

Town of Lunenburg - Electric Utility

Notes to the Electric Capital Budget for 2026/27 have been provided by CIMA, attached.

Capital Budget 2026/27 - Approved May 13, 2026

	Year 1	Year 2	Year 3	Year 4	Year 5	2026/27 Funding	
	2026/27	2027/28	2028/29	2029/30	2030/31	Depr Reserve	Debt
Electric Utility							
Routine Distribution							
Meters	\$20,000	\$200,000	\$100,000	\$100,000	\$100,000	\$20,000	
Overhead Conductors	\$230,000	\$230,000	\$230,000	\$230,000	\$100,000	\$230,000	
Poles & Fixtures	\$105,000	\$105,000	\$105,000	\$105,000	\$75,000	\$105,000	
Services	\$75,000	\$75,000	\$75,000	\$75,000	\$50,000	\$75,000	
Transformers - line	\$150,000	\$150,000	\$150,000	\$150,000	\$100,000	\$150,000	
Street Lighting	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	
Total Routine Distribution	\$590,000	\$770,000	\$670,000	\$670,000	\$435,000		
Feeder Work							
Green St New Double Circuit	\$1,427,000						\$1,427,000
Distribution Transformer Upgrade	\$600,000						\$600,000
NS Power 78w feeder upgrade to Green St.	\$400,000						\$400,000
Knock Lane Upgrade	\$200,000						\$200,000
Blue Rocks Feeder upgrade including Sawpit Road to Hospital Road	\$300,000						\$300,000
Total Feeder Work	\$2,927,000	\$0	\$0	\$0	\$0		
New Substation							
New Substation design/re-design 30%	\$100,000	\$100,000					\$100,000
New Substation design/re-design Issued for Construction (IFC) Package		\$200,000					
New Substation - New 20MVA 69kV/138kV - 12.47 kv Power transformer @ 81W		\$750,000	\$1,000,000	\$750,000			
New High Voltage (HV) Switches 69kv/138kv (3)		\$195,000					
New 69kv circuit Switcher		\$150,000					
New substation - land on Green St	\$100,000						\$100,000
New Substation - Yard Prep (overburden removal and fill, crushed rock)	\$200,000						\$200,000
New Substation - foundation structures		\$200,000					
New Substation -fence		\$100,000					
New Substation -Site Drainage	\$75,000						\$75,000
New Substation -15Kv Reclosers & associated equipment			\$200,000				
New Substation -4 feeder exit cables 500 MCM U/G				\$360,000			
Studies Grounding (New sub)	\$50,000						\$50,000
Studies Geoteck (New Sub)	\$50,000						\$50,000
Studies Soil Resistivity Test or SRT (New Sub)	\$45,000						\$45,000
Studies Protection Study (New Sub)		\$50,000					
Studies voltage profile (New Sub)		\$50,000					
Studies Environmental Impact Assessment (EIA) if required (New Sub)	\$100,000						\$100,000
Studies for Nova Scotia Independent Energy System Operator (NSIESO) (New Sub)	\$50,000						\$50,000
Supervisory Control and Data Acquisition (SCADA), Communications (New Sub)				\$100,000			
New Substation -Trenching and Conduit work	\$100,000	\$100,000					\$100,000
New Substation -Ground Grid		\$150,000					
New Substation - Oil Containment		\$200,000					
New Substation - Overhead Buss Work 15 kv			\$250,000				
New Substation - Overhead Buss Work 69 kv			\$250,000				
New Substation - Relaying, Protection, metering, battery bank			\$200,000				
New Substation - Control Building			\$200,000				
Total New Substation	\$870,000	\$2,245,000	\$2,100,000	\$1,210,000	\$0		
Existing Substation (81W)							
Existing Substation Yard Improvements (grass, grounding, crushed rock, etc.)		\$100,000	\$100,000				
Existing Substation Ground grid repairs		\$100,000					
Existing Substation Buss work (5.33kv to 12.47 kv conversion accommodation)			\$100,000				
Existing Substation Fence Repairs		\$100,000					
Existing substation Yard upgrades					\$500,000		
Starr St. Substation Power TX conversion to 15 kv					\$1,000,000		
Total Existing Substation	\$0	\$300,000	\$200,000	\$0	\$1,500,000		
Feeder Upgrades							
81W-321 (Old Town) feeder upgrade (5.33 Kv to 15Kv standards)		\$1,500,000					
81W-322 (Industrial/Blue Rocks) feeder upgrade (5.33 Kv to 15Kv standards)			\$1,500,000				
81W-231 (Bridgewater Rd) feeder upgrade (4.16 Kv to 15Kv standards)				\$1,000,000			
81W-232 (New Town/Mason's Beach) feeder upgrade (4.16 Kv to 15Kv standards)				\$1,000,000			
81W-233 (First Peninsula) feeder upgrade (4.16 Kv to 15Kv standards)					\$1,500,000		
Total Feeder Upgrades	\$0	\$1,500,000	\$1,500,000	\$2,000,000	\$1,500,000		
Totals	\$4,387,000	\$4,815,000	\$4,470,000	\$3,880,000	\$3,435,000	\$590,000	\$3,797,000
FIVE YEAR TOTAL					\$ 20,987,000		

