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February 26, 2021

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-2021-_____

Dear Secretary Chiavetta:

Enclosed please find Duquesne Light Company's Annual Asset Optimization Plan. Should you have any questions please contact me.

Respectfully Submitted,

A handwritten signature in black ink, appearing to read "Tishekia E. Williams", is 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. Code § 1.54 (relating to service by a participant):

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Dated: February 26, 2021

Duquesne Light Company

Annual Asset Optimization Plan

March 1, 2021

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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 2020 and 2021. 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 LTIIIP 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. On May 26, 2020, the Commission initiated the periodic review of DLC's LTIIIP as required by the Public Utility Code. 52 Pa. Code § 121.7(a). On October 29, 2020, the Commission issued an Opinion and Order finding "[t]hat the Long-Term Infrastructure Improvement Plan of Duquesne Light Company is designed adequately to ensure and maintain safe, adequate, reasonable, and reliable service and that DLC has substantially adhered to its plan.

EXECUTIVE SUMMARY

Duquesne Light's Commission approved LTIIIP 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, 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.

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 LTIIIP. The AAO Plan provides projected and actual replacement numbers for 2020, and projections for 2021. The project descriptions included in the AAO Plan are consistent with those provided in the LTIIIP. The Company has added information to describe the progress of the

¹Duquesne Light's LTIIIP 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 LTIIIP 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 LTIIIP to provide such information. Upon further consideration, the Company did not petition to amend its LTIIIP. Accordingly, the Microgrid is not included in the Company's LTIIIP, or addressed in this AAOP.

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 2020 performance and projected performance for 2021. Columns titled “2020 Plan” and “2021 Plan” reflect numbers as filed in the LTIP plan. The column titled “2020 AAOP” identifies numbers included as the 2020 Forecast in the Company’s AAOP filed on March 1, 2020. The columns titles “2020 Midterm” and “2021 Midterm” represent the forecasted numbers included in the comments submitted by the Company in June 2020 as part of the PUC’s periodic review of the Company’s LTIP.

Duquesne Light Company 2020-2021 Actual and Projected LTIP Spend

<i>All figures in \$ millions</i>	2020 Plan	2020 AAOP	2020 Midterm	2020 Actual	2021 Plan	2021 Midterm	2021 Forecast
4kV Program							
4kV Substation Elimination	-	19.7	19.7	14.5	-	2.2	0.9
Stepdown Transformer Conversion	6.1	1.0	1.0	0.6	1.1	0.2	0.2
Modular Integrated Transformer System	-	0.9	0.9	1.8	-	2.4	1.9
Total 4kV Program	6.1	21.5	21.5	16.9	1.1	4.8	3.0
Overhead Program							
Aerial Cable Replacement	1.8	3.4	3.4	5.8	2.3	7.3	7.2
Total Overhead Program	1.8	3.4	3.4	5.8	2.3	7.3	7.2
Underground Program							
Underground Cable Replacement	0.5	-	-	0.0	1.0	-	-
Network Transformer and Protector Replacement	2.7	2.7	2.7	3.2	2.7	2.8	2.4
Underground Residential Distribution Rehabilitation	5.9	3.4	3.4	3.4	5.9	5.5	6.9
Total Underground Program	9.1	6.1	6.1	6.6	9.6	8.3	9.3
Substations Program							
Breaker & Switch Replacements	5.2	5.7	5.7	6.2	3.3	4.3	4.5
Substation Upgrades	-	0.0	0.0	-	-	-	-
Total Substations Program	5.2	5.7	5.7	6.2	3.3	4.3	4.5
Highway Relocation Program							
Unreimbursed Highway Relocations	2.8	4.2	4.2	2.9	2.9	9.0	6.2
Total Highway Relocations Program	2.8	4.2	4.2	2.9	2.9	9.0	6.2
TOTAL	25.0	40.9	40.9	38.5	19.2	33.7	30.2

Distribution Assets

The following pages set forth actual results for calendar year 2020 and current projections for calendar year 2021. 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

Units (circuits)							
LTIIIP Initiative	2020 Plan	2020 AAOP	2020 Midterm	2020 Actual	2021 Plan	2021 Midterm	2021 Forecast
4kV Substation Elimination	0.0	4.0	4.0	4.0	0.0	0.0	0.0

Locations

Areas generally outside of downtown Pittsburgh.

