00165	0.00008	\$0.00173
D-11	Customer Charge	\$14.74		\$14.74		\$14.74
	Off Peak	\$0.03482		\$0.03628	0.00008	\$0.03636
	Mid Peak	\$0.05124		\$0.05339	0.00008	\$0.05347
	Critical Peak	\$0.09285		\$0.09675	0.00008	\$0.09683
EV	Customer Charge	\$11.35		\$11.35		\$11.35
	Off Peak	\$0.03482		\$0.03628	0.00008	\$0.03636
	Mid Peak	\$0.05124		\$0.05339	0.00008	\$0.05347
	Critical Peak	\$0.09285		\$0.09675	0.00008	\$0.09683
G-1	Customer Charge	\$414.69	2.98%	\$427.04		\$427.04
	Demand Charge	\$8.81	2.98%	\$9.07		\$9.07
	On Peak kWh	\$0.00564	2.98%	\$0.00580	0.00008	\$0.00588
	Off Peak kWh	\$0.00168	2.98%	\$0.00173	0.00008	\$0.00181
	Credit for High Voltage Delivery > 2.4	(\$0.47)	2.98%	(\$0.48)		(\$0.48)
G-2	Customer Charge	\$69.13	2.98%	\$71.18		\$71.18
	Demand Charge	\$8.86	2.98%	\$9.12		\$9.12
	All kWh	\$0.00224	2.98%	\$0.00230	0.00008	\$0.00238
	Credit for High Voltage Delivery > 2.4	(\$0.47)	2.98%	(\$0.48)		(\$0.48)
G-3	Customer Charge	\$15.90	2.98%	\$16.37		\$16.37
	All kWh	\$0.05036	2.98%	\$0.05186	0.00008	\$0.05194
M	Luminaire Charge					
	<u>Description</u>					
	HPS 4,000	\$8.16	2.98%	\$8.40		\$8.40
	HPS 9,600	\$9.42	2.98%	\$9.70		\$9.70
	HPS 27,500	\$15.62	2.98%	\$16.08		\$16.08
	HPS 50,000	\$19.41	2.98%	\$19.98		\$19.98
	HPS 9,600 (Post Top)	\$11.04	2.98%	\$11.36		\$11.36
	HPS 27,500 Flood	\$15.78	2.98%	\$16.25		\$16.25
	HPS 50,000 Flood	\$21.08	2.98%	\$21.70		\$21.70
	Incandescent 1,000	\$10.45	2.98%	\$10.76		\$10.76
Mercury Vapor 4,000	\$7.23	2.98%	\$7.44		\$7.44	

<u>Rate Class</u>	<u>Distribution Rate Component</u>	Permanent Rates & DE 20-036 Distribtuion Rates July 1, 2020 <u>Rates</u> (a)	2019 Capital Expenditures Step Adjustment % Increase/ % (Decrease) (b)	Proposed July 1, 2020 Base Distribution <u>Charges</u> (c)	REP/VMP Adjustment <u>Factor</u> (d)	July 1, 2020 <u>Rates</u> (e)
	Mercury Vapor 8,000	\$8.13	2.98%	\$8.37		\$8.37
	Mercury Vapor 22,000	\$14.51	2.98%	\$14.94		\$14.94
	Mercury Vapor 63,000	\$24.50	2.98%	\$25.22		\$25.22
	Mercury Vapor 22,000 Flood	\$16.60	2.98%	\$17.09		\$17.09
	Mercury Vapor 63,000 Flood	\$32.13	2.98%	\$33.08		\$33.08
LED-1	<u>LED-1 Fixtures</u>					
	30 Watt Pole Top	\$5.29	2.98%	\$5.44		\$5.44
	50 Watt Pole Top	\$5.51	2.98%	\$5.67		\$5.67
	130 Watt Pole Top	\$8.51	2.98%	\$8.76		\$8.76
	190 Watt Pole Top	\$16.28	2.98%	\$16.76		\$16.76
	30 Watt URD	\$12.32	2.98%	\$12.68		\$12.68
	90 Watt Flood	\$8.38	2.98%	\$8.62		\$8.62
	130 Watt Flood	\$9.62	2.98%	\$9.90		\$9.90
	30 Watt Caretaker	\$4.75	2.98%	\$4.89		\$4.89
	<u>Rates M, LED-1 & LED-2 Pole Accessory Charge</u>					
	Pole -Wood	\$9.20	2.98%	\$9.47		\$9.47
	Fiberglass - Direct Embedded	\$9.53	2.98%	\$9.81		\$9.81
	Fiberglass w/Foundation <25 ft	\$16.18	2.98%	\$16.66		\$16.66
	Fiberglass w/Foundation >=25 ft	\$27.05	2.98%	\$27.86		\$27.86
	Metal Poles - Direct Embedded	\$19.29	2.98%	\$19.86		\$19.86
	Metal Poles with Foundation	\$23.26	2.98%	\$23.95		\$23.95
	<u>Rate M, LED-1</u>					
	All kWh	\$0.03873	2.98%	\$0.03988	0.00008	\$0.03996
	<u>Rate LED-2</u>	\$0.03873	2.98%	\$0.03988	0.00008	\$0.03996
T	Customer Charge	\$14.74	0.00%	\$14.74		\$14.74
	All kWh	\$0.04469	3.72%	\$0.04635	0.00008	\$0.04643
V	Minimum Charge	\$15.90	2.98%	\$16.37		\$16.37
	All kWh	\$0.05179	2.98%	\$0.05333	0.00008	\$0.05341

Rates D-11 and EV are calculated through the TOU model approved in Docket DE 17-189.

**Liberty Utilities (Granite State Electric) d/b/a Liberty Utilities
Bill Calculation**

Usage	650	kWh	Current Rates (a)	July 1, 2020 Proposed Rates (b)	Current Bill	July 1, 2020 Proposed Bill
Customer Charge			\$14.74	\$14.74	\$14.74	\$14.74
Distribution Charge						
All kWh			\$0.05488	\$0.05718	\$35.67	\$37.17
Storm Recovery Adjustment			\$0.00000	\$0.00000	\$0.00	\$0.00
Transmission Charge			\$0.02660	\$0.02660	\$17.29	\$17.29
Stranded Cost Charge			(\$0.00072)	(\$0.00072)	-\$0.47	-\$0.47
System Benefits Charge			\$0.00678	\$0.00678	\$4.41	\$4.41
Electricity Consumption Tax			\$0.00000	\$0.00000	<u>\$0.00</u>	<u>\$0.00</u>
Subtotal Retail Delivery Services					\$71.64	\$73.14
Energy Service Charge			\$0.07193	\$0.07193	<u>\$46.75</u>	<u>\$46.75</u>
				Total Bill	\$118.40	\$119.89
						\$1.50
						1.26%

(a) Rates effective July 1, 2021, per Settlement Agreement in Docket No. DE 19-064 & DE 20-036

(b) Rates proposed in this filing only and effective July 1, 2020

Liberty Utilities (Granite State Electric) d/b/a Liberty Utilities
 DE 19-064 2019 Step Adjustment
 Project #8830-1911 - Public Requirements Blanket

<u>Year</u>	<u>Internal Labor</u>	<u>Materials</u>	<u>Vendors</u>	<u>Overheads</u>	<u>CIAC</u>	<u>AFUDC</u>	<u>Total Budget</u>	<u>Total Spend*</u>
2017	\$385.14	\$0.00	\$107.43	\$842.72	\$0.00	\$1.05	\$387,000	\$1,336.34
2018	\$7,719.12	\$2,296.47	\$330.00	\$6,508.66	(\$633.89)	\$504.41	\$725,000	\$16,724.77
<u>2019</u>	<u>\$75,162.71</u>	<u>\$51,466.71</u>	<u>\$17,499.30</u>	<u>\$270,545.75</u>	<u>(\$4,667.03)</u>	<u>\$3,260.52</u>	<u>\$520,000</u>	<u>\$413,267.96</u>
Total	\$83,266.97	\$53,763.18	\$17,936.73	\$277,897.13	(\$5,300.92)	\$3,765.98	\$1,632,000	\$431,329.07

*Total for 2019 is different from Project Close Out form as not all of the projects in the required close out form are in service.
 The 2017, 2018 and 2019 represents the total dollars for projects that went in service as of 12/31/2019.



Capital Project Expenditure Form

2019

Project Name:	GSE-Dist-Public Require Blanket		
Financial Work Order (FWO):		Project ID #:	8830-1911
Requesting Region or Group:	Granite State Electric Co.	Date of Request (MM/DD/YY):	1/9/2019
Project Sponsor:	Charles Rodrigues	Project Start Date:	1/1/2019
Project Lead:	Anthony Strabone	Project End Date:	12/31/2019
Prepared by:	Anthony Strabone	Requested Capital (\$)	\$520,000
Planned or Unplanned Projects:	<input checked="" type="checkbox"/> Planned <input type="checkbox"/> Unplanned		
Project Type: (Click appropriate boxes)	<input type="checkbox"/> Safety <input checked="" type="checkbox"/> Mandated <input type="checkbox"/> Growth <input type="checkbox"/> Regulatory Supported <input type="checkbox"/> Discretionary		
Spending Rationale:	<input type="checkbox"/> Growth <input type="checkbox"/> Improvement <input checked="" type="checkbox"/> Replenishment		

Details of Request

Project description

This project will provide for public requirements to cover DOT / Municipal requirements necessitating relocation, removal or installation of our facilities which includes:

- Relocate existing overhead/underground facilities (i.e. poles; padmount transformers) due to road or bridge work, and other public requirements
- Relocate existing overhead/underground facilities per customer requests
- Construction requested (overhead/underground) by Telephone Company, Public Authorities, Towns and/or Municipalities

Is this project growth or customer connection related? If "yes", list the specific locations and how expenditure aligns with customer expansion objectives.

No

Please describe any permitting requirements, environmental impacts, or resulting performance obligations that may or may not result from this expenditure?

Permitting may be required for pole installation and installation of underground electrical equipment including conduit.

Will there be assets, greater than \$5,000, currently in service removed as a result of this expenditure?

GUIDANCE: If yes, please detail the specific assets that will be removed:

1. *Original Cost of Plant to be removed (if known):* **Not Known**
2. *What is the replacement cost of the plant being removed (if original cost not known)?* **Not Known**
3. *Original Work Order of Plant to be removed (if known):* **Not Known**
4. *Is the Plant being removed reusable?* **No**
5. *What is the year of original installation of the plant being removed:* **Varied**



Capital Project Expenditure Form

2019

What alternatives were evaluated and why were they rejected?

Alternatives will be considered on a case by case basis.

What are the risks and consequences of not approving this expenditure?

Costs associated with this expenditure will need to be captured under other Capital Expenditure Blankets.

Please describe how Health, Safety and Security concerns and impacts as a result of this expenditure been addressed.

Work associated with this expenditure will be performed in accordance with the Company's Safety Manual and other industry accepted safety practices.

Are there other pertinent details that may affect the decision making process?

No

Complete the Financial Summary table only if:

- Project is less than \$100,000; or
- Project category is *Mandated* or *Safety* (Business Case Form not required)

Financial Summary

Next Anticipated Test Year	2021	Was this Capital Project included in the current year's Board Approved Budget?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Regulatory Lag (Click appropriate box)	<input type="checkbox"/> Less than 6 months <input type="checkbox"/> 6 – 12 months <input checked="" type="checkbox"/> 1 – 3 years <input type="checkbox"/> Greater than three years		
Which regulatory constructs will be used for recovering this capital spend?			
Please Specify Basis of Estimate For materials, equipment, and construction requiring Engineering drawings please specify the percent complete: ^f	<input type="checkbox"/> Fixed or Firm Price <input checked="" type="checkbox"/> Estimate – Internal <input type="checkbox"/> Estimate – External <input type="checkbox"/> Other (specify details) Click here to enter text.		
Category	Current Year	Future Years	Authorized Amount (to be filled in by Corporate)
Cost of Design & Engineering (\$)			
Cost of Materials (\$)			
Cost of Construction (\$)			
External Costs (\$)			
Internal Costs (\$)			
Other (\$)			
AFUDC (\$)			
Total Project Costs (\$)	\$520,000		



Capital Project Expenditure Form

2019

Approvals and Signatures ⁱⁱ

Approved By:				
Role	Approval Limit	Name	Signature	Date
Manager / Staff (requisitioner/buyer):	Up to \$25,000	Anthony Strabone		3/4/19
Senior Manager:	Up to \$50,000			
Senior Director/Director:	Up to \$250,000	Charles Rodrigues Director, Engineering		3/6/19
Senior VP/VP:	Up to \$500,000	Richard MacDonald Vice President, Operations		3/6/2019
State President:	Up to \$500,000	Susan Fleck President, NH		3/25/19
Regional President:	Up to \$3,000,000	James Sweeney President, East Region		
Corporate – Sr. VP Operations:	Up to \$5,000,000			
Corporate - Exec Team Member (CEO, CFO, COO, Vice Chair):	Over \$5,000,000			
Finance (East) – Vice President, Finance & Administration:	All Requests	Peter Dawes VP, Finance & Administration		4/2/19

ⁱ For Best Practices on estimating project contingencies please see the Capital Policy.

ⁱⁱ Approvals for work orders and purchase orders are subject to the limits set forth in the Approval Limits of Authority Policy owned and amended from time to time by the corporate procurement group.



Change Order Form

2019

Project Overview

Reason for Change: Burdens

Project ID:	8830-1911	Project Name:	GSE-Dist-Public Require Blanket
Change Order Name:	GSE-Dist-Public Require Blanket	Date Prepared:	03/10/2020
Change Order #:	1	Financial Work Order (FWO):ⁱ	Various
Project Sponsor:	Charles Rodrigues	Revised Start Date:	01/01/2019
Project Lead:	Anthony Strabone	Revised End Date:ⁱⁱ	12/31/219
Prepared By:	Anthony Strabone	Change Typeⁱⁱⁱ	X In Scope Out of Scope
Project Contingency Available?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If No is Selected, Please specify source of funds^{iv}	

Financial Assessment/Cost Estimates

(Double click embedded excel file to update; include contingency allowance in excel file)

Category	Original Project Value	Previous Approved Charges	Current Change Order Amount	Total
Internal Labor				
Materials				
Equipment				
Contractor/Subcontractor				
Burdens/Overheads				
AFUDC				
Total Project Cost	\$ 520,000	\$ 0	\$ 148,186.86	\$ 668,186.86

Updated Unlevered Internal Rate of Return:

Basis of Current Change Order Amount:

The blanket is funded to address relocation of electrical equipment per the request of Towns and/or the NHDOT The overspend for this project is driven by higher than estimated burden rate. This project was estimated with a total burden rate of 30% based on information from Finance. Actual burden rate was 140% which resulted in additional burden charges of \$305,794.07

Schedule Impacts

(As a result of the Change Order, where applicable, List the Impacts to schedule)

Baseline Schedule (BL)	New Forecast (NF)	Variance (BL – NF)
N/A	N/A	N/A



Change Order Form

2019

Approvals and Signatures^v

Approved By:				
Role	Approval Authority Limit	Name	Signature	Date
Manager / Staff (requisitioner/buyer):	Up to \$25,000	Anthony Strabone		03/30/2020
Senior Manager: :	Up to \$50,000			
Senior Director/Director:	Up to \$250,000	Charles Rodrigues	Charles Rodrigues <small>Digitally signed by Charles Rodrigues Date: 2020.03.30 15:08:44 -04'00'</small>	
State President / Senior VP / VP:	Up to \$500,000	Susan Fleck		Rich MacDonald <small>Digitally signed by Rich MacDonald Date: 2020.03.31 10:23:29 -04'00'</small>
Regional President:	Up to \$3,000,000			
Corporate - Sr VP Operations:	Up to \$5,000,000			
Corporate - Exec Team Member (CEO, CFO, COO, Vice Chair):	Over \$5,000,000			

ⁱ The Financial Work Order Section captures the work order this change falls under when the job was initially set-up

ⁱⁱ The Revised project end date is dependent on changes in scope that may deviate the schedule from the original plan

ⁱⁱⁱ The Change type for In scope or Out of scope changes fall within the following scenario:

- In Scope changes are deviations of scope from the original plan and approved budget that align to the original scope of the project but have revised pricing as a result of changes in pricing of labour, materials, and equipment
- Out of Scope changes are scope changes that were not originally planned for in the project baselines and approved budget. Examples of this type of change are related to changes in technology, missed deliverables, a change in the project design altering the scope of the project, etc.

^{iv} In cases where the project no longer has contingency to cover project change orders, please specify any other sources of funds that would address the project variance (i.e. not executing another project, delaying scope of another project, etc)

^v Approvals for work orders and purchase orders are subject to the limits set forth in the Approval Limits of Authority Policy owned and amended from time to time by the corporate procurement group.

Project Close Out Report | 2019

Requesting Region or Group:	Granite State Electric Co.	Date of Closeout (MM/DD/YY):	03/10/2020
Project Name:	GSE-Dist-Public Require Blanket		
Project ID#:	8830-1911	Requesting Region:	East Region
Project Lead:	Anthony Strabone	Project Sponsor:	Charles Rodrigues
Project Status	X In Service C Complete <input type="checkbox"/> Closed		
Project Start Date:	01/01/2019	Project Completion Date:	12/31/2019
Requested Capital (\$)	\$ 520,000	Expenditure Included in Approved Budget?	X Yes <input type="checkbox"/> No

Section 1. Approval

Approval of the Project Closeout and Assessment Report indicates an understanding and formal agreement that the project is ready to be closed. By signing this document, each individual agrees all administrative, financial, and logistical aspects of the project should be concluded, executed, and documented as described herein.

Further, by signing this Report, it is accepted that CWIP (FERC Account 107) should be transferred to Utility in Plant Service (FERC Account 101)

Approver Name	Title	Signature	Date
Anthony Strabone	Project Lead		03/30/2020
Charles Rodrigues	Project Sponsor	Charles Rodrigues <small>Digitally signed by Charles Rodrigues Date: 2020.03.31 07:38:47 -04'00'</small>	
Mark Parker	Operations Manager		
Phil Greene	Accounting Manager		

Section 2. Final Deliverable/Deployment Checklist

Sponsor to respond to each question. For each "no" response, include an issue in Open Issues section.

Item	Question	Response
2.1	Do you agree that the product and/or service is ready to be deployed?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
2.2	Do you agree the product and/or service has sufficiently met the stated business goals and objectives?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
2.3	Do you fully understand and agree to accept all operational requirements, operational risks, maintenance costs, and other limitations and/or constraints imposed as a result of ongoing operations of the product and/or service?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
2.4	Has the final unitization estimate been provided to Property Accounting?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>

Project Close Out Report 2019

Item	Question	Response
2.5	Do you agree the project should be closed? If no, please explain:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
	<i>Scale of 1 thru 5; 5 = highest</i>	
	Rate your level of satisfaction with regards to the project outcomes listed below	
2.5	Project Quality	3/5
2.6	Product and/or Service Performance	3/5
2.7	Scope	3/5
2.8	Cost (Budget)	2/5
2.9	Schedule	3/5

Section 3. Project Documentation Checklist

Project Manager Respond to each question. For each “no” response, include an issue in Open Issues section.

Item	Question	Response	
3.1	Have project documentation and other items (e.g., Business Case, Project Plan, Charter, Budget Documents, Status Reports) been prepared, collected, filed, and/or disposed?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
3.3 ⁱ	Were audits (e.g., project closeout audit) completed and results documented for future reference?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
3.4	Identify the storage location for the following project documents items:		
Item	Document	Location (e.g., Google Docs, Webspace)	Format
3.4a	Business Case	W:\Engineering\Electric Engineering\Electric Planning Engineering\2 - Planning	<input checked="" type="checkbox"/> Electronic <input type="checkbox"/> Manual
3.4b	If available, the Final Project Schedule	N/A	<input type="checkbox"/> Electronic <input type="checkbox"/> Manual
3.4c	Budget Documentation and Invoices	W:\Public\Accounts Payable\New Hampshire	<input checked="" type="checkbox"/> Electronic <input type="checkbox"/> Manual
3.4d	Status Reports	N/A	<input type="checkbox"/> Electronic <input type="checkbox"/> Manual
3.4e	Risks and Issues Log	N/A	<input type="checkbox"/> Electronic <input type="checkbox"/> Manual
3.4f	Final deliverable	N/A	<input type="checkbox"/> Electronic <input type="checkbox"/> Manual
3.4g	If applicable, verify that final project deliverable for the project is attached or storage location is identified in 3.4.		

Section 4. Project Team ⁱⁱ

Project Manager to list resources specified in the Project Plan and used by the project.

Project Close Out Report | 2019

Name	Role	Type (e.g., Contractor, Employee)
Anthony Strabone	Engineering	Employee
Mark Parker	Overhead Line Operations	Employee

Section 5. Project Lessons Learned

Project Team to identify lessons learned specifically for the project. State the lessons learned in terms of a problem (issue). If available please include a Lesson Learned Log in the attached. Please summarize the top three issues on the project and the recommended improvements to correct a similar problem in the future.

Problem Statement	Problem Description	References	Recommendation
None	None	None	None

Section 7. Open Issues

Project Manager and Functional Lead to describe any open issues and plans for resolution within the context of project closeout. Include an open issue for any “no” responses in the Final Product and/or Service Acceptance Checklist and the Project Artifacts Checklist sections.

Issue	Planned Resolution
Actual burden rate higher than estimated	Continue to work with Finance to determine more accurate burden rates.

Section 8. Project Cost Summary

Project Manager and Functional Lead to provide details for the following tables.

Cost Category	1- Budget	2- Actual	3 = 1 -2 Variance
Cost of Design & Engineering (\$)		\$ 0	
Cost of Materials (\$)		\$ 68,084.17	
Cost of Construction (\$)		\$ 131,332.62	

Project Close Out Report | 2019

External Costs (\$)		\$ 77,984.67	
Internal Costs (\$)		\$ 0	
Other (burdens \$)		\$ 389,014.51	
CIAC (\$)		\$ (4,667.03)	
AFUDC		\$ 6,437.92	
Total Project Costs (\$)	\$ 520,000	\$ 668,186.86	\$ (148,186.86)

Reasons for Variance	Impact
See Change Order Form	\$ 305,794.07
Cause 2	\$
Cause 3	\$

Project Manager to list of all work orders associated with project that should be closed once Close Out Report is accepted.

Registry of All Job Codes (Regional, Corporate, LABs)
Various

ⁱ This section assumes an accounting audit has been completed ensuring all outstanding payments have been reconciled to the project

ⁱⁱ For Section 4 in filling out the Project Team Section, for those projects following the materiality limit set forth in the work order approval limits greater than \$5M please complete this section, all other projects do not require this.

Liberty Utilities (Granite State Electric) d/b/a Liberty Utilities
DE 19-064 2019 Step Adjustment
Project #8830-1912 - Damage Failure Blanket

<u>Year</u>	<u>Internal Labor</u>	<u>Materials</u>	<u>Vendors</u>	<u>Overheads</u>	<u>CIAC</u>	<u>AFUDC</u>	<u>Total Budget</u>	<u>Total Spend*</u>
2017	\$1,263.91	\$0.00	\$8,236.29	\$7,693.28	\$0.00	\$0.00	\$800,000	\$17,193.48
2018	\$17,795.48	\$642.24	\$13,348.93	\$40,678.32	\$0.00	\$0.00	\$800,000	\$72,464.97
<u>2019</u>	<u>\$286,909.83</u>	<u>\$57,831.39</u>	<u>\$219,622.06</u>	<u>\$533,850.88</u>	<u>\$0.00</u>	<u>(\$3,686.80)</u>	<u>\$700,000</u>	<u>\$1,094,527.36</u>
Total	\$305,969.22	\$58,473.63	\$241,207.28	\$582,222.48	\$0.00	(\$3,686.80)	\$2,300,000	\$1,184,185.81

*Total for 2019 is different from Project Close Out form as not all of the projects in the required close out form are in service.
The 2018 and 2019 represents the total dollars in service as of 12/31/2019.



Capital Project Expenditure Form

2019

Project Name:	Dist-Damage&Failure Blanket		
Financial Work Order (FWO):		Project ID #:	8830-1912
Requesting Region or Group:	Granite State Electric Co.	Date of Request (MM/DD/YY):	1/9/2019
Project Sponsor:	Charles Rodrigues	Project Start Date:	1/1/2019
Project Lead:	Anthony Strabone	Project End Date:	12/31/2019
Prepared by:	Anthony Strabone	Requested Capital (\$)	\$700,000
Planned or Unplanned Projects:	<input checked="" type="checkbox"/> Planned <input type="checkbox"/> Unplanned		
Project Type: (Click appropriate boxes)	<input type="checkbox"/> Safety <input checked="" type="checkbox"/> Mandated <input type="checkbox"/> Growth <input type="checkbox"/> Regulatory Supported <input type="checkbox"/> Discretionary		
Spending Rationale:	<input type="checkbox"/> Growth <input type="checkbox"/> Improvement <input checked="" type="checkbox"/> Replenishment		

Details of Request

Project description

This project is associated with repair/replacement to damaged equipment found on inspection and equipment deemed about to fail. Replacement of equipment can be caused by any of the following:

- Damage caused by vehicle
- Damage caused by vandalism
- Failure caused by age, fatigue, and/or deterioration

Is this project growth or customer connection related? If "yes", list the specific locations and how expenditure aligns with customer expansion objectives.

No.

Please describe any permitting requirements, environmental impacts, or resulting performance obligations that may or may not result from this expenditure?

Permitting requirements may be associated with the installation of poles and underground electrical facilities including conduit.

Will there be assets, greater than \$5,000, currently in service removed as a result of this expenditure?

GUIDANCE: If yes, please detail the specific assets that will be removed:

1. Original Cost of Plant to be removed (if known): **Not Known**
2. What is the replacement cost of the plant being removed (if original cost not known)? **Not Known**
3. Original Work Order of Plant to be removed (if known): **Not Known**
4. Is the Plant being removed reusable? **No**
5. What is the year of original installation of the plant being removed: **Varied**

What alternatives were evaluated and why were they rejected?

Alternatives will be considered on a case by case basis

What are the risks and consequences of not approving this expenditure?

Costs associated with this expenditure will need to be captured under other Capital Expenditure Blankets.



Capital Project Expenditure Form

2019

Please describe how Health, Safety and Security concerns and impacts as a result of this expenditure been addressed.

Work associated with this expenditure will be performed in accordance with the Company's Safety Manual and other industry accepted safety practices.

Are there other pertinent details that may affect the decision making process?

No

Complete the Financial Summary table only if:

- Project is less than \$100,000; or
- Project category is *Mandated* or *Safety* (Business Case Form not required)

Financial Summary

Next Anticipated Test Year	2021	Was this Capital Project included in the current year's Board Approved Budget?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Regulatory Lag (Click appropriate box)	<input type="checkbox"/> Less than 6 months <input type="checkbox"/> 6 – 12 months <input checked="" type="checkbox"/> 1 – 3 years <input type="checkbox"/> Greater than three years		
Which regulatory constructs will be used for recovering this capital spend?			
Please Specify Basis of Estimate For materials, equipment, and construction requiring Engineering drawings please specify the percent complete: ¹	<input type="checkbox"/> Fixed or Firm Price <input type="checkbox"/> Estimate – Internal <input type="checkbox"/> Estimate – External <input type="checkbox"/> Other (specify details) Click here to enter text.		
Category	Current Year	Future Years	Authorized Amount (to be filled in by Corporate)
Cost of Design & Engineering (\$)			
Cost of Materials (\$)			
Cost of Construction (\$)			
External Costs (\$)			
Internal Costs (\$)			
Other (\$)			
AFUDC (\$)			
Total Project Costs (\$)	\$700,000		



Capital Project Expenditure Form

2019

Approvals and Signatures ⁱⁱ

Approved By:				
Role	Approval Limit	Name	Signature	Date
Manager / Staff (requisitioner/buyer):	Up to \$25,000	Anthony Strabone		3/6/19
Senior Manager:	Up to \$50,000			
Senior Director/Director:	Up to \$250,000	Charles Rodrigues Director, Engineering		3/6/19
Senior VP/VP:	Up to \$500,000	Richard MacDonald Vice President, Operations		3/6/19
State President:	Up to \$500,000	Susan Fleck President, NH		3/25/19
Regional President:	Up to \$3,000,000	James Sweeney President, East Region		
Corporate – Sr. VP Operations:	Up to \$5,000,000			
Corporate - Exec Team Member (CEO, CFO, COO, Vice Chair):	Over \$5,000,000			
Finance (East) – Vice President, Finance & Administration:	All Requests	Peter Dawes VP, Finance & Administration		4/2/19

ⁱ For Best Practices on estimating project contingencies please see the Capital Policy.

ⁱⁱ Approvals for work orders and purchase orders are subject to the limits set forth in the Approval Limits of Authority Policy owned and amended from time to time by the corporate procurement group.



Change Order Form

2019

Project Overview

Reason for Change: Burdens and actual costs

Project ID:	8830-1912	Project Name:	Dist-Damage&Failure Blanket
Change Order Name:	Dist-Damage&Failure Blanket	Date Prepared:	03/10/2020
Change Order #:	1	Financial Work Order (FWO):ⁱ	Various
Project Sponsor:	Charles Rodrigues	Revised Start Date:	01/01/2019
Project Lead:	Anthony Strabone	Revised End Date:ⁱⁱ	12/31/219
Prepared By:	Anthony Strabone	Change Typeⁱⁱⁱ	X In Scope Out of Scope
Project Contingency Available?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If No is Selected, Please specify source of funds^{iv}	

Financial Assessment/Cost Estimates

(Double click embedded excel file to update; include contingency allowance in excel file)

Category	Original Project Value	Previous Approved Charges	Current Change Order Amount	Total
Internal Labor				
Materials				
Equipment				
Contractor/Subcontractor				
Burdens/Overheads				
AFUDC				
Total Project Cost	\$ 700,000	\$ 0	\$ 428,494.98	\$ 1,128,494.98

Updated Unlevered Internal Rate of Return:

Basis of Current Change Order Amount:

The blanket is funded to address replacement of electrical equipment that are found to be damaged or have failed. Funding for this blanket is based on historic spending. The overspend for this project is driven by two factors. The first contributing factor is a carryover of \$32,281.08 associated with labor, burdens and materials from jobs started in 2018 but not completed until 2019. The second contributing factor is the higher than estimated burden rate. This project was estimated with a total burden rate of 30% based on information from Finance. Actual burden rate was 94% which resulted in additional burden charges of \$375,685.70.

Schedule Impacts

(As a result of the Change Order, where applicable, List the Impacts to schedule)

Baseline Schedule (BL)	New Forecast (NF)	Variance (BL – NF)
N/A	N/A	N/A



Change Order Form

2019

Approvals and Signatures^v

Approved By:				
Role	Approval Authority Limit	Name	Signature	Date
Manager / Staff (requisitioner/buyer):	Up to \$25,000	Anthony Strabone	<i>Anthony Strabone</i>	03/30/2020
Senior Manager: :	Up to \$50,000			
Senior Director/Director:	Up to \$250,000	Charles Rodrigues	Charles Rodrigues <small>Digitally signed by Charles Rodrigues Date: 2020.03.30 15:10:07 -04'00'</small>	Rich MacDonald <small>Digitally signed by Rich MacDonald Date: 2020.03.31 10:20:42 -04'00'</small>
State President / Senior VP / VP:	Up to \$500,000	Susan Fleck		
Regional President:	Up to \$3,000,000			
Corporate - Sr VP Operations:	Up to \$5,000,000			
Corporate - Exec Team Member (CEO, CFO, COO, Vice Chair):	Over \$5,000,000			

ⁱ The Financial Work Order Section captures the work order this change falls under when the job was initially set-up

ⁱⁱ The Revised project end date is dependent on changes in scope that may deviate the schedule from the original plan

ⁱⁱⁱ The Change type for In scope or Out of scope changes fall within the following scenario:

- In Scope changes are deviations of scope from the original plan and approved budget that align to the original scope of the project but have revised pricing as a result of changes in pricing of labour, materials, and equipment
- Out of Scope changes are scope changes that were not originally planned for in the project baselines and approved budget. Examples of this type of change are related to changes in technology, missed deliverables, a change in the project design altering the scope of the project, etc.

^{iv} In cases where the project no longer has contingency to cover project change orders, please specify any other sources of funds that would address the project variance (i.e. not executing another project, delaying scope of another project, etc)

^v Approvals for work orders and purchase orders are subject to the limits set forth in the Approval Limits of Authority Policy owned and amended from time to time by the corporate procurement group.

Project Close Out Report 2019

Requesting Region or Group:	Granite State Electric Co.	Date of Closeout (MM/DD/YY):	03/10/2020
Project Name:	Dist-Damage&Failure Blanket		
Project ID#:	8830-1912	Requesting Region:	East Region
Project Lead:	Anthony Strabone	Project Sponsor:	Charles Rodrigues
Project Status	X In Service C Complete <input type="checkbox"/> Closed		
Project Start Date:	01/01/2019	Project Completion Date:	12/31/2019
Requested Capital (\$)	\$ 700,000	Expenditure Included in Approved Budget?	X Yes <input type="checkbox"/> No

Section 1. Approval

Approval of the Project Closeout and Assessment Report indicates an understanding and formal agreement that the project is ready to be closed. By signing this document, each individual agrees all administrative, financial, and logistical aspects of the project should be concluded, executed, and documented as described herein.

Further, by signing this Report, it is accepted that CWIP (FERC Account 107) should be transferred to Utility in Plant Service (FERC Account 101)

Approver Name	Title	Signature	Date
Anthony Strabone	Project Lead		03/30/2020
Charles Rodrigues	Project Sponsor	Charles Rodrigues 	
Mark Parker	Operations Manager		
Phil Greene	Accounting Manager		

Section 2. Final Deliverable/Deployment Checklist

Sponsor to respond to each question. For each "no" response, include an issue in Open Issues section.