Projected future financing

Standard Distribution item with Depr funds	\$ 770,000	\$ 670,000	\$ 670,000	\$ 435,000
Balance finance debt/grants	\$ 4,045,000	\$ 3,800,000	\$ 3,210,000	\$ 3,000,000

Town of Lunenburg

Lunenburg Electric Utility

Capital Budget Summary 2026-2031



May 13th, 2026

Town of Lunenburg

Lunenburg Electric Utility

Capital Budget Summary 2026-2031

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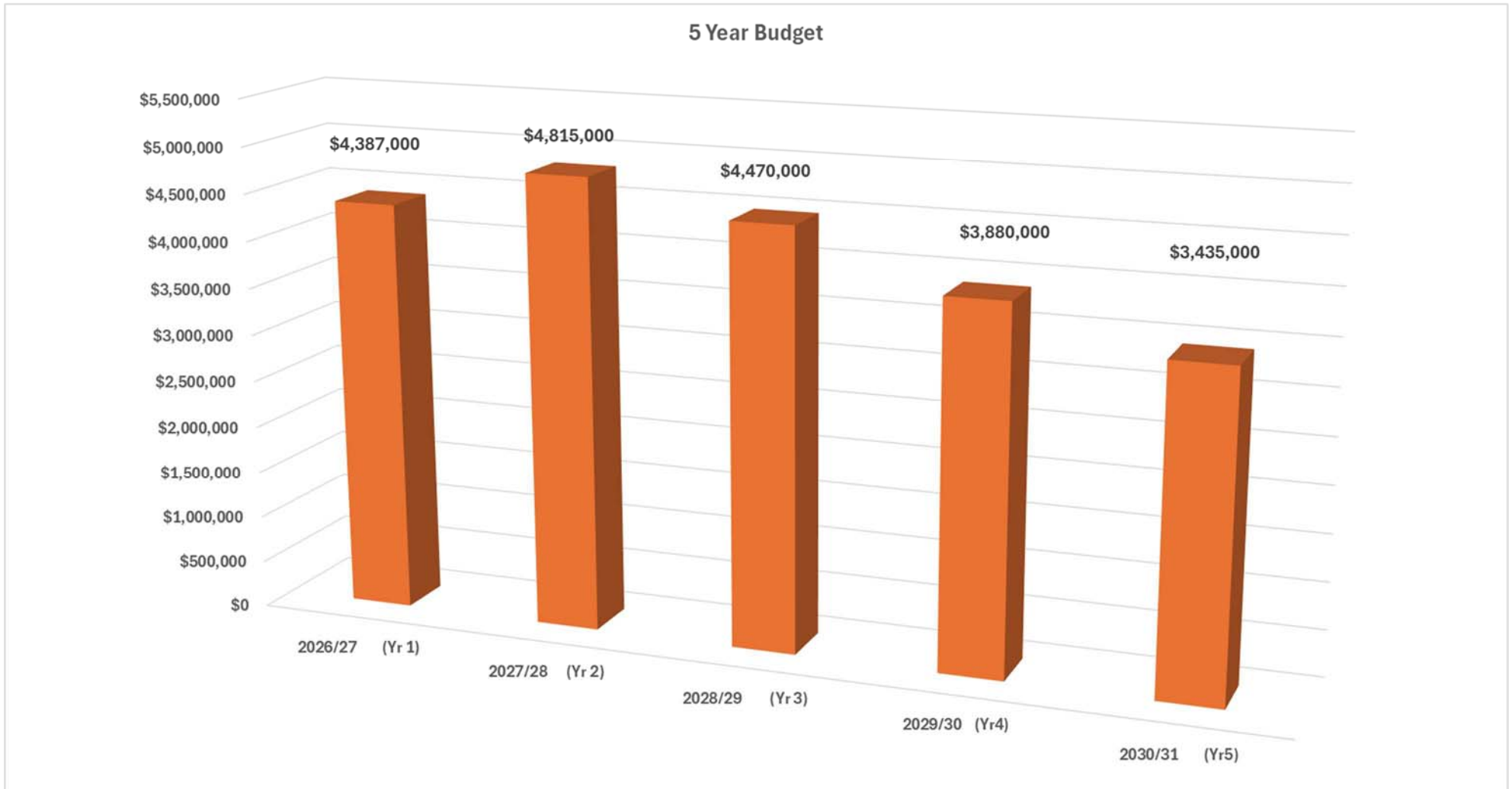
May 13th, 2026