Actual/Planned Annual Expenditures

Spending (\$ millions)							
LTIIIP Initiative	2020 Plan	2020 AAOP	2020 Midterm	2020 Actual	2021 Plan	2021 Midterm	2021 Forecast
4kV Substation Elimination	0.0	19.7	19.7	14.5	0.0	2.2	0.9

Comments:

DLC projected completion of 4 units of work in its 2020 AAOP filing. Four units of work were completed in 2020. Duquesne Light completed the forecasted number of unit replacements for less than projected in the 2020.

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 the 4kV stepdown and upgrading the associated infrastructure to 23kV, this initiative will permit the decommissioning of the 4kV system.

Scope

Units (three phase transformer set)							
LTIP Initiative	2020 Plan	2020 AAOP	2020 Midterm	2020 Actual	2021 Plan	2021 Midterm	2021 Forecast
Stepdown Transformer Conversion	5.0	2.0	2.0	2.0	1.0	0.0	0.0

Locations

Areas generally outside of downtown Pittsburgh.

Actual/Planned Annual Expenditures

Spending (\$ millions)							
LTIP Initiative	2020 Plan	2020 AAOP	2020 Midterm	2020 Actual	2021 Plan	2021 Midterm	2021 Forecast
Stepdown Transformer Conversion	6.1	1.0	1.0	0.6	1.1	0.2	0.2

Comments

DLC completed the planned work in 2020 resulting in two units of work completed at a cost slightly lower than budgeted.

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

Units (units)							
LTIIIP Initiative	2020 Plan	2020 AAOP	2020 Midterm	2020 Actual	2021 Plan	2021 Midterm	2021 Forecast
Modular Integrated Transformer System	0.0	1.0	1.0	1.0	0.0	3.0	3.0

Locations

All areas of DLC System.

Actual/Planned Annual Expenditures

Spending (\$ millions)							
LTIIIP Initiative	2020 Plan	2020 AAOP	2020 Midterm	2020 Actual	2021 Plan	2021 Midterm	2021 Forecast
Modular Integrated Transformer System	0.0	0.9	0.9	1.8	0.0	2.4	1.9

Comments

DLC completed one unit of work in 2020 as planned. Spending is higher than was forecasted in the 2020 AAOP primarily because the Company also began work on the next substation location where two units will be replaced in early 2021.

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

Units (miles)							
LTIP Initiative	2020 Plan	2020 AAOP	2020 Midterm	2020 Actual	2021 Plan	2021 Midterm	2021 Forecast
Aerial Cable Replacement	2.0	1.6	1.6	3.5	3.0	6.0	6.0

Locations

Areas generally outside of downtown Pittsburgh.

Actual/Planned Annual Expenditures

Spending (\$ millions)							
LTIP Initiative	2020 Plan	2020 AAOP	2020 Midterm	2020 Actual	2021 Plan	2021 Midterm	2021 Forecast
Aerial Cable Replacement	1.8	3.4	3.4	5.8	2.3	7.3	7.2

Comments:

DLC projected completion of 1.6 miles of aerial cable replacement in 2020, but replaced a total of 3.5 miles of aerial cable. The increase in miles completed lead to higher spending on this initiative.

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 initiative focuses on replacing underground cable that is approaching the end of its expected useful life to maintain the current high level of reliability and reduce the likelihood of future failures.

Scope

Units (miles)							
LTIIP Initiative	2020 Plan	2020 AAOP	2020 Midterm	2020 Actual	2021 Plan	2021 Midterm	2021 Forecast
Underground Cable Replacement	0.0	0.0	0.0	0.4	0.0	0.0	0.0

Locations

Areas generally inside of downtown Pittsburgh.