Item	Question	Response
2.1	Do you agree that the product and/or service is ready to be deployed?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
2.2	Do you agree the product and/or service has sufficiently met the stated business goals and objectives?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
2.3	Do you fully understand and agree to accept all operational requirements, operational risks, maintenance costs, and other limitations and/or constraints imposed as a result of ongoing operations of the product and/or service?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
2.4	Has the final unitization estimate been provided to Property Accounting?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>

Project Close Out Report 2019

Item	Question	Response
2.5	Do you agree the project should be closed? If no, please explain:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
	<i>Scale of 1 thru 5; 5 = highest</i>	
	Rate your level of satisfaction with regards to the project outcomes listed below	
2.5	Project Quality	3/5
2.6	Product and/or Service Performance	3/5
2.7	Scope	3/5
2.8	Cost (Budget)	2/5
2.9	Schedule	3/5

Section 3. Project Documentation Checklist

Project Manager Respond to each question. For each "no" response, include an issue in Open Issues section.

Item	Question	Response	
3.1	Have project documentation and other items (e.g., Business Case, Project Plan, Charter, Budget Documents, Status Reports) been prepared, collected, filed, and/or disposed?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
3.3 ⁱ	Were audits (e.g., project closeout audit) completed and results documented for future reference?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
3.4	Identify the storage location for the following project documents items:		
Item	Document	Location (e.g., Google Docs, Webspace)	Format
3.4a	Business Case	W:\Engineering\Electric Engineering\Electric Planning Engineering\2 - Planning	<input checked="" type="checkbox"/> Electronic <input type="checkbox"/> Manual
3.4b	If available, the Final Project Schedule	N/A	<input type="checkbox"/> Electronic <input type="checkbox"/> Manual
3.4c	Budget Documentation and Invoices	W:\Public\Accounts Payable\New Hampshire	<input checked="" type="checkbox"/> Electronic <input type="checkbox"/> Manual
3.4d	Status Reports	N/A	<input type="checkbox"/> Electronic <input type="checkbox"/> Manual
3.4e	Risks and Issues Log	N/A	<input type="checkbox"/> Electronic <input type="checkbox"/> Manual
3.4f	Final deliverable	N/A	<input type="checkbox"/> Electronic <input type="checkbox"/> Manual
3.4g	If applicable, verify that final project deliverable for the project is attached or storage location is identified in 3.4.		

Section 4. Project Team ⁱⁱ

Project Manager to list resources specified in the Project Plan and used by the project.

Project Close Out Report | 2019

Name	Role	Type (e.g., Contractor, Employee)
Anthony Strabone	Engineering	Employee
Mark Parker	Overhead Line Operations	Employee

Section 5. Project Lessons Learned

Project Team to identify lessons learned specifically for the project. State the lessons learned in terms of a problem (issue). If available please include a Lesson Learned Log in the attached. Please summarize the top three issues on the project and the recommended improvements to correct a similar problem in the future.

Problem Statement	Problem Description	References	Recommendation
None	None	None	None

Section 7. Open Issues

Project Manager and Functional Lead to describe any open issues and plans for resolution within the context of project closeout. Include an open issue for any “no” responses in the Final Product and/or Service Acceptance Checklist and the Project Artifacts Checklist sections.

Issue	Planned Resolution
Actual Burden rate was higher than estimated.	Work with Finance to determine more accurate burden rates.

Section 8. Project Cost Summary

Project Manager and Functional Lead to provide details for the following tables.

Cost Category	1- Budget	2- Actual	3 = 1 -2 Variance
Cost of Design & Engineering (\$)		\$ 0	
Cost of Materials (\$)		\$ 58,497.18	
Cost of Construction (\$)		\$ 281,340.99	

Project Close Out Report | 2019

External Costs (\$)		\$ 242,081.89	
Internal Costs (\$)		\$ 0	
Other (burdens \$)		\$ 550,261.72	
AFUDC		\$ (3,686.80)	
Total Project Costs (\$)	\$ 700,000	\$ 1,128,494.98	\$ (428,494.98)

Reasons for Variance	Impact
See Change Order Form-burdens	\$ 428,494.98
Cause 2	\$
Cause 3	\$

Project Manager to list of all work orders associated with project that should be closed once Close Out Report is accepted.

Registry of All Job Codes (Regional, Corporate, LABs)
Various

ⁱ This section assumes an accounting audit has been completed ensuring all outstanding payments have been reconciled to the project

ⁱⁱ For Section 4 in filling out the Project Team Section, for those projects following the materiality limit set forth in the work order approval limits greater than \$5M please complete this section, all other projects do not require this.

Liberty Utilities (Granite State Electric) d/b/a Liberty Utilities
DE 19-064 2019 Step Adjustment
Project #8830-C18630 & 8830-C18620

<u>Year</u>	<u>Internal Labor</u>	<u>Materials</u>	<u>Vendors</u>	<u>Overheads</u>	<u>CIAC</u>	<u>AFUDC</u>	<u>Total</u>
2017	\$0.00	\$0.00	\$380.00	\$0.00	\$0.00	\$0.00	\$380.00
2018	\$100.26	(\$76,407.75)	\$0.00	\$0.00	\$0.00	\$0.00	(\$76,307.49)
<u>2019</u>	<u>\$100.26</u>	<u>\$2.13</u>	<u>\$0.00</u>	<u>(16,941.36)</u>	<u>\$0.00</u>	<u>\$0.00</u>	<u>(\$16,838.97)</u>
Total	\$200.52	(\$76,405.62)	\$380.00	(\$16,941.36)	\$0.00	\$0.00	(\$92,766.46)

Liberty Utilities (Granite State Electric) d/b/a Liberty Utilities
DE 19-064 2019 Step Adjustment
Project #8830-1929 Walk In Center Relocation

<u>Year</u>	<u>Internal Labor</u>	<u>Materials</u>	<u>Vendors</u>	<u>Overheads</u>	<u>CIAC</u>	<u>AFUDC</u>	<u>Total Budget</u>	<u>Total Spend</u>
<u>2019</u>	<u>\$23,845.89</u>	<u>\$0.00</u>	<u>\$363,552.70</u>	<u>\$180,201.45</u>	<u>\$0.00</u>	<u>\$137.13</u>	<u>\$300,000</u>	<u>\$567,737.17</u>
Total	\$23,845.89	\$0.00	\$363,552.70	\$180,201.45	\$0.00	\$137.13	\$300,000	\$567,737.17



Capital Project Business Case

NOTE: This form is required for planned Growth, Regulatory Supported, and Discretionary projects as well as combined blanket projects for Safety and Mandated with Growth, Regulatory Supported, and Discretionary Projects with a spend greater than \$100,000 and all unplanned projects. All other Project types can utilize the Capital Expenditure Application Form.

Project Overview			
Project Name:	Walk in Center Relocation Salem	Date Prepared:	1/9/2019
Project ID#:	8830-1929	Cost Estimate:	\$300,000
Project Sponsor:	Richard Foley	Project Start Date:	1/1/2019
Project Lead:	Douglas Dorn	Project End Date:	12/31/2019
Prepared By:	Douglas Dorn	Planned or Unplanned Projects:	<input checked="" type="checkbox"/> Planned <input type="checkbox"/> Unplanned
Project Type (click appropriate boxes):	<input type="checkbox"/> Safety <input type="checkbox"/> Mandated <input type="checkbox"/> Growth <input type="checkbox"/> Regulatory Supported <input checked="" type="checkbox"/> Discretionary		
Spending Rationale:	<input type="checkbox"/> Growth <input checked="" type="checkbox"/> Improvement <input type="checkbox"/> Replenishment		
Project Scope Statement			
(Insert the scope of work, major deliverables, assumptions, and constraints)			
Relocate the Customer Walk In Center (WIC) from the Salem 9 Lowell Rd. to a new central location to better support the customers and open up office space in the Salem office for growth. This also reduces the risks to the customers coming in and out of a working electric yard with all the big equipment and trucks moving in and around the same areas the customer are.			
Background			
(Insert description of current operational arrangement, and brief history of project & asset)			
Currently there is a customer WIC at the 9 Lowell Rd Salem, NH plant. This plant is a working office and Electrical operations center. The office is currently at max capacity, no room for growth. The customers are visiting the site many times per day and at times are crossing paths with the large line trucks. There is a risk to the customer and our employees as some of the customers come in to the yard very quickly and are not familiar with the site. Relocating the WIC to an off-site location opens up more space for growth and reduces the risk to the employees and customers especially at times of storms and outages.			
Recommendation/Objective			
(Insert the unique problem this project is looking to resolve)			
Relocate the Customer WIC to an off-site location more conducive to the customer and reducing the risk to the employees and customers. Allows more office space for growth at the site. Keeps customers away from the busy operation yard.			
Alternatives/Options			
(Describe all reasonably viable alternatives. Discuss the viability of each and provide reasons if rejected)			
No real alternative available.			
Financial Assessment/Cost Estimates			
(Double click embedded excel file to update; include contingency allowance in excel file)			



Capital Project Business Case

Next Anticipated Test Year	2021	Was this Capital Project included in the current year's Board Approved Budget?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No																														
Regulatory Lag (Click appropriate box)	<input type="checkbox"/> Less than 6 Months <input type="checkbox"/> 6-12 Months <input checked="" type="checkbox"/> 1 to 3 years <input type="checkbox"/> Greater than 3 years																																
<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:25%;">Materials (including consumables)</td> <td style="width:12.5%; text-align:right;">\$ -</td> </tr> <tr> <td>Equipment (rental equipment)</td> <td style="text-align:right;">\$ -</td> </tr> <tr> <td>Contractor/Subcontractor (including consultants)</td> <td style="text-align:right;">\$ -</td> <td style="text-align:right;">\$ -</td> <td style="text-align:right;">\$ 295,000</td> <td style="text-align:right;">\$ -</td> <td style="text-align:right;">\$ 295,000</td> </tr> <tr> <td>AFUDC (\$)</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Total Project Costs (\$)</td> <td style="text-align:right;">\$ -</td> <td style="text-align:right;">\$ -</td> <td style="text-align:right;">\$ 300,000</td> <td style="text-align:right;">\$ -</td> <td style="text-align:right;">\$ 300,000</td> </tr> </table>				Materials (including consumables)	\$ -	\$ -	\$ -	\$ -	\$ -	Equipment (rental equipment)	\$ -	\$ -	\$ -	\$ -	\$ -	Contractor/Subcontractor (including consultants)	\$ -	\$ -	\$ 295,000	\$ -	\$ 295,000	AFUDC (\$)						Total Project Costs (\$)	\$ -	\$ -	\$ 300,000	\$ -	\$ 300,000
Materials (including consumables)	\$ -	\$ -	\$ -	\$ -	\$ -																												
Equipment (rental equipment)	\$ -	\$ -	\$ -	\$ -	\$ -																												
Contractor/Subcontractor (including consultants)	\$ -	\$ -	\$ 295,000	\$ -	\$ 295,000																												
AFUDC (\$)																																	
Total Project Costs (\$)	\$ -	\$ -	\$ 300,000	\$ -	\$ 300,000																												
Unlevered Internal Rate of Return:	Click here to enter text.																																
Basis of Estimate:	<i>Provide brief explanation on basis of estimate, activities completed to determine costs</i>																																
For materials, equipment, and construction requiring Engineering drawings please specify the percent complete:																																	
Schedule (List key milestone dates)																																	
Key Milestone Description	Forecast Start Date	Forecast End Date																															
Locate Leased location for the new WIC	3/2019	4/2019																															
Outfit the new space/ close current space	5/2019	7/2019																															
Open new WIC at new location	8/2019	8/2019																															
Risk Assessment (Please describe the risk of not completing the project)																																	
Risk of employees getting hurt by customers driving in to the office space Risk to customers being hurt by the busy operations of the electric yard.																																	
Trade Finance (Is there a possibility to apply trade finance products to this project? See Capital Planning for further clarification)																																	
Supporting Documentation (Reference drawings, condition assessment reports, vendor quotations, etc. Attach document or where possible include hyperlink to file located on shared server or SharePoint)																																	



Capital Project Business Case

Approvals and Signatures¹

Approved By:				
Role	Approval Authority Limit	Name	Signature	Date
Manager / Staff (requisitioner/buyer):	Up to \$25,000			
Senior Manager: :	Up to \$50,000	Douglas Dorn	DDorn <small>Digitally signed by DDorn DN: cn=DDorn, o, ou, email=douglas.dorn@libertyutilities.com, c=US Date: 2019.01.23 11:09:41 -05'00'</small>	
Senior Director/Director:	Up to \$250,000	Richard Foley Director, Procurement	Richard Foley <small>Digitally signed by Richard Foley DN: cn=Richard Foley, o=Liberty Utilities, ou, email=richard.foley@libertyutilities.com, c=US Date: 2019.01.23 10:59:29 -05'00'</small>	
Senior Vice President/ Vice President	Up to \$500,000	Richard MacDonald Vice President, Operations	<i>Richard MacDonald</i>	3/6/2018
State President:	Up to \$500,000	Susan Fleck President, NH		
Regional President:	Up to \$3,000,000			
Corporate - Sr VP Operations:	Up to \$5,000,000			
Corporate - Exec Team Member (CEO, CFO, COO, Vice Chair):	Over \$5,000,000			
Finance (East) – Vice President, Finance & Administration	All Requests	Peter Dawes VP, Finance & Administration	<i>Peter Dawes</i>	4/2/19

¹ Approvals for work orders and purchase orders are subject to the limits set forth in the Approval Limits of Authority Policy owned and amended from time to time by the corporate procurement group.



Capital Project Expenditure Form

Project Name:	Walk in Center Relocation Salem		
Financial Work Order (FWO):		Project ID #:	8830-1929
Requesting Region or Group:	Granite State Electric	Date of Request (MM/DD/YY):	1/9/2019
Project Sponsor:	Richard Foley	Project Start Date:	1/1/2019
Project Lead:	Douglas Dorn	Project End Date:	12/31/2019
Prepared by:	Douglas Dorn	Requested Capital (\$)	\$300,000
Planned or Unplanned Projects:	<input checked="" type="checkbox"/> Planned <input type="checkbox"/> Unplanned		
Project Type: (Click appropriate boxes)	<input type="checkbox"/> Safety <input type="checkbox"/> Mandated <input type="checkbox"/> Growth <input type="checkbox"/> Regulatory Supported <input checked="" type="checkbox"/> Discretionary		
Spending Rationale:	<input type="checkbox"/> Growth <input checked="" type="checkbox"/> Improvement <input type="checkbox"/> Replenishment		

Details of Request

Project description
<p>Relocate the Customer Walk In Center (WIC) from the Salem 9 Lowell Rd. to a new central location to better support the customers and open up office space in the Salem office for growth. This also reduces the risks to the customers coming in and out of a working electric yard with all the big equipment and trucks moving in and around the same areas the customer are.</p>

Is this project growth or customer connection related? If "yes", list the specific locations and how expenditure aligns with customer expansion objectives.
No



Capital Project Expenditure Form

Please describe any permitting requirements, environmental impacts, or resulting performance obligations that may or may not result from this expenditure?

Permits will be required to build out the new space for the Walk in Center. These are standard construction permits.

Will there be assets, greater than \$5,000, currently in service removed as a result of this expenditure?

GUIDANCE: If yes, please detail the specific assets that will be removed:

1. *Original Cost of Plant to be removed (if known):*
2. *What is the replacement cost of the plant being removed (if original cost not known)?*
3. *Original Work Order of Plant to be removed (if known):*
4. *Is the Plant being removed reusable?*
5. *What is the year of original installation of the plant being removed*

Assets will be removed from the Salem office but relocated to the new location and put back in service.

What alternatives were evaluated and why were they rejected?

The alternative is to leave the walk in center in place in Salem which is rejected due to the need for real estate with in the Salem office and the safety to our customers entering a working yard.

What are the risks and consequences of not approving this expenditure?

Risk of employees getting hurt by customers driving in to the office space

Risk to customers being hurt by the busy operations of the electric yard.

Not having the office space required for the HC we currently have and there will be no room for growth.

Please describe how Health, Safety and Security concerns and impacts as a result of this expenditure been addressed.

Risk of employees getting hurt by customers driving in to the office space

Risk to customers being hurt by the busy operations of the electric yard.



Capital Project Expenditure Form

Are there other pertinent details that may affect the decision making process?

Relocating the WIC to a better location for the customers makes more sense and is better suited for the customer to be able to reach us.

Complete the Financial Summary table only if:

- Project is less than \$100,000; or
- Project category is *Mandated or Safety* (Business Case Form not required)

Financial Summary

Next Anticipated Test Year	2020	Was this Capital Project included in the current year's Board Approved Budget?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Regulatory Lag (Click appropriate box)	<input type="checkbox"/> Less than 6 months <input type="checkbox"/> 6 – 12 months <input type="checkbox"/> 1 – 3 years <input type="checkbox"/> Greater than three years		
Which regulatory constructs will be used for recovering this capital spend?	Rate Case		
Please Specify Basis of Estimate For materials, equipment, and construction requiring Engineering drawings please specify the percent complete: ¹	<input type="checkbox"/> Fixed or Firm Price <input checked="" type="checkbox"/> Estimate – Internal <input type="checkbox"/> Estimate – External <input type="checkbox"/> Other (specify details) Click here to enter text.		
Category	Current Year	Future Years	Authorized Amount (to be filled in by Corporate)
Cost of Design & Engineering (\$)	20,000		
Cost of Materials (\$)			
Cost of Construction (\$)	275000		



Capital Project Expenditure Form

External Costs (\$)			
Internal Costs (\$)		5000	
Other (\$)			
AFUDC (\$)			
Total Project Costs (\$)		300,000	

Approvals and Signatures ⁱⁱ

Approved By:				
Role	Approval Limit	Name	Signature	Date
Manager / Staff (requisitioner/buyer):	Up to \$25,000			
Senior Manager:	Up to \$50,000	Douglas Dorn Sr Manager Facilities	DDorn <small>Digitally signed by DDorn DN: cn=DDorn, o, ou, email=douglas.dorn@libertyutilities.com, c=US Date: 2019.01.23 11:08:10 -05'00'</small>	
Senior Director/Director:	Up to \$250,000	Richard Foley Director, Procurement	Richard Foley <small>Digitally signed by Richard Foley DN: cn=Richard Foley, o=Liberty Utilities, ou, email=richard.foley@libertyutilities.com, c=US Date: 2019.01.23 11:01:03 -05'00'</small>	
Senior VP/VP:	Up to \$500,000	Richard MacDonald Vice President, Operations	<i>Richard MacDonald</i>	3/6/2019
State President:	Up to \$500,000	Susan Fleck President NH		
Regional President:	Up to \$3,000,000			
Corporate – Sr. VP Operations:	Up to \$5,000,000			
Corporate - Exec Team Member (CEO, CFO, COO, Vice Chair):	Over \$5,000,000			
Finance (East) – Vice President, Finance & Administration:	All Requests	Peter Dawes VP, Finance & Administration	<i>Peter Dawes</i>	4/2/19

ⁱ For Best Practices on estimating project contingencies please see the Capital Policy.

ⁱⁱ Approvals for work orders and purchase orders are subject to the limits set forth in the Approval Limits of Authority Policy owned and amended from time to time by the corporate procurement group.



Change Order Form

2020

Project Overview

Reason for Change: Relocation of the Walk In Center in Salem NH was needed to provide improved access for customers and allowed for reallocation of the space in the Lowell St Salem NH location for Electric operations and support. The increased budget is required due to the need to accommodate space for a conference room, conference room furniture and audio video needs at the Salem WIC location.

Project ID:	8830-1929	Project Name:	Walk In Center Relocation - Salem
Change Order Name:	Change Order #1	Date Prepared:	3-10-2020
Change Order #:	#1	Financial Work Order (FWO):ⁱ	301929-04001 301929-04002
Project Sponsor:	Richard Foley	Revised Start Date:	1-1-2019
Project Lead:	Doug Dorn	Revised End Date:ⁱⁱ	12-31-2019
Prepared By:	Richard Foley	Change Typeⁱⁱⁱ	<input type="checkbox"/> In Scope <input checked="" type="checkbox"/> Out of Scope
Project Contingency Available?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If No is Selected, Please specify source of funds^{iv}	Other Facilities Capital Budget

Financial Assessment/Cost Estimates

(Double click embedded excel file to update; include contingency allowance in excel file)

Category	Original Project Value	Previous Approved Charges	Current Change Order Amount	Total
Internal Labor	5,000			23,845.89
Materials				
Equipment				
Contractor/Subcontractor	295,000		267,737	363,552.70
Burdens/Overheads				180,201.45
AFUDC				137.13
Total Project Cost	300,000			567,737

Updated Unlevered Internal Rate of Return:

Basis of Current Change Order Amount:

Provide brief explanation on basis of the requested amount (i.e. revised contract amount, estimate based on revised engineering design, etc)

Changes were requested to incorporate a conference room build out , furnishings, and conference room audio/video equipment.

Schedule Impacts

(As a result of the Change Order, where applicable, List the Impacts to schedule)

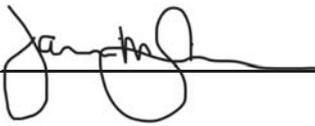
Baseline Schedule (BL)	New Forecast (NF)	Variance (BL – NF)



Change Order Form

2020

Approvals and Signatures^v

Approved By:				
Role	Approval Authority Limit	Name	Signature	Date
Manager / Staff (requisitioner/buyer):	Up to \$25,000			
Senior Manager: :	Up to \$50,000	Doug Dorn	 <small>Digitally signed by DDorn DN: cn=DDorn, o, ou, email=douglas.dorn@libertyutilities.com, c=US Date: 2020.03.17 09:33:52 -04'00'</small>	March 11, 2020
Senior Director/Director:	Up to \$250,000	Richard Foley	 <small>Digitally signed by Richard Foley DN: cn=Richard Foley, o=Liberty Utilities, ou, email=richard.foley@libertyutilities.com, c=US Date: 2020.03.26 07:46:19 -04'00'</small>	
Vice President Operations	Up to \$500,000	Richard MacDonald	 <small>Digitally signed by Rich MacDonald Date: 2020.03.30 15:48:34 -04'00'</small>	
State President / Senior VP / VP:	Up to \$500,000	Susan Fleck		
Regional President:	Up to \$3,000,000	James Sweeney		
Corporate - Sr VP Operations:	Up to \$5,000,000			
Corporate - Exec Team Member (CEO, CFO, COO, Vice Chair):	Over \$5,000,000			

ⁱ The Financial Work Order Section captures the work order this change falls under when the job was initially set-up

ⁱⁱ The Revised project end date is dependent on changes in scope that may deviate the schedule from the original plan

ⁱⁱⁱ The Change type for In scope or Out of scope changes fall within the following scenario:

- In Scope changes are deviations of scope from the original plan and approved budget that align to the original scope of the project but have revised pricing as a result of changes in pricing of labour, materials, and equipment
- Out of Scope changes are scope changes that were not originally planned for in the project baselines and approved budget. Examples of this type of change are related to changes in technology, missed deliverables, a change in the project design altering the scope of the project, etc.

^{iv} In cases where the project no longer has contingency to cover project change orders, please specify any other sources of funds that would address the project variance (i.e. not executing another project, delaying scope of another project, etc)

^v Approvals for work orders and purchase orders are subject to the limits set forth in the Approval Limits of Authority Policy owned and amended from time to time by the corporate procurement group.

Project Close Out Report **2019**

Requesting Region or Group:	Liberty Utilities – GSE	Date of Closeout (MM/DD/YY):	3-16-2020
Project Name:	Walk In Center Relocation Salem		
Requesting Region:	New Hampshire	Sponsor (Name):	Richard Foley
Project Champion:	Douglas Dorn	Project ID	8830-1929
Project Status	X In Service <input type="checkbox"/> Complete <input type="checkbox"/> Closed		
Project Start Date:	August 1, 2019	Project Completion Date:	October 31 2019
Requested Capital (\$)	500,000	Expenditure Included in Approved Budget?	X Yes <input type="checkbox"/> No

Section 1. Approval

Approval of the Project Closeout and Assessment Report indicates an understanding and formal agreement that the project is ready to be closed. By signing this document, each individual agrees all administrative, financial, and logistical aspects of the project should be concluded, executed, and documented as described herein.

Further, by signing this Report, it is accepted that CWIP (FERC Account 107) should be transferred to Utility in Plant Service (FERC Account 101)

Approver Name	Title	Signature	Date
Douglas Dorn	Project Lead	DDorn <small>Digitally signed by DDorn DN: cn=DDorn, o, ou, email=douglas.dorn@libertyutilities.com, c=US Date: 2020.04.01 10:33:43 -04'00'</small>	
Richard Foley	Project Sponsor	Richard Foley <small>Digitally signed by Richard Foley DN: cn=Richard Foley, o=Liberty Utilities, ou, email=richard.foley@libertyutilities.com, c=US Date: 2020.04.01 10:47:29 -04'00'</small>	
Mark Parker	Operations Manager		
Phillip Greene	Accounting Manager		

Section 2. Final Deliverable/Deployment Checklist

Sponsor to respond to each question. For each “no” response, include an issue in Open Issues section.

Item	Question	Response
2.1	Do you agree that the product and/or service is ready to be deployed?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
2.2	Do you agree the product and/or service has sufficiently met the stated business goals and objectives?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
2.3	Do you fully understand and agree to accept all operational requirements, operational risks, maintenance costs, and other limitations and/or constraints imposed as a result of ongoing operations of the product and/or service?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
2.4	Has the final unitization estimate been provided to Property Accounting?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>

Project Close Out Report **2019**

Item	Question	Response
2.5	Do you agree the project should be closed? If no, please explain:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
	<i>Scale of 1 thru 5; 5 = highest</i>	
	Rate your level of satisfaction with regards to the project outcomes listed below	
2.5	Project Quality	5/5
2.6	Product and/or Service Performance	5/5
2.7	Scope	5/5
2.8	Cost (Budget)	5/5
2.9	Schedule	5/5

Section 3. Project Documentation Checklist

Project Manager Respond to each question. For each “no” response, include an issue in Open Issues section.

Item	Question	Response	
3.1	Have project documentation and other items (e.g., Business Case, Project Plan, Charter, Budget Documents, Status Reports) been prepared, collected, filed, and/or disposed?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
3.3 ⁱ	Were audits (e.g., project closeout audit) completed and results documented for future reference?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
3.4	Identify the storage location for the following project documents items:		
Item	Document	Location (e.g., Google Docs, Webspaces)	Format
3.4a	Business Case	W Drive	<input checked="" type="checkbox"/> Electronic <input type="checkbox"/> Manual
3.4b	If available, the Final Project Schedule	NA	<input type="checkbox"/> Electronic <input type="checkbox"/> Manual
3.4c	Budget Documentation and Invoices	W Drive	<input checked="" type="checkbox"/> Electronic <input type="checkbox"/> Manual
3.4d	Status Reports	NA	<input type="checkbox"/> Electronic <input type="checkbox"/> Manual
3.4e	Risks and Issues Log	NA	<input type="checkbox"/> Electronic <input type="checkbox"/> Manual
3.4f	Final deliverable	NA	<input type="checkbox"/> Electronic <input type="checkbox"/> Manual
3.4g	If applicable, verify that final project deliverable for the project is attached or storage location is identified in 3.4.		

Section 4. Project Team ⁱⁱ

Project Manager to list resources specified in the Project Plan and used by the project.

Project Close Out Report **2019**

Name	Role	Type (e.g., Contractor, Employee)
Douglas Dorn	Project Manager	Employee
Richard Foley	Project Sponsor	Employee
Christine Downing	Manager – Customer Service	Employee

Section 5. Project Lessons Learned

Project Team to identify lessons learned specifically for the project. State the lessons learned in terms of a problem (issue). If available please include a Lesson Learned Log in the attached.. Please summarize the top three issues on the project and the recommended improvements to correct a similar problem in the future.

Problem Statement	Problem Description	References	Recommendation
Scope change after start	Add conference room and equipment, added cost to project		

Section 7. Open Issues

Project Manager and Functional Lead to describe any open issues and plans for resolution within the context of project closeout. Include an open issue for any “no” responses in the Final Product and/or Service Acceptance Checklist and the Project Artifacts Checklist sections.

Issue	Planned Resolution
None	

Section 8. Project Cost Summary

Project Manager and Functional Lead to provide details for the following tables.

Cost Category	1- Budget	2- Actual	3 = 1 -2 Variance
Cost of Design & Engineering (\$)			
Cost of Materials (\$)			

Project Close Out Report **2019**

Cost of Construction (\$)		\$363,553	
External Costs (\$)			
Internal Costs (\$)		\$23,845	
Other (\$)		\$180,201	
AFUDC (\$)		\$137	
Total Project Costs (\$)	\$500,000	\$567,737	-\$67,737

Reasons for Variance	Impact
Cause 1 Scope change mid project. Asked to build conference room and add FF&E	\$ 35,000
Cause 2 Changes forced by town building inspector	\$ 30,000
Cause 3 labor and burden	\$ 27,695

Project Manager to list of all work orders associated with project that should be closed once Close Out Report is accepted.

Registry of All Job Codes (Regional, Corporate, LABs)
301929-04001 Salem WIC Construction
301929-04002 Salem WIC Office Equipment

ⁱ This section assumes an accounting audit has been completed ensuring all outstanding payments have been reconciled to the project

ⁱⁱ For Section 4 in filling out the Project Team Section, for those projects following the materiality limit set forth in the work order approval limits greater than \$5M please complete this section, all other projects do not require this.

Liberty Utilities (Granite State Electric) d/b/a Liberty Utilities
DE 19-064 2019 Step Adjustment
Project #8830-1944 Golden Rock Substation

<u>Year</u>	<u>Internal Labor</u>	<u>Materials</u>	<u>Vendors</u>	<u>Overheads</u>	<u>CIAC</u>	<u>AFUDC</u>	<u>Total Budget</u>	<u>Total Spend</u>
2017	\$0.00	\$0.00	\$23,701.46	\$3,467.47	\$0.00	\$0.00	\$100,000	\$27,168.93
2018	\$1,095.37	\$49,575.00	\$203,709.48	\$54,944.12	\$0.00	\$0.00	\$400,000	\$309,323.97
2019	<u>\$12,411.92</u>	<u>\$365,128.48</u>	<u>\$831,685.31</u>	<u>\$466,764.67</u>	<u>\$0.00</u>	<u>\$0.00</u>	<u>\$2,000,000</u>	<u>\$1,675,990.38</u>
Total	\$13,507.29	\$414,703.48	\$1,059,096.25	\$525,176.26	\$0.00	\$0.00	\$2,500,000	\$2,012,483.28



Capital Project Business Case

2019

NOTE: This form is required for planned Growth, Regulatory Supported, and Discretionary projects as well as combined blanket projects for Safety and Mandated with Growth, Regulatory Supported, and Discretionary Projects with a spend greater than \$100,000 and all unplanned projects. All other Project types can utilize the Capital Expenditure Application Form.

Project Overview			
Project Name:	Golden Rock Substation	Date Prepared:	1/9/2019
Project ID#:	8830-1944	Cost Estimate:	\$2,000,000
Project Sponsor:	Charles Rodrigues	Project Start Date:	1/1/2019
Project Lead:	Anthony Strabone	Project End Date:	12/31/2019
Prepared By:	Joel Rivera	Planned or Unplanned Projects:	<input checked="" type="checkbox"/> Planned <input type="checkbox"/> Unplanned
Project Type (click appropriate boxes):	<input type="checkbox"/> Safety <input type="checkbox"/> Mandated <input checked="" type="checkbox"/> Growth <input type="checkbox"/> Regulatory Supported <input type="checkbox"/> Discretionary		
Spending Rationale:	<input type="checkbox"/> Growth <input checked="" type="checkbox"/> Improvement <input type="checkbox"/> Replenishment		
Project Scope Statement			
(Insert the scope of work, major deliverables, assumptions, and constraints)			
<p>The first phase of the Salem Area Study proposes the installation of a 115/13.2 kV - 33/44/55 MVA transformer and four 13.2kV feeders at the Golden Rock Substation and the retirement of Baron Avenue Substation. This phase is performed in conjunction with National Grid.</p> <p>In 2019 it is planned to install two 13.2kV feeder positions at the Golden Rock Substation. The additional two feeders and the retirement of Baron Ave will be performed in subsequent years.</p>			
Background			
(Insert description of current operational arrangement, and brief history of project & asset)			
<p>The town of Salem, NH will experience more than expected load growth in the upcoming years. This is due to commercial redevelopment. This area consists of expansive residential developments, numerous retail plazas, office parks and Industrial/Commercial Parks. The loading of the system has changed over the years to where various components are at or have exceeded certain planning and operating criteria. In addition, sub-transmission facilities in the area are approaching its design limits. The upcoming developments in the area result in an increase or worsening of components exceeding planning and operating criteria.</p>			
Recommendation/Objective			
(Insert the unique problem this project is looking to resolve)			
<p>The Salem Area Study was carried out to study options for the development of the power distribution system in the Salem, NH area. It determines the best engineering solution to mitigate overloads, address contingencies, and to upgrade/replace vintage assets in the system. In addition it determines the distribution requirements needed to supply the proposed business park development in the range of 14MW – 17MW located at the former Rockingham Park Track.</p> <p>The recommended plan accomplishes all system capacity and asset replacement requirements. Upon completion of the projects within the Salem Area Study, Baron Ave and Salem Depot substations will be retired. The plan will be achieved in three (3) phases. This business case is for Phase 1 of the Salem Area Study.</p>			
Alternatives/Options			
(Describe all reasonably viable alternatives. Discuss the viability of each and provide reasons if rejected)			
<p>A total of twelve (12) plans were evaluated to address the existing and future system needs of the area. Six (6) of these plans were eliminated because of transmission costs and construction challenges due to site locations; refer to Appendix A under the Salem Area Report for a list of all Eliminated Plans. Five (5) Alternate plans were developed and weighed against the Recommended</p>			



Capital Project Business Case

2019

Plan. The Five (5) Alternate Plans are detailed in Section 7 and the Recommend Plan is detailed in Section 4 of the Salem Area Report.

