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February 28, 2020

VIA ELECTRONIC FILING

Rosemary Chiavetta, Secretary
Pennsylvania Public Utility Commission
Commonwealth Keystone Building, 2nd Floor
400 North Street
Harrisburg, PA 17120

Re: Duquesne Light Company's Annual Asset Optimization Plan
Docket No. M-2020-_____

Dear Secretary Chiavetta:

Enclosed please find Duquesne Light Company's ("Duquesne Light" or "Company") Annual Asset Optimization Plan ("Plan"). The Plan details the Company's actual and projected expenditures related to the implementation of its Long Term Infrastructure Improvement Plan ("LTIIIP") for program years 2019 and 2020, respectively. Duquesne Light's LTIIIP is a six year program covering program years 2017 through 2022. Although annual initiative performance may vary, the Company projects that its overall LTIIIP performance will align with filed plan over the six year period.

Should you have any questions please contact me.

Respectfully Submitted,

A handwritten signature in black ink, appearing to be "Tishekia E. Williams", written over a horizontal line.

Tishekia E. Williams
Attorney ID#208997

Enclosures

CC: Certificate of Service

CERTIFICATE OF SERVICE

I hereby certify that a true and correct copy of the foregoing has been served upon the following persons, in the manner indicated, in accordance with the requirements of 52 Pa. § 1.54

FIRST CLASS MAIL

Bureau of Investigation and Enforcement
Commonwealth Keystone Building
400 North Street, 2nd Floor West
P.O. Box 3265
Harrisburg, PA 17105-3265

Office of Small Business Advocate
300 North Second Street
Suite 1102
Harrisburg, PA 17101

Office of Consumer Advocate
555 Walnut Street
Forum Place, 5th Floor
Harrisburg, PA 17101-1923



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Dated: February 28, 2020

Duquesne Light Company

Annual Asset Optimization Plan

February 27, 2020

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INTRODUCTION

Pursuant to 66 Pa.C.S. § 1356 Duquesne Light Company (“DLC or the Company”) hereby files its Annual Asset Optimization Plan (“AAO Plan”). Section 1356 provides that utilities with an approved distribution system improvement charge (“DSIC”) and long-term infrastructure improvement plan (“LTIIIP”) are required to file an AAO Plan that includes:

- 1) A description that specifies all eligible property repaired, improved and replaced in the immediately preceding 12-month period pursuant to the utility’s long-term infrastructure improvement plan and prior year’s asset optimization plan; and
- 2) A detailed description of all the facilities to be improved in the upcoming 12-month period.

In the AAO Plan, the Company provides details regarding the actual and projected repair, improvement and replacement of aging infrastructure in 2019 and 2020. The Company’s LTIIIP performance is an important part of its plan to ensure that its distribution system continues operate in a safe and reliable manner.

BACKGROUND

Duquesne Light Company is a public utility as that term is defined under Section 102 of the Public Utility Code, 66 Pa. C.S. § 102, certificated by the Pennsylvania Public Utility Commission (“PUC” or the “Commission”) to provide electric service in the City of Pittsburgh and in Allegheny and Beaver Counties in Pennsylvania. DLC is also an EDC as that term is defined under Section 2803 of the Public Utility Code, 66 Pa. C.S. § 2803. DLC provides electric distribution service to approximately 590,000 customers within its service territory that covers approximately 817 square miles.

DLC filed an LTIIIP, on April 15, 2016. In preparing its LTIIIP, DLC followed the guidelines established in the Commission’s August 2, 2012 Final Implementation Order. The LTIIIP provides for accelerated replacement of DSIC eligible property to support and fulfill the goals of Act 11, which are aimed at constructing, installing, rehabilitating, improving and replacing portions of the Pennsylvania electric distribution system in an accelerated time frame to the betterment of Pennsylvania electricity customers. The LTIIIP will support and enhance DLC’s

continuing efforts to sustain its high level of reliability and safety that could otherwise suffer due to normal degradation of facilities that occurs with time and natural environmental stresses.

The Company's LTIP was approved as filed on September 15, 2016. On May 26, 2016, DLC filed a petition seeking approval of a DSIC. By Order entered April 20, 2017, the Commission approved DLC's DSIC at docket number P-2016-2540046.