Executive Summary

CIMA was requested by Lunenburg Electric Utility to provide an updated 5-year capital plan spanning 2026-2031. This plan looked at all aspects of the utility system. CIMA+ has reviewed documentation provided from previous Consulting Studies, NS Power's inputs, input from Town staff regarding potential new customers and the condition of the existing system. Using sound judgement and previous experience it has been determined that over the next 5 years the Town of Lunenburg is required to spend approximately \$20.1M to allow for critical upgrades on its distribution feeders, construction of a new substation on Green Street, and existing Starr Street substation upgrades/modifications to provide a back up to Green Street substation which will increase reliability and decreased outage times.

The work and upgrades allow for increased reliability, increased capacity for new customers to connect to the grid, allows existing customers to upgrade their services, supports the growth of renewables, and the addition of electric vehicles chargers within the town.

The chart below shows the yearly budget over the five-year period.



The chart below shows the 5-year expenditure by major category along with a percentage of the spend over the 5-year plan.

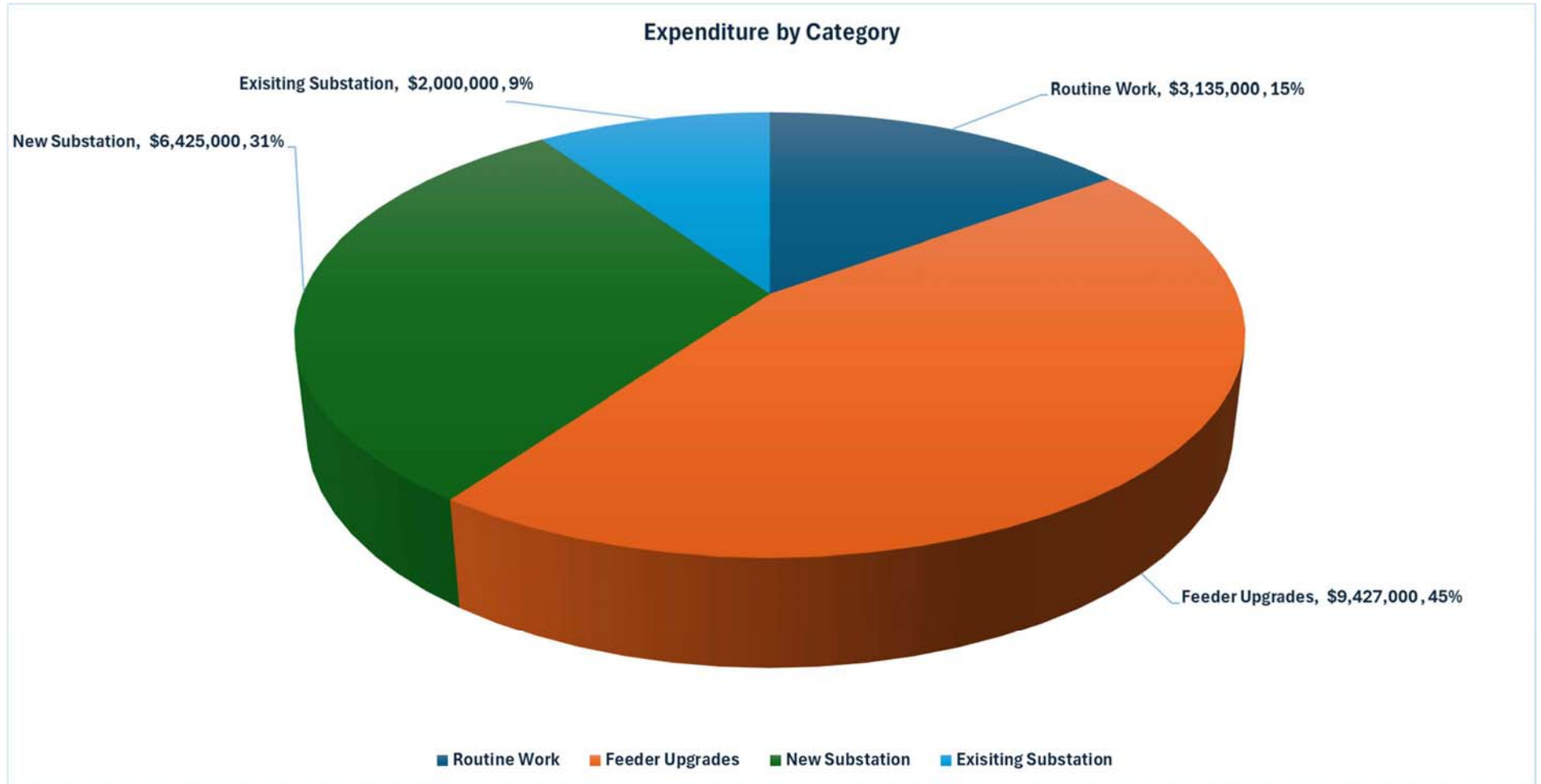


Table of Contents

1.	Year 1 2026/27	1
2.	Year 2 2027/28	3
3.	Year 3 2028/29	5
4.	Year 4 2029/30	7
5.	Year 5 2030/31	8
6.	Summary.....	9

1. Year 1: 2026/27

For the 2026/27 year the budgeted amount is \$4,387,000 and the bulk of the expenditure for 2026/27 is \$2,927,000 for feeder upgrades on Green St., Knock Lane, Blue Rocks including Sawpit Road and the 78W Feeder upgrade from the NSP Substation to the new Green St feeder. This connection would remain in place until the Green Street substation is completed.