Financial Assessment/Cost Estimates

(Double click embedded excel file to update; include contingency allowance in excel file)

Next Anticipated Test Year

2021

Was this Capital Project included in the current year's Board Approved Budget?

Yes
 No

Regulatory Lag
(Click appropriate box)

Less than 6 Months 6-12 Months 1 to 3 years Greater than 3 years

Category	Total Already Approved	2018	2019	Beyond 2019	Total
Internal Labour (including labour and travel)	\$ -	\$ -	\$ 100,000	\$ -	\$ 100,000
Materials (including consumables)	\$ -	\$ -	\$ 500,000	\$ -	\$ 500,000
Equipment (rental equipment)	\$ -	\$ -	\$ -	\$ -	\$ -
Contactor/Subcontractor (including consultants)	\$ -	\$ -	\$ 1,400,000	\$ -	\$ 1,400,000
AFUDC (\$)					

Unlevered Internal Rate of Return:

Click here to enter text.

Basis of Estimate:

This estimate is of investment grade. Project grade estimates will be provided upon completion of final design.

For materials, equipment, and construction requiring Engineering drawings please specify the percent complete:

Schedule

(List key milestone dates)

Key Milestone Description	Forecast Start Date	Forecast End Date
Detailed Design	1/1/2018	5/1/2019
Construction	9/1/2019	12/31/2019

Risk Assessment

(Please describe the risk of not completing the project)

Not completing this project could result in the Company not being able to supply new customer growth in the area and/or could result in distribution facilities operating above their design limits. The retirement of Baron Ave substation would not take place without this project and would increase the risk of equipment failure due to continued aging and deterioration.

Trade Finance

(Is there a possibility to apply trade finance products to this project? See Capital Planning for further clarification)

Unknown



Capital Project Business Case

2019

Supporting Documentation
(Reference drawings, condition assessment reports, vendor quotations, etc. Attach document or where possible include hyperlink to file located on shared server or SharePoint)

Approvals and Signatures ⁱ

Approved By:				
Role	Approval Authority Limit	Name	Signature	Date
Manager / Staff (requisitioner/buyer):	Up to \$25,000	Joel Rivera		3/5/19
Senior Manager: :	Up to \$50,000			
Senior Director/Director:	Up to \$250,000	Charles Rodrigues Director, Engineering		3/5/19
Senior Vice President/ Vice President	Up to \$500,000	Richard MacDonald Vice President, Operations		3/6/19
State President:	Up to \$500,000	Susan Fleck President, NH		3/25/19
Regional President:	Up to \$3,000,000	James Sweeney President, East Region		
Corporate - Sr VP Operations:	Up to \$5,000,000			
Corporate - Exec Team Member (CEO, CFO, COO, Vice Chair):	Over \$5,000,000			
Finance (East) – Vice President, Finance & Administration	All Requests	Peter Dawes VP, Finance & Administration		4/2/19

ⁱ Approvals for work orders and purchase orders are subject to the limits set forth in the Approval Limits of Authority Policy owned and amended from time to time by the corporate procurement group.



Capital Project Expenditure Form

2019

Project Name:	Golden Rock Substation		
Financial Work Order (FWO):		Project ID #:	8830-1944
Requesting Region or Group:	Granite State Electric Co.	Date of Request (MM/DD/YY):	1/9/2019
Project Sponsor:	Charles Rodrigues	Project Start Date:	1/1/2019
Project Lead:	Anthony Strabone	Project End Date:	12/31/2019
Prepared by:	Joel Rivera	Requested Capital (\$)	\$2,000,000
Planned or Unplanned Projects:	<input checked="" type="checkbox"/> Planned <input type="checkbox"/> Unplanned		
Project Type: (Click appropriate boxes)	<input type="checkbox"/> Safety <input type="checkbox"/> Mandated <input checked="" type="checkbox"/> Growth <input type="checkbox"/> Regulatory Supported <input type="checkbox"/> Discretionary		
Spending Rationale:	<input type="checkbox"/> Growth <input checked="" type="checkbox"/> Improvement <input type="checkbox"/> Replenishment		

Details of Request

Project description
 The first phase of the Salem Area Study proposes the installation of a 115/13.2 kV - 33/44/55 MVA transformer and four 13.2kV feeders at the Golden Rock Substation and the retirement of Baron Avenue Substation. This phase is performed in conjunction with National Grid.
 In 2019 it is planned to install two 13.2kV feeder positions at the Golden Rock Substation. The additional two feeders and the retirement of Baron Ave will be performed in subsequent years.

Is this project growth or customer connection related? If "yes", list the specific locations and how expenditure aligns with customer expansion objectives.
 Yes. This project supports and is aligned with the planned customer expansions at the Tuscan Village Park in Salem NH.

Please describe any permitting requirements, environmental impacts, or resulting performance obligations that may or may not result from this expenditure?
 Permitting and/or Easement requirements will be undertaken during detailed design activities as applicable.

Will there be assets, greater than \$5,000, currently in service removed as a result of this expenditure?
GUIDANCE: If yes, please detail the specific assets that will be removed:

- Original Cost of Plant to be removed (if known):
- What is the replacement cost of the plant being removed (if original cost not known)?
- Original Work Order of Plant to be removed (if known):
- Is the Plant being removed reusable?
- What is the year of original installation of the plant being removed

No

What alternatives were evaluated and why were they rejected?
 A total of twelve (12) plans were evaluated to address the existing and future system needs of the area. Six (6) of these plans were eliminated because of transmission costs and construction challenges due to site locations; refer to Appendix A under the Salem Area Report for a list of all Eliminated Plans. Five (5) Alternate plans were developed and weighed against the Recommended Plan. The Five (5) Alternate Plans are detailed in Section 7 and the Recommend Plan is detailed in Section 4 of the Salem Area Report.



Capital Project Expenditure Form

2019

What are the risks and consequences of not approving this expenditure?
Not completing this project could result in the Company not being able to supply new customer growth in the area and/or could result in distribution facilities operating above their design limits. The retirement of Baron Ave substation would not take place without this project and would increase the risk of equipment failure due to continued aging and deterioration.

Please describe how Health, Safety and Security concerns and impacts as a result of this expenditure been addressed.
Health, Safety and Security will be addressed using Engineering designs/controls during the detailed design process if applicable.

Are there other pertinent details that may affect the decision making process?
No

Complete the Financial Summary table only if:

- Project is less than \$100,000; or
- Project category is *Mandated* or *Safety* (Business Case Form not required)

Financial Summary

Next Anticipated Test Year		Was this Capital Project included in the current year's Board Approved Budget?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Regulatory Lag (Click appropriate box)	<input type="checkbox"/> Less than 6 months <input type="checkbox"/> 6 – 12 months <input type="checkbox"/> 1 – 3 years <input type="checkbox"/> Greater than three years		
Which regulatory constructs will be used for recovering this capital spend?			
Please Specify Basis of Estimate For materials, equipment, and construction requiring Engineering drawings please specify the percent complete: ¹	<input type="checkbox"/> Fixed or Firm Price <input type="checkbox"/> Estimate – Internal <input type="checkbox"/> Estimate – External <input type="checkbox"/> Other (specify details) Click here to enter text.		
Category	Current Year	Future Years	Authorized Amount (to be filled in by Corporate)
Cost of Design & Engineering (\$)			
Cost of Materials (\$)			
Cost of Construction (\$)			
External Costs (\$)			
Internal Costs (\$)			
Other (\$)			
AFUDC (\$)			
Total Project Costs (\$)			



Capital Project Expenditure Form

2019

Approvals and Signatures ⁱⁱ

Approved By:				
Role	Approval Limit	Name	Signature	Date
Manager / Staff (requisitioner/buyer):	Up to \$25,000	Joel Rivera Joel Rivera		3/5/19
Senior Manager:	Up to \$50,000			
Senior Director/Director:	Up to \$250,000	Charles Rodrigues Director, Engineering		3/5/19
Senior VP/VP:	Up to \$500,000	Richard MacDonald Vice President, Operations		3/6/19
State President:	Up to \$500,000	Susan Fleck President, NH		3/25/19
Regional President:	Up to \$3,000,000	James Sweeney President, East Region		
Corporate – Sr. VP Operations:	Up to \$5,000,000			
Corporate - Exec Team Member (CEO, CFO, COO, Vice Chair):	Over \$5,000,000			
Finance (East) – Vice President, Finance & Administration:	All Requests	Peter Dawes VP, Finance & Administration		4/2/19

ⁱ For Best Practices on estimating project contingencies please see the Capital Policy.

ⁱⁱ Approvals for work orders and purchase orders are subject to the limits set forth in the Approval Limits of Authority Policy owned and amended from time to time by the corporate procurement group.

Project Close Out Report | 2019

Requesting Region or Group:	Granite State Electric Co.	Date of Closeout (MM/DD/YY):	03/10/2020
Project Name:	Golden Rock Substation		
Project ID#:	8830-1944	Requesting Region:	East Region
Project Lead:	Anthony Strabone	Project Sponsor:	Charles Rodrigues
Project Status	X In Service C Complete <input type="checkbox"/> Closed		
Project Start Date:	01/01/2019	Project Completion Date:	12/31/2019
Requested Capital (\$)	\$ 2,000,000	Expenditure Included in Approved Budget?	X Yes <input type="checkbox"/> No

Section 1. Approval

Approval of the Project Closeout and Assessment Report indicates an understanding and formal agreement that the project is ready to be closed. By signing this document, each individual agrees all administrative, financial, and logistical aspects of the project should be concluded, executed, and documented as described herein.

Further, by signing this Report, it is accepted that CWIP (FERC Account 107) should be transferred to Utility in Plant Service (FERC Account 101)

Approver Name	Title	Signature	Date
Anthony Strabone	Project Lead		03/30/2020
Charles Rodrigues	Project Sponsor	Charles Rodrigues <small>Digitally signed by Charles Rodrigues Date: 2020.03.31 08:01:04 -04'00'</small>	
Mark Parker	Operations Manager		
Phil Greene	Accounting Manager		

Section 2. Final Deliverable/Deployment Checklist

Sponsor to respond to each question. For each "no" response, include an issue in Open Issues section.

Item	Question	Response
2.1	Do you agree that the product and/or service is ready to be deployed?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
2.2	Do you agree the product and/or service has sufficiently met the stated business goals and objectives?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
2.3	Do you fully understand and agree to accept all operational requirements, operational risks, maintenance costs, and other limitations and/or constraints imposed as a result of ongoing operations of the product and/or service?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
2.4	Has the final unitization estimate been provided to Property Accounting?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>

Project Close Out Report 2019

Item	Question	Response
2.5	Do you agree the project should be closed? If no, please explain:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
	<i>Scale of 1 thru 5; 5 = highest</i>	
	Rate your level of satisfaction with regards to the project outcomes listed below	
2.5	Project Quality	3/5
2.6	Product and/or Service Performance	3/5
2.7	Scope	3/5
2.8	Cost (Budget)	4/5
2.9	Schedule	3/5

Section 3. Project Documentation Checklist

Project Manager Respond to each question. For each "no" response, include an issue in Open Issues section.

Item	Question	Response	
3.1	Have project documentation and other items (e.g., Business Case, Project Plan, Charter, Budget Documents, Status Reports) been prepared, collected, filed, and/or disposed?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
3.3 ⁱ	Were audits (e.g., project closeout audit) completed and results documented for future reference?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
3.4	Identify the storage location for the following project documents items:		
Item	Document	Location (e.g., Google Docs, Webspace)	Format
3.4a	Business Case	W:\Engineering\Electric Engineering\Electric Planning Engineering\2 - Planning	<input checked="" type="checkbox"/> Electronic <input type="checkbox"/> Manual
3.4b	If available, the Final Project Schedule	N/A	<input type="checkbox"/> Electronic <input type="checkbox"/> Manual
3.4c	Budget Documentation and Invoices	W:\Public\Accounts Payable\New Hampshire	<input checked="" type="checkbox"/> Electronic <input type="checkbox"/> Manual
3.4d	Status Reports	N/A	<input type="checkbox"/> Electronic <input type="checkbox"/> Manual
3.4e	Risks and Issues Log	N/A	<input type="checkbox"/> Electronic <input type="checkbox"/> Manual
3.4f	Final deliverable	N/A	<input type="checkbox"/> Electronic <input type="checkbox"/> Manual
3.4g	If applicable, verify that final project deliverable for the project is attached or storage location is identified in 3.4.		

Section 4. Project Team ⁱⁱ

Project Manager to list resources specified in the Project Plan and used by the project.

Project Close Out Report | 2019

Name	Role	Type (e.g., Contractor, Employee)
Anthony Strabone	Engineering	Employee
Joel Rivera	Engineering	Employee
Andrew Furtado	Operations-Substation	Employee
Control Point	Owner- Engineering	Contractor
TRC	Engineering- Final Design	Contractor
ES Boulos	Construction	Contractor

Section 5. Project Lessons Learned

Project Team to identify lessons learned specifically for the project. State the lessons learned in terms of a problem (issue). If available please include a Lesson Learned Log in the attached.. Please summarize the top three issues on the project and the recommended improvements to correct a similar problem in the future.

Problem Statement	Problem Description	References	Recommendation
Programming of New Remote Terminal Unit (RTU)	Liberty will be replacing the obsolete GE D20 RTU with a SEL RTAC. As with any new product, Liberty has difficulty programming this device. Liberty relied on its Contractors to help program this device to communicate with Electric Control Room via Liberty's SCADA system	Correspondence between Liberty employees and Liberty Contractors.	Liberty intends to continue with the implementation of the SEL RTAC as the program issues encountered were typical issues experienced with other users that are new to this product. Liberty has documented these issues and will use them as lessons learned with future SEL RTAC installations.

Section 7. Open Issues

Project Manager and Functional Lead to describe any open issues and plans for resolution within the context of project closeout. Include an open issue for any "no" responses in the Final Product and/or Service Acceptance Checklist and the Project Artifacts Checklist sections.

Project Close Out Report | 2019

Issue	Planned Resolution
None	None

Section 8. Project Cost Summary

Project Manager and Functional Lead to provide details for the following tables.

Cost Category	1- Budget	2- Actual	3 = 1 -2 Variance
Cost of Design & Engineering (\$)		\$ 0	
Cost of Materials (\$)		\$ 365,128.48	
Cost of Construction (\$)		\$ 12,411.92	
External Costs (\$)		\$ 831,685.31	
Internal Costs (\$)		\$ 0	
Other (burdens \$)		\$ 466,764.67	
CIAC		\$ 0	
AFUDC		\$ 0	
Total Project Costs (\$)	\$ 2,000,000	\$ 1,675,990.38	\$ 324,009.62

Reasons for Variance	Impact
The 2019 actual charges were less than budgeted amount.	\$ 239,772.69
Entire Construction contingency not needed	\$ 84,236.93
Cause 3	\$

Project Manager to list of all work orders associated with project that should be closed once Close Out Report is accepted.

Registry of All Job Codes (Regional, Corporate, LABs)
301744-03001

ⁱ This section assumes an accounting audit has been completed ensuring all outstanding payments have been reconciled to the project

ⁱⁱ For Section 4 in filling out the Project Team Section, for those projects following the materiality limit set forth in the work order approval limits greater than \$5M please complete this section, all other projects do not require this.

Liberty Utilities (Granite State Electric) d/b/a Liberty Utilities
DE 19-064 2019 Step Adjustment
Project #8830-1945 Golden Rock 19L2

<u>Year</u>	<u>Internal Labor</u>	<u>Materials</u>	<u>Vendors</u>	<u>Overheads</u>	<u>CIAC</u>	<u>AFUDC</u>	<u>Total Budget</u>	<u>Total Spend</u>
2018	\$0.00	\$0.00	\$12,893.07	\$181.89	\$0.00	\$6.01	\$60,000	\$13,080.97
<u>2019</u>	<u>\$17,354.99</u>	<u>\$64,847.70</u>	<u>\$266,073.27</u>	<u>\$160,025.53</u>	<u>\$0.00</u>	<u>\$1,133.93</u>	<u>\$600,000</u>	<u>\$509,435.42</u>
Total	\$17,354.99	\$64,847.70	\$278,966.34	\$160,207.42	\$0.00	\$1,139.94	\$660,000	\$522,516.39



Capital Project Business Case

2019

NOTE: This form is required for planned Growth, Regulatory Supported, and Discretionary projects as well as combined blanket projects for Safety and Mandated with Growth, Regulatory Supported, and Discretionary Projects with a spend greater than \$100,000 and all unplanned projects. All other Project types can utilize the Capital Expenditure Application Form.

Project Overview			
Project Name:	Golden Rock Distribution Feeder 19L6	Date Prepared:	1/9/2019
Project ID#:	8830-1945	Cost Estimate:	\$600,000
Project Sponsor:	Charles Rodrigues	Project Start Date:	1/1/2019
Project Lead:	Anthony Strabone	Project End Date:	12/31/2019
Prepared By:	Joel Rivera	Planned or Unplanned Projects:	<input checked="" type="checkbox"/> Planned <input type="checkbox"/> Unplanned
Project Type (click appropriate boxes):	<input type="checkbox"/> Safety <input type="checkbox"/> Mandated <input checked="" type="checkbox"/> Growth <input type="checkbox"/> Regulatory Supported <input type="checkbox"/> Discretionary		
Spending Rationale:	<input type="checkbox"/> Growth <input checked="" type="checkbox"/> Improvement <input type="checkbox"/> Replenishment		
Project Scope Statement			
(Insert the scope of work, major deliverables, assumptions, and constraints)			
<p>The first phase of the Salem Area Study proposes the installation of a 115/13.2 kV - 33/44/55 MVA transformer and four 13.2kV feeders at the Golden Rock Substation and the retirement of Baron Avenue Substation. This phase is performed in conjunction with National Grid.</p> <p>In 2019 it is planned to install two 13.2kV feeder positions at the Golden Rock Substation. The additional two feeders and the retirement of Baron Ave will be performed in subsequent years.</p> <p>The 19L6 scope consists of the replacement of approximately 4500ft of bare wires with 477 spacer cable and the installation of approximately 500ft of new 1000 Cu underground cable.</p>			
Background			
(Insert description of current operational arrangement, and brief history of project & asset)			
<p>The town of Salem, NH will experience more than expected load growth in the upcoming years. This is due to commercial redevelopment. This area consists of expansive residential developments, numerous retail plazas, office parks and Industrial/Commercial Parks. The loading of the system has changed over the years to where various components are at or have exceeded certain planning and operating criteria. In addition, sub-transmission facilities in the area are approaching its design limits. The upcoming developments in the area result in an increase or worsening of components exceeding planning and operating criteria.</p>			
Recommendation/Objective			
(Insert the unique problem this project is looking to resolve)			
<p>The Salem Area Study was carried out to study options for the development of the power distribution system in the Salem, NH area. It determines the best engineering solution to mitigate overloads, address contingencies, and to upgrade/replace vintage assets in the system. In addition it determines the distribution requirements needed to supply the proposed business park development in the range of 14MW – 17MW located at the former Rockingham Park Track.</p> <p>The recommended plan accomplishes all system capacity and asset replacement requirements. Upon completion of the projects within the Salem Area Study, Baron Ave and Salem Depot substations will be retired. The plan will be achieved in three (3) phases. This business case is for Phase 1 of the Salem Area Study.</p>			



Capital Project Business Case

2019

Alternatives/Options

(Describe all reasonably viable alternatives. Discuss the viability of each and provide reasons if rejected)

A total of twelve (12) plans were evaluated to address the existing and future system needs of the area. Six (6) of these plans were eliminated because of transmission costs and construction challenges due to site locations; refer to Appendix A under the Salem Area Report for a list of all Eliminated Plans. Five (5) Alternate plans were developed and weighed against the Recommended Plan. The Five (5) Alternate Plans are detailed in Section 7 and the Recommend Plan is detailed in Section 4 of the Salem Area Report.

Financial Assessment/Cost Estimates

(Double click embedded excel file to update; include contingency allowance in excel file)

Next Anticipated Test Year

2021

Was this Capital Project included in the current year's Board Approved Budget?

Yes
 No

Regulatory Lag

(Click appropriate box)

Less than 6 Months 6-12 Months 1 to 3 years Greater than 3 years

Category	Total Already Approved	2018	2019	Beyond 2019	Total
Internal Labour (including labour and travel)	\$ -	\$ -	\$ 50,000	\$ -	\$ 50,000
Materials (including consumables)	\$ -	\$ -	\$ 250,000	\$ -	\$ 250,000
Equipment (rental equipment)	\$ -	\$ -	\$ -	\$ -	\$ -
Contactor/Subcontractor (including consultants)	\$ -	\$ -	\$ 300,000	\$ -	\$ 300,000
AFUDC (\$)					

Unlevered Internal Rate of Return:

Click here to enter text.

Basis of Estimate:

This estimate is of investment grade. Detailed estimates will be provided upon completion of final design.

For materials, equipment, and construction requiring Engineering drawings please specify the percent complete:

Schedule

(List key milestone dates)

Key Milestone Description	Forecast Start Date	Forecast End Date
Detailed Design	6/1/2018	3/1/2019
Construction	8/1/2019	12/31/2019



Capital Project Business Case

2019

Risk Assessment (Please describe the risk of not completing the project)
Not completing this project could result in the Company not being able to supply new customer growth in the area and/or could result in distribution facilities operating above their design limits. The retirement of Baron Ave substation would not take place without this project and would increase the risk of equipment failure due to continued aging and deterioration.
Trade Finance (Is there a possibility to apply trade finance products to this project? See Capital Planning for further clarification)
Unknown
Supporting Documentation (Reference drawings, condition assessment reports, vendor quotations, etc. Attach document or where possible include hyperlink to file located on shared server or SharePoint)

Approvals and Signatures ⁱ

Approved By:				
Role	Approval Authority Limit	Name	Signature	Date
Manager / Staff (requisitioner/buyer):	Up to \$25,000	Joel Rivera		3/5/19
Senior Manager: :	Up to \$50,000			
Senior Director/Director:	Up to \$250,000	Charles Rodrigues Director, Engineering		3/5/19
Senior Vice President/ Vice President	Up to \$500,000	Richard MacDonald Vice President, Operations		3/6/2019
State President:	Up to \$500,000	Susan Fleck President, NH		3/25/19
Regional President:	Up to \$3,000,000	James Sweeney President, East Region		
Corporate - Sr VP Operations:	Up to \$5,000,000			
Corporate - Exec Team Member (CEO, CFO, COO, Vice Chair):	Over \$5,000,000			
Finance (East) – Vice President, Finance & Administration	All Requests	Peter Dawes VP, Finance & Administration		4/2/19

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Capital Project Expenditure Form

2019

Project Name:	Golden Rock Distribution Feeder 19L6		
Financial Work Order (FWO):		Project ID #:	8830-1945
Requesting Region or Group:	Granite State Electric Co.	Date of Request (MM/DD/YY):	1/9/2019
Project Sponsor:	Charles Rodrigues	Project Start Date:	1/1/2019
Project Lead:	Anthony Strabone	Project End Date:	12/31/2019
Prepared by:	Joel Rivera	Requested Capital (\$)	\$600,000
Planned or Unplanned Projects:	<input checked="" type="checkbox"/> Planned <input type="checkbox"/> Unplanned		
Project Type: (Click appropriate boxes)	<input type="checkbox"/> Safety <input type="checkbox"/> Mandated <input checked="" type="checkbox"/> Growth <input type="checkbox"/> Regulatory Supported <input type="checkbox"/> Discretionary		
Spending Rationale:	<input type="checkbox"/> Growth <input checked="" type="checkbox"/> Improvement <input type="checkbox"/> Replenishment		

Details of Request

Project description

The first phase of the Salem Area Study proposes the installation of a 115/13.2 kV - 33/44/55 MVA transformer and four 13.2kV feeders at the Golden Rock Substation and the retirement of Baron Avenue Substation. This phase is performed in conjunction with National Grid.
In 2019 it is planned to install two 13.2kV feeder positions at the Golden Rock Substation. The additional two feeders and the retirement of Baron Ave will be performed in subsequent years.
The 19L6 scope consists of the replacement of approximately 4500ft of bare wires with 477 spacer cable and the installation of approximately 500ft of new 1000 Cu underground cable.

Is this project growth or customer connection related? If "yes", list the specific locations and how expenditure aligns with customer expansion objectives.

Yes. This project supports and is aligned with the planned customer expansions at the Tuscan Village Park in Salem NH.

Please describe any permitting requirements, environmental impacts, or resulting performance obligations that may or may not result from this expenditure?

Permitting and/or Easement requirements will be undertaken during detailed design activities as applicable.

Will there be assets, greater than \$5,000, currently in service removed as a result of this expenditure?

GUIDANCE: If yes, please detail the specific assets that will be removed:

1. Original Cost of Plant to be removed (if known):
2. What is the replacement cost of the plant being removed (if original cost not known)?
3. Original Work Order of Plant to be removed (if known):
4. Is the Plant being removed reusable?
5. What is the year of original installation of the plant being removed

Yes. As part of this project poles and overhead wires will be removed along the reconducted sections. Replacement costs will be determined during detailed design activity. The plant being removed is not usable. Answers to questions 1, 3 and 5 are unknown at this time.

What alternatives were evaluated and why were they rejected?

A total of twelve (12) plans were evaluated to address the existing and future system needs of the area. Six (6) of these plans were eliminated because of transmission costs and construction challenges due to site locations; refer to Appendix A under the Salem Area Report for a list of all Eliminated Plans. Five (5) Alternate plans were



Capital Project Expenditure Form

2019

developed and weighed against the Recommended Plan. The Five (5) Alternate Plans are detailed in Section 7 and the Recommend Plan is detailed in Section 4 of the Salem Area Report.

What are the risks and consequences of not approving this expenditure?

Not completing this project could result in the Company not being able to supply new customer growth in the area and/or could result in distribution facilities operating above their design limits. The retirement of Baron Ave substation would not take place without this project and would increase the risk of equipment failure due to continued aging and deterioration.

Please describe how Health, Safety and Security concerns and impacts as a result of this expenditure been addressed.

Health, Safety and Security will be addressed using Engineering designs/controls during the detailed design process if applicable.

Are there other pertinent details that may affect the decision making process?

No

Complete the Financial Summary table only if:

- Project is less than \$100,000; or
- Project category is *Mandated* or *Safety* (Business Case Form not required)

Financial Summary

Next Anticipated Test Year		Was this Capital Project included in the current year's Board Approved Budget?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Regulatory Lag (Click appropriate box)	<input type="checkbox"/> Less than 6 months <input type="checkbox"/> 6 – 12 months <input type="checkbox"/> 1 – 3 years <input type="checkbox"/> Greater than three years		
Which regulatory constructs will be used for recovering this capital spend?			
Please Specify Basis of Estimate For materials, equipment, and construction requiring Engineering drawings please specify the percent complete: ¹	<input type="checkbox"/> Fixed or Firm Price <input type="checkbox"/> Estimate – Internal <input type="checkbox"/> Estimate – External <input type="checkbox"/> Other (specify details) Click here to enter text.		
Category	Current Year	Future Years	Authorized Amount (to be filled in by Corporate)
Cost of Design & Engineering (\$)			
Cost of Materials (\$)			
Cost of Construction (\$)			
External Costs (\$)			
Internal Costs (\$)			
Other (\$)			
AFUDC (\$)			
Total Project Costs (\$)			



Capital Project Expenditure Form

2019

Approvals and Signatures ⁱⁱ

Approved By:				
Role	Approval Limit	Name	Signature	Date
Manager / Staff (requisitioner/buyer):	Up to \$25,000	Joel Rivera Joel Rivera		3/5/19
Senior Manager:	Up to \$50,000			
Senior Director/Director:	Up to \$250,000	Charles Rodrigues Director, Engineering		3/5/19
Senior VP/VP:	Up to \$500,000	Richard MacDonald Vice President, Operations		3/4/19
State President:	Up to \$500,000	Susan Fleck President, NH		3/25/19
Regional President:	Up to \$3,000,000	James Sweeney President, East Region		
Corporate – Sr. VP Operations:	Up to \$5,000,000			
Corporate - Exec Team Member (CEO, CFO, COO, Vice Chair):	Over \$5,000,000			
Finance (East) – Vice President, Finance & Administration:	All Requests	Peter Dawes VP, Finance & Administration		4/2/19

ⁱ For Best Practices on estimating project contingencies please see the Capital Policy.

ⁱⁱ Approvals for work orders and purchase orders are subject to the limits set forth in the Approval Limits of Authority Policy owned and amended from time to time by the corporate procurement group.

Project Close Out Report 2019

Requesting Region or Group:	Granite State Electric Co.	Date of Closeout (MM/DD/YY):	03/10/2020
Project Name:	Golden Rock Distribution Feeder 19L2		
Project ID#:	8830-1945	Requesting Region:	East Region
Project Lead:	Anthony Strabone	Project Sponsor:	Charles Rodrigues
Project Status	X In Service C Complete <input type="checkbox"/> Closed		
Project Start Date:	01/01/2019	Project Completion Date:	12/31/2019
Requested Capital (\$)	\$ 600,000	Expenditure Included in Approved Budget?	X Yes <input type="checkbox"/> No

Section 1. Approval

Approval of the Project Closeout and Assessment Report indicates an understanding and formal agreement that the project is ready to be closed. By signing this document, each individual agrees all administrative, financial, and logistical aspects of the project should be concluded, executed, and documented as described herein.

Further, by signing this Report, it is accepted that CWIP (FERC Account 107) should be transferred to Utility in Plant Service (FERC Account 101)

Approver Name	Title	Signature	Date
Anthony Strabone	Project Lead	<i>Anthony Strabone</i>	03/30/2020
Charles Rodrigues	Project Sponsor	<i>Charles Rodrigues</i>	03/30/2020
Mark Parker	Operations Manager		
Phil Greene	Accounting Manager		

Section 2. Final Deliverable/Deployment Checklist

Sponsor to respond to each question. For each "no" response, include an issue in Open Issues section.

Item	Question	Response
2.1	Do you agree that the product and/or service is ready to be deployed?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
2.2	Do you agree the product and/or service has sufficiently met the stated business goals and objectives?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
2.3	Do you fully understand and agree to accept all operational requirements, operational risks, maintenance costs, and other limitations and/or constraints imposed as a result of ongoing operations of the product and/or service?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
2.4	Has the final unitization estimate been provided to Property Accounting?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>

Project Close Out Report 2019

Item	Question	Response
2.5	Do you agree the project should be closed? If no, please explain:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
	<i>Scale of 1 thru 5; 5 = highest</i>	
	Rate your level of satisfaction with regards to the project outcomes listed below	
2.5	Project Quality	3/5
2.6	Product and/or Service Performance	3/5
2.7	Scope	3/5
2.8	Cost (Budget)	4/5
2.9	Schedule	3/5

Section 3. Project Documentation Checklist

Project Manager Respond to each question. For each "no" response, include an issue in Open Issues section.

Item	Question	Response	
3.1	Have project documentation and other items (e.g., Business Case, Project Plan, Charter, Budget Documents, Status Reports) been prepared, collected, filed, and/or disposed?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
3.3 ⁱ	Were audits (e.g., project closeout audit) completed and results documented for future reference?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
3.4	Identify the storage location for the following project documents items:		
Item	Document	Location (e.g., Google Docs, Webspace)	Format
3.4a	Business Case	W:\Engineering\Electric Engineering\Electric Planning Engineering\2 - Planning	<input checked="" type="checkbox"/> Electronic <input type="checkbox"/> Manual
3.4b	If available, the Final Project Schedule	N/A	<input type="checkbox"/> Electronic <input type="checkbox"/> Manual
3.4c	Budget Documentation and Invoices	W:\Public\Accounts Payable\New Hampshire	<input checked="" type="checkbox"/> Electronic <input type="checkbox"/> Manual
3.4d	Status Reports	N/A	<input type="checkbox"/> Electronic <input type="checkbox"/> Manual
3.4e	Risks and Issues Log	N/A	<input type="checkbox"/> Electronic <input type="checkbox"/> Manual
3.4f	Final deliverable	N/A	<input type="checkbox"/> Electronic <input type="checkbox"/> Manual
3.4g	If applicable, verify that final project deliverable for the project is attached or storage location is identified in 3.4.		

Section 4. Project Team ⁱⁱ

Project Manager to list resources specified in the Project Plan and used by the project.

Project Close Out Report | 2019

Name	Role	Type (e.g., Contractor, Employee)
Anthony Strabone	Engineering	Employee
Joel Rivera	Engineering	Employee
Joshua Pacheco	Engineering	Contractor
Tim Fitzgerald	Construction Coordinator	Contractor

Section 5. Project Lessons Learned

Project Team to identify lessons learned specifically for the project. State the lessons learned in terms of a problem (issue). If available please include a Lesson Learned Log in the attached. Please summarize the top three issues on the project and the recommended improvements to correct a similar problem in the future.

Problem Statement	Problem Description	References	Recommendation
None	None	None	None

Section 7. Open Issues

Project Manager and Functional Lead to describe any open issues and plans for resolution within the context of project closeout. Include an open issue for any “no” responses in the Final Product and/or Service Acceptance Checklist and the Project Artifacts Checklist sections.

Issue	Planned Resolution
Due to configuration of Golden Rock Substation, the 19L2 feeder position could not be installed while maintaining proper clearance to existing 23 kV equipment. As a result, this feeder was installed as the 19L6. This is only a nomenclature change and had no other change in project scope.	Ensure all project documentation for this project references the 19L6 feeder position.

Section 8. Project Cost Summary

Project Manager and Functional Lead to provide details for the following tables.