Duquesne Light's Commission approved LTIP includes five (5) asset programs and nine (9) initiatives.¹ Details regarding the asset programs included factors used to identify the need for the project, average age of the asset, scope of the project including the number of units to be replaced or improved over the next six years, the approximate location by geographic region for the projects, and the annual expenditures for 2017 through 2022 for each asset class. The asset programs address DLC's areas of aged infrastructure, which are approaching the end of their expected useful life.

EXECUTIVE SUMMARY

In developing its AAO Plan, DLC has included all of the five (5) asset programs and nine (9) initiatives originally included in its Commission-approved LTIP. The AAO Plan provides projected and actual replacement numbers for 2019, and projections for 2020. The project descriptions included in the AAO Plan are consistent with those provided in the LTIP. The Company has added information to describe the progress of the programs and to explain deviations from the original projections where appropriate. While some programs spending forecasts have been adjusted due to changing circumstances, DLC does not propose to eliminate any of its programs at this time.

The chart below details the Company's LTIP plan as filed, as well as the Company's actual 2019 performance and projected performance for 2020. Columns titled "2019 Plan" and "2020

¹Duquesne Light's LTIP included an explanation that the Company planned to develop a Microgrid to improve the reliability of the portion of its distribution system that serves its Woods Run Operations facilities and its Preble Avenue Service Center. The LTIP did not provide a specific proposal for the Woods Run Microgrid, did not include any proposed budget or funding for the Woods Run Microgrid and specifically stated that the Company would file an Amended LTIP to provide such information. Upon further consideration, the Company did not petition to amend its LTIP. Accordingly, the Microgrid is not included in the Company's LTIP, or addressed in this AAOP.

Plan” reflect numbers as filed in the LTIP plan. The column titled “2019 AAOP” identifies numbers included as the 2019 Forecast in the Company’s AAOP filed on March 1, 2019.

Duquesne Light Company 2019-2020 Actual and Projected LTIP Spend.

<i>All figures in \$ millions</i>	2019 Plan	2019 AAOP	2019 Actual	2020 Plan	2020 Forecast
4kV Program					
4kV Substation Elimination	47.0	26.2	23.5	-	19.7
Stepdown Transformer Conversion	6.2	7.4	5.3	6.1	1.0
Modular Integrated Transformer System	8.0	3.0	2.6	-	0.9
Total 4kV Program	61.2	36.6	31.5	6.1	21.5
Overhead Program					
Aerial Cable Replacement	9.2	9.5	6.2	1.8	3.4
Total Overhead Program	9.2	9.5	6.2	1.8	3.4
Underground Program					
Underground Cable Replacement	3.0	-	(0.0)	0.5	-
Network Transformer and Protector Replacement	5.7	3.5	4.1	2.7	2.7
Underground Residential Distribution Rehabilitation	5.9	8.6	7.0	5.9	3.4
Total Underground Program	14.6	12.1	11.1	9.1	6.1
Substations Program					
Breaker & Switch Replacements	5.3	7.5	7.4	5.2	5.7
Substation Upgrades	3.0	3.1	3.7	-	0.0
Total Substations Program	8.3	10.6	11.1	5.2	5.7
Highway Relocation Program					
Unreimbursed Highway Relocations	2.9	1.2	2.7	2.8	4.2
Total Highway Relocations Program	2.9	1.2	2.7	2.8	4.2
TOTAL	96.2	69.9	62.5	25.0	40.9

Distribution Assets

The following pages set forth actual results for calendar year 2019 and current projections for calendar year 2020. These assets involved in the LTIP Initiatives include, but are not limited to, the following:

- Structures
 - Poles
 - Crossarms
- Overhead Conductors and Hardware
- Underground Cables and Hardware
- Breakers and Disconnect Switches
- Protective Devices
 - Fuses
 - Reclosers
 - Network Protectors
 - Lightning Arresters
- Transformers

4 KV Program

The Substation Elimination Initiative and the Stepdown Conversion Initiative are intended to replace the aged, 4kV infrastructure on DLC's system. In certain instances, renewal of the 4kV substation infrastructure may be prudent, as opposed to substation elimination or conversion. In those instances, DLC will replace the substation equipment.

I. Substation Elimination Initiative Program Description and Purpose

The Substation Elimination Initiative will convert a substation's 4kV load to 23kV operation. By removing the 4kV equipment and upgrading to 23kV, this initiative will permit the decommissioning of 4kV substations.