Actual/Planned Annual Expenditures

Spending (\$ millions)							
LTIIP Initiative	2020 Plan	2020 AAOP	2020 Midterm	2020 Actual	2021 Plan	2021 Midterm	2021 Forecast
Underground Cable Replacement	0.5	0.0	0.0	0.0	1.0	0.0	0.0

Comments

The more significant projects in this initiative were completed in the earlier years of the LTIIP. The work completed in 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 tracked in this initiative.

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

Units (transformers)							
LTIIP Initiative	2020 Plan	2020 AAOP	2020 Midterm	2020 Actual	2021 Plan	2021 Midterm	2021 Forecast
Network Transformer and Protector Replacement	23.0	20.0	20.0	20.0	24.0	20.0	20.0

Location

Areas generally inside of downtown Pittsburgh.

Actual/Planned Annual Expenditures

Spending (\$ millions)							
LTIIP Initiative	2020 Plan	2020 AAOP	2020 Midterm	2020 Actual	2021 Plan	2021 Midterm	2021 Forecast
Network Transformer and Protector Replacement	2.7	2.7	2.7	3.2	2.7	2.8	2.4

Comments

The work completed in 2020 and forecasted for 2021 is aligned with the LTIIP Filing and DLC’s Midterm Review comments.

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

Units (transformers)							
LTIIIP Initiative	2020 Plan	2020 AAOP	2020 Midterm	2020 Actual	2021 Plan	2021 Midterm	2021 Forecast
Underground Residential Distribution Rehabilitation	197.0	102.0	102.0	99.0	198.0	165.0	190.0

Locations

Areas generally outside of downtown Pittsburgh.

Actual/Planned Annual Expenditures

Spending (\$ millions)							
LTIIIP Initiative	2020 Plan	2020 AAOP	2020 Midterm	2020 Actual	2021 Plan	2021 Midterm	2021 Forecast
Underground Residential Distribution Rehabilitation	5.9	3.4	3.4	3.4	5.9	5.5	6.9

Comments:

Spending and units of work in 2020 were consistent with the values forecasted in the 2020 AAOP. The 2021 forecasted spending and units of work are higher than forecasted in the Midterm review and approximately the same as the LTIIIP plan units.

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

Units (breakers)							
LTIIIP Initiative	2020 Plan	2020 AAOP	2020 Midterm	2020 Actual	2021 Plan	2021 Midterm	2021 Forecast
Breaker & Switch Replacements	43.0	22.0	22.0	21.0	27.0	28.0	28.0

Locations

All areas of DLC System.

Actual/Planned Annual Expenditures

Spending (\$ millions)							
LTIIIP Initiative	2020 Plan	2020 AAOP	2020 Midterm	2020 Actual	2021 Plan	2021 Midterm	2021 Forecast
Breaker & Switch Replacements	5.2	5.7	5.7	6.2	3.3	4.3	4.5

Comments

Spending and work completed in this initiative in 2020 was consistent with that forecasted in our 2020 AAOP, and planned work for 2021 is aligned with the LTIIIP plan and Midterm Review.

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

Units (projects)							
LTIIIP Initiative	2020 Plan	2020 AAOP	2020 Midterm	2020 Actual	2021 Plan	2021 Midterm	2021 Forecast
Substation Upgrades	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Locations

All areas of DLC System.

Actual/Planned Annual Expenditures

Spending (\$ millions)							
LTIP Initiative	2020 Plan	2020 AAOP	2020 Midterm	2020 Actual	2021 Plan	2021 Midterm	2021 Forecast
Substation Upgrades	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Comments

Spending and work in this initiative was completed in 2019 resulting in spending consistent with the LTIP.

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

Spending (\$ millions)							
LTIP Initiative	2020 Plan	2020 AAOP	2020 Midterm	2020 Actual	2021 Plan	2021 Midterm	2021 Forecast
Unreimbursed Highway Relocations	2.8	4.2	4.2	2.9	2.9	9.0	6.2