Cost Category	1- Budget	2- Actual	3 = 1 -2 Variance
Cost of Design & Engineering (\$)		\$ 0	
Cost of Materials (\$)		\$ 64,847.70	

Project Close Out Report | 2019

Cost of Construction (\$)		\$ 17,354.99	
External Costs (\$)		\$ 266,073.27	
Internal Costs (\$)		\$ 0	
Other (burdens \$)		\$ 160,025.53	
CIAC		\$ 0	
AFUDC		\$ 1,133.93	
Total Project Costs (\$)	\$ 600,000	\$ 509,435.42	\$ 90,564.58

Reasons for Variance	Impact
The 2019 actual charges were less than budgeted amount.	\$ 0
Cause 2	\$
Cause 3	\$

Project Manager to list of all work orders associated with project that should be closed once Close Out Report is accepted.

Registry of All Job Codes (Regional, Corporate, LABs)
301845-01001

ⁱ This section assumes an accounting audit has been completed ensuring all outstanding payments have been reconciled to the project

ⁱⁱ For Section 4 in filling out the Project Team Section, for those projects following the materiality limit set forth in the work order approval limits greater than \$5M please complete this section, all other projects do not require this.

Liberty Utilities (Granite State Electric) d/b/a Liberty Utilities
 DE 19-064 2019 Step Adjustment
 Project #8830-1951 Enhanced Bare Replacement

<u>Year</u>	<u>Internal Labor</u>	<u>Materials</u>	<u>Vendors</u>	<u>Overheads</u>	<u>CIAC</u>	<u>AFUDC</u>	<u>Total Budget</u>	<u>Total Spend</u>
2018	\$0.00	\$0.00	\$11,819.91	\$3,386.48	\$0.00	\$0.00	\$600,000	\$15,206.39
2019	<u>\$6,091.57</u>	<u>\$139,032.14</u>	<u>\$594,557.41</u>	<u>\$304,813.57</u>	<u>\$0.00</u>	<u>\$551.28</u>	<u>\$875,000</u>	<u>\$ 1,045,045.97</u>
Total	\$6,091.57	\$139,032.14	\$606,377.32	\$308,200.05	\$0.00	\$551.28	\$1,475,000	\$1,060,252.36



Capital Project Business Case

2019

NOTE: This form is required for planned Growth, Regulatory Supported, and Discretionary projects as well as combined blanket projects for Safety and Mandated with Growth, Regulatory Supported, and Discretionary Projects with a spend greater than \$100,000 and all unplanned projects. All other Project types can utilize the Capital Expenditure Application Form.

Project Overview			
Project Name:	Enhanced Bare Conductor Replacement	Date Prepared:	1/9/2019
Project ID#:	8830-1951	Cost Estimate:	\$875,000
Project Sponsor:	Charles Rodrigues	Project Start Date:	1/1/2019
Project Lead:	Anthony Strabone	Project End Date:	12/31/2019
Prepared By:	Joel Rivera	Planned or Unplanned Projects:	<input checked="" type="checkbox"/> Planned <input type="checkbox"/> Unplanned
Project Type (click appropriate boxes):	<input type="checkbox"/> Safety <input type="checkbox"/> Mandated <input type="checkbox"/> Growth <input type="checkbox"/> Regulatory Supported <input checked="" type="checkbox"/> Discretionary		
Spending Rationale:	<input type="checkbox"/> Growth <input checked="" type="checkbox"/> Improvement <input type="checkbox"/> Replenishment		
Project Scope Statement			
(Insert the scope of work, major deliverables, assumptions, and constraints)			
<p>This strategy replaces primary overhead bare conductors with 477 aluminum spacer cable in areas prone to tree contact. Overhead line sections between the substation and the first protective device are prioritized.</p> <p>In 2019 the scope of this strategy includes the replacement of approximately 8,700ft of bare wires along Wentworth Rd Walpole.</p>			
Background			
(Insert description of current operational arrangement, and brief history of project & asset)			
<p>Bare mainline primary conductors are targeted for replacement with spacer cable. Spacer cable is installed in areas prone to tree outages that are too costly to rely on vegetation management practices alone to mitigate feeder lockouts. The application of spacer cable, a covered conductor resistant to tree related outages, significantly improves mainline circuit performance during windy and stormy conditions as well as affording protection against incidental tree-conductor contact at the end of the trim cycle and contact resulting from branches falling from above the trim zone.</p> <p>This program project is similar to the bare conductor replacement program under the Reliability Enhancement Program with the exception that recovery of investment is via the standard rate base revenue requirements mechanism.</p>			
Recommendation/Objective			
(Insert the unique problem this project is looking to resolve)			
<p>The main objective of this strategy is to improve the reliability performance of the Company by minimizing tree related interruptions on the circuit mainline. The strategy is intended to address poor performing sections of mainline on distribution feeders that would benefit from more immediate reconductoring to improve tree related performance and mitigate future underperformance.</p>			
Alternatives/Options			
(Describe all reasonably viable alternatives. Discuss the viability of each and provide reasons if rejected)			
None			



Capital Project Business Case

2019

Financial Assessment/Cost Estimates

(Double click embedded excel file to update; include contingency allowance in excel file)

Next Anticipated Test Year	2021	Was this Capital Project included in the current year's Board Approved Budget?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Regulatory Lag (Click appropriate box)	<input type="checkbox"/> Less than 6 Months <input type="checkbox"/> 6-12 Months <input checked="" type="checkbox"/> 1 to 3 years <input type="checkbox"/> Greater than 3 years		

Category	Total Already Approved	2018	2019	Beyond 2019	Total
Internal Labour (including labour and travel)	\$ -	\$ -	\$ 50,000	\$ -	\$ 50,000
Materials (including consumables)	\$ -	\$ -	\$ 400,000	\$ -	\$ 400,000
Equipment (rental equipment)	\$ -	\$ -	\$ -	\$ -	\$ -
Contactor/Subcontractor (including consultants)	\$ -	\$ -	\$ 425,000	\$ -	\$ 425,000
AFUDC (\$)					

Unlevered Internal Rate of Return: Click here to enter text.

Basis of Estimate: *This estimate is of investment grade. A project grade estimate will be provided upon completion of detailed design.*

For materials, equipment, and construction requiring Engineering drawings please specify the percent complete:

Schedule

(List key milestone dates)

Key Milestone Description	Forecast Start Date	Forecast End Date
Detailed Design	2/1/2019	5/1/2019
Construction	8/1/2019	12/31/2019

Risk Assessment

(Please describe the risk of not completing the project)

Poor reliability performance will result in diminished customer satisfaction. Not addressing repeat outages will result in poor reliability performance and customer dissatisfaction in these areas. Based on the remote location and timing to address these issues, Operation budgets and schedules could be impacted.

Trade Finance

(Is there a possibility to apply trade finance products to this project? See Capital Planning for further clarification)

Unknown



Capital Project Business Case

2019

Supporting Documentation
(Reference drawings, condition assessment reports, vendor quotations, etc. Attach document or where possible include hyperlink to file located on shared server or SharePoint)

Approvals and Signatures ⁱ

Approved By:				
Role	Approval Authority Limit	Name	Signature	Date
Manager / Staff (requisitioner/buyer):	Up to \$25,000	Joel Rivera		3/5/19
Senior Manager: :	Up to \$50,000			
Senior Director/Director:	Up to \$250,000	Charles Rodrigues Director, Engineering		3/5/19
Senior Vice President/ Vice President	Up to \$500,000	Richard MacDonald Vice President, Operations		3/6/19
State President:	Up to \$500,000	Susan Fleck President, NH		3/25/19
Regional President:	Up to \$3,000,000	James Sweeney President, East Region		
Corporate - Sr VP Operations:	Up to \$5,000,000			
Corporate - Exec Team Member (CEO, CFO, COO, Vice Chair):	Over \$5,000,000			
Finance (East) – Vice President, Finance & Administration	All Requests	Peter Dawes VP, Finance & Administration		4/2/19

ⁱ Approvals for work orders and purchase orders are subject to the limits set forth in the Approval Limits of Authority Policy owned and amended from time to time by the corporate procurement group.



Capital Project Expenditure Form

2019

Project Name:	Enhanced Bare Conductor Replacement		
Financial Work Order (FWO):		Project ID #:	8830-1951
Requesting Region or Group:	Granite State Electric Co.	Date of Request (MM/DD/YY):	1/9/2019
Project Sponsor:	Charles Rodrigues	Project Start Date:	1/1/2019
Project Lead:	Anthony Strabone	Project End Date:	12/31/2019
Prepared by:	Joel Rivera	Requested Capital (\$)	\$875,000
Planned or Unplanned Projects:	<input checked="" type="checkbox"/> Planned <input type="checkbox"/> Unplanned		
Project Type: (Click appropriate boxes)	<input type="checkbox"/> Safety <input type="checkbox"/> Mandated <input type="checkbox"/> Growth <input type="checkbox"/> Regulatory Supported <input checked="" type="checkbox"/> Discretionary		
Spending Rationale:	<input type="checkbox"/> Growth <input checked="" type="checkbox"/> Improvement <input type="checkbox"/> Replenishment		

Details of Request

Project description
 This strategy replaces primary overhead bare conductors with 477 aluminum spacer cable in areas prone to tree contact. Overhead line sections between the substation and the first protective device are prioritized. In 2019 the scope of this strategy includes the replacement of approximately 8,700ft of bare wires along Wentworth Rd Walpole.

Is this project growth or customer connection related? If "yes", list the specific locations and how expenditure aligns with customer expansion objectives.
 No

Please describe any permitting requirements, environmental impacts, or resulting performance obligations that may or may not result from this expenditure?
 Permitting and/or Easement requirements will be undertaken during detailed design activities as applicable.

Will there be assets, greater than \$5,000, currently in service removed as a result of this expenditure?
GUIDANCE: If yes, please detail the specific assets that will be removed:

1. Original Cost of Plant to be removed (if known):
2. What is the replacement cost of the plant being removed (if original cost not known)?
3. Original Work Order of Plant to be removed (if known):
4. Is the Plant being removed reusable?
5. What is the year of original installation of the plant being removed

Yes. As part of this project poles and overhead wires will be removed along the reconducted sections. Replacement costs will be determined during detailed design activity. The plant being removed is not usable. Answers to questions 1, 3 and 5 are unknown at this time.

What alternatives were evaluated and why were they rejected?
 None

What are the risks and consequences of not approving this expenditure?
 Poor reliability performance will result in diminished customer satisfaction. Not addressing repeat outages will result in poor reliability performance and customer dissatisfaction in these areas. Based on the remote location and timing to address these issues, Operation budgets and schedules could be impacted.



Capital Project Expenditure Form

2019

Please describe how Health, Safety and Security concerns and impacts as a result of this expenditure been addressed.

Health, Safety and Security will be addressed using Engineering designs/controls during the detailed design process if applicable.

Are there other pertinent details that may affect the decision making process?

No

Complete the Financial Summary table only if:

- Project is less than \$100,000; or
- Project category is *Mandated* or *Safety* (Business Case Form not required)

Financial Summary

Next Anticipated Test Year		Was this Capital Project included in the current year's Board Approved Budget?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Regulatory Lag (Click appropriate box)	<input type="checkbox"/> Less than 6 months <input type="checkbox"/> 6 – 12 months <input type="checkbox"/> 1 – 3 years <input type="checkbox"/> Greater than three years		
Which regulatory constructs will be used for recovering this capital spend?			
Please Specify Basis of Estimate For materials, equipment, and construction requiring Engineering drawings please specify the percent complete: ¹	<input type="checkbox"/> Fixed or Firm Price <input type="checkbox"/> Estimate – Internal <input type="checkbox"/> Estimate – External <input type="checkbox"/> Other (specify details) Click here to enter text.		
Category	Current Year	Future Years	Authorized Amount (to be filled in by Corporate)
Cost of Design & Engineering (\$)			
Cost of Materials (\$)			
Cost of Construction (\$)			
External Costs (\$)			
Internal Costs (\$)			
Other (\$)			
AFUDC (\$)			
Total Project Costs (\$)			



Capital Project Expenditure Form

2019

Approvals and Signatures ⁱⁱ

Approved By:				
Role	Approval Limit	Name	Signature	Date
Manager / Staff (requisitioner/buyer):	Up to \$25,000	Joel Rivera Joel Rivera		3/5/19
Senior Manager:	Up to \$50,000			
Senior Director/Director:	Up to \$250,000	Charles Rodrigues Director, Engineering		3/5/19
Senior VP/VP:	Up to \$500,000	Richard MacDonald Vice President, Operations		3/6/19
State President:	Up to \$500,000	Susan Fleck President, NH		3/25/19
Regional President:	Up to \$3,000,000	James Sweeney President, East Region		
Corporate – Sr. VP Operations:	Up to \$5,000,000			
Corporate - Exec Team Member (CEO, CFO, COO, Vice Chair):	Over \$5,000,000			
Finance (East) – Vice President, Finance & Administration:	All Requests	Peter Dawes VP, Finance & Administration		4/2/19

ⁱ For Best Practices on estimating project contingencies please see the Capital Policy.

ⁱⁱ Approvals for work orders and purchase orders are subject to the limits set forth in the Approval Limits of Authority Policy owned and amended from time to time by the corporate procurement group.



Change Order Form

2019

Project Overview

Reason for Change: Actual Charges

Project ID:	8830-1951	Project Name:	Enhanced Bare Conductor Replacement
Change Order Name:	Enhanced Bare Conductor Replacement	Date Prepared:	03/10/2020
Change Order #:	1	Financial Work Order (FWO):ⁱ	Various
Project Sponsor:	Charles Rodrigues	Revised Start Date:	01/01/2019
Project Lead:	Anthony Strabone	Revised End Date:ⁱⁱ	12/31/219
Prepared By:	Anthony Strabone	Change Typeⁱⁱⁱ	X In Scope Out of Scope
Project Contingency Available?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If No is Selected, Please specify source of funds^{iv}	

Financial Assessment/Cost Estimates

(Double click embedded excel file to update; include contingency allowance in excel file)

Category	Original Project Value	Previous Approved Charges	Current Change Order Amount	Total
Internal Labor				
Materials				
Equipment				
Contractor/Subcontractor				
Burdens/Overheads				
AFUDC				
Total Project Cost	\$ 875,000	\$ 0	\$ 170,045.97	\$ 1,045,045.97

Updated Unlevered Internal Rate of Return:

Basis of Current Change Order Amount:

The blanket provides funding for the reconductor of bare wire with 477 aluminum spacer cable in areas prone to tree contact. Funding for this blanket is based on historic spending based on similar projects from previous years. The overspend for this project is driven by higher than estimated costs associated with tree trimming; Police/Flagging Costs and actual labor costs. Liberty incurred additional trimming costs due to Liberty adhering to increased clearances identified in PUC 307.10. In addition to these increased costs, Liberty also incurred additional trimming costs as a crane was needed to safely remove trees located near customer homes. Liberty also incurred additional Police Detail Costs as the Town of Walpole recently required the use of Police officers, not Flaggers, to be utilized during construction. .



Change Order Form

2019

Schedule Impacts

(As a result of the Change Order, where applicable, List the Impacts to schedule)

Baseline Schedule (BL)	New Forecast (NF)	Variance (BL – NF)
N/A	N/A	N/A

Approvals and Signatures^v

Approved By:

Role	Approval Authority Limit	Name	Signature	Date
Manager / Staff (requisitioner/buyer):	Up to \$25,000	Anthony Strabone		03/30/2020
Senior Manager: :	Up to \$50,000			
Senior Director/Director:	Up to \$250,000	Charles Rodrigues	Charles Rodrigues <small>Digitally signed by Charles Rodrigues Date: 2020.03.30 15:17:17 -04'00'</small>	
State President / Senior VP / VP:	Up to \$500,000	Susan Fleck		Rich MacDonald <small>Digitally signed by Rich MacDonald Date: 2020.03.31 10:25:49 -04'00'</small>
Regional President:	Up to \$3,000,000			
Corporate - Sr VP Operations:	Up to \$5,000,000			
Corporate - Exec Team Member (CEO, CFO, COO, Vice Chair):	Over \$5,000,000			

ⁱ The Financial Work Order Section captures the work order this change falls under when the job was initially set-up

ⁱⁱ The Revised project end date is dependent on changes in scope that may deviate the schedule from the original plan

ⁱⁱⁱ The Change type for In scope or Out of scope changes fall within the following scenario:

- In Scope changes are deviations of scope from the original plan and approved budget that align to the original scope of the project but have revised pricing as a result of changes in pricing of labour, materials, and equipment
- Out of Scope changes are scope changes that were not originally planned for in the project baselines and approved budget. Examples of this type of change are related to changes in technology, missed deliverables, a change in the project design altering the scope of the project, etc.

^{iv} In cases where the project no longer has contingency to cover project change orders, please specify any other sources of funds that would address the project variance (i.e. not executing another project, delaying scope of another project, etc)

^v Approvals for work orders and purchase orders are subject to the limits set forth in the Approval Limits of Authority Policy owned and amended from time to time by the corporate procurement group.

Project Close Out Report 2019

Requesting Region or Group:	Granite State Electric Co.	Date of Closeout (MM/DD/YY):	03/10/2020
Project Name:	Enhanced Bare Conductor Replacement		
Project ID#:	8830-1951	Requesting Region:	East Region
Project Lead:	Anthony Strabone	Project Sponsor:	Charles Rodrigues
Project Status	X In Service C Complete <input type="checkbox"/> Closed		
Project Start Date:	01/01/2019	Project Completion Date:	12/31/2019
Requested Capital (\$)	\$ 875,000	Expenditure Included in Approved Budget?	X Yes <input type="checkbox"/> No

Section 1. Approval

Approval of the Project Closeout and Assessment Report indicates an understanding and formal agreement that the project is ready to be closed. By signing this document, each individual agrees all administrative, financial, and logistical aspects of the project should be concluded, executed, and documented as described herein.

Further, by signing this Report, it is accepted that CWIP (FERC Account 107) should be transferred to Utility in Plant Service (FERC Account 101)

Approver Name	Title	Signature	Date
Anthony Strabone	Project Lead		03/30/2020
Charles Rodrigues	Project Sponsor	Charles Rodrigues <small>Digitally signed by Charles Rodrigues Date: 2020.03.31 08:04:20 -0400</small>	
Mark Parker	Operations Manager		
Phil Greene	Accounting Manager		

Section 2. Final Deliverable/Deployment Checklist

Sponsor to respond to each question. For each "no" response, include an issue in Open Issues section.

Item	Question	Response
2.1	Do you agree that the product and/or service is ready to be deployed?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
2.2	Do you agree the product and/or service has sufficiently met the stated business goals and objectives?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
2.3	Do you fully understand and agree to accept all operational requirements, operational risks, maintenance costs, and other limitations and/or constraints imposed as a result of ongoing operations of the product and/or service?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
2.4	Has the final unitization estimate been provided to Property Accounting?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>

Project Close Out Report 2019

Item	Question	Response
2.5	Do you agree the project should be closed? If no, please explain:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
	<i>Scale of 1 thru 5; 5 = highest</i>	
	Rate your level of satisfaction with regards to the project outcomes listed below	
2.5	Project Quality	3/5
2.6	Product and/or Service Performance	3/5
2.7	Scope	3/5
2.8	Cost (Budget)	2/5
2.9	Schedule	3/5

Section 3. Project Documentation Checklist

Project Manager Respond to each question. For each “no” response, include an issue in Open Issues section.

Item	Question	Response	
3.1	Have project documentation and other items (e.g., Business Case, Project Plan, Charter, Budget Documents, Status Reports) been prepared, collected, filed, and/or disposed?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
3.3 ⁱ	Were audits (e.g., project closeout audit) completed and results documented for future reference?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
3.4	Identify the storage location for the following project documents items:		
Item	Document	Location (e.g., Google Docs, Webspace)	Format
3.4a	Business Case	W:\Engineering\Electric Engineering\Electric Planning Engineering\2 - Planning	<input checked="" type="checkbox"/> Electronic <input type="checkbox"/> Manual
3.4b	If available, the Final Project Schedule	N/A	<input type="checkbox"/> Electronic <input type="checkbox"/> Manual
3.4c	Budget Documentation and Invoices	W:\Public\Accounts Payable\New Hampshire	<input checked="" type="checkbox"/> Electronic <input type="checkbox"/> Manual
3.4d	Status Reports	N/A	<input type="checkbox"/> Electronic <input type="checkbox"/> Manual
3.4e	Risks and Issues Log	N/A	<input type="checkbox"/> Electronic <input type="checkbox"/> Manual
3.4f	Final deliverable	N/A	<input type="checkbox"/> Electronic <input type="checkbox"/> Manual
3.4g	If applicable, verify that final project deliverable for the project is attached or storage location is identified in 3.4.		

Section 4. Project Team ⁱⁱ

Project Manager to list resources specified in the Project Plan and used by the project.

Project Close Out Report | 2019

Name	Role	Type (e.g., Contractor, Employee)
Anthony Strabone	Engineering	Employee
Joel Rivera	Engineering	Employee
Mark Parker	Operations	Employee
Tim Fitzgerald	Construction Coordinator	Contractor
Jeff Watson	Construction Coordinator	Contractor

Section 5. Project Lessons Learned

Project Team to identify lessons learned specifically for the project. State the lessons learned in terms of a problem (issue). If available please include a Lesson Learned Log in the attached. Please summarize the top three issues on the project and the recommended improvements to correct a similar problem in the future.

Problem Statement	Problem Description	References	Recommendation
Increased traffic control costs	Towns that allowed the use of flaggers in previous years are now requiring use of local Police. This is increasing the cost of traffic control of jobs in some Towns	None	Reach out to local Towns that still allow use of Flaggers for traffic control and confirm use of Flaggers is still acceptable

Section 7. Open Issues

Project Manager and Functional Lead to describe any open issues and plans for resolution within the context of project closeout. Include an open issue for any “no” responses in the Final Product and/or Service Acceptance Checklist and the Project Artifacts Checklist sections.

Issue	Planned Resolution
None	None

Section 8. Project Cost Summary

Project Manager and Functional Lead to provide details for the following tables.

Project Close Out Report | 2019

Cost Category	1- Budget	2- Actual	3 = 1 -2 Variance
Cost of Design & Engineering (\$)		\$ 0	
Cost of Materials (\$)		\$ 139,032.14	
Cost of Construction (\$)		\$ 6,091.57	
External Costs (\$)		\$ 594,557.41	
Internal Costs (\$)		\$ 0	
Other (burdens \$)		\$ 304,813.57	
CIAC		\$ 0	
AFUDC		\$ 551.28	
Total Project Costs (\$)	\$ 875,000	\$ 1,045,045.97	\$ (170,045.97)

Reasons for Variance	Impact
See Change order form-actual costs	\$ 170,045.97
Cause 2	\$
Cause 3	\$

Project Manager to list of all work orders associated with project that should be closed once Close Out Report is accepted.

Registry of All Job Codes (Regional, Corporate, LABs)
301851-01001
301951-01001

ⁱ This section assumes an accounting audit has been completed ensuring all outstanding payments have been reconciled to the project

ⁱⁱ For Section 4 in filling out the Project Team Section, for those projects following the materiality limit set forth in the work order approval limits greater than \$5M please complete this section, all other projects do not require this.

Liberty Utilities (Granite State Electric) d/b/a Liberty Utilities
DE 19-064 2019 Step Adjustment
Project #8830-1958 Install Service to Tuscan South

<u>Year</u>	<u>Internal Labor</u>	<u>Materials</u>	<u>Vendors</u>	<u>Overheads</u>	<u>CIAC</u>	<u>AFUDC</u>	<u>Total Budget</u>	<u>Total Spend*</u>
2017	\$0.00	\$0.00	\$0.00	\$842.72	\$0.00	\$1.05	\$0	\$843.77
2018	\$12,215.64	\$263,970.00	\$330.00	\$6,508.66	(\$633.89)	\$504.41	\$900,000	\$282,894.82
<u>2019</u>	<u>\$54,585.66</u>	<u>\$180,153.91</u>	<u>\$16,058.86</u>	<u>\$270,545.75</u>	<u>(\$4,667.03)</u>	<u>\$3,260.52</u>	<u>\$900,000</u>	<u>\$519,937.67</u>
Total	\$66,801.30	\$444,123.91	\$16,388.86	\$277,897.13	(\$5,300.92)	\$3,765.98	\$1,800,000	\$803,676.26

*Total for 2019 is different from Project Close Out form as not all of the projects in the required close out form are in service. The 2017, 2018 and 2019 represents the total dollars in service as of 12/31/2019.



Capital Project Business Case

2019

NOTE: This form is required for planned Growth, Regulatory Supported, and Discretionary projects as well as combined blanket projects for Safety and Mandated with Growth, Regulatory Supported, and Discretionary Projects with a spend greater than \$100,000 and all unplanned projects. All other Project types can utilize the Capital Expenditure Application Form.

Project Overview

Project Name:	Install Service to Tuscan Village South Line	Date Prepared:	1/9/2019
Project ID#:	8830-1958	Cost Estimate:	\$900,000
Project Sponsor:	Charles Rodrigues	Project Start Date:	1/1/2019
Project Lead:	Anthony Strabone	Project End Date:	12/31/2019
Prepared By:	Joel Rivera	Planned or Unplanned Projects:	<input checked="" type="checkbox"/> Planned <input type="checkbox"/> Unplanned
Project Type (click appropriate boxes):	<input type="checkbox"/> Safety <input type="checkbox"/> Mandated <input checked="" type="checkbox"/> Growth <input type="checkbox"/> Regulatory Supported <input type="checkbox"/> Discretionary		
Spending Rationale:	<input checked="" type="checkbox"/> Growth <input type="checkbox"/> Improvement <input type="checkbox"/> Replenishment		

Project Scope Statement

(Insert the scope of work, major deliverables, assumptions, and constraints)

This project will install approximately 1.5 miles of new UG conduit loop system along Tuscan Village Park to supply new growth in the commercial development – Southern Village.

Background

(Insert description of current operational arrangement, and brief history of project & asset)

A recent purchase of the Rockingham Park Track by Tuscan Kitchen includes 50 acres for the Northern Village and 120 acres for the Southern Village. Existing master plans include developments for the southern village and is included in this business case.

Recommendation/Objective

(Insert the unique problem this project is looking to resolve)

It is recommended to install approximately 1.5 miles of new UG conduit loop system which includes 6" – 12 way duct bank with 1000 Cu cables for the purposes of supplying new commercial load growth in the Salem area.

Alternatives/Options

(Describe all reasonably viable alternatives. Discuss the viability of each and provide reasons if rejected)

None



Capital Project Business Case

2019

Financial Assessment/Cost Estimates
(Double click embedded excel file to update; include contingency allowance in excel file)

Next Anticipated Test Year	2021	Was this Capital Project included in the current year's Board Approved Budget?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Regulatory Lag (Click appropriate box)	<input type="checkbox"/> Less than 6 Months <input type="checkbox"/> 6-12 Months <input checked="" type="checkbox"/> 1 to 3 years <input type="checkbox"/> Greater than 3 years		

Category	Total Already Approved	2018	2019	Beyond 2019	Total
Internal Labour (including labour and travel)	\$ -	\$ -	\$ 300,000	\$ -	\$ 300,000
Materials (including consumables)	\$ -	\$ -	\$ 300,000	\$ -	\$ 300,000
Equipment (rental equipment)	\$ -	\$ -	\$ -	\$ -	\$ -
Contractor/Subcontractor (including consultants)	\$ -	\$ -	\$ 300,000	\$ -	\$ 300,000
AFUDC (\$)					

Unlevered Internal Rate of Return: Click here to enter text.

Basis of Estimate: *This estimate is of investment grade. A project grade estimate will be provided upon completion of detailed design. This estimate does not include impacts from Customer in aid of Construction (CIAC) payments.*

For materials, equipment, and construction requiring Engineering drawings please specify the percent complete:

Schedule
(List key milestone dates)

Key Milestone Description	Forecast Start Date	Forecast End Date
Detailed Design	2/1/2019	6/1/2019
Construction	6/1/2019	12/31/2019

Risk Assessment
(Please describe the risk of not completing the project)

Not completing this project could result in the Company not being able to supply new customer growth in the area and/or could result in distribution facilities operating above their design limits.

Trade Finance
(Is there a possibility to apply trade finance products to this project? See Capital Planning for further clarification)

Unknown



Capital Project Business Case

2019

Supporting Documentation
(Reference drawings, condition assessment reports, vendor quotations, etc. Attach document or where possible include hyperlink to file located on shared server or SharePoint)

Approvals and Signatures ¹

Approved By:				
Role	Approval Authority Limit	Name	Signature	Date
Manager / Staff (requisitioner/buyer):	Up to \$25,000	Joel Rivera		3/5/19
Senior Manager: :	Up to \$50,000			
Senior Director/Director:	Up to \$250,000	Charles Rodrigues Director, Engineering		3/5/19
Senior Vice President/ Vice President	Up to \$500,000	Richard MacDonald Vice President, Operations		3/6/2019
State President:	Up to \$500,000	Susan Fleck President, NH		3/25/19
Regional President:	Up to \$3,000,000	James Sweeney President, East Region		4/2/19
Corporate - Sr VP Operations:	Up to \$5,000,000			
Corporate - Exec Team Member (CEO, CFO, COO, Vice Chair):	Over \$5,000,000			
Finance (East) – Vice President, Finance & Administration	All Requests	Peter Dawes VP, Finance & Administration		4/2/19

¹ Approvals for work orders and purchase orders are subject to the limits set forth in the Approval Limits of Authority Policy owned and amended from time to time by the corporate procurement group.



Capital Project Expenditure Form

2019

Project Name:	Install Service to Tuscan Village South Line		
Financial Work Order (FWO):		Project ID #:	8830-1958
Requesting Region or Group:	Granite State Electric Co.	Date of Request (MM/DD/YY):	1/9/2019
Project Sponsor:	Charles Rodrigues	Project Start Date:	1/1/2019
Project Lead:	Anthony Strabone	Project End Date:	12/31/2019
Prepared by:	Joel Rivera	Requested Capital (\$)	\$900,000
Planned or Unplanned Projects:	<input checked="" type="checkbox"/> Planned <input type="checkbox"/> Unplanned		
Project Type: (Click appropriate boxes)	<input type="checkbox"/> Safety <input type="checkbox"/> Mandated <input checked="" type="checkbox"/> Growth <input type="checkbox"/> Regulatory Supported <input type="checkbox"/> Discretionary		
Spending Rationale:	<input checked="" type="checkbox"/> Growth <input type="checkbox"/> Improvement <input type="checkbox"/> Replenishment		

Details of Request

Project description
This project will install approximately 1.5 miles of new UG conduit loop system along Tuscan Village Park to supply new growth in the commercial development – Southern Village.

Is this project growth or customer connection related? If “yes”, list the specific locations and how expenditure aligns with customer expansion objectives.
Yes. This project supports and is aligned with the planned customer expansions at the Tuscan Village Park in Salem NH.

Please describe any permitting requirements, environmental impacts, or resulting performance obligations that may or may not result from this expenditure?
Permitting and/or Easement requirements will be undertaken during detailed design activities as applicable.

Will there be assets, greater than \$5,000, currently in service removed as a result of this expenditure?
GUIDANCE: If yes, please detail the specific assets that will be removed:

1. Original Cost of Plant to be removed (if known):
2. What is the replacement cost of the plant being removed (if original cost not known)?
3. Original Work Order of Plant to be removed (if known):
4. Is the Plant being removed reusable?
5. What is the year of original installation of the plant being removed

No

What alternatives were evaluated and why were they rejected?
None

What are the risks and consequences of not approving this expenditure?
Not completing this project could result in the Company not being able to supply new customer growth in the area and/or could result in distribution facilities operating above their design limits.



Capital Project Expenditure Form

2019

Please describe how Health, Safety and Security concerns and impacts as a result of this expenditure been addressed.

Health, Safety and Security will be addressed using Engineering designs/controls during the detailed design process if applicable.

Are there other pertinent details that may affect the decision making process?

No

Complete the Financial Summary table only if:

- Project is less than \$100,000; or
- Project category is *Mandated or Safety* (Business Case Form not required)

Financial Summary

Next Anticipated Test Year		Was this Capital Project included in the current year's Board Approved Budget?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Regulatory Lag (Click appropriate box)	<input type="checkbox"/> Less than 6 months <input type="checkbox"/> 6 – 12 months <input type="checkbox"/> 1 – 3 years <input type="checkbox"/> Greater than three years		
Which regulatory constructs will be used for recovering this capital spend?			
Please Specify Basis of Estimate For materials, equipment, and construction requiring Engineering drawings please specify the percent complete: ⁱ	<input type="checkbox"/> Fixed or Firm Price <input type="checkbox"/> Estimate – Internal <input type="checkbox"/> Estimate – External <input type="checkbox"/> Other (specify details) Click here to enter text.		
Category	Current Year	Future Years	Authorized Amount (to be filled in by Corporate)
Cost of Design & Engineering (\$)			
Cost of Materials (\$)			
Cost of Construction (\$)			
External Costs (\$)			
Internal Costs (\$)			
Other (\$)			
AFUDC (\$)			
Total Project Costs (\$)			



Capital Project Expenditure Form

2019

Approvals and Signatures ⁱⁱ

Approved By:				
Role	Approval Limit	Name	Signature	Date
Manager / Staff (requisitioner/buyer):	Up to \$25,000	Joel Rivera Joel Rivera		3/5/19
Senior Manager:	Up to \$50,000			
Senior Director/Director:	Up to \$250,000	Charles Rodrigues Director, Engineering		3/5/19
Senior VP/VP:	Up to \$500,000	Richard MacDonald Vice President, Operations		3/6/19
State President:	Up to \$500,000	Susan Fleck President, NH		3/25/19
Regional President:	Up to \$3,000,000	James Sweeney President, East Region		
Corporate – Sr. VP Operations:	Up to \$5,000,000			
Corporate - Exec Team Member (CEO, CFO, COO, Vice Chair):	Over \$5,000,000			
Finance (East) – Vice President, Finance & Administration:	All Requests	Peter Dawes VP, Finance & Administration		4/2/19

ⁱ For Best Practices on estimating project contingencies please see the Capital Policy.