Scope

Replacement in Units (circuits)					
LTIIIP Initiative	2019 Plan	2019 AAOP	2019 Actual	2020 Plan	2020 Forecast
4kV Substation Elimination	12.0	2.0	2.0	0.0	4.0

Locations

Areas generally outside of downtown Pittsburgh.

Actual/Planned Annual Expenditures

Replacement Spending (\$ in millions)					
LTIIIP Initiative	2019 Plan	2019 AAOP	2019 Actual	2020 Plan	2020 Forecast
4kV Substation Elimination	47.0	26.2	23.5	0.0	19.7

Comments:

Units of work completed in 2019 were as forecasted in our 2019 AAOP. Units of work forecasted for 2020 are more than the LTIIIP due to the timing of work on two significant projects that are in this initiative.

Units of work forecasted and completed in 2019 are less than the LTIIIP Filing anticipated due to the nature of the work involved in this initiative. Each of the 4kV Substation Elimination projects vary significantly in scope and costs. For example, the conversion of one circuit on one project may require the conversion of the same number of miles as the conversion of four circuits on another project. When DLC filed its LTIIIP, an average cost per circuit converted was used to estimate the number of circuits that would be converted over six years. This approach did not account for the varying lengths of

circuits that would be included in the specific projects ultimately selected for this initiative.

II. Stepdown Conversion Initiative
Program Description and Purpose

The 4kV Stepdown Conversions Initiative will convert 4kV load fed from a stepdown to 23kV. By eliminating 4kV stepdown and upgrading the associated infrastructure to 23kV, this initiative will permit the decommissioning of the 4kV system.

Scope

Replacement in Units (three phase transformer set)					
LTIIIP Initiative	2019 Plan	2019 AAOP	2019 Actual	2020 Plan	2020 Forecast
Stepdown Transformer Conversion	5.0	2.0	2.0	5.0	2.0

Locations

Areas generally outside of downtown Pittsburgh.

Actual/Planned Annual Expenditures

Replacement Spending (\$ in millions)					
LTIIIP Initiative	2019 Plan	2019 AAOP	2019 Actual	2020 Plan	2020 Forecast
Stepdown Transformer Conversion	6.2	7.4	5.3	6.1	1.0

Comments

The two stepdown transformer conversion LTIIIP units reflected in 2019 actual performance were completed as part of one of the projects in our 4kV Substation Elimination initiative. Accordingly, the spending associated for those two units is reflected in the 4kV Substation Elimination initiative. Spending in this initiative in 2019 was primarily associated with a project that will be completed in 2020 and the units for that work are reflected in the 2020 forecast.

Forecasted spending for 2020 is lower than the LTIIIP due to the prioritization of project spending in 2020 across the two 4kV conversion initiatives, 4kV Substations Eliminations and Stepdown Transformer Conversions, which share an objective of replacing aged 4kV system infrastructure.

III. *Modular Integrated Transformer System Initiative (“MITS”)*

Program Description and Purpose

The purpose of this program is to replace aged substation transformers. The original approach to the replacement was to utilize a Modular Integrated Transformer System. However, as explained in the Company’s AAOP filed on March 1, 2018, the Company will continue this initiative by utilizing a conventional solution consisting of individual components as opposed to the modular integrated solution.

Scope

Replacement in Units (units)					
LTIIIP Initiative	2019 Plan	2019 AAOP	2019 Actual	2020 Plan	2020 Forecast
Modular Integrated Transformer System	8.0	4.0	4.0	0.0	1.0

Locations

All areas of DLC System.

Actual/Planned Annual Expenditures

Replacement Spending (\$ in millions)					
LTIIIP Initiative	2019 Plan	2019 AAOP	2019 Actual	2020 Plan	2020 Forecast
Modular Integrated Transformer System	8.0	3.0	2.6	0.0	0.9

Comments

The units of work completed in 2019 are aligned with the forecasted units provided in our 2019 AAOP. 2020 spending is forecasted to complete one unit of work due to the shifting of some of the work in this initiative from 2019 to future years of the 6 year time horizon of the LTIIIP.

Overhead Program

DLC’s Overhead Program addresses aerial cable and other eligible property on the overhead distribution system approaching the end of its expected useful life.