ⁱⁱ Approvals for work orders and purchase orders are subject to the limits set forth in the Approval Limits of Authority Policy owned and amended from time to time by the corporate procurement group.



Change Order Form

2019

Project Overview

Reason for Change: Burdens

Project ID:	8830-1958	Project Name:	Install Service to Tuscan Village South Line
Change Order Name:	Install Service to Tuscan Village South Line	Date Prepared:	03/10/2020
Change Order #:	1	Financial Work Order (FWO):ⁱ	Various
Project Sponsor:	Charles Rodrigues	Revised Start Date:	01/01/2019
Project Lead:	Anthony Strabone	Revised End Date:ⁱⁱ	12/31/219
Prepared By:	Anthony Strabone	Change Typeⁱⁱⁱ	X In Scope Out of Scope
Project Contingency Available?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If No is Selected, Please specify source of funds^{iv}	

Financial Assessment/Cost Estimates

(Double click embedded excel file to update; include contingency allowance in excel file)

Category	Original Project Value	Previous Approved Charges	Current Change Order Amount	Total
Internal Labor				
Materials				
Equipment				
Contractor/Subcontractor				
Burdens/Overheads				
AFUDC				
Total Project Cost	\$ 900,000	\$ 0	\$ 468,857.04	\$ 1,368,857.04

Updated Unlevered Internal Rate of Return:

Basis of Current Change Order Amount:

The project is funded to install electrical infrastructure equipment in Tuscan Village to provide safe and reliable service to the Development. The overspend for this project is driven by higher than estimated burden rate. This project was estimated with a total burden rate of 30% based on information from Finance. Actual burden rate was 100% which resulted in additional burden charges of \$471,880.22.

Schedule Impacts

(As a result of the Change Order, where applicable, List the Impacts to schedule)

Baseline Schedule (BL)	New Forecast (NF)	Variance (BL – NF)
N/A	N/A	N/A



Change Order Form

2019

Approvals and Signatures^v

Approved By:				
Role	Approval Authority Limit	Name	Signature	Date
Manager / Staff (requisitioner/buyer):	Up to \$25,000	Anthony Strabone	<i>Anthony Strabone</i>	03/30/2020
Senior Manager: :	Up to \$50,000			
Senior Director/Director:	Up to \$250,000	Charles Rodrigues	Charles Rodrigues <small>Digitally signed by Charles Rodrigues Date: 2020.03.30 15:21:05 -04'00'</small>	
State President / Senior VP / VP:	Up to \$500,000	Susan Fleck		Rich MacDonald <small>Digitally signed by Rich MacDonald Date: 2020.03.31 10:22:34 -04'00'</small>
Regional President:	Up to \$3,000,000			
Corporate - Sr VP Operations:	Up to \$5,000,000			
Corporate - Exec Team Member (CEO, CFO, COO, Vice Chair):	Over \$5,000,000			

ⁱ The Financial Work Order Section captures the work order this change falls under when the job was initially set-up

ⁱⁱ The Revised project end date is dependent on changes in scope that may deviate the schedule from the original plan

ⁱⁱⁱ The Change type for In scope or Out of scope changes fall within the following scenario:

- In Scope changes are deviations of scope from the original plan and approved budget that align to the original scope of the project but have revised pricing as a result of changes in pricing of labour, materials, and equipment
- Out of Scope changes are scope changes that were not originally planned for in the project baselines and approved budget. Examples of this type of change are related to changes in technology, missed deliverables, a change in the project design altering the scope of the project, etc.

^{iv} In cases where the project no longer has contingency to cover project change orders, please specify any other sources of funds that would address the project variance (i.e. not executing another project, delaying scope of another project, etc)

^v Approvals for work orders and purchase orders are subject to the limits set forth in the Approval Limits of Authority Policy owned and amended from time to time by the corporate procurement group.

Project Close Out Report **2019**

Requesting Region or Group:	Granite State Electric Co.	Date of Closeout (MM/DD/YY):	03/10/2020
Project Name:	Install Service to Tuscan Village South Line		
Project ID#:	8830-1958	Requesting Region:	East Region
Project Lead:	Anthony Strabone	Project Sponsor:	Charles Rodrigues
Project Status	X In Service C Complete <input type="checkbox"/> Closed		
Project Start Date:	01/01/2019	Project Completion Date:	12/31/2019
Requested Capital (\$)	\$ 900,000	Expenditure Included in Approved Budget?	X Yes <input type="checkbox"/> No

Section 1. Approval

Approval of the Project Closeout and Assessment Report indicates an understanding and formal agreement that the project is ready to be closed. By signing this document, each individual agrees all administrative, financial, and logistical aspects of the project should be concluded, executed, and documented as described herein.

Further, by signing this Report, it is accepted that CWIP (FERC Account 107) should be transferred to Utility in Plant Service (FERC Account 101)

Approver Name	Title	Signature	Date
Anthony Strabone	Project Lead		03/30/2020
Charles Rodrigues	Project Sponsor	Charles Rodrigues <small>Digitally signed by Charles Rodrigues Date: 2020.03.31 08:08:01 -04'00'</small>	
Mark Parker	Operations Manager		
Phil Greene	Accounting Manager		

Section 2. Final Deliverable/Deployment Checklist

Sponsor to respond to each question. For each "no" response, include an issue in Open Issues section.

Item	Question	Response
2.1	Do you agree that the product and/or service is ready to be deployed?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
2.2	Do you agree the product and/or service has sufficiently met the stated business goals and objectives?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
2.3	Do you fully understand and agree to accept all operational requirements, operational risks, maintenance costs, and other limitations and/or constraints imposed as a result of ongoing operations of the product and/or service?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
2.4	Has the final unitization estimate been provided to Property Accounting?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>

Project Close Out Report **2019**

Item	Question	Response
2.5	Do you agree the project should be closed? If no, please explain:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
	<i>Scale of 1 thru 5; 5 = highest</i>	
	Rate your level of satisfaction with regards to the project outcomes listed below	
2.5	Project Quality	3/5
2.6	Product and/or Service Performance	3/5
2.7	Scope	3/5
2.8	Cost (Budget)	2/5
2.9	Schedule	3/5

Section 3. Project Documentation Checklist

Project Manager Respond to each question. For each “no” response, include an issue in Open Issues section.

Item	Question	Response	
3.1	Have project documentation and other items (e.g., Business Case, Project Plan, Charter, Budget Documents, Status Reports) been prepared, collected, filed, and/or disposed?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
3.3 ⁱ	Were audits (e.g., project closeout audit) completed and results documented for future reference?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
3.4	Identify the storage location for the following project documents items:		
Item	Document	Location (e.g., Google Docs, Webspace)	Format
3.4a	Business Case	W:\Engineering\Electric Engineering\Electric Planning Engineering\2 - Planning	<input checked="" type="checkbox"/> Electronic <input type="checkbox"/> Manual
3.4b	If available, the Final Project Schedule	N/A	<input type="checkbox"/> Electronic <input type="checkbox"/> Manual
3.4c	Budget Documentation and Invoices	W:\Public\Accounts Payable\New Hampshire	<input checked="" type="checkbox"/> Electronic <input type="checkbox"/> Manual
3.4d	Status Reports	N/A	<input type="checkbox"/> Electronic <input type="checkbox"/> Manual
3.4e	Risks and Issues Log	N/A	<input type="checkbox"/> Electronic <input type="checkbox"/> Manual
3.4f	Final deliverable	N/A	<input type="checkbox"/> Electronic <input type="checkbox"/> Manual
3.4g	If applicable, verify that final project deliverable for the project is attached or storage location is identified in 3.4.		

Section 4. Project Team ⁱⁱ

Project Manager to list resources specified in the Project Plan and used by the project.

Project Close Out Report | 2019

Name	Role	Type (e.g., Contractor, Employee)
Jill Fitzpatrick	Business Development	Employee
Anthony Strabone	Engineering	Employee
Melvin Emerson	Engineering	Employee
Mark Parker	Operations	Employee
Tim Fitzgerald	Construction Coordinator	Contractor

Section 5. Project Lessons Learned

Project Team to identify lessons learned specifically for the project. State the lessons learned in terms of a problem (issue). If available please include a Lesson Learned Log in the attached.. Please summarize the top three issues on the project and the recommended improvements to correct a similar problem in the future.

Problem Statement	Problem Description	References	Recommendation
None	None	None	None

Section 7. Open Issues

Project Manager and Functional Lead to describe any open issues and plans for resolution within the context of project closeout. Include an open issue for any “no” responses in the Final Product and/or Service Acceptance Checklist and the Project Artifacts Checklist sections.

Issue	Planned Resolution
None	None

Section 8. Project Cost Summary

Project Manager and Functional Lead to provide details for the following tables.

Cost Category	1- Budget	2- Actual	3 = 1 -2 Variance
Cost of Design & Engineering (\$)		\$ 0	
Cost of Materials (\$)		\$ 291,348.43	
Cost of Construction (\$)		\$ 72,864.15	

Project Close Out Report | 2019

External Costs (\$)		\$ 303,148.97	
Internal Costs (\$)		\$ 0	
Other (burdens \$)		\$ 672,088.68	
CIAC		\$ (42,189.65)	
AFUDC		\$ 71,596.46	
Total Project Costs (\$)	\$ 900,000	\$ 1,368,857.04	\$ (468,857.04)

Reasons for Variance	Impact
See Change Order Form-burdens	\$ 471,880.22
Cause 2	\$
Cause 3	\$

Project Manager to list of all work orders associated with project that should be closed once Close Out Report is accepted.

Registry of All Job Codes (Regional, Corporate, LABs)
Various

ⁱ This section assumes an accounting audit has been completed ensuring all outstanding payments have been reconciled to the project

ⁱⁱ For Section 4 in filling out the Project Team Section, for those projects following the materiality limit set forth in the work order approval limits greater than \$5M please complete this section, all other projects do not require this.

Liberty Utilities (Granite State Electric) d/b/a Liberty Utilities
 DE 19-064 2019 Step Adjustment
 Project #8830-1959 Golden Rock 19L4

<u>Year</u>	<u>Internal Labor</u>	<u>Materials</u>	<u>Vendors</u>	<u>Overheads</u>	<u>CIAC</u>	<u>AFUDC</u>	<u>Total Budget</u>	<u>Total Spend</u>
2018	\$0.00	\$0.00	\$3,709.54	\$181.89	\$0.00	\$6.01	\$60,000	\$3,897.44
<u>2019</u>	<u>\$9,113.40</u>	<u>\$48,742.17</u>	<u>\$269,266.84</u>	<u>\$60,870.52</u>	<u>\$0.00</u>	<u>\$1,232.25</u>	<u>\$400,000</u>	<u>\$389,225.18</u>
Total	\$9,113.40	\$48,742.17	\$272,976.38	\$61,052.41	\$0.00	\$1,238.26	\$460,000	\$393,122.62



Capital Project Business Case

2019

NOTE: This form is required for planned Growth, Regulatory Supported, and Discretionary projects as well as combined blanket projects for Safety and Mandated with Growth, Regulatory Supported, and Discretionary Projects with a spend greater than \$100,000 and all unplanned projects. All other Project types can utilize the Capital Expenditure Application Form.

Project Overview

Project Name:	Golden Rock Distribution Feeder 19L8	Date Prepared:	1/9/2019
Project ID#:	8830-1959	Cost Estimate:	\$400,000
Project Sponsor:	Charles Rodrigues	Project Start Date:	1/1/2019
Project Lead:	Anthony Strabone	Project End Date:	12/31/2019
Prepared By:	Joel Rivera	Planned or Unplanned Projects:	<input checked="" type="checkbox"/> Planned <input type="checkbox"/> Unplanned
Project Type (click appropriate boxes):	<input type="checkbox"/> Safety <input type="checkbox"/> Mandated <input checked="" type="checkbox"/> Growth <input type="checkbox"/> Regulatory Supported <input type="checkbox"/> Discretionary		
Spending Rationale:	<input type="checkbox"/> Growth <input checked="" type="checkbox"/> Improvement <input type="checkbox"/> Replenishment		

Project Scope Statement

(Insert the scope of work, major deliverables, assumptions, and constraints)

The first phase of the Salem Area Study proposes the installation of a 115/13.2 kV - 33/44/55 MVA transformer and four 13.2kV feeders at the Golden Rock Substation and the retirement of Baron Avenue Substation. This phase is performed in conjunction with National Grid.

In 2019 it is planned to install two 13.2kV feeder positions at the Golden Rock Substation. The additional two feeders and the retirement of Baron Ave will be performed in subsequent years.

The 19L8 scope consists of the replacement of approximately 1800ft of bare wires with 477 spacer cable and the installation of approximately 500ft of new 1000 Cu underground cable.

Background

(Insert description of current operational arrangement, and brief history of project & asset)

The town of Salem, NH will experience more than expected load growth in the upcoming years. This is due to commercial redevelopment. This area consists of expansive residential developments, numerous retail plazas, office parks and Industrial/Commercial Parks. The loading of the system has changed over the years to where various components are at or have exceeded certain planning and operating criteria. In addition, sub-transmission facilities in the area are approaching its design limits. The upcoming developments in the area result in an increase or worsening of components exceeding planning and operating criteria.

Recommendation/Objective

(Insert the unique problem this project is looking to resolve)

The Salem Area Study was carried out to study options for the development of the power distribution system in the Salem, NH area. It determines the best engineering solution to mitigate overloads, address contingencies, and to upgrade/replace vintage assets in the system. In addition it determines the distribution requirements needed to supply the proposed business park development in the range of 14MW – 17MW located at the former Rockingham Park Track.

The recommended plan accomplishes all system capacity and asset replacement requirements. Upon completion of the projects within the Salem Area Study, Baron Ave and Salem Depot substations will be retired. The plan will be achieved in three (3) phases. This business case is for Phase I of the Salem Area Study.



Capital Project Business Case

2019

Alternatives/Options

(Describe all reasonably viable alternatives. Discuss the viability of each and provide reasons if rejected)

A total of twelve (12) plans were evaluated to address the existing and future system needs of the area. Six (6) of these plans were eliminated because of transmission costs and construction challenges due to site locations; refer to Appendix A under the Salem Area Report for a list of all Eliminated Plans. Five (5) Alternate plans were developed and weighed against the Recommended Plan. The Five (5) Alternate Plans are detailed in Section 7 and the Recommend Plan is detailed in Section 4 of the Salem Area Report.

Financial Assessment/Cost Estimates

(Double click embedded excel file to update; include contingency allowance in excel file)

Next Anticipated Test Year

2021

Was this Capital Project included in the current year's Board Approved Budget?

Yes

No

Regulatory Lag

(Click appropriate box)

Less than 6 Months 6-12 Months 1 to 3 years Greater than 3 years

Category	Total Already Approved	2018	2019	Beyond 2019	Total
Internal Labour (including labour and travel)	\$ -	\$ -	\$ -	\$ 100,000	\$ 100,000
Materials (including consumables)	\$ -	\$ -	\$ -	\$ 150,000	\$ 150,000
Equipment (rental equipment)	\$ -	\$ -	\$ -	\$ -	\$ -
Contactor/Subcontractor (including consultants)	\$ -	\$ -	\$ -	\$ 150,000	\$ 150,000
AFUDC (\$)					

Unlevered Internal Rate of Return:

Click here to enter text.

Basis of Estimate:

This estimate is of investment grade. A project grade estimate will be provided upon completion of detailed design.

For materials, equipment, and construction requiring Engineering drawings please specify the percent complete:

Schedule

(List key milestone dates)

Key Milestone Description	Forecast Start Date	Forecast End Date
Detailed Design	6/1/2018	3/1/2019
Construction	8/1/2019	12/31/2019

Risk Assessment

(Please describe the risk of not completing the project)

Not completing this project could result in the Company not being able to supply new customer growth in the area and/or could result in distribution facilities operating above their design limits. The retirement of Baron Ave substation would not take place without this project and would increase the risk of equipment failure due to continued aging and deterioration.



Capital Project Business Case

2019

Trade Finance

(Is there a possibility to apply trade finance products to this project? See Capital Planning for further clarification)

Unknown

Supporting Documentation

(Reference drawings, condition assessment reports, vendor quotations, etc. Attach document or where possible include hyperlink to file located on shared server or SharePoint)

Approvals and Signatures¹

Approved By:

Role	Approval Authority Limit	Name	Signature	Date
Manager / Staff (requisitioner/buyer):	Up to \$25,000	Joel Rivera		3/5/19
Senior Manager: :	Up to \$50,000			
Senior Director/Director:	Up to \$250,000	Charles Rodrigues Director, Engineering		3/5/19
Senior Vice President/ Vice President	Up to \$500,000	Richard MacDonald Vice President, Operations		3/6/2019
State President:	Up to \$500,000			
Regional President:	Up to \$3,000,000			
Corporate - Sr VP Operations:	Up to \$5,000,000			
Corporate - Exec Team Member (CEO, CFO, COO, Vice Chair):	Over \$5,000,000			
Finance (East) – Vice President, Finance & Administration	All Requests	Peter Dawes VP, Finance & Administration		3/7/19

¹ Approvals for work orders and purchase orders are subject to the limits set forth in the Approval Limits of Authority Policy owned and amended from time to time by the corporate procurement group.



Capital Project Expenditure Form

2019

Project Name:	Golden Rock Distribution Feeder 19L8		
Financial Work Order (FWO):		Project ID #:	8830-1959
Requesting Region or Group:	Granite State Electric Co.	Date of Request (MM/DD/YY):	1/9/2019
Project Sponsor:	Charles Rodrigues	Project Start Date:	1/1/2019
Project Lead:	Anthony Strabone	Project End Date:	12/31/2019
Prepared by:	Joel Rivera	Requested Capital (\$)	\$400,000
Planned or Unplanned Projects:	<input checked="" type="checkbox"/> Planned <input type="checkbox"/> Unplanned		
Project Type: (Click appropriate boxes)	<input type="checkbox"/> Safety <input type="checkbox"/> Mandated <input checked="" type="checkbox"/> Growth <input type="checkbox"/> Regulatory Supported <input type="checkbox"/> Discretionary		
Spending Rationale:	<input type="checkbox"/> Growth <input checked="" type="checkbox"/> Improvement <input type="checkbox"/> Replenishment		

Details of Request

Project description
<p>The first phase of the Salem Area Study proposes the installation of a 115/13.2 kV - 33/44/55 MVA transformer and four 13.2kV feeders at the Golden Rock Substation and the retirement of Baron Avenue Substation. This phase is performed in conjunction with National Grid.</p> <p>In 2019 it is planned to install two 13.2kV feeder positions at the Golden Rock Substation. The additional two feeders and the retirement of Baron Ave will be performed in subsequent years.</p> <p>The 19L8 scope consists of the replacement of approximately 1800ft of bare wires with 477 spacer cable and the installation of approximately 500ft of new 1000 Cu underground cable.</p>

Is this project growth or customer connection related? If "yes", list the specific locations and how expenditure aligns with customer expansion objectives.
Yes. This project supports and is aligned with the planned customer expansions at the Tuscan Village Park in Salem NH.

Please describe any permitting requirements, environmental impacts, or resulting performance obligations that may or may not result from this expenditure?
Permitting and/or Easement requirements will be undertaken during detailed design activities as applicable.

Will there be assets, greater than \$5,000, currently in service removed as a result of this expenditure?
<p><i>GUIDANCE: If yes, please detail the specific assets that will be removed:</i></p> <ol style="list-style-type: none"> <i>Original Cost of Plant to be removed (if known):</i> <i>What is the replacement cost of the plant being removed (if original cost not known)?</i> <i>Original Work Order of Plant to be removed (if known):</i> <i>Is the Plant being removed reusable?</i> <i>What is the year of original installation of the plant being removed</i>
<p>Yes. As part of this project poles and overhead wires will be removed along the reconducted sections. Replacement costs will be determined during detailed design activity. The plant being removed is not usable. Answers to questions 1, 3 and 5 are unknown at this time.</p>



Capital Project Expenditure Form

2019

What alternatives were evaluated and why were they rejected?

A total of twelve (12) plans were evaluated to address the existing and future system needs of the area. Six (6) of these plans were eliminated because of transmission costs and construction challenges due to site locations; refer to Appendix A under the Salem Area Report for a list of all Eliminated Plans. Five (5) Alternate plans were developed and weighed against the Recommended Plan. The Five (5) Alternate Plans are detailed in Section 7 and the Recommend Plan is detailed in Section 4 of the Salem Area Report.

What are the risks and consequences of not approving this expenditure?

Not completing this project could result in the Company not being able to supply new customer growth in the area and/or could result in distribution facilities operating above their design limits. The retirement of Baron Ave substation would not take place without this project and would increase the risk of equipment failure due to continued aging and deterioration.

Please describe how Health, Safety and Security concerns and impacts as a result of this expenditure been addressed.

Health, Safety and Security will be addressed using Engineering designs/controls during the detailed design process if applicable.

Are there other pertinent details that may affect the decision making process?

No

Complete the Financial Summary table only if:

- Project is less than \$100,000; or
- Project category is *Mandated* or *Safety* (Business Case Form not required)

Financial Summary

Next Anticipated Test Year		Was this Capital Project included in the current year's Board Approved Budget?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Regulatory Lag (Click appropriate box)	<input type="checkbox"/> Less than 6 months <input type="checkbox"/> 6 – 12 months <input type="checkbox"/> 1 – 3 years <input type="checkbox"/> Greater than three years		
Which regulatory constructs will be used for recovering this capital spend?			
Please Specify Basis of Estimate For materials, equipment, and construction requiring Engineering drawings please specify the percent complete: †	<input type="checkbox"/> Fixed or Firm Price <input type="checkbox"/> Estimate – Internal <input type="checkbox"/> Estimate – External <input type="checkbox"/> Other (specify details) Click here to enter text.		



Capital Project Expenditure Form

2019

Category	Current Year	Future Years	Authorized Amount (to be filled in by Corporate)
Cost of Design & Engineering (\$)			
Cost of Materials (\$)			
Cost of Construction (\$)			
External Costs (\$)			
Internal Costs (\$)			
Other (\$)			
AFUDC (\$)			
Total Project Costs (\$)			

Approvals and Signatures ⁱⁱ

Approved By:				
Role	Approval Limit	Name	Signature	Date
Manager / Staff (requisitioner/buyer):	Up to \$25,000	Joel Rivera Joel Rivera	<i>JR</i>	3/5/19
Senior Manager:	Up to \$50,000			
Senior Director/Director:	Up to \$250,000	Charles Rodrigues Director, Engineering	<i>C Rodrigues</i>	3/5/19
Senior VP/VP:	Up to \$500,000	Richard MacDonald Vice President, Operations	<i>Richard MacDonald</i>	3/4/2019
State President:	Up to \$500,000			
Regional President:	Up to \$3,000,000			
Corporate – Sr. VP Operations:	Up to \$5,000,000			
Corporate - Exec Team Member (CEO, CFO, COO, Vice Chair):	Over \$5,000,000			
Finance (East) – Vice President, Finance & Administration:	All Requests	Peter Dawes VP, Finance & Administration	<i>Peter Dawes</i>	3/7/19

ⁱ For Best Practices on estimating project contingencies please see the Capital Policy.

ⁱⁱ Approvals for work orders and purchase orders are subject to the limits set forth in the Approval Limits of Authority Policy owned and amended from time to time by the corporate procurement group.

Project Close Out Report 2019

Requesting Region or Group:	Granite State Electric Co.	Date of Closeout (MM/DD/YY):	03/10/2020
Project Name:	Golden Rock Distribution Feeder 19L4		
Project ID#:	8830-1959	Requesting Region:	East Region
Project Lead:	Anthony Strabone	Project Sponsor:	Charles Rodrigues
Project Status	X In Service C Complete <input type="checkbox"/> Closed		
Project Start Date:	01/01/2019	Project Completion Date:	12/31/2019
Requested Capital (\$)	\$ 400,000	Expenditure Included in Approved Budget?	X Yes <input type="checkbox"/> No

Section 1. Approval

Approval of the Project Closeout and Assessment Report indicates an understanding and formal agreement that the project is ready to be closed. By signing this document, each individual agrees all administrative, financial, and logistical aspects of the project should be concluded, executed, and documented as described herein.

Further, by signing this Report, it is accepted that CWIP (FERC Account 107) should be transferred to Utility in Plant Service (FERC Account 101)

Approver Name	Title	Signature	Date
Anthony Strabone	Project Lead		03/30/2020
Charles Rodrigues	Project Sponsor	Charles Rodrigues <small>Digitally signed by Charles Rodrigues Date: 2020.03.31 08:09:17 +0400</small>	
Mark Parker	Operations Manager		
Phil Greene	Accounting Manager		

Section 2. Final Deliverable/Deployment Checklist

Sponsor to respond to each question. For each "no" response, include an issue in Open Issues section.

Item	Question	Response
2.1	Do you agree that the product and/or service is ready to be deployed?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
2.2	Do you agree the product and/or service has sufficiently met the stated business goals and objectives?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
2.3	Do you fully understand and agree to accept all operational requirements, operational risks, maintenance costs, and other limitations and/or constraints imposed as a result of ongoing operations of the product and/or service?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
2.4	Has the final unitization estimate been provided to Property Accounting?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>

Project Close Out Report 2019

Item	Question	Response
2.5	Do you agree the project should be closed? If no, please explain:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
	<i>Scale of 1 thru 5; 5 = highest</i>	
	Rate your level of satisfaction with regards to the project outcomes listed below	
2.5	Project Quality	3/5
2.6	Product and/or Service Performance	3/5
2.7	Scope	3/5
2.8	Cost (Budget)	4/5
2.9	Schedule	3/5

Section 3. Project Documentation Checklist

Project Manager Respond to each question. For each “no” response, include an issue in Open Issues section.

Item	Question	Response
3.1	Have project documentation and other items (e.g., Business Case, Project Plan, Charter, Budget Documents, Status Reports) been prepared, collected, filed, and/or disposed?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
3.3 ⁱ	Were audits (e.g., project closeout audit) completed and results documented for future reference?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
3.4	Identify the storage location for the following project documents items:	
Item	Document	Location (e.g., Google Docs, Webspace) Format
3.4a	Business Case	W:\Engineering\Electric Engineering\Electric Planning Engineering\2 - Planning <input checked="" type="checkbox"/> Electronic <input type="checkbox"/> Manual
3.4b	If available, the Final Project Schedule	N/A <input type="checkbox"/> Electronic <input type="checkbox"/> Manual
3.4c	Budget Documentation and Invoices	W:\Public\Accounts Payable\New Hampshire <input checked="" type="checkbox"/> Electronic <input type="checkbox"/> Manual
3.4d	Status Reports	N/A <input type="checkbox"/> Electronic <input type="checkbox"/> Manual
3.4e	Risks and Issues Log	N/A <input type="checkbox"/> Electronic <input type="checkbox"/> Manual
3.4f	Final deliverable	N/A <input type="checkbox"/> Electronic <input type="checkbox"/> Manual
3.4g	If applicable, verify that final project deliverable for the project is attached or storage location is identified in 3.4.	

Section 4. Project Team ⁱⁱ

Project Manager to list resources specified in the Project Plan and used by the project.

Project Close Out Report | 2019

Name	Role	Type (e.g., Contractor, Employee)
Anthony Strabone	Engineering	Employee
Joel Rivera	Engineering	Employee
Joshua Pacheco	Engineering	Contractor
Tim Fitzgerald	Construction Coordinator	Contractor

Section 5. Project Lessons Learned

Project Team to identify lessons learned specifically for the project. State the lessons learned in terms of a problem (issue). If available please include a Lesson Learned Log in the attached.. Please summarize the top three issues on the project and the recommended improvements to correct a similar problem in the future.

Problem Statement	Problem Description	References	Recommendation
None	None	None	None

Section 7. Open Issues

Project Manager and Functional Lead to describe any open issues and plans for resolution within the context of project closeout. Include an open issue for any “no” responses in the Final Product and/or Service Acceptance Checklist and the Project Artifacts Checklist sections.

Issue	Planned Resolution
Due to configuration of Golden Rock Substation, the 19L4 feeder position could not be installed while maintaining proper clearance to existing 23 kV equipment. As a result, this feeder was installed as the 19L8. This is only a nomenclature change and had no other change in project scope.	Ensure all project documentation for this project references the 19L8 feeder position.

Section 8. Project Cost Summary

Project Manager and Functional Lead to provide details for the following tables.

Cost Category	1- Budget	2- Actual	3 = 1 -2 Variance
Cost of Design & Engineering (\$)		\$ 0	
Cost of Materials (\$)		\$ 48,742.17	
Cost of Construction (\$)		\$ 9,113.4	
External Costs (\$)		\$ 269,266.84	
Internal Costs (\$)		\$ 0	

Project Close Out Report | 2019

Other (burdens \$)		\$ 60,870.52	
CIAC		\$ 0	
AFUDC		\$ 1,232.25	
Total Project Costs (\$)	\$ 400,000	\$ 389,225.18	\$ 10,774.82

Reasons for Variance	Impact
The 2019 actual charges were less than budgeted amount.	\$ 10,774.82
Cause 2	\$
Cause 3	\$

Project Manager to list of all work orders associated with project that should be closed once Close Out Report is accepted.

Registry of All Job Codes (Regional, Corporate, LABs)
301845-01002

ⁱ This section assumes an accounting audit has been completed ensuring all outstanding payments have been reconciled to the project

ⁱⁱ For Section 4 in filling out the Project Team Section, for those projects following the materiality limit set forth in the work order approval limits greater than \$5M please complete this section, all other projects do not require this.

Liberty Utilities (Granite State Electric) d/b/a Liberty Utilities
 DE 19-064 2019 Step Adjustment
 Project #8830-1960 Golden Rock Underground

<u>Year</u>	<u>Internal Labor</u>	<u>Materials</u>	<u>Vendors</u>	<u>Overheads</u>	<u>CIAC</u>	<u>AFUDC</u>	<u>Total Budget</u>	<u>Total Spend</u>
<u>2019</u>	<u>\$2,278.35</u>	<u>\$54,148.04</u>	<u>\$285,938.62</u>	<u>\$68,920.74</u>	<u>\$0.00</u>	<u>\$1,476.93</u>	<u>\$500,000</u>	<u>\$412,762.68</u>
Total	\$2,278.35	\$54,148.04	\$285,938.62	\$68,920.74	\$0.00	\$1,476.93	\$500,000	\$412,762.68



Capital Project Business Case

2019

NOTE: This form is required for planned Growth, Regulatory Supported, and Discretionary projects as well as combined blanket projects for Safety and Mandated with Growth, Regulatory Supported, and Discretionary Projects with a spend greater than \$100,000 and all unplanned projects. All other Project types can utilize the Capital Expenditure Application Form.

Project Overview

Project Name:	Golden Rock Underground	Date Prepared:	1/9/2019
Project ID#:	8830-1960	Cost Estimate:	\$500,000
Project Sponsor:	Charles Rodrigues	Project Start Date:	1/1/2019
Project Lead:	Anthony Strabone	Project End Date:	12/31/2019
Prepared By:	Joel Rivera	Planned or Unplanned Projects:	<input checked="" type="checkbox"/> Planned <input type="checkbox"/> Unplanned
Project Type (click appropriate boxes):	<input type="checkbox"/> Safety <input type="checkbox"/> Mandated <input type="checkbox"/> Growth <input checked="" type="checkbox"/> Regulatory Supported <input type="checkbox"/> Discretionary		
Spending Rationale:	<input type="checkbox"/> Growth <input checked="" type="checkbox"/> Improvement <input type="checkbox"/> Replenishment		

Project Scope Statement

(Insert the scope of work, major deliverables, assumptions, and constraints)

The first phase of the Salem Area Study proposes the installation of a 115/13.2 kV - 33/44/55 MVA transformer and four 13.2kV feeders at the Golden Rock Substation and the retirement of Baron Avenue Substation. This phase is performed in conjunction with National Grid.

In 2019 it is planned to install two 13.2kV feeder positions at the Golden Rock Substation. The additional two feeders and the retirement of Baron Ave will be performed in subsequent years.

The Golden Rock Underground scope consists of the installation of approximately 2500ft of new underground conduit system from Golden Rock to S Broadway (along Hampshire Rd) and will include a 6" – 9 Way duct bank.

Background

(Insert description of current operational arrangement, and brief history of project & asset)

The town of Salem, NH will experience more than expected load growth in the upcoming years. This is due to commercial redevelopment. This area consists of expansive residential developments, numerous retail plazas, office parks and Industrial/Commercial Parks. The loading of the system has changed over the years to where various components are at or have exceeded certain planning and operating criteria. In addition, sub-transmission facilities in the area are approaching its design limits. The upcoming developments in the area result in an increase or worsening of components exceeding planning and operating criteria.

Recommendation/Objective

(Insert the unique problem this project is looking to resolve)

The Salem Area Study was carried out to study options for the development of the power distribution system in the Salem, NH area. It determines the best engineering solution to mitigate overloads, address contingencies, and to upgrade/replace vintage assets in the system. In addition it determines the distribution requirements needed to supply the proposed business park development in the range of 14MW – 17MW located at the former Rockingham Park Track.

The recommended plan accomplishes all system capacity and asset replacement requirements. Upon completion of the projects within the Salem Area Study, Baron Ave and Salem Depot substations will be retired. The plan will be achieved in three (3) phases. This business case is for Phase I of the Salem Area Study.



Capital Project Business Case

2019

Alternatives/Options

(Describe all reasonably viable alternatives. Discuss the viability of each and provide reasons if rejected)

A total of twelve (12) plans were evaluated to address the existing and future system needs of the area. Six (6) of these plans were eliminated because of transmission costs and construction challenges due to site locations; refer to Appendix A under the Salem Area Report for a list of all Eliminated Plans. Five (5) Alternate plans were developed and weighed against the Recommended Plan. The Five (5) Alternate Plans are detailed in Section 7 and the Recommend Plan is detailed in Section 4 of the Salem Area Report.

Financial Assessment/Cost Estimates

(Double click embedded excel file to update; include contingency allowance in excel file)

Next Anticipated Test Year

2021

Was this Capital Project included in the current year's Board Approved Budget?

Yes

No

Regulatory Lag

(Click appropriate box)

Less than 6 Months 6-12 Months 1 to 3 years Greater than 3 years

Category	Total Already Approved	2018	2019	Beyond 2019	Total
Internal Labour (including labour and travel)	\$ -	\$ -	\$ 50,000	\$ -	\$ 50,000
Materials (including consumables)	\$ -	\$ -	\$ 300,000	\$ -	\$ 300,000
Equipment (rental equipment)	\$ -	\$ -	\$ -	\$ -	\$ -
Contactor/Subcontractor (including consultants)	\$ -	\$ -	\$ 150,000	\$ -	\$ 150,000
AFUDC (\$)					

Unlevered Internal Rate of Return:

Click here to enter text.

Basis of Estimate:

This estimate is of investment grade. A project grade estimate will be provided upon completion of detailed design.

For materials, equipment, and construction requiring Engineering drawings please specify the percent complete:

Schedule

(List key milestone dates)

Key Milestone Description	Forecast Start Date	Forecast End Date
Detailed Design	6/1/2018	5/1/2019
Construction	8/1/2019	12/31/2019

Risk Assessment

(Please describe the risk of not completing the project)

Not completing this project could result in the Company not being able to supply new customer growth in the area and/or could result in distribution facilities operating above their design limits.



Capital Project Business Case

2019

Trade Finance

(Is there a possibility to apply trade finance products to this project? See Capital Planning for further clarification)

Supporting Documentation

(Reference drawings, condition assessment reports, vendor quotations, etc. Attach document or where possible include hyperlink to file located on shared server or SharePoint)

Approvals and Signatures¹

Approved By:

Role	Approval Authority Limit	Name	Signature	Date
Manager / Staff (requisitioner/buyer):	Up to \$25,000	Joel Rivera		3/5/19
Senior Manager: :	Up to \$50,000			
Senior Director/Director:	Up to \$250,000	Charles Rodrigues Director, Engineering		3/5/19
Senior Vice President/ Vice President	Up to \$500,000	Richard MacDonald Vice President, Operations		3/6/2019
State President:	Up to \$500,000			
Regional President:	Up to \$3,000,000			
Corporate - Sr VP Operations:	Up to \$5,000,000			
Corporate - Exec Team Member (CEO, CFO, COO, Vice Chair):	Over \$5,000,000			
Finance (East) – Vice President, Finance & Administration	All Requests	Peter Dawes VP, Finance & Administration		3/7/19

¹ Approvals for work orders and purchase orders are subject to the limits set forth in the Approval Limits of Authority Policy owned and amended from time to time by the corporate procurement group.



Capital Project Expenditure Form

2019

Project Name:	Golden Rock Underground		
Financial Work Order (FWO):		Project ID #:	8830-1960
Requesting Region or Group:	Granite State Electric Co.	Date of Request (MM/DD/YY):	1/9/2019
Project Sponsor:	Charles Rodrigues	Project Start Date:	1/1/2019
Project Lead:	Anthony Strabone	Project End Date:	12/31/2019
Prepared by:	Joel Rivera	Requested Capital (\$)	\$500,000
Planned or Unplanned Projects:	<input checked="" type="checkbox"/> Planned <input type="checkbox"/> Unplanned		
Project Type: (Click appropriate boxes)	<input type="checkbox"/> Safety <input type="checkbox"/> Mandated <input type="checkbox"/> Growth <input checked="" type="checkbox"/> Regulatory Supported <input type="checkbox"/> Discretionary		
Spending Rationale:	<input type="checkbox"/> Growth <input checked="" type="checkbox"/> Improvement <input type="checkbox"/> Replenishment		

Details of Request

Project description

The first phase of the Salem Area Study proposes the installation of a 115/13.2 kV - 33/44/55 MVA transformer and four 13.2kV feeders at the Golden Rock Substation and the retirement of Baron Avenue Substation. This phase is performed in conjunction with National Grid.

In 2019 it is planned to install two 13.2kV feeder positions at the Golden Rock Substation. The additional two feeders and the retirement of Baron Ave will be performed in subsequent years.

The Golden Rock Underground scope consists of the installation of approximately 2500ft of new underground conduit system from Golden Rock to S Broadway (along Hampshire Rd) and will include a 6" – 9 Way duct bank.

Is this project growth or customer connection related? If "yes", list the specific locations and how expenditure aligns with customer expansion objectives.

Yes. This project supports and is aligned with the planned customer expansions at the Tuscan Village Park in Salem NH.

Please describe any permitting requirements, environmental impacts, or resulting performance obligations that may or may not result from this expenditure?

Permitting and/or Easement requirements will be undertaken during detailed design activities as applicable.

Will there be assets, greater than \$5,000, currently in service removed as a result of this expenditure?

GUIDANCE: If yes, please detail the specific assets that will be removed:

1. Original Cost of Plant to be removed (if known):
2. What is the replacement cost of the plant being removed (if original cost not known)?
3. Original Work Order of Plant to be removed (if known):
4. Is the Plant being removed reusable?
5. What is the year of original installation of the plant being removed

No

What alternatives were evaluated and why were they rejected?

A total of twelve (12) plans were evaluated to address the existing and future system needs of the area. Six (6) of these plans were eliminated because of transmission costs and construction challenges due to site locations; refer



Capital Project Expenditure Form

2019

to Appendix A under the Salem Area Report for a list of all Eliminated Plans. Five (5) Alternate plans were developed and weighed against the Recommended Plan. The Five (5) Alternate Plans are detailed in Section 7 and the Recommend Plan is detailed in Section 4 of the Salem Area Report.

What are the risks and consequences of not approving this expenditure?

Not completing this project could result in the Company not being able to supply new customer growth in the area and/or could result in distribution facilities operating above their design limits.

Please describe how Health, Safety and Security concerns and impacts as a result of this expenditure been addressed.

Health, Safety and Security will be addressed using Engineering designs/controls during the detailed design process if applicable.

Are there other pertinent details that may affect the decision making process?

No

Complete the Financial Summary table only if:

- Project is less than \$100,000; or
- Project category is *Mandated or Safety* (Business Case Form not required)

Financial Summary

Next Anticipated Test Year		Was this Capital Project included in the current year's Board Approved Budget?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Regulatory Lag (Click appropriate box)	<input type="checkbox"/> Less than 6 months <input type="checkbox"/> 6 – 12 months <input type="checkbox"/> 1 – 3 years <input type="checkbox"/> Greater than three years		
Which regulatory constructs will be used for recovering this capital spend?			
Please Specify Basis of Estimate For materials, equipment, and construction requiring Engineering drawings please specify the percent complete: ⁱ	<input type="checkbox"/> Fixed or Firm Price <input type="checkbox"/> Estimate – Internal <input type="checkbox"/> Estimate – External <input type="checkbox"/> Other (specify details) Click here to enter text.		
Category	Current Year	Future Years	Authorized Amount (to be filled in by Corporate)
Cost of Design & Engineering (\$)			
Cost of Materials (\$)			
Cost of Construction (\$)			
External Costs (\$)			
Internal Costs (\$)			
Other (\$)			
AFUDC (\$)			
Total Project Costs (\$)			



Capital Project Expenditure Form

2019

Approvals and Signatures ⁱⁱ

Approved By:				
Role	Approval Limit	Name	Signature	Date
Manager / Staff (requisitioner/buyer):	Up to \$25,000	Joel Rivera Joel Rivera	<i>JR</i>	3/5/19
Senior Manager:	Up to \$50,000			
Senior Director/Director:	Up to \$250,000	Charles Rodrigues Director, Engineering	<i>C Rodrigues</i>	
Senior VP/VP:	Up to \$500,000	Richard MacDonald Vice President, Operations	<i>Richard MacDonald</i>	3/4/2019
State President:	Up to \$500,000			
Regional President:	Up to \$3,000,000			
Corporate – Sr. VP Operations:	Up to \$5,000,000			
Corporate - Exec Team Member (CEO, CFO, COO, Vice Chair):	Over \$5,000,000			
Finance (East) – Vice President, Finance & Administration:	All Requests	Peter Dawes VP, Finance & Administration	<i>Peter Dawes</i>	3/7/19

ⁱ For Best Practices on estimating project contingencies please see the Capital Policy.

ⁱⁱ Approvals for work orders and purchase orders are subject to the limits set forth in the Approval Limits of Authority Policy owned and amended from time to time by the corporate procurement group.

Project Close Out Report 2019

Requesting Region or Group:	Granite State Electric Co.	Date of Closeout (MM/DD/YY):	03/10/2020
Project Name:	Golden Rock Underground		
Project ID#:	8830-1960	Requesting Region:	East Region
Project Lead:	Anthony Strabone	Project Sponsor:	Charles Rodrigues
Project Status	X In Service C Complete <input type="checkbox"/> Closed		
Project Start Date:	01/01/2019	Project Completion Date:	12/31/2019
Requested Capital (\$)	\$ 500,000	Expenditure Included in Approved Budget?	X Yes <input type="checkbox"/> No

Section 1. Approval

Approval of the Project Closeout and Assessment Report indicates an understanding and formal agreement that the project is ready to be closed. By signing this document, each individual agrees all administrative, financial, and logistical aspects of the project should be concluded, executed, and documented as described herein.

Further, by signing this Report, it is accepted that CWIP (FERC Account 107) should be transferred to Utility in Plant Service (FERC Account 101)

Approver Name	Title	Signature	Date
Anthony Strabone	Project Lead	<i>Anthony Strabone</i>	03/30/2020
Charles Rodrigues	Project Sponsor	Charles Rodrigues <small>Digitally signed by Charles Rodrigues Date: 2020.03.31 08:10:01 -04'00'</small>	
Mark Parker	Operations Manager		
Phil Greene	Accounting Manager		

Section 2. Final Deliverable/Deployment Checklist

Sponsor to respond to each question. For each "no" response, include an issue in Open Issues section.

Item	Question	Response
2.1	Do you agree that the product and/or service is ready to be deployed?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
2.2	Do you agree the product and/or service has sufficiently met the stated business goals and objectives?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
2.3	Do you fully understand and agree to accept all operational requirements, operational risks, maintenance costs, and other limitations and/or constraints imposed as a result of ongoing operations of the product and/or service?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
2.4	Has the final unitization estimate been provided to Property Accounting?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>

Project Close Out Report **2019**

Item	Question	Response
2.5	Do you agree the project should be closed? If no, please explain:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
	<i>Scale of 1 thru 5; 5 = highest</i>	
	Rate your level of satisfaction with regards to the project outcomes listed below	
2.5	Project Quality	3/5
2.6	Product and/or Service Performance	3/5
2.7	Scope	3/5
2.8	Cost (Budget)	4/5
2.9	Schedule	3/5

Section 3. Project Documentation Checklist

Project Manager Respond to each question. For each "no" response, include an issue in Open Issues section.

Item	Question	Response	
3.1	Have project documentation and other items (e.g., Business Case, Project Plan, Charter, Budget Documents, Status Reports) been prepared, collected, filed, and/or disposed?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
3.3 ⁱ	Were audits (e.g., project closeout audit) completed and results documented for future reference?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
3.4	Identify the storage location for the following project documents items:		
Item	Document	Location (e.g., Google Docs, Webspace)	Format
3.4a	Business Case	W:\Engineering\Electric Engineering\Electric Planning Engineering\2 - Planning	<input checked="" type="checkbox"/> Electronic <input type="checkbox"/> Manual
3.4b	If available, the Final Project Schedule	N/A	<input type="checkbox"/> Electronic <input type="checkbox"/> Manual
3.4c	Budget Documentation and Invoices	W:\Public\Accounts Payable\New Hampshire	<input checked="" type="checkbox"/> Electronic <input type="checkbox"/> Manual
3.4d	Status Reports	N/A	<input type="checkbox"/> Electronic <input type="checkbox"/> Manual
3.4e	Risks and Issues Log	N/A	<input type="checkbox"/> Electronic <input type="checkbox"/> Manual
3.4f	Final deliverable	N/A	<input type="checkbox"/> Electronic <input type="checkbox"/> Manual
3.4g	If applicable, verify that final project deliverable for the project is attached or storage location is identified in 3.4.		

Section 4. Project Team ⁱⁱ

Project Manager to list resources specified in the Project Plan and used by the project.

Project Close Out Report | 2019

Name	Role	Type (e.g., Contractor, Employee)
Anthony Strabone	Engineering	Employee
Joel Rivera	Engineering	Employee
Joshua Pacheco	Engineering	Contractor
Tim Fitzgerald	Construction Coordinator	Contractor

Section 5. Project Lessons Learned

Project Team to identify lessons learned specifically for the project. State the lessons learned in terms of a problem (issue). If available please include a Lesson Learned Log in the attached.. Please summarize the top three issues on the project and the recommended improvements to correct a similar problem in the future.

Problem Statement	Problem Description	References	Recommendation
None	None	None	None

Section 7. Open Issues

Project Manager and Functional Lead to describe any open issues and plans for resolution within the context of project closeout. Include an open issue for any “no” responses in the Final Product and/or Service Acceptance Checklist and the Project Artifacts Checklist sections.

Issue	Planned Resolution
Charges associated with this project were mischarged to project 8830-1945.	Ensure Finance properly allocates charges from project 8830-1945 to this project.

Section 8. Project Cost Summary

Project Manager and Functional Lead to provide details for the following tables.

Cost Category	1- Budget	2- Actual	3 = 1 -2 Variance
Cost of Design & Engineering (\$)		\$ 0	
Cost of Materials (\$)		\$ 54,148.04	
Cost of Construction (\$)		\$ 2,278.35	
External Costs (\$)		\$ 285,938.62	
Internal Costs (\$)		\$ 0	
Other (burdens \$)		\$ 68,920.74	
CIAC		\$ 0	
AFUDC		\$ 1,476.93	
Total Project Costs (\$)	\$ 500,000	\$ 412,762.68	\$ 87,237.32

Project Close Out Report | 2019

Reasons for Variance	Impact
The 2019 actual charges were less than budgeted amount.	\$ 38,985.32
Entire project contingency not needed	\$ 48,252.00
Cause 3	\$

Project Manager to list of all work orders associated with project that should be closed once Close Out Report is accepted.

Registry of All Job Codes (Regional, Corporate, LABs)
301845-01003

ⁱ This section assumes an accounting audit has been completed ensuring all outstanding payments have been reconciled to the project

ⁱⁱ For Section 4 in filling out the Project Team Section, for those projects following the materiality limit set forth in the work order approval limits greater than \$5M please complete this section, all other projects do not require this.

Liberty Utilities (Granite State Electric) d/b/a Liberty Utilities
DE 19-064 2019 Step Adjustment
Project #8830-1991 Meter Purchases

<u>Year</u>	<u>Internal Labor</u>	<u>Materials</u>	<u>Vendors</u>	<u>Overheads</u>	<u>CIAC</u>	<u>AFUDC</u>	<u>Total Budget</u>	<u>Total Spend</u>
<u>2019</u>	<u>\$453,278.87</u>	<u>\$0.00</u>	<u>\$ 322,126.46</u>	<u>\$176,623.44</u>	<u>\$0.00</u>	<u>\$0.00</u>	<u>\$230,000</u>	<u>\$952,028.77</u>
Total	\$453,278.87	\$0.00	\$322,126.46	\$176,623.44	\$0.00	\$0.00	\$230,000	\$952,028.77



Capital Project Business Case

NOTE: This form is required for planned Growth, Regulatory Supported, and Discretionary projects as well as combined blanket projects for Safety and Mandated with Growth, Regulatory Supported, and Discretionary Projects with a spend greater than \$100,000 and all unplanned projects. All other Project types can utilize the Capital Expenditure Application Form.

Project Overview			
Project Name:	Granite State Meter Blanket	Date Prepared:	1/19/2019
Project ID#:	8830-1991	Cost Estimate:	\$230,000
Project Sponsor:	Richard Foley	Project Start Date:	1/1/2019
Project Lead:	Mark Parker	Project End Date:	12/31/2019
Prepared By:	Mark Parker	Planned or Unplanned Projects:	<input checked="" type="checkbox"/> Planned <input type="checkbox"/> Unplanned
Project Type (click appropriate boxes):	<input type="checkbox"/> Safety <input checked="" type="checkbox"/> Mandated <input type="checkbox"/> Growth <input type="checkbox"/> Regulatory Supported <input type="checkbox"/> Discretionary		
Spending Rationale:	<input checked="" type="checkbox"/> Growth <input type="checkbox"/> Improvement <input checked="" type="checkbox"/> Replenishment		
Project Scope Statement			
(Insert the scope of work, major deliverables, assumptions, and constraints)			
This project is to provide funding for the purchase of electric meters. These meters are required for replacement of units which have failed in the field and for meters required due to support any increases in customers during 2019. This account will also be used to capture installation charges. .			
Background			
(Insert description of current operational arrangement, and brief history of project & asset)			
Meters are required for capturing customer usage and provide the gateway to the generation of invoices to the customer for payment. To properly record customer usage, accurate meters are required. The expenditure requested represents the forecast for annual replacement of meters due to failures as well as predicted meter needs for new housing starts. Working with Electric Operations, decisions will be made on the replacement of the meter types based on history and expected demand.			
Recommendation/Objective			
(Insert the unique problem this project is looking to resolve)			
The recommendation is to review our current meter inventory determine replacement needs and forecast new housing starts with appropriate operating personnel. Place orders and schedule orders for 2019 needs.			
Alternatives/Options			
(Describe all reasonably viable alternatives. Discuss the viability of each and provide reasons if rejected)			
1. Continue Operating with existing equipment. – this will not provide us with the latest technology and we will continue to repair equipment. This will impact reliability of our metering equipment and subject us to utilizing inaccuracies in customer billing.			
Financial Assessment/Cost Estimates			
(Double click embedded excel file to update; include contingency allowance in excel file)			



Capital Project Business Case

Next Anticipated Test Year	2021	Was this Capital Project included in the current year's Board Approved Budget?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Regulatory Lag (Click appropriate box)	<input type="checkbox"/> Less than 6 Months <input type="checkbox"/> 6-12 Months <input checked="" type="checkbox"/> 1 to 3 years <input type="checkbox"/> Greater than 3 years		

Category	Total Already Approved	2018	2019	Beyond 2019	Total
Internal Labour (including labour and travel)	\$ -	\$ -	\$ 80,000	\$ -	\$ 80,000
Materials (including consumables)	\$ -	\$ -	\$ 150,000	\$ -	\$ 150,000
Equipment (rental equipment)	\$ -	\$ -	\$ -	\$ -	\$ -
Contractor/Subcontractor (including consultants)	\$ -	\$ -	\$ -	\$ -	\$ -
AFUDC (\$)					

Unlevered Internal Rate of Return: [Click here to enter text.](#)

Basis of Estimate: *Provide brief explanation on basis of estimate, activities completed to determine costs*

For materials, equipment, and construction requiring Engineering drawings please specify the percent complete:

Schedule
 (List key milestone dates)

Key Milestone Description	Forecast Start Date	Forecast End Date
Prioritize Meter Replacement	1-1-19	1-31-19
Order New Meters	1-1-19	3.31-19
Receive New Meters	1-1-19	12-31-19
Tag each meter receipt with capital labor	1-1-19	12-31-19

Risk Assessment
 (Please describe the risk of not completing the project)

Metering assets will age over time, resulting in an increase in O&M costs.

Trade Finance
 (Is there a possibility to apply trade finance products to this project? See Capital Planning for further clarification)

Supporting Documentation
 (Reference drawings, condition assessment reports, vendor quotations, etc. Attach document or where possible include hyperlink to file located on shared server or SharePoint)



Capital Project Business Case

Approvals and Signatures ¹

Approved By:				
Role	Approval Authority Limit	Name	Signature	Date
Manager / Staff (requisitioner/buyer):	Up to \$25,000	Mark Parker	Mark Parker	Digitally signed by Mark Parker Date: 2019.01.23 08:51:08 -05'00'
Senior Manager: :	Up to \$50,000			
Senior Director/Director:	Up to \$250,000	Richard Foley Director, Procurement	Richard Foley	Digitally signed by Richard Foley DN: cn=Richard Foley, o=Liberty Utilities, ou, email=richard.foley@libertyutilities.com, c=US Date: 2019.01.20 12:11:31 -05'00'
Senior Vice President/ Vice President	Up to \$500,000	Richard MacDonald Vice President, Operations	Rich MacDonald	Digitally signed by Rich MacDonald DN: cn=Rich MacDonald, o=Liberty Utilities, ou=Gas Operations, email=Richard.MacDonald@LibertyUtilities.com, c=US Date: 2019.01.23 12:11:02 -05'00'
State President:	Up to \$500,000	Susan Fleck President, NH		
Regional President:	Up to \$3,000,000	James Sweeney President, East Region		
Corporate - Sr VP Operations:	Up to \$5,000,000			
Corporate - Exec Team Member (CEO, CFO, COO, Vice Chair):	Over \$5,000,000			
Finance (East) – Vice President, Finance & Administration	All Requests	Peter Dawes VP, Finance & Administration	<i>Peter Dawes</i>	3/7/19

¹ Approvals for work orders and purchase orders are subject to the limits set forth in the Approval Limits of Authority Policy owned and amended from time to time by the corporate procurement group.



Capital Project Expenditure Form

Project Name:	Granite St Meter Purchases		
Financial Work Order (FWO):		Project ID #:	8830-1991
Requesting Region or Group:	Granite State Electric	Date of Request (MM/DD/YY):	1/19/2019
Project Sponsor:	Richard Foley	Project Start Date:	1/1/2019
Project Lead:	Mark Parker	Project End Date:	12/31/2019
Prepared by:	Mark Parker	Requested Capital (\$)	\$230,000
Planned or Unplanned Projects:	<input checked="" type="checkbox"/> Planned <input type="checkbox"/> Unplanned		
Project Type: (Click appropriate boxes)	<input type="checkbox"/> Safety <input checked="" type="checkbox"/> Mandated <input type="checkbox"/> Growth <input type="checkbox"/> Regulatory Supported <input type="checkbox"/> Discretionary		
Spending Rationale:	<input checked="" type="checkbox"/> Growth <input type="checkbox"/> Improvement <input checked="" type="checkbox"/> Replenishment		

Details of Request

Project description
<p>This project is to provide funding for the purchase of electric meters. These meters are required for replacement of units which have failed in the field and for meters required due to support any increases in customers during 2019. This account will also be used to capture installation charges.</p> <p>Meters are required for capturing customer usage and provide the gateway to the generation of invoices to the customer for payment. To properly record customer usage, accurate meters are required. The expenditure requested represents the forecast for annual replacement of meters due to failures as well as predicted meter needs for new housing starts. Working with Electric Operations, decisions will be made on the replacement of the meter types based on history and expected demand.</p>
Is this project growth or customer connection related? If “yes”, list the specific locations and how expenditure aligns with customer expansion objectives.
Partly Growth – New Meters are required when new housing starts occur in the Granite State Electric distribution system.
Please describe any permitting requirements, environmental impacts, or resulting performance obligations that may or may not result from this expenditure?



Capital Project Expenditure Form

None

Will there be assets, greater than \$5,000, currently in service removed as a result of this expenditure?

GUIDANCE: If yes, please detail the specific assets that will be removed:

1. *Original Cost of Plant to be removed (if known):*
2. *What is the replacement cost of the plant being removed (if original cost not known)?*
3. *Original Work Order of Plant to be removed (if known):*
4. *Is the Plant being removed reusable?*
5. *What is the year of original installation of the plant being removed*

Yes, Most of the assets being replaced are for older meters that are beyond their intended life. This will be determined by plant accounting once the asset being replaced is identified.

What alternatives were evaluated and why were they rejected?

Continue Operating with existing equipment. – this will not provide us with the latest technology and we will continue to repair equipment. This will impact reliability of our metering equipment and subject us to utilizing inaccuracies in customer billing.

What are the risks and consequences of not approving this expenditure?

We would be incurring additional O&M costs for repairing older meters and even then would not likely have enough to meet any anticipated growth requirements which would compromise our existing customers and any new customers expected to be added to the system.

Please describe how Health, Safety and Security concerns and impacts as a result of this expenditure been addressed.

None

Are there other pertinent details that may affect the decision making process?



Capital Project Expenditure Form

Complete the Financial Summary table only if:

- Project is less than \$100,000; or
- Project category is *Mandated or Safety* (Business Case Form not required)

Financial Summary

Next Anticipated Test Year	2021	Was this Capital Project included in the current year's Board Approved Budget?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Regulatory Lag (Click appropriate box)	<input type="checkbox"/> Less than 6 months <input type="checkbox"/> 6 – 12 months <input checked="" type="checkbox"/> 1 – 3 years <input type="checkbox"/> Greater than three years		
Which regulatory constructs will be used for recovering this capital spend?	Rate Case		
Please Specify Basis of Estimate For materials, equipment, and construction requiring Engineering drawings please specify the percent complete: ¹	<input type="checkbox"/> Fixed or Firm Price <input checked="" type="checkbox"/> Estimate – Internal <input type="checkbox"/> Estimate – External <input type="checkbox"/> Other (specify details) Click here to enter text.		
Category	Current Year	Future Years	Authorized Amount (to be filled in by Corporate)
Cost of Design & Engineering (\$)			
Cost of Materials (\$)			
Cost of Construction (\$)			
External Costs (\$)	\$150,000		\$150,000



Capital Project Expenditure Form

Internal Costs (\$)	\$80,000		\$80,000
Other (\$)			
AFUDC (\$)			
Total Project Costs (\$)	\$230,000		\$230,000

Approvals and Signatures ⁱⁱ

Approved By:				
Role	Approval Limit	Name	Signature	Date
Manager / Staff (requisitioner/buyer):	Up to \$25,000	Mark Parker	Mark Parker	Digitally signed by Mark Parker Date: 2019.01.23 08:43:52 -05'00'
Senior Manager:	Up to \$50,000			
Senior Director/Director:	Up to \$250,000	Richard Foley Director, Procurement	Richard Foley	Digitally signed by Richard Foley DN: cn=Richard Foley, o=Liberty Utilities, ou, email=richard.foley@libertyutilities.com, c=US Date: 2019.01.20 14:11:13 -05'00'
Senior VP/VP:	Up to \$500,000	Richard MacDonald VP, Operations	Rich MacDonald	Digitally signed by Rich MacDonald DN: cn=Rich MacDonald, o=LUEast - NH, ou=Gas Operations, email=Richard.MacDonald@libertyutilities.com, c=US Date: 2019.01.23 12:12:21 -05'00'
State President:	Up to \$500,000	Susan Fleck President, New Hampshire		
Regional President:	Up to \$3,000,000			
Corporate – Sr. VP Operations:	Up to \$5,000,000			
Corporate - Exec Team Member (CEO, CFO, COO, Vice Chair):	Over \$5,000,000			
Finance (East) – Vice President, Finance & Administration:	All Requests	Peter Dawes VP, Finance & Administration	<i>Peter Dawes</i>	3/7/19

ⁱ For Best Practices on estimating project contingencies please see the Capital Policy.

ⁱⁱ Approvals for work orders and purchase orders are subject to the limits set forth in the Approval Limits of Authority Policy owned and amended from time to time by the corporate procurement group.



Change Order Form

2020

Project Overview

Reason for Change: During 2019, There was a higher than normal demand for Meter requirements due to the number of housing starts that occurred in the Granite State Electric territory including a number of buildings, apartments and condominiums in the Tuscan Village development in Salem NH. Additionally, the budget was impacted by labor charges that are now incorporated into this project as the result of the accounting change to pre capitalize labor for meter installation to follow all new meter purchases.

Project ID:	8830-1991	Project Name:	01659 Granite State Meter Purchases
Change Order Name:	Change Order #1	Date Prepared:	3-10-2020
Change Order #:	#1	Financial Work Order (FWO):ⁱ	301991-77001
Project Sponsor:	Richard Foley	Revised Start Date:	1-1-2019
Project Lead:	Mark Parker	Revised End Date:ⁱⁱ	12-31-2019
Prepared By:	Richard Foley	Change Typeⁱⁱⁱ	<input type="checkbox"/> In Scope <input checked="" type="checkbox"/> Out of Scope
Project Contingency Available?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If No is Selected, Please specify source of funds^{iv}	Electric Construction Projects moved to 2021

Financial Assessment/Cost Estimates

(Double click embedded excel file to update; include contingency allowance in excel file)

Category	Original Project Value	Previous Approved Charges	Current Change Order Amount	Total
Internal Labor	80,000			453,278.87
Materials	150,000			
Equipment				
Contractor/Subcontractor				322,126.46
Burdens/Overheads				176,985.46
AFUDC				
Total Project Cost	230,000			952,029.79

Updated Unlevered Internal Rate of Return:

Basis of Current Change Order Amount:

Provide brief explanation on basis of the requested amount (i.e. revised contract amount, estimate based on revised engineering design, etc)

Higher than normal meter requirements due to increase in housing developments and accounting change to include precapitalized installation in the cost of meters purchased.

Schedule Impacts

(As a result of the Change Order, where applicable, List the Impacts to schedule)

Baseline Schedule (BL)	New Forecast (NF)	Variance (BL – NF)



Change Order Form

2020

Approvals and Signatures^v

Approved By:				
Role	Approval Authority Limit	Name	Signature	Date
Manager / Staff (requisitioner/buyer):	Up to \$25,000			
Senior Manager: :	Up to \$50,000			
Senior Director/Director:	Up to \$250,000	Richard Foley		March 10 2020
Vice President Operations	Up to \$500,000	Richard MacDonald	Rich MacDonald <small>Digitally signed by Rich MacDonald Date: 2020.03.30 15:49:55 -04'00'</small>	
State President / Senior VP / VP:	Up to \$500,000	Susan Fleck		
Regional President:	Up to \$3,000,000	James Sweeney		
Corporate - Sr VP Operations:	Up to \$5,000,000			
Corporate - Exec Team Member (CEO, CFO, COO, Vice Chair):	Over \$5,000,000			

ⁱ The Financial Work Order Section captures the work order this change falls under when the job was initially set-up

ⁱⁱ The Revised project end date is dependent on changes in scope that may deviate the schedule from the original plan

ⁱⁱⁱ The Change type for In scope or Out of scope changes fall within the following scenario:

- In Scope changes are deviations of scope from the original plan and approved budget that align to the original scope of the project but have revised pricing as a result of changes in pricing of labour, materials, and equipment
- Out of Scope changes are scope changes that were not originally planned for in the project baselines and approved budget. Examples of this type of change are related to changes in technology, missed deliverables, a change in the project design altering the scope of the project, etc.

^{iv} In cases where the project no longer has contingency to cover project change orders, please specify any other sources of funds that would address the project variance (i.e. not executing another project, delaying scope of another project, etc)

^v Approvals for work orders and purchase orders are subject to the limits set forth in the Approval Limits of Authority Policy owned and amended from time to time by the corporate procurement group.

Project Close Out Report **2019**

Requesting Region or Group:	Liberty Utilities – GSE	Date of Closeout (MM/DD/YY):	3-30-2020
Project Name:	GSE Meter Purchases		
Requesting Region:	New Hampshire	Sponsor (Name):	Richard Foley
Project Champion:	Mark Parker	Project ID	8830-1991
Project Status	X In Service <input type="checkbox"/> Complete <input type="checkbox"/> Closed		
Project Start Date:	January 1, 2019	Project Completion Date:	December 31 2019
Requested Capital (\$)	230,000	Expenditure Included in Approved Budget?	X Yes <input type="checkbox"/> No

Section 1. Approval

Approval of the Project Closeout and Assessment Report indicates an understanding and formal agreement that the project is ready to be closed. By signing this document, each individual agrees all administrative, financial, and logistical aspects of the project should be concluded, executed, and documented as described herein.

Further, by signing this Report, it is accepted that CWIP (FERC Account 107) should be transferred to Utility in Plant Service (FERC Account 101)

Approver Name	Title	Signature	Date
Richard Foley	Project Lead	Richard Foley <small>Digitally signed by Richard Foley DN: cn=Richard Foley, o=Liberty Utilities, ou, email=richard.foley@libertyutilities.com, c=US Date: 2020.03.31 08:59:05 -04'00'</small>	
Mark Parker	Project Sponsor	Mark Parker <small>Digitally signed by Mark Parker DN: cn=Mark Parker, o=Liberty Utilities, email=mark.parker@libertyutilities.com, c=US Date: 2020.03.31 09:48:48 -04'00'</small>	

Section 2. Final Deliverable/Deployment Checklist

Sponsor to respond to each question. For each “no” response, include an issue in Open Issues section.

Item	Question	Response
2.1	Do you agree that the product and/or service is ready to be deployed?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
2.2	Do you agree the product and/or service has sufficiently met the stated business goals and objectives?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
2.3	Do you fully understand and agree to accept all operational requirements, operational risks, maintenance costs, and other limitations and/or constraints imposed as a result of ongoing operations of the product and/or service?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
2.4	Has the final unitization estimate been provided to Property Accounting?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
2.5	Do you agree the project should be closed? If no, please explain:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
	<i>Scale of 1 thru 5; 5 = highest</i>	
	Rate your level of satisfaction with regards to the project outcomes listed below	

Project Close Out Report **2019**

Item	Question	Response
2.5	Project Quality	5/5
2.6	Product and/or Service Performance	5/5
2.7	Scope	5/5
2.8	Cost (Budget)	5/5
2.9	Schedule	5/5

Section 3. Project Documentation Checklist

Project Manager Respond to each question. For each “no” response, include an issue in Open Issues section.