I. *Aerial Cable Replacement Initiative*
Program Description and Purpose

Aerial cable is used when multiple circuits are on the same pole. It is also used through rights-of-way with trees that may cause interference. Aerial cable is used principally on

the 23kV sub-transmission and distribution circuits. This initiative focuses on the replacement of aged, failure-prone aerial cable to maintain DLC’s current high level of reliability and reduce the likelihood of failures.

Scope

Replacement in Units (miles)					
LTIP Initiative	2019 Plan	2019 AAOP	2019 Actual	2020 Plan	2020 Forecast
Aerial Cable Replacement	12.0	5.1	4.7	2.0	1.6

Locations

Areas generally outside of downtown Pittsburgh.

Actual/Planned Annual Expenditures

Replacement Spending (\$ in millions)					
LTIP Initiative	2019 Plan	2019 AAOP	2019 Actual	2020 Plan	2020 Forecast
Aerial Cable Replacement	9.2	9.5	6.2	1.8	3.4

Comments:

Spending in this initiative in 2019 was lower than anticipated in DLC’s 2019 AAOP because some projects were reprioritized resulting in less spending on this initiative in 2019.

Underground Program

DLC’s Underground Program replaces, rehabilitates, and improves obsolete, eligible property approaching the end of its expected useful life.

I. Underground Cable Replacement Initiative
Program Description and Purpose

DLC’s underground cable has served the system for several years, but it is approaching the end of its expected useful life. This initiative focuses on the replacement of underground cable to maintain the current high level of reliability and reduce the likelihood of future failures.

Scope

Replacement in Units (miles)					
LTIIIP Initiative	2019 Plan	2019 AAOP	2019 Actual	2020 Plan	2020 Forecast
Underground Cable Replacement	1.0	0.3	0.0	0.0	0.0

Locations

Areas generally inside of downtown Pittsburgh.

Actual/Planned Annual Expenditures

Replacement Spending (\$ in millions)					
LTIIIP Initiative	2019 Plan	2019 AAOP	2019 Actual	2020 Plan	2020 Forecast
Underground Cable Replacement	3.0	0.0	0.0	0.5	0.0

Comments

The more significant projects in this initiative were completed in the earlier years of the LTIIIP. The work forecasted in our 2019 AAOP and this AAOP for 2020 is associated with short runs of underground cable that are funded by aerial cable projects and therefore the dollars are included in the aerial cable initiative and the units of work are not significant.

II. Network Transformers & Protector Replacement Initiative

Program Description and Purpose

The majority of network transformers and protectors are located in downtown Pittsburgh in sidewalk vaults. Many of these vaults are exposed to natural and human elements that may lead to corrosion. These factors contribute to the deterioration of the transformers. This initiative focuses on the rehabilitation of network transformer and protector installations in downtown Pittsburgh to maintain the current high level of reliability and reduce the likelihood of failures.

Scope

Replacement in Units (transformers)					
LTIIIP Initiative	2019 Plan	2019 AAOP	2019 Actual	2020 Plan	2020 Forecast
Network Transformer and Protector Replacement	50.0	30.0	30.0	23.0	20.0

Location

Areas generally inside of downtown Pittsburgh.

Actual/Planned Annual Expenditures

Replacement Spending (\$ in millions)					
LTIP Initiative	2019 Plan	2019 AAOP	2019 Actual	2020 Plan	2020 Forecast
Network Transformer and Protector Replacement	5.7	3.5	4.1	2.7	2.7

Comments

The forecast for 2019 network transformer replacements was adjusted to 30 units of work compared to the 50 units of work included in 2019 in the LTIP based on the current condition of assets within this assets category.

III. Underground Residential Distribution Rehabilitation Initiative
Program Description and Purpose

DLC installed a significant number of Underground Residential Distribution (URD) facilities in housing developments in the 1970s. This equipment is approaching the end of expected useful life. Some of this equipment is below grade. The equipment has been exposed to wet conditions due to rain runoff. In addition, chemicals from lawn treatment in the water in below-grade vaults further deteriorate the equipment. The deteriorated equipment includes transformers, primary cable, splices, bushing junctions, elbows, brackets, and the vaults themselves.

This initiative focuses on the rehabilitation of the failure-prone underground residential (URD) system in order to maintain the current high level of reliability and reduce the likelihood of future failures.