Item	Question	Response	
3.1	Have project documentation and other items (e.g., Business Case, Project Plan, Charter, Budget Documents, Status Reports) been prepared, collected, filed, and/or disposed?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
3.3 ⁱ	Were audits (e.g., project closeout audit) completed and results documented for future reference?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
3.4	Identify the storage location for the following project documents items:		
Item	Document	Location (e.g., Google Docs, Webspace)	Format
3.4a	Business Case	W Drive	<input checked="" type="checkbox"/> Electronic <input type="checkbox"/> Manual
3.4b	If available, the Final Project Schedule	NA	<input type="checkbox"/> Electronic <input type="checkbox"/> Manual
3.4c	Budget Documentation and Invoices	W Drive	<input checked="" type="checkbox"/> Electronic <input type="checkbox"/> Manual
3.4d	Status Reports	NA	<input type="checkbox"/> Electronic <input type="checkbox"/> Manual
3.4e	Risks and Issues Log	NA	<input type="checkbox"/> Electronic <input type="checkbox"/> Manual
3.4f	Final deliverable	NA	<input type="checkbox"/> Electronic <input type="checkbox"/> Manual
3.4g	If applicable, verify that final project deliverable for the project is attached or storage location is identified in 3.4.		

Section 4. Project Team ⁱⁱ

Project Manager to list resources specified in the Project Plan and used by the project.

Project Close Out Report | 2019

Name	Role	Type (e.g., Contractor, Employee)
Matthew Wheeler	Supervisor Electric Metering	Employee
Richard Foley	Project Sponsor	Employee
Mark Parker	Project Manager	Employee

Section 5. Project Lessons Learned

Project Team to identify lessons learned specifically for the project. State the lessons learned in terms of a problem (issue). If available please include a Lesson Learned Log in the attached.. Please summarize the top three issues on the project and the recommended improvements to correct a similar problem in the future.

Problem Statement	Problem Description	References	Recommendation
Meter estimate inaccurate	The influx of meters required to support new growth at Tuscan and other projects resulted in an increased meter requirement		Consider growth calculations in future meter budget requirements

Section 7. Open Issues

Project Manager and Functional Lead to describe any open issues and plans for resolution within the context of project closeout. Include an open issue for any “no” responses in the Final Product and/or Service Acceptance Checklist and the Project Artifacts Checklist sections.

Issue	Planned Resolution
None	

Section 8. Project Cost Summary

Project Manager and Functional Lead to provide details for the following tables.

Cost Category	1- Budget	2- Actual	3 = 1 -2 Variance
---------------	-----------	-----------	-------------------

Project Close Out Report | 2019

Cost of Design & Engineering (\$)			
Cost of Materials (\$)		322,126.46	
Cost of Construction (\$)			
External Costs (\$)			
Internal Costs (\$)		453,278.87	
Other (\$)		176,985.46	
AFUDC (\$)			
Total Project Costs (\$)	\$230,000	952,029.79	(675,867)

Reasons for Variance	Impact
Cause 1 Meter purchases were higher than normal due to need to support growth at Tuscan Village and other developments in the GSE region	\$ 90,000
Cause 2 Accounting change to precapitalize capital meter installation charges upon receipt of product	\$ 453,278
Cause 3	\$

Project Manager to list of all work orders associated with project that should be closed once Close Out Report is accepted.

Registry of All Job Codes (Regional, Corporate, LABs)
301991-77001 – Meter Blanket

ⁱ This section assumes an accounting audit has been completed ensuring all outstanding payments have been reconciled to the project

ⁱⁱ For Section 4 in filling out the Project Team Section, for those projects following the materiality limit set forth in the work order approval limits greater than \$5M please complete this section, all other projects do not require this.

Liberty Utilities (Granite State Electric) d/b/a Liberty Utilities
DE 19-064 2019 Step Adjustment
Project #8830-1992 Transformer Purchases

<u>Year</u>	<u>Internal Labor</u>	<u>Materials</u>	<u>Vendors</u>	<u>Overheads</u>	<u>CIAC</u>	<u>AFUDC</u>	<u>Total Budget</u>	<u>Total Spend</u>
<u>2019</u>	<u>\$0.00</u>	<u>\$13,408.00</u>	<u>\$332,020.70</u>	<u>\$168,846.43</u>	<u>\$0.00</u>	<u>\$0.00</u>	<u>\$420,000</u>	<u>\$514,275.13</u>
Total	\$0.00	\$13,408.00	\$332,020.70	\$168,846.43	\$0.00	\$0.00	\$420,000	\$514,275.13



Capital Project Business Case

NOTE: This form is required for planned Growth, Regulatory Supported, and Discretionary projects as well as combined blanket projects for Safety and Mandated with Growth, Regulatory Supported, and Discretionary Projects with a spend greater than \$100,000 and all unplanned projects. All other Project types can utilize the Capital Expenditure Application Form.

Project Overview			
Project Name:	Granite State Transformer Blanket	Date Prepared:	1/19/2019
Project ID#:	8830-1992	Cost Estimate:	\$420,000
Project Sponsor:	Richard Foley	Project Start Date:	1/1/2019
Project Lead:	Mark Parker	Project End Date:	12/31/2019
Prepared By:	Mark Parker	Planned or Unplanned Projects:	<input checked="" type="checkbox"/> Planned <input type="checkbox"/> Unplanned
Project Type (click appropriate boxes):	<input type="checkbox"/> Safety <input checked="" type="checkbox"/> Mandated <input checked="" type="checkbox"/> Growth <input type="checkbox"/> Regulatory Supported <input type="checkbox"/> Discretionary		
Spending Rationale:	<input checked="" type="checkbox"/> Growth <input type="checkbox"/> Improvement <input checked="" type="checkbox"/> Replenishment		
Project Scope Statement			
(Insert the scope of work, major deliverables, assumptions, and constraints)			
This project is to provide funding for the purchase of electric transformers. Transformers are required for replacement of units which have failed in the field and for transformers required to support electric reliability and new construction during 2019.			
Background			
(Insert description of current operational arrangement, and brief history of project & asset)			
Transformers are required to safely and properly deliver electricity to customers on our electric distribution system. To ensure the proper delivery of current, properly performing transformers are required. This expenditure represents the forecast for annual replacement of transformers due to failures as well as predicted transformer needs for system growth. Working with Electric Operations, decisions will be made on the replacement of the transformer types based on history and expected demand.			
Recommendation/Objective			
(Insert the unique problem this project is looking to resolve)			
The recommendation is to review our current transformer inventory, determine replacement needs and forecast new requirements with appropriate operating personnel. Place orders and schedule orders for 2019 needs.			
Alternatives/Options			
(Describe all reasonably viable alternatives. Discuss the viability of each and provide reasons if rejected)			
1. Continue Operating with existing equipment. – this will not provide us with the latest technology and we will continue to repair equipment. This will impact reliability of our existing equipment and could compromise the effectiveness and safety in the electricity being provided to the customer.			
Financial Assessment/Cost Estimates			
(Double click embedded excel file to update; include contingency allowance in excel file)			



Capital Project Business Case

Next Anticipated Test Year	2021	Was this Capital Project included in the current year's Board Approved Budget?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
Regulatory Lag (Click appropriate box)		<input type="checkbox"/> Less than 6 Months <input type="checkbox"/> 6-12 Months <input checked="" type="checkbox"/> 1 to 3 years <input type="checkbox"/> Greater than 3 years			
Schedule (List key milestone dates)					
Category	Total Already Approved	2018	2019	Beyond 2019	Total
Internal Labour (including labour and travel)	\$ -	\$ -	\$ -	\$ -	\$ -
Materials (including consumables)	\$ -	\$ -	\$ 420,000	\$ -	\$ 420,000
Equipment (rental equipment)	\$ -	\$ -	\$ -	\$ -	\$ -
Contractor/Subcontractor (including consultants)	\$ -	\$ -	\$ -	\$ -	\$ -
AFUDC (\$)					
Unlevered Internal Rate of Return:				Click here to enter text.	
Basis of Estimate:				Provide brief explanation on basis of estimate, activities completed to determine costs	
For materials, equipment, and construction requiring Engineering drawings please specify the percent complete:					
Risk Assessment (Please describe the risk of not completing the project)					
Assets will age over time, resulting in an increase in O&M costs.					
Trade Finance (Is there a possibility to apply trade finance products to this project? See Capital Planning for further clarification)					
Supporting Documentation (Reference drawings, condition assessment reports, vendor quotations, etc. Attach document or where possible include hyperlink to file located on shared server or SharePoint)					



Capital Project Business Case

Approvals and Signatures¹

Approved By:				
Role	Approval Authority Limit	Name	Signature	Date
Manager / Staff (requisitioner/buyer):	Up to \$25,000	Mark Parker	Mark Parker	Digitally signed by Mark Parker Date: 2019.01.23 08:45:19 -05'00'
Senior Manager: :	Up to \$50,000			
Senior Director/Director:	Up to \$250,000	Richard Foley Director, Procurement	Richard Foley	Digitally signed by Richard Foley DN: cn=Richard Foley, o=Liberty Utilities, ou=Operations, email=richard.foley@libertyutilities.com, c=US Date: 2019.01.20 12:07:50 -05'00'
Senior Vice President/ Vice President	Up to \$500,000	Richard MacDonald Vice President, Operations	Rich MacDonald	Digitally signed by Rich MacDonald DN: cn=Rich MacDonald, o=LU East - NH, ou=Gas Operations, email=Richard.MacDonald@libertyutilities.com, c=US Date: 2019.01.23 12:11:06 -05'00'
State President:	Up to \$500,000	Susan Fleck President, NH		
Regional President:	Up to \$3,000,000	James Sweeney President, East Region		
Corporate - Sr VP Operations:	Up to \$5,000,000			
Corporate - Exec Team Member (CEO, CFO, COO, Vice Chair):	Over \$5,000,000			
Finance (East) – Vice President, Finance & Administration	All Requests	Peter Dawes VP, Finance & Administration		3/6/19

¹ Approvals for work orders and purchase orders are subject to the limits set forth in the Approval Limits of Authority Policy owned and amended from time to time by the corporate procurement group.



Capital Project Expenditure Form

2019

Project Name:	01660 Granite St Transformer Purchases		
Financial Work Order (FWO):		Project ID #:	8830-1992
Requesting Region or Group:	Granite State Electric	Date of Request (MM/DD/YY):	1/9/2019
Project Sponsor:	Richard Foley	Project Start Date:	1/1/2019
Project Lead:	Mark Parker	Project End Date:	12/31/2019
Prepared by:	Mark Parker	Requested Capital (\$)	\$420,000
Planned or Unplanned Projects:	<input checked="" type="checkbox"/> Planned <input type="checkbox"/> Unplanned		
Project Type: (Click appropriate boxes)	<input type="checkbox"/> Safety <input checked="" type="checkbox"/> Mandated <input checked="" type="checkbox"/> Growth <input type="checkbox"/> Regulatory Supported <input type="checkbox"/> Discretionary		
Spending Rationale:	<input checked="" type="checkbox"/> Growth <input type="checkbox"/> Improvement <input checked="" type="checkbox"/> Replenishment		

Details of Request

Project description

This project is to provide funding for the purchase of electric transformers. Transformers are required for replacement of units which have failed in the field and for transformers required to support electric reliability and new construction during 2019.

Transformers are required to safely and properly deliver electricity to customers on our electric distribution system. To ensure the proper delivery of current, properly performing transformers are required. This expenditure represents the forecast for annual replacement of transformers due to failures as well as predicted transformer needs for system growth. Working with Electric Operations, decisions will be made on the replacement of the transformer types based on history and expected demand.

Is this project growth or customer connection related? If "yes", list the specific locations and how expenditure aligns with customer expansion objectives.

Partly Growth – New Transformers are required when new housing starts occur in the Granite State Electric distribution system.

Please describe any permitting requirements, environmental impacts, or resulting performance obligations that may or may not result from this expenditure?

None

Will there be assets, greater than \$5,000, currently in service removed as a result of this expenditure?

GUIDANCE: If yes, please detail the specific assets that will be removed:

1. Original Cost of Plant to be removed (if known):
2. What is the replacement cost of the plant being removed (if original cost not known)?
3. Original Work Order of Plant to be removed (if known):
4. Is the Plant being removed reusable?



Capital Project Expenditure Form

2019

5. *What is the year of original installation of the plant being removed*

Yes, Most of the assets being replaced are for older transformers that are beyond their intended life. This will be determined by plant accounting once the asset being replaced is identified.

What alternatives were evaluated and why were they rejected?

Continue Operating with existing equipment. – this will not provide us with the latest technology and we will continue to repair equipment. This will impact reliability of our transformers and may result in the reliability of electricity provided to our customers.

What are the risks and consequences of not approving this expenditure?

We would be incurring additional O&M costs for repairing transformers and even then would not likely have enough to meet any anticipated growth requirements which would compromise our existing customers and any new customers expected to be added to the system.

Please describe how Health, Safety and Security concerns and impacts as a result of this expenditure been addressed.

None

Are there other pertinent details that may affect the decision making process?

Complete the Financial Summary table only if:

- Project is less than \$100,000; or
- Project category is *Mandated* or *Safety* (Business Case Form not required)

Financial Summary

Next Anticipated Test Year	2021	Was this Capital Project included in the current year's Board Approved Budget?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Regulatory Lag (Click appropriate box)	<input type="checkbox"/> Less than 6 months <input type="checkbox"/> 6 – 12 months <input checked="" type="checkbox"/> 1 – 3 years <input type="checkbox"/> Greater than three years		
Which regulatory constructs will be used for recovering this capital spend?	Rate Case		



Capital Project Expenditure Form

2019

Please Specify Basis of Estimate For materials, equipment, and construction requiring Engineering drawings please specify the percent complete: ¹	<input type="checkbox"/> Fixed or Firm Price <input checked="" type="checkbox"/> Estimate – Internal <input type="checkbox"/> Estimate – External <input type="checkbox"/> Other (specify details)		
	Click here to enter text.		
Category	Current Year	Future Years	Authorized Amount (to be filled in by Corporate)
Cost of Design & Engineering (\$)			
Cost of Materials (\$)			
Cost of Construction (\$)			
External Costs (\$)	\$420,000		\$420,000
Internal Costs (\$)			
Other (\$)			
AFUDC (\$)			
Total Project Costs (\$)	\$420,000		\$420,000

Approvals and Signatures ⁱⁱ

Approved By:				
Role	Approval Limit	Name	Signature	Date
Manager / Staff (requisitioner/buyer):	Up to \$25,000	Mark Parker	Mark Parker	Digitally signed by Mark Parker Date: 2019.01.23 08:46:25 -05'00'
Senior Manager:	Up to \$50,000			
Senior Director/Director:	Up to \$250,000	Richard Foley Director, Procurement	Richard Foley	Digitally signed by Richard Foley DN: cn=Richard Foley, o=Liberty Utilities, ou, email=richard.foley@libertyutilities.com, c=US Date: 2019.01.20 13:52:18 -05'00'
Senior VP/VP:	Up to \$500,000	Richard MacDonald Vice President, Operations	Rich MacDonald	Digitally signed by Rich MacDonald DN: cn=Rich MacDonald, o=LUCast - NLL Gas Operations, email=Richard.MacDonald@libertyutilities.com, c=US Date: 2019.01.23 14:10:14 -05'00'
State President:	Up to \$500,000			
Regional President:	Up to \$3,000,000			
Corporate – Sr. VP Operations:	Up to \$5,000,000			
Corporate - Exec Team Member (CEO, CFO, COO, Vice Chair):	Over \$5,000,000			
Finance (East) – Vice President, Finance & Administration:	All Requests	Peter Dawes VP, Finance & Administration		3/6/19

¹ For Best Practices on estimating project contingencies please see the Capital Policy.



Capital Project Expenditure Form

2019

ii Approvals for work orders and purchase orders are subject to the limits set forth in the Approval Limits of Authority Policy owned and amended from time to time by the corporate procurement group.



Change Order Form

2020

Project Overview

Reason for Change: During 2019, demand for Transformers increased in the Granite State Electric territory. This included a number buildings in the Tuscan Village development in Salem NH leading to a higher demand of purchases

Project ID:	8830-1992	Project Name:	01660 Granite State Transformer Purchases
Change Order Name:	Change Order #1	Date Prepared:	3-10-2020
Change Order #:	#1	Financial Work Order (FWO):ⁱ	301992-99001
Project Sponsor:	Richard Foley	Revised Start Date:	1-1-2019
Project Lead:	Mark Parker	Revised End Date:ⁱⁱ	12-31-2019
Prepared By:	Richard Foley	Change Typeⁱⁱⁱ	<input type="checkbox"/> In Scope <input checked="" type="checkbox"/> Out of Scope
Project Contingency Available?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If No is Selected, Please specify source of funds^{iv}	Electric Construction Projects moved to 2021

Financial Assessment/Cost Estimates

(Double click embedded excel file to update; include contingency allowance in excel file)

Category	Original Project Value	Previous Approved Charges	Current Change Order Amount	Total
Internal Labor				
Materials	420,000		94,275	514,275
Equipment				
Contractor/Subcontractor				
Burdens/Overheads				
AFUDC				
Total Project Cost	420,000			514,275

Updated Unlevered Internal Rate of Return:

Basis of Current Change Order Amount:

Provide brief explanation on basis of the requested amount (i.e. revised contract amount, estimate based on revised engineering design, etc)
Higher transformer requirements due to increased development in the GSE territory.

Schedule Impacts

(As a result of the Change Order, where applicable, List the Impacts to schedule)

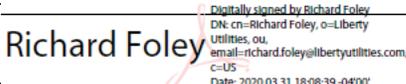
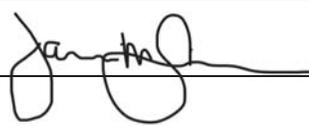
Baseline Schedule (BL)	New Forecast (NF)	Variance (BL – NF)



Change Order Form

2020

Approvals and Signatures^v

Approved By:				
Role	Approval Authority Limit	Name	Signature	Date
Manager / Staff (requisitioner/buyer):	Up to \$25,000			
Senior Manager: :	Up to \$50,000			
Senior Director/Director:	Up to \$250,000	Richard Foley	 Richard Foley	March 10 2020
Vice President Operations	Up to \$500,000	Richard MacDonald	 Rich MacDonald	
State President / Senior VP / VP:	Up to \$500,000	Susan Fleck		
Regional President:	Up to \$3,000,000	James Sweeney		
Corporate - Sr VP Operations:	Up to \$5,000,000			
Corporate - Exec Team Member (CEO, CFO, COO, Vice Chair):	Over \$5,000,000			

ⁱ The Financial Work Order Section captures the work order this change falls under when the job was initially set-up

ⁱⁱ The Revised project end date is dependent on changes in scope that may deviate the schedule from the original plan

ⁱⁱⁱ The Change type for In scope or Out of scope changes fall within the following scenario:

- In Scope changes are deviations of scope from the original plan and approved budget that align to the original scope of the project but have revised pricing as a result of changes in pricing of labour, materials, and equipment
- Out of Scope changes are scope changes that were not originally planned for in the project baselines and approved budget. Examples of this type of change are related to changes in technology, missed deliverables, a change in the project design altering the scope of the project, etc.

^{iv} In cases where the project no longer has contingency to cover project change orders, please specify any other sources of funds that would address the project variance (i.e. not executing another project, delaying scope of another project, etc)

^v Approvals for work orders and purchase orders are subject to the limits set forth in the Approval Limits of Authority Policy owned and amended from time to time by the corporate procurement group.

Project Close Out Report **2019**

Requesting Region or Group:	Liberty Utilities – GSE	Date of Closeout (MM/DD/YY):	3-30-2020
Project Name:	GSE Transformer Purchases		
Requesting Region:	New Hampshire	Sponsor (Name):	Richard Foley
Project Champion:	Mark Parker	Project ID	8830-1992
Project Status	X In Service <input type="checkbox"/> Complete <input type="checkbox"/> Closed		
Project Start Date:	January 1, 2019	Project Completion Date:	December 31 2019
Requested Capital (\$)	420,000	Expenditure Included in Approved Budget?	X Yes <input type="checkbox"/> No

Section 1. Approval

Approval of the Project Closeout and Assessment Report indicates an understanding and formal agreement that the project is ready to be closed. By signing this document, each individual agrees all administrative, financial, and logistical aspects of the project should be concluded, executed, and documented as described herein.

Further, by signing this Report, it is accepted that CWIP (FERC Account 107) should be transferred to Utility in Plant Service (FERC Account 101)

Approver Name	Title	Signature	Date
Richard Foley	Project Lead	Richard Foley <small>Digitally signed by Richard Foley DN: cn=Richard Foley, o=Liberty Utilities, ou, email=richard.foley@libertyutilities.com, c=US Date: 2020.03.31 08:50:15 -04'00'</small>	
Mark Parker	Project Sponsor	Mark Parker <small>Digitally signed by Mark Parker DN: cn=Mark Parker, o, ou=Liberty Utilities, email=mark.parker@libertyutilities.com, c=US Date: 2020.03.31 09:49:31 -04'00'</small>	

Section 2. Final Deliverable/Deployment Checklist

Sponsor to respond to each question. For each “no” response, include an issue in Open Issues section.

Item	Question	Response
2.1	Do you agree that the product and/or service is ready to be deployed?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
2.2	Do you agree the product and/or service has sufficiently met the stated business goals and objectives?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
2.3	Do you fully understand and agree to accept all operational requirements, operational risks, maintenance costs, and other limitations and/or constraints imposed as a result of ongoing operations of the product and/or service?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
2.4	Has the final unitization estimate been provided to Property Accounting?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
2.5	Do you agree the project should be closed? If no, please explain:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
	<i>Scale of 1 thru 5; 5 = highest</i>	
	Rate your level of satisfaction with regards to the project outcomes listed below	

Project Close Out Report **2019**

Item	Question	Response
2.5	Project Quality	5/5
2.6	Product and/or Service Performance	5/5
2.7	Scope	5/5
2.8	Cost (Budget)	5/5
2.9	Schedule	5/5

Section 3. Project Documentation Checklist

Project Manager Respond to each question. For each “no” response, include an issue in Open Issues section.

Item	Question	Response	
3.1	Have project documentation and other items (e.g., Business Case, Project Plan, Charter, Budget Documents, Status Reports) been prepared, collected, filed, and/or disposed?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
3.3 ⁱ	Were audits (e.g., project closeout audit) completed and results documented for future reference?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
3.4	Identify the storage location for the following project documents items:		
Item	Document	Location (e.g., Google Docs, Webspace)	Format
3.4a	Business Case	W Drive	<input checked="" type="checkbox"/> Electronic <input type="checkbox"/> Manual
3.4b	If available, the Final Project Schedule	NA	<input type="checkbox"/> Electronic <input type="checkbox"/> Manual
3.4c	Budget Documentation and Invoices	W Drive	<input checked="" type="checkbox"/> Electronic <input type="checkbox"/> Manual
3.4d	Status Reports	NA	<input type="checkbox"/> Electronic <input type="checkbox"/> Manual
3.4e	Risks and Issues Log	NA	<input type="checkbox"/> Electronic <input type="checkbox"/> Manual
3.4f	Final deliverable	NA	<input type="checkbox"/> Electronic <input type="checkbox"/> Manual
3.4g	If applicable, verify that final project deliverable for the project is attached or storage location is identified in 3.4.		

Section 4. Project Team ⁱⁱ

Project Manager to list resources specified in the Project Plan and used by the project.

Project Close Out Report | 2019

Name	Role	Type (e.g., Contractor, Employee)
Anthony Strobone	Manger, Electric Engineering	Employee
Richard Foley	Project Sponsor	Employee
Mark Parker	Project Manager	Employee

Section 5. Project Lessons Learned

Project Team to identify lessons learned specifically for the project. State the lessons learned in terms of a problem (issue). If available please include a Lesson Learned Log in the attached.. Please summarize the top three issues on the project and the recommended improvements to correct a similar problem in the future.

Problem Statement	Problem Description	References	Recommendation
Transformer needs estimate inaccurate	Growth in the region required additional transformers to be purchased		Consider growth calculations in future meter budget requirements

Section 7. Open Issues

Project Manager and Functional Lead to describe any open issues and plans for resolution within the context of project closeout. Include an open issue for any “no” responses in the Final Product and/or Service Acceptance Checklist and the Project Artifacts Checklist sections.

Issue	Planned Resolution
None	

Section 8. Project Cost Summary

Project Manager and Functional Lead to provide details for the following tables.

Cost Category	1- Budget	2- Actual	3 = 1 -2 Variance
Cost of Design & Engineering (\$)			

Project Close Out Report | 2019

Cost of Materials (\$)		332,020.70	
Cost of Construction (\$)			
External Costs (\$)		13,408.00	
Internal Costs (\$)			
Other (\$)		168,846.43	
AFUDC (\$)			
Total Project Costs (\$)	\$420,000	514,275	(94,275)

Reasons for Variance	Impact
Cause 1 Transformer purchases were higher than normal due to need to support growth at Tuscan Village and other developments in the GSE region	\$ 94,275
Cause 2	\$
Cause 3	\$

Project Manager to list of all work orders associated with project that should be closed once Close Out Report is accepted.

Registry of All Job Codes (Regional, Corporate, LABs)
301992-99001 – Transformer Blanket
301992-99002 – Transformer Salvage

ⁱ This section assumes an accounting audit has been completed ensuring all outstanding payments have been reconciled to the project

ⁱⁱ For Section 4 in filling out the Project Team Section, for those projects following the materiality limit set forth in the work order approval limits greater than \$5M please complete this section, all other projects do not require this.

NHPUC NO. 21 - ELECTRICITY DELIVERY
LIBERTY UTILITIES

Original Page 91
Rate D

Off-Peak Use: 16 Hour Control

For all electricity separately metered and delivered between the hours of 11:00 p.m. on each day and 7:00 a.m. on the next day, the price of such electricity shall be:

Energy Charges Per Kilowatt-Hour (cents per kilowatt-hour)

Distribution Charge Off Peak Use	4.930732
Reliability Enhancement/Vegetation Management	0.008
<hr/> Total Distribution	<hr/> 4.938740
Transmission Charge	2.660
Stranded Cost Charge	(0.072)
Storm Recovery Adjustment Factor	0.000

If a Customer has installed an electric water heater of a type approved by the Company, electricity is delivered to such water heater is supplied only under this rate.

Off-Peak Use: 6 Hour Control

For all electricity separately metered and subject to the Company's right to limit the operation of the bottom water heating element up to 6 hours a day, the price of such electricity shall be:

Energy Charges Per Kilowatt-Hour (cents per kilowatt-hour)

Distribution Charge Off Peak Use	5.0214.819
Reliability Enhancement/Vegetation Management	0.008
<hr/> Total Distribution	<hr/> 5.0294.827
Transmission Charge	2.660
Stranded Cost Charge	(0.072)
Storm Recovery Adjustment Factor	0.000

If a Customer has installed an electric water heater of a type approved by the Company, and electricity delivered to such water heater is supplied only under this rate

Issued: XX XX, 20XX

Issued by: /s/ Susan L. Fleck
Susan L. Fleck

Effective: XX XX, 20XX

Title: President

Authorized by NHPUC Order No. ____ in Docket No. DE 19-064 Dated ____

NHPUC NO. 21 - ELECTRICITY DELIVERY
LIBERTY UTILITIES

Original Page 97
Rate G-1

Optional Determination of Demand

However, a Customer who has been served hereunder for one year or more may upon written request have the Demand for each month, beginning with the next month after such request and running for a period of not less than two consecutive months, be based upon the greatest of items a) or b) above. In such case, the Demand Charge and the Energy Charge will be increased by 20% during such period.

High Voltage Metering Adjustment

The Company reserves the right to determine the metering installation. Where service is metered at the Company's supply line voltage, in no case less than 2400 volts, thereby saving the Company transformer losses, a discount of 1% will be allowed from the amount determined under the preceding provisions.

Credit for High Voltage Delivery

If the Customer accepts delivery at the Company's supply line voltage, not less than 2400 volts and the Company is saved the cost of installing any transformer and associated equipment, a credit of billing demand for such month shall be allowed against the amount determined under the preceding provisions.

High Voltage Delivery Credit (\$0.4~~87~~) per kW

Terms of Agreement

A Customer served under this rate must provide the Company with one-year prior written notice before installing additional on-site, non-emergency generation for its own use. This notice provision shall be waived with respect to the installation of on-site non-emergency generation from renewable energy resources. Renewable energy resources shall mean fuel cells (including natural gas powered fuel cells), and emerging power technologies that produce electricity from wind energy, solar energy, small-scale hydro power, ocean power, landfill gas, sustainably managed biomass, and future clean renewable technologies.

Issued: XX XX, 20XX

Issued by: _____ /s/ Susan L. Fleck

Effective: XX XX, 20XX

Susan L. Fleck
Title: President

NHPUC NO. 21 - ELECTRICITY DELIVERY
LIBERTY UTILITIES

Original Page 109
Rate M

Pole and Accessory Charge

An additional monthly charge enumerated below will be applied where the Company is requested to furnish a suitable wood pole for the sole purpose of supporting a luminaire. If at a future date the pole is used for any purpose approved by the Company in addition to supporting a street and/or floodlight luminaire, the pole charge will be terminated. This pole may not be more than one (1) span from the existing secondary service located along a roadway or thoroughfare, and must be reachable for mechanized equipment.

Description	Monthly Price Per Unit
Overhead Service	
Wood Poles	\$9. 4720
Underground Service – Non-Metallic Standard	
Fiberglass – Direct Embedded	\$9. 8153
Fiberglass with Foundation < 25 ft.	\$16. 6618
Fiberglass with Foundation >= 25 ft.	\$27. 8605
Metal Poles – Direct Embedded	\$19. 8629
Metal Poles with Foundation	\$23. 9526

Other Charges

Pursuant to RSA 9-E:4, the Company provides a part-night service that, when requested by a customer, will require the replacement of the photoelectric control that will allow for the operation of the luminaire for a portion of the night. The Company shall assess the customer a Part Night Charge of \$150 for the installation of each photoelectric control that must be replaced in order for part-night service to be operational and for the removal of such photoelectric control upon the customer’s request to return to full-night service. For installation or removal of each photoelectric control made during a scheduled maintenance visit or during the installation of a new outdoor lighting service, the Company shall assess the customer a Part Night Charge of \$20 for the installation or removal of each such photoelectric control. The Part Night Charge does not include the cost or fees associated with any work-zone protection, traffic control services and/or permits required to perform the customer requested change, all of which shall be the responsibility of the customer.

Issued: XX XX, 20XX

Issued by: _____ /s/ Susan L. Fleck

Effective: XX XX, 20XX

Susan L. Fleck
Title: President

NHPUC NO. 21 - ELECTRICITY DELIVERY
LIBERTY UTILITIES

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Rate M

For Full-Night Schedule and Part-Night Schedule, the monthly distribution charge is based on the monthly cost of the fixture as provided below:

For New and Existing Installations:

Lamp Nominal Light Output	Nominal Power Rating		Monthly Fixed Luminaire Charge	Average Monthly kWh		Monthly kWh Charges		Total Distribution Charges	
				Full Night Schedule	Part-Night Schedule	Full Night Schedule	Part-Night Schedule	Full Night Schedule	Part-Night Schedule
(Lumens)	Watts	Kelvin	\$/month	kWh/month	kWh/month	\$/month	\$/month	\$/month	\$/month

High Pressure Sodium

4,000	50	2,000	\$8.16	16	8	\$0.62	\$0.31	\$8.78	\$8.47
9,600	100	2,000	\$9.42	33	17	\$1.28	\$0.64	\$10.70	\$10.06
27,500	250	2,000	\$15.62	82	41	\$3.18	\$1.59	\$18.80	\$17.21
50,000	400	2,000	\$19.41	131	66	\$5.08	\$2.54	\$24.49	\$21.95
9,600	100	2,000	\$11.04	33	17	\$1.28	\$0.64	\$12.32	\$11.68

High Pressure Sodium (HPS) Flood

27,500	250	2,000	\$15.78	82	41	\$3.18	\$1.59	\$18.96	\$17.37
50,000	400	2,000	\$21.08	131	66	\$5.08	\$2.54	\$26.16	\$23.62

For Existing Installations Only:

Lamp Nominal Light Output	Nominal Power Rating		Monthly Fixed Luminaire Charge	Average Monthly kWh		Monthly kWh Charges		Total Distribution Charges	
				Full Night Schedule	Part-Night Schedule	Full Night Schedule	Part-Night Schedule	Full Night Schedule	Part-Night Schedule
(Lumens)	Watts	Kelvin	\$/month	kWh/month	kWh/month	\$/month	\$/month	\$/month	\$/month

Incandescent

1000	103	2,400	\$10.45	34	17	\$1.32	\$0.66	\$11.77	\$11.11
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Mercury Vapor (MV)

4,000	100	4,000	\$7.23	33	17	\$1.28	\$0.64	\$8.51	\$7.87
8,000	175	4,000	\$8.13	57	29	\$2.21	\$1.11	\$10.34	\$9.24
22,000	400	5,700	\$14.51	131	66	\$5.08	\$2.54	\$19.59	\$17.05
63,000	1000	4,000	\$24.50	328	164	\$12.73	\$6.36	\$37.23	\$30.86

Mercury Vapor (MV) Flood

22,000	400	5,700	\$16.60	131	66	\$5.08	\$2.54	\$21.68	\$19.14
63,000	1000	4,000	\$32.13	328	164	\$12.73	\$6.36	\$44.86	\$38.49

Issued: XX XX, 20XX

Issued by: _____ /s/ Susan L. Fleck

Effective: XX XX, 20XX

Susan L. Fleck
Title: President

NHPUC NO. 21 - ELECTRICITY DELIVERY
LIBERTY UTILITIES

Original Page 122
Rate LED-2

Use of Advanced Controls

Where lighting controls that meet the current ANSI C12.20 standard have been installed that allow for variation from the Company’s outdoor lighting hours schedule under Full-Night Schedule or Part-Night Schedule, the Customer must provide verification of such installation to the Company and a schedule indicating the expected average operating wattage of lights subject to the Customer’s control and operation. Upon installation and at any time thereafter, the Customer must also provide the Company access, either directly or indirectly, to the data from the Customer’s control system in order for the Company to verify the measured energy use of the lighting systems and modify the billed usage as appropriate on a prospective basis. The schedule of average operating wattage ratings may be revised once per year at the request of the Customer. However, it is the Customer’s responsibility to immediately notify the Company of any planned or unplanned changes to its scheduled usage to allow for billing adjustments as may be needed.

The charge for the monthly kilowatt-hours shall be determined on the basis of the average operating wattage of the light sources resulting from installed control adjustments established at the beginning of the billing period multiplied by the average monthly hours of the outdoor lighting hours schedule. The wattage ratings shall allow for the billing of kilowatt-hours according to the schedule submitted by the Customer to the Company and reflect any adjustments from the lighting control system including, but not limited to, fixture trimming, dimming, brightening, variable dimming, and multiple hourly schedules.

Pole and Accessory Charge

An additional monthly charge enumerated below will be applied where the Company is requested to furnish a suitable wood pole for the sole purpose of supporting a luminaire. If at a future date the pole is used for any purpose approved by the Company in addition to supporting a street and/or floodlight luminaire, the pole charge will be terminated. This pole may not be more than one (1) span from the existing secondary service located along a roadway or thoroughfare, and must be reachable for mechanized equipment.

Description	Monthly Price Per Unit
Overhead Service	
Wood Poles	\$9. 4720
Underground Service – Non-Metallic Standard	
Fiberglass – Direct Embedded	\$9. 8153
Fiberglass with Foundation < 25 ft.	\$16. 6618
Fiberglass with Foundation >= 25 ft.	\$27. 8605
Metal Poles – Direct Embedded	\$19. 8629
Metal Poles with Foundation	\$23. 9526

Issued: XX XX, 20XX

Issued by: _____ /s/ Susan L. Fleck
Susan L. Fleck

Effective: XX XX, 20XX

Title: President

NHPUC No. 21 - ELECTRICITY
LIBERTY UTILITIES

Original Page 126
Summary of Rates

RATES EFFECTIVE JULY 1, 2020
FOR USAGE ON AND AFTER JULY 1, 2020

Rate	Blocks	Distribution Charge	REP/VMP	Net Distribution Charge	Transmission Charge	Stranded Cost Charge	Storm Recovery Adjustment Factor	System Benefits Charge	Electricity Consumption Tax	Total Delivery Service	Energy Service	Total Rate
D	Customer Charge	\$ 14.74		14.74						14.74		\$ 14.74
	All kWh	0.05480	0.00008	0.05488	0.02660	(0.00072)	-	0.00678	-	0.08754	0.07193	0.15947
Off Peak Water Heating Use 16 Hour Control ¹	All kWh	0.04732	0.00008	0.04740	0.02660	(0.00072)	-	0.00678	-	0.08006	0.07193	0.15199
Off Peak Water Heating Use 6 Hour Control ¹	All kWh	0.04819	0.00008	0.04827	0.02660	(0.00072)	-	0.00678	-	0.08093	0.07193	0.15286
Farm ¹	All kWh	0.05173	0.00008	0.05181	0.02660	(0.00072)	-	0.00678	-	0.08447	0.07193	0.15640
D-10	Customer Charge	\$ 14.74		14.74						14.74		\$ 14.74
	On Peak kWh	0.11694	0.00008	0.11702	0.02269	(0.00072)	-	0.00678	-	0.14577	0.07193	0.21770
	Off Peak kWh	0.00159	0.00008	0.00167	0.02269	(0.00072)	-	0.00678	-	0.03042	0.07193	0.10235
	Customer Charge	414.69		414.69						414.69		414.69
	Demand Charge	8.81		8.81						8.81		8.81
	On Peak kWh	0.00564	0.00008	0.00572	0.02065	(0.00072)	-	0.00678	-	0.03243		
									Effective 2/1/20, usage on or after		0.09749	\$ 0.12992
									Effective 3/1/20, usage on or after		0.07777	\$ 0.11020
									Effective 4/1/20, usage on or after		0.06715	\$ 0.09958
									Effective 5/1/20, usage on or after		0.05868	\$ 0.09111
									Effective 6/1/20, usage on or after		0.05246	\$ 0.08489
									Effective 7/1/20, usage on or after		0.05790	\$ 0.09033
G-1	Off Peak kWh	0.00168	0.00008	0.00176	0.02065	(0.00072)	-	0.00678	-	0.02847		
									Effective 2/1/20, usage on or after		0.09749	\$ 0.12596
									Effective 3/1/20, usage on or after		0.07777	\$ 0.10624
									Effective 4/1/20, usage on or after		0.06715	\$ 0.09562
									Effective 5/1/20, usage on or after		0.05868	\$ 0.08715
									Effective 6/1/20, usage on or after		0.05246	\$ 0.08093
									Effective 7/1/20, usage on or after		0.05790	\$ 0.08637
	Customer Charge	69.13		69.13						69.13		69.13
	Demand Charge	8.86		8.86						8.86		8.86
	All kWh	0.02240	0.00008	0.02248	0.02553	(0.00072)	-	0.00678	-	0.05407		
									Effective 2/1/20, usage on or after		0.09749	\$ 0.15156
									Effective 3/1/20, usage on or after		0.07777	\$ 0.13184
									Effective 4/1/20, usage on or after		0.06715	\$ 0.12122
									Effective 5/1/20, usage on or after		0.05868	\$ 0.11275
									Effective 6/1/20, usage on or after		0.05246	\$ 0.10653
									Effective 7/1/20, usage on or after		0.05790	\$ 0.11197
G-3	Customer Charge	15.90		15.90						15.90		15.90
	All kWh	0.05036	0.00008	0.05044	0.02550	(0.00072)	-	0.00678	-	0.08200	0.07193	0.15393
T	Customer Charge	\$ 14.74		14.74						14.74		\$ 14.74
	All kWh	0.04469	0.00008	0.04477	0.02620	(0.00073)	-	0.00678	-	0.07702	0.07193	0.14895
V	Minimum Charge	\$ 15.90		15.90						15.90		\$ 15.90
	All kWh	0.05179	0.00008	0.05187	0.02501	(0.00072)	-	0.00678	-	0.08294	0.07193	0.15487

¹ Rate is a subset of Domestic Rate D

Dated: xxx xx, 2020
Effective: July 1, 2020

Issued by: /s/Susan L. Fleck
Susan L. Fleck
Title: President

Authorized by NHPUC Order No. xx,xxx in Docket DE 20-xxx, Dated xxx xx, 2020

NHPUC No. 21 - ELECTRICITY
LIBERTY UTILITIES

Original Page 127
Summary of Rates

RATES EFFECTIVE JULY 1, 2020
FOR USAGE ON AND AFTER JULY 1, 2020

Rate	Blocks	Distribution Charge	REP/VMP	Net Distribution Charge	Transmission Charge	Stranded Cost Charge	Storm Recovery Adjustment Factor	System Benefits Charge	Electricity Consumption Tax	Total Delivery Service	Energy Service	Total Rate
	Customer Charge	\$14.74		\$14.74								\$14.74
	<u>Monday through Friday</u>											
D-11	Off Peak	\$0.03482	\$0.00008	\$0.03490	\$0.00115	(\$0.00072)	-	\$0.00678	-	\$0.04211	\$0.02445	\$0.06656
	Mid Peak	\$0.05124	\$0.00008	\$0.05132	\$0.01670	(\$0.00072)	-	\$0.00678	-	\$0.07408	\$0.06801	\$0.14209
	Critical Peak	\$0.09285	\$0.00008	\$0.09293	\$0.11010	(\$0.00072)	-	\$0.00678	-	\$0.20909	\$0.12305	\$0.33214
	<u>Saturday through Sunday and Holidays</u>											
	Off Peak	\$0.03482	\$0.00008	\$0.03490	\$0.00115	(\$0.00072)	-	\$0.00678	-	\$0.04211	\$0.02445	\$0.06656
	Mid Peak	\$0.05124	\$0.00008	\$0.05132	\$0.01670	(\$0.00072)	-	\$0.00678	-	\$0.07408	\$0.06801	\$0.14209
	Customer Charge	\$11.35		\$11.35								\$11.35
	<u>Monday through Friday</u>											
Rate EV	Off Peak	\$0.03466	\$0.00008	\$0.03474	\$0.00115	(\$0.00072)	-	\$0.00678	-	\$0.04195	\$0.02445	\$0.06640
	Mid Peak	\$0.05100	\$0.00008	\$0.05108	\$0.01670	(\$0.00072)	-	\$0.00678	-	\$0.07384	\$0.06801	\$0.14185
	Critical Peak	\$0.09243	\$0.00008	\$0.09251	\$0.11010	(\$0.00072)	-	\$0.00678	-	\$0.20867	\$0.12305	\$0.33172
	<u>Saturday through Sunday and Holidays</u>											
	Off Peak	\$0.05100	\$0.00008	\$0.05108	\$0.00115	(\$0.00072)	-	\$0.00678	-	\$0.05829	\$0.02445	\$0.08274
	Mid Peak	\$0.05124	\$0.00008	\$0.05132	\$0.01670	(\$0.00072)	-	\$0.00678	-	\$0.07408	\$0.06801	\$0.14209
	<u>Luminaire Charge</u>											
	HPS 4,000	\$8.16		\$8.16								\$8.16
	HPS 9,600	\$9.42		\$9.42								\$9.42
	HPS 27,500	\$15.62		\$15.62								\$15.62
	HPS 50,000	\$19.41		\$19.41								\$19.41
	HPS 9,600 (Post Top)	\$11.04		\$11.04								\$11.04
	HPS 27,500 Flood	\$15.78		\$15.78								\$15.78
M	HPS 50,000 Flood	\$21.08		\$21.08								\$21.08
	Incandescent 1,000	\$10.45		\$10.45								\$10.45
	Mercury Vapor 4,000	\$7.23		\$7.23								\$7.23
	Mercury Vapor 8,000	\$8.13		\$8.13								\$8.13
	Mercury Vapor 22,000	\$14.51		\$14.51								\$14.51
	Mercury Vapor 63,000	\$24.50		\$24.50								\$24.50
	Mercury Vapor 22,000 Flood	\$16.60		\$16.60								\$16.60
	Mercury Vapor 63,000 Flood	\$32.13		\$32.13								\$32.13
	<u>Luminaire Charge</u>											
	30 Watt Pole Top	\$5.29		\$5.29								\$5.29
	50 Watt Pole Top	\$5.51		\$5.51								\$5.51
	130 Watt Pole Top	\$8.51		\$8.51								\$8.51
LED-1	190 Watt Pole Top	\$16.28		\$16.28								\$16.28
	30 Watt URD	\$12.32		\$12.32								\$12.32
	90 Watt Flood	\$8.38		\$8.38								\$8.38
	130 Watt Flood	\$9.62		\$9.62								\$9.62
	30 Watt Caretaker	\$4.75		\$4.75								\$4.75
	Pole - Wood	\$9.20		\$9.20								\$9.20
	Fiberglass - Direct Embedded	\$9.53		\$9.53								\$9.53
Poles	Fiberglass w/Foundation <25 ft	\$16.18		\$16.18								\$16.18
	Fiberglass w/Foundation >=25 ft	\$27.05		\$27.05								\$27.05
	Metal Poles - Direct Embedded	\$19.29		\$19.29								\$19.29
	Metal Poles with Foundation	\$23.26		\$23.26								\$23.26
M & LED-1	All kWh	\$0.03873	\$0.00008	\$0.03881	\$0.01520	(\$0.00072)	\$0.00000	\$0.00678	\$0.00000	\$0.06007	\$0.07193	\$0.13200
LED-2	All kWh	\$0.03873	\$0.00008	\$0.03881	\$0.01520	(\$0.00072)	\$0.00000	\$0.00678	\$0.00000	\$0.06007	\$0.07193	\$0.13200

Dated: xxx xx, 2020
Effective: July 1, 2020

Issued by: /s/Susan L. Fleck
Susan L. Fleck
Title: President

Authorized by NHPUC Order No. xx,xxx in Docket DE 20-xxx, Dated xxx xx, 2020

NHPUC NO. 21 - ELECTRICITY DELIVERY
LIBERTY UTILITIES

Optional Determination of Demand

However, a Customer who has been served hereunder for one year or more may upon written request have the Demand for each month, beginning with the next month after such request and running for a period of not less than two consecutive months, be based upon the greatest of items a) or b) above. In such case, the Demand Charge and the Energy Charge will be increased by 20% during such period.

High Voltage Metering Adjustment

The Company reserves the right to determine the metering installation. Where service is metered at the Company's supply line voltage, in no case less than 2400 volts, thereby saving the Company transformer losses, a discount of 1% will be allowed from the amount determined under the preceding provisions.

Credit for High Voltage Delivery

If the Customer accepts delivery at the Company's supply line voltage, not less than 2400 volts and the Company is saved the cost of installing any transformer and associated equipment, a credit of billing demand for such month shall be allowed against the amount determined under the preceding provisions.

High Voltage Delivery Credit (\$0.48) per kW

Terms of Agreement

A Customer served under this rate must provide the Company with one-year prior written notice before installing additional on-site, non-emergency generation for its own use. This notice provision shall be waived with respect to the installation of on-site non-emergency generation from renewable energy resources. Renewable energy resources shall mean fuel cells (including natural gas powered fuel cells), and emerging power technologies that produce electricity from wind energy, solar energy, small-scale hydro power, ocean power, landfill gas, sustainably managed biomass, and future clean renewable technologies.

Issued: XX XX, 20XX

Issued by: _____ /s/ Susan L. Fleck

Effective: XX XX, 20XX

Susan L. Fleck
Title: President

NHPUC NO. 21 - ELECTRICITY DELIVERY
LIBERTY UTILITIES

Original Page 98
Rate G-2

General Long Hour Service Rate G-2

Availability

Retail Delivery Service under this rate is available for all purposes except resale subject to the provisions of this section. The sale of electric vehicle charging services to a third party from an electric vehicle charging station shall not be considered resale of electricity. A Customer will take delivery service on this rate if the Company estimates that its average use will be greater than or equal to 20 kW of Demand but is less than 200 kW of Demand. If electricity is delivered through more than one meter, except at the Company's option, the charge for electricity delivered through each meter shall be computed separately under this rate. A customer may be transferred from rate G-2 at its request or at the option of the Company if the customer's twelve (12) month average monthly demand is less than 18 kW of demand for three consecutive months.

If any electricity is delivered hereunder at a given location, then all electricity delivered by the Company at such location shall be furnished hereunder, except such electricity as may be delivered under the provisions of the Limited Commercial Space Heating Rate V.

Character of Service

Service supplied under this rate will be 60 cycle, three-phase alternating current normally at a nominal voltage of 120/208, 277/480, 2400, 4160, 4800, 7200, 13,200 and 13,800 volts. All voltages are not available in every area.

Rate Per Month

The Rate Per Month will be the sum of the applicable Customer, Demand and Energy Charges subject to the adjustments in this tariff.

Rates for Retail Delivery Service

Customer Charge \$71.18 per month

Energy Charges Per Kilowatt-Hour (cents per kilowatt-hour)

Distribution Charge	0.230
Reliability Enhancement/Vegetation Management	0.008
<hr/> Total Distribution Charge	<hr/> 0.238

Issued: XX XX, 20XX

Issued by: /s/ Susan L. Fleck
Susan L. Fleck

Effective: XX XX, 20XX

Title: President

Outdoor Lighting Service Rate M

Availability

Public Lighting

Available for Street or Highways and areas within the public domain for customers designated as governmental entities, inclusive of the state, municipalities, or other public authorities. Installations on limited access highways, tunnels, bridges and the access and egress ramps thereto are subject to the Special Rate Conditions of this tariff.

Private Lighting

Available to private customers for outdoor lighting of areas on private property where necessary fixtures can be supported on existing poles and where such service can be supplied from existing secondary distribution facilities.

In special circumstances outlined in the pole and accessory section below, the Company will install a wooden pole.

Lighting Services

Service under this rate is for full-night service street lighting whereby the luminaire operates for the entire night time period pursuant to the Hours of Operation provision below. In addition, customers may, at their option, take advantage of part-night service in which the luminaire operates for a portion of the night pursuant to the Hours of Operation provision below. Customers may select the part-night service option at the time of lighting installation or at any time during service. Any request to select the part-time night service option must be made in writing.

Energy Charges Per Kilowatt-Hour (cents per kilowatt-hour)

Distribution Charge	3.988
Reliability Enhancement/Vegetation Management	0.008
<hr/>	
Total Distribution	3.996
Transmission Charge	1.520
Stranded Cost Charge	(0.072)
Storm Recovery Adjustment Factor	0.000

No further installation or relocation of Incandescent and Mercury Vapor lights will be made after the effective date of this rate.

Issued: XX XX, 20XX

Issued by: /s/ Susan L. Fleck
Susan L. Fleck

Effective: XX XX, 20XX

Title: President

NHPUC NO. 21 - ELECTRICITY DELIVERY
LIBERTY UTILITIES

Original Page 110
Rate M

For Full-Night Schedule and Part-Night Schedule, the monthly distribution charge is based on the monthly cost of the fixture as provided below:

For New and Existing Installations:

Lamp Nominal Light Output	Nominal Power Rating		Monthly Fixed Luminaire Charge	Average Monthly kWh		Monthly kWh Charges		Total Distribution Charges	
				Full Night Schedule	Part-Night Schedule	Full Night Schedule	Part-Night Schedule	Full Night Schedule	Part-Night Schedule
(Lumens)	Watts	Kelvin	\$/month	kWh/month	kWh/month	\$/month	\$/month	\$/month	\$/month

High Pressure Sodium

4,000	50	2,000	\$8.37	16	8	\$0.64	\$0.32	\$9.01	\$8.69
9,600	100	2,000	\$9.70	33	17	\$1.32	\$0.66	\$11.02	\$10.36
27,500	250	2,000	\$16.08	82	41	\$3.28	\$1.64	\$19.36	\$17.72
50,000	400	2,000	\$19.98	131	66	\$5.23	\$2.62	\$25.21	\$22.60
9,600	100	2,000	\$11.36	33	17	\$1.32	\$0.66	\$12.68	\$12.02

High Pressure Sodium (HPS) Flood

27,500	250	2,000	\$16.25	82	41	\$3.28	\$1.64	\$19.53	\$17.89
50,000	400	2,000	\$21.70	131	66	\$5.23	\$2.62	\$26.93	\$24.32

For Existing Installations Only:

Lamp Nominal Light Output	Nominal Power Rating		Monthly Fixed Luminaire Charge	Average Monthly kWh		Monthly kWh Charges		Total Distribution Charges	
				Full Night Schedule	Part-Night Schedule	Full Night Schedule	Part-Night Schedule	Full Night Schedule	Part-Night Schedule
(Lumens)	Watts	Kelvin	\$/month	kWh/month	kWh/month	\$/month	\$/month	\$/month	\$/month

Incandescent

1000	103	2,400	\$10.76	34	17	\$1.36	\$0.68	\$12.12	\$11.44
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Mercury Vapor (MV)

4,000	100	4,000	\$7.44	33	17	\$1.32	\$0.66	\$8.76	\$8.10
8,000	175	4,000	\$8.37	57	29	\$2.28	\$1.14	\$10.65	\$9.51
22,000	400	5,700	\$14.94	131	66	\$5.23	\$2.62	\$20.17	\$17.56
63,000	1000	4,000	\$25.22	328	164	\$13.11	\$6.55	\$38.33	\$31.77

Mercury Vapor (MV) Flood

22,000	400	5,700	\$17.09	131	66	\$5.23	\$2.62	\$22.32	\$19.71
63,000	1000	4,000	\$33.08	328	164	\$13.11	\$6.55	\$46.19	\$39.63

Issued: XX XX, 20XX

Issued by: _____ /s/ Susan L. Fleck

Effective: XX XX, 20XX

Title: President

Outdoor Lighting Service Rate LED-1

Availability

Public Lighting

Available for Street or Highways and areas within the public domain for customers designated as governmental entities, inclusive of the state, municipalities, or other public authorities. Installations on limited access highways, tunnels, bridges and the access and egress ramps thereto are subject to the Special Rate Conditions of this tariff.

Private Lighting

Available to private customers for outdoor lighting of areas on private property where necessary fixtures can be supported on existing poles and where such service can be supplied from existing secondary distribution facilities.

In special circumstances outlined in the pole and accessory section below, the Company will install a wooden pole.

Lighting Services

Service under this rate is for full-night service street lighting whereby the luminaire operates for the entire night time period pursuant to the Hours of Operation provision below. In addition, customers may, at their option, take advantage of part-night service in which the luminaire operates for a portion of the night pursuant to the Hours of Operation provision below. Customers may select the part-night service option at the time of lighting installation or at any time during service. Any request to select the part-time night service option must be made in writing.

Energy Charges Per Kilowatt-Hour (cents per kilowatt-hour)

Distribution Charge	3.988
Reliability Enhancement/Vegetation Management	0.008
<hr/> Total Distribution	<hr/> 3.996
Transmission Charge	1.520
Stranded Cost Charge	(0.072)
Storm Recovery Adjustment Factor	0.000

No further installation or relocation of Incandescent and Mercury Vapor lights will be made after the effective date of this rate.

Issued: XX XX, 20XX

Issued by: /s/ Susan L. Fleck
Susan L. Fleck

Effective: XX XX, 20XX

Title: President

NHPUC NO. 21 - ELECTRICITY DELIVERY
LIBERTY UTILITIES

Original Page 122
Rate LED-2

Use of Advanced Controls

Where lighting controls that meet the current ANSI C12.20 standard have been installed that allow for variation from the Company’s outdoor lighting hours schedule under Full-Night Schedule or Part-Night Schedule, the Customer must provide verification of such installation to the Company and a schedule indicating the expected average operating wattage of lights subject to the Customer’s control and operation. Upon installation and at any time thereafter, the Customer must also provide the Company access, either directly or indirectly, to the data from the Customer’s control system in order for the Company to verify the measured energy use of the lighting systems and modify the billed usage as appropriate on a prospective basis. The schedule of average operating wattage ratings may be revised once per year at the request of the Customer. However, it is the Customer’s responsibility to immediately notify the Company of any planned or unplanned changes to its scheduled usage to allow for billing adjustments as may be needed.

The charge for the monthly kilowatt-hours shall be determined on the basis of the average operating wattage of the light sources resulting from installed control adjustments established at the beginning of the billing period multiplied by the average monthly hours of the outdoor lighting hours schedule. The wattage ratings shall allow for the billing of kilowatt-hours according to the schedule submitted by the Customer to the Company and reflect any adjustments from the lighting control system including, but not limited to, fixture trimming, dimming, brightening, variable dimming, and multiple hourly schedules.

Pole and Accessory Charge

An additional monthly charge enumerated below will be applied where the Company is requested to furnish a suitable wood pole for the sole purpose of supporting a luminaire. If at a future date the pole is used for any purpose approved by the Company in addition to supporting a street and/or floodlight luminaire, the pole charge will be terminated. This pole may not be more than one (1) span from the existing secondary service located along a roadway or thoroughfare, and must be reachable for mechanized equipment.

Description	Monthly Price Per Unit
Overhead Service	
Wood Poles	\$9.47
Underground Service – Non-Metallic Standard	
Fiberglass – Direct Embedded	\$9.81
Fiberglass with Foundation < 25 ft.	\$16.66
Fiberglass with Foundation >= 25 ft.	\$27.86
Metal Poles – Direct Embedded	\$19.86
Metal Poles with Foundation	\$23.95

Issued: XX XX, 20XX

Issued by: _____ /s/ Susan L. Fleck
Susan L. Fleck

Effective: XX XX, 20XX

Title: President

NHPUC No. 21 - ELECTRICITY
LIBERTY UTILITIES

Original Page 126
Summary of Rates

RATES EFFECTIVE JULY 1, 2020
FOR USAGE ON AND AFTER JULY 1, 2020

Rate	Blocks	Distribution Charge	REP/VMP	Net Distribution Charge	Transmission Charge	Stranded Cost Charge	Storm Recovery Adjustment Factor	System Benefits Charge	Electricity Consumption Tax	Total Delivery Service	Energy Service	Total Rate
D	Customer Charge	\$ 14.74		14.74						14.74		\$ 14.74
	All kWh	\$ 0.05710	0.00008	0.05718	0.02660	(0.00072)	-	0.00678	-	0.08984	0.07193	\$ 0.16177
Off Peak Water Heating Use 16 Hour Control ¹	All kWh	\$ 0.04930	0.00008	0.04938	0.02660	(0.00072)	-	0.00678	-	0.08204	0.07193	\$ 0.15397
Off Peak Water Heating Use 6 Hour Control ¹	All kWh	\$ 0.50210	0.00008	0.50218	0.02660	(0.00072)	-	0.00678	-	0.53484	0.07193	\$ 0.60677
Farm ¹	All kWh	\$ 0.05390	0.00008	0.05398	0.02660	(0.00072)	-	0.00678	-	0.08664	0.07193	\$ 0.15857
D-10	Customer Charge	\$ 14.74		14.74						14.74		\$ 14.74
	On Peak kWh	\$ 0.12153	0.00008	0.12161	0.02269	(0.00072)	-	0.00678	-	0.15036	0.07193	\$ 0.22229
	Off Peak kWh	\$ 0.00165	0.00008	0.00173	0.02269	(0.00072)	-	0.00678	-	0.03048	0.07193	\$ 0.10241
G-1	Customer Charge	\$ 427.04		427.04						427.04		\$ 427.04
	Demand Charge	\$ 9.07		9.07						9.07		\$ 9.07
	On Peak kWh	\$ 0.00580	0.00008	0.00588	0.02065	(0.00072)	-	0.00678	-	0.03259		
									Effective 2/1/20, usage on or after	0.09749		\$ 0.13008
									Effective 3/1/20, usage on or after	0.07777		\$ 0.11036
									Effective 4/1/20, usage on or after	0.06715		\$ 0.09974
									Effective 5/1/20, usage on or after	0.05868		\$ 0.09127
									Effective 6/1/20, usage on or after	0.05246		\$ 0.08505
									Effective 7/1/20, usage on or after	0.05790		\$ 0.09049
	Off Peak kWh	\$ 0.00173	0.00008	0.00181	0.02065	(0.00072)	-	0.00678	-	0.02852		
								Effective 2/1/20, usage on or after	0.09749		\$ 0.12601	
								Effective 3/1/20, usage on or after	0.07777		\$ 0.10629	
								Effective 4/1/20, usage on or after	0.06715		\$ 0.09567	
								Effective 5/1/20, usage on or after	0.05868		\$ 0.08720	
								Effective 6/1/20, usage on or after	0.05246		\$ 0.08098	
								Effective 7/1/20, usage on or after	0.05790		\$ 0.08642	
G-2	Customer Charge	\$ 71.18		71.18						71.18		\$ 71.18
	Demand Charge	\$ 9.12		9.12						9.12		\$ 9.12
	All kWh	\$ 0.00230	0.00008	0.00238	0.02553	(0.00072)	-	0.00678	-	0.03397		
									Effective 2/1/20, usage on or after	0.09749		\$ 0.13146
									Effective 3/1/20, usage on or after	0.07777		\$ 0.11174
									Effective 4/1/20, usage on or after	0.06715		\$ 0.10112
									Effective 5/1/20, usage on or after	0.05868		\$ 0.09265
								Effective 6/1/20, usage on or after	0.05246		\$ 0.08643	
								Effective 7/1/20, usage on or after	0.05790		\$ 0.09187	
G-3	Customer Charge	\$ 16.37		16.37						16.37		\$ 16.37
	All kWh	\$ 0.05186	0.00008	0.05194	0.02550	(0.00072)	-	0.00678	-	0.08350	0.07193	\$ 0.15543
T	Customer Charge	\$ 14.74		14.74						14.74		\$ 14.74
	All kWh	\$ 0.04635	0.00008	0.04643	0.02620	(0.00073)	-	0.00678	-	0.07868	0.07193	\$ 0.15061
V	Minimum Charge	\$ 16.37		16.37						16.37		\$ 16.37
	All kWh	\$ 0.05333	0.00008	0.05341	0.02501	(0.00072)	-	0.00678	-	0.08448	0.07193	\$ 0.15641

¹ Rate is a subset of Domestic Rate D

Dated: xxx xx, 2020
Effective: July 1, 2020

Issued by: /s/Susan L. Fleck
Susan L. Fleck
Title: President

Authorized by NHPUC Order No. xx,xxx in Docket DE 20-xxx, Dated xxx xx, 2020

NHPUC No. 21 - ELECTRICITY
LIBERTY UTILITIES

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Summary of Rates

RATES EFFECTIVE JULY 1, 2020
FOR USAGE ON AND AFTER JULY 1, 2020

Rate	Blocks	Distribution Charge	REP/VMP	Net Distribution Charge	Transmission Charge	Stranded Cost Charge	Storm Recovery Adjustment Factor	System Benefits Charge	Electricity Consumption Tax	Total Delivery Service	Energy Service	Total Rate
	Customer Charge	\$14.74		\$14.74								\$14.74
	<u>Monday through Friday</u>											
D-11	Off Peak	\$0.03628	\$0.00008	\$0.03636	\$0.00115	(\$0.00072)	-	\$0.00678	-	\$0.04357	\$0.02445	\$0.06802
	Mid Peak	\$0.05339	\$0.00008	\$0.05347	\$0.01670	(\$0.00072)	-	\$0.00678	-	\$0.07623	\$0.06801	\$0.14424
	Critical Peak	\$0.09675	\$0.00008	\$0.09683	\$0.11010	(\$0.00072)	-	\$0.00678	-	\$0.21299	\$0.12305	\$0.33604
	<u>Saturday through Sunday and Holidays</u>											
	Off Peak	\$0.03628	\$0.00008	\$0.03636	\$0.00115	(\$0.00072)	-	\$0.00678	-	\$0.04357	\$0.02445	\$0.06802
	Mid Peak	\$0.05339	\$0.00008	\$0.05347	\$0.01670	(\$0.00072)	-	\$0.00678	-	\$0.07623	\$0.06801	\$0.14424
Rate EV	Customer Charge	\$11.35		\$11.35								\$11.35
	<u>Monday through Friday</u>											
	Off Peak	\$0.03628	\$0.00008	\$0.03636	\$0.00115	(\$0.00072)	-	\$0.00678	-	\$0.04357	\$0.02445	\$0.06802
	Mid Peak	\$0.05339	\$0.00008	\$0.05347	\$0.01670	(\$0.00072)	-	\$0.00678	-	\$0.07623	\$0.06801	\$0.14424
	Critical Peak	\$0.09675	\$0.00008	\$0.09683	\$0.11010	(\$0.00072)	-	\$0.00678	-	\$0.21299	\$0.12305	\$0.33604
	<u>Saturday through Sunday and Holidays</u>											
	Off Peak	\$0.03628	\$0.00008	\$0.03636	\$0.00115	(\$0.00072)	-	\$0.00678	-	\$0.04357	\$0.02445	\$0.06802
	Mid Peak	\$0.05339	\$0.00008	\$0.05347	\$0.01670	(\$0.00072)	-	\$0.00678	-	\$0.07623	\$0.06801	\$0.14424
M	<u>Luminaire Charge</u>											
	HPS 4,000	\$8.40		\$8.40								\$8.40
	HPS 9,600	\$9.70		\$9.70								\$9.70
	HPS 27,500	\$16.08		\$16.08								\$16.08
	HPS 50,000	\$19.98		\$19.98								\$19.98
	HPS 9,600 (Post Top)	\$11.36		\$11.36								\$11.36
	HPS 27,500 Flood	\$16.25		\$16.25								\$16.25
	HPS 50,000 Flood	\$21.70		\$21.70								\$21.70
	Incandescent 1,000	\$10.76		\$10.76								\$10.76
	Mercury Vapor 4,000	\$7.44		\$7.44								\$7.44
	Mercury Vapor 8,000	\$8.37		\$8.37								\$8.37
	Mercury Vapor 22,000	\$14.94		\$14.94								\$14.94
	Mercury Vapor 63,000	\$25.22		\$25.22								\$25.22
	Mercury Vapor 22,000 Flood	\$17.09		\$17.09								\$17.09
	Mercury Vapor 63,000 Flood	\$33.08		\$33.08								\$33.08
LED-1	<u>Luminaire Charge</u>											
	30 Watt Pole Top	\$5.44		\$5.44								\$5.44
	50 Watt Pole Top	\$5.67		\$5.67								\$5.67
	130 Watt Pole Top	\$8.76		\$8.76								\$8.76
	190 Watt Pole Top	\$16.76		\$16.76								\$16.76
	30 Watt URD	\$12.68		\$12.68								\$12.68
	90 Watt Flood	\$8.62		\$8.62								\$8.62
	130 Watt Flood	\$9.90		\$9.90								\$9.90
	30 Watt Caretaker	\$4.89		\$4.89								\$4.89
Poles	Pole -Wood	\$9.47		\$9.47								\$9.47
	Fiberglass - Direct Embedded	\$9.81		\$9.81								\$9.81
	Fiberglass w/Foundation <25 ft	\$16.66		\$16.66								\$16.66
	Fiberglass w/Foundation >=25 ft	\$27.86		\$27.86								\$27.86
	Metal Poles - Direct Embedded	\$19.86		\$19.86								\$19.86
	Metal Poles with Foundation	\$23.95		\$23.95								\$23.95
M & LED-1	All kWh	\$0.03988	\$0.00008	\$0.03996	\$0.01520	(\$0.00072)	\$0.00000	\$0.00678	\$0.00000	\$0.06122	\$0.07193	\$0.13315
LED-2	All kWh	\$0.03988	\$0.00008	\$0.03996	\$0.01520	(\$0.00072)	\$0.00000	\$0.00678	\$0.00000	\$0.06122	\$0.07193	\$0.13315

Dated: xxx xx, 2020
Effective: July 1, 2020

Issued by: /s/Susan L. Fleck
Susan L. Fleck
Title: President

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