Scope

Replacement in Units (transformers)					
LTIP Initiative	2019 Plan	2019 AAOP	2019 Actual	2020 Plan	2020 Forecast
Underground Residential Distribution Rehabilitation	196.0	224.0	210.0	197.0	102.0

Locations

Areas generally outside of downtown Pittsburgh.

Actual/Planned Annual Expenditures

Replacement Spending (\$ in millions)					
LTIIIP Initiative	2019 Plan	2019 AAOP	2019 Actual	2020 Plan	2020 Forecast
Underground Residential Distribution Rehabilitation	5.9	8.6	7.0	5.9	3.4

Comments:

Spending and units of work in 2019 were consistent with the values forecasted in the 2019 AAOP. The 2020 forecast is lower than the LTIIIP, however, the four year spending and units of work for 2017-2020 is approximately on track with the LTIIIP.

Substations Program

DLC's Substations Program addresses eligible property associated with its substations that are approaching the end of expected useful life. The eligible property under this LTIIIP includes circuit breakers, associated switches, line protection devices, and substation infrastructure.

I. Breaker & Switch Replacement Initiative Program Description and Purpose

The 23kV distribution infrastructure is the backbone of DLC's delivery system. As part of that system, substation breakers are important for reliable operation. The line protection of the system must also work as appropriate and in coordination with other protective devices such as IntelliRupters and line fuses. Currently, there are approximately 500 oil circuit breakers that can be replaced with vacuum circuit breakers. The line and bus disconnect switches will be changed while the breakers are being replaced. The disconnect switches are used to establish a valid clearance for a visual break, allowing construction crews to perform line work safely.

Scope

Replacement in Units (breakers)					
LTIIIP Initiative	2019 Plan	2019 AAOP	2019 Actual	2020 Plan	2020 Forecast
Breaker & Switch Replacements	43.0	32.0	31.0	43.0	22.0

Locations

All areas of DLC System.
Actual/Planned Annual Expenditures

Replacement Spending (\$ in millions)					
LTIIP Initiative	2019 Plan	2019 AAOP	2019 Actual	2020 Plan	2020 Forecast
Breaker & Switch Replacements	5.3	7.5	7.4	5.2	5.7

Comments

Spending and units of work in 2019 were consistent with the values forecasted in the 2019 AAOP. Units of work in 2019 and 2020 are lower than the LTIIP due to higher costs associated with breaker replacements based on site specific costs that vary depending on the substation and the amount of work involved with specific breaker locations.

II. Substation Upgrades Initiative
Program Description and Purpose

The Substation Upgrades Initiative replaces substation infrastructure that is approaching the end of expected useful life. Within the substation, DLC has identified several pieces of equipment and/or systems that need to be replaced or rehabilitated. The infrastructure principally includes, but is not limited to transformers, relays, substation structures, system control equipment, foundations, ground grid systems, and battery systems.

Scope

Replacement in Units (projects)					
LTIIP Initiative	2019 Plan	2019 AAOP	2019 Actual	2020 Plan	2020 Forecast
Substation Upgrades	5.0	12.0	22.0	0.0	0.0

Locations

All areas of DLC System.

Actual/Planned Annual Expenditures

Replacement Spending (\$ in millions)					
LTIIP Initiative	2019 Plan	2019 AAOP	2019 Actual	2020 Plan	2020 Forecast
Substation Upgrades	3.0	3.1	3.7	0.0	0.0

Comments

Spending in 2019 was higher than the amount forecasted in the 2019 AAOP due to the specific projects chosen. The LTIP included \$6.0 million of spending and 10 units of work for this initiative for 2018 and 2019 combined, and DLC completed 30 units of work at a cost of \$5.8 million through 2019.

Highway Relocation Program

The Highway Relocation Program consists of work that arises during the course of normal operations required by the State of Pennsylvania, PennDot, counties, cities, municipalities, or other government agencies. As part of unreimbursed road and bridge projects, DLC is required to relocate its distribution facilities. During these relocations, there is the potential for system improvements. Due to the nature of how these relocation projects are scheduled, DLC cannot definitively determine the annual expenditures or number of projects that will be required during the LTIP period. DLC will include eligible costs as part of its LTIP.

Actual/Planned Annual Expenditures

Replacement Spending (\$ in millions)					
LTIP Initiative	2019 Plan	2019 AAOP	2019 Actual	2020 Plan	2020 Forecast
Unreimbursed Highway Relocations	2.9	1.2	2.7	2.8	4.2