The Green St. feeder will extend from the intersection of HWY 332 to McDonald Street with a new double circuit and all associated sidelines will be upgraded to 15 kV standards. The Knock Lane upgrade helps alleviate overloaded conditions during winter peaks and upgrades this line to new standards. The proposed Blue Rocks upgrade helps the overloaded condition during winter peak and will help limit cold load pickup, all upgrade work will include the new standards.

The table below outlines where the allocation of expenditures.

<i>Routine Distribution</i>	
Meters	\$20,000
Overhead Conductors	\$230,000
Poles & Fixtures	\$105,000
Services	\$75,000
Transformers - line	\$150,000
Street Lighting	\$10,000
Sub Total	\$590,000
<i>New Feeder Work</i>	
Green St New Double Circuit	\$1,427,000
Distribution Transformer Upgrade	\$600,000
NS Power 78w feeder upgrade to Green St.	\$400,000
Knock Lane Upgrade	\$200,000
Blue Rocks Feeder upgrade including Sawpit Road to Hospital Road	\$300,000
Sub Total	\$2,927,000

<i>New Substation</i>	
New Substation design/re-design 30%	\$100,000
New substation - land on Green St	\$100,000
New Substation - Yard Prep (overburden removal and fill, crushed rock)	\$200,000
New Substation -Site Drainage	\$75,000
Studies Grounding (New sub)	\$50,000
Studies Geotech (New Sub)	\$50,000
Studies Soil Resistivity test SRT (New Sub)	\$45,000
Studies EIA if required (New Sub)	\$100,000
Studies NS IESO (New Sub)	\$50,000
New Substation -Trenching and Conduit work	\$100,000
Sub Total	\$870,000
Total	\$4,387,000

The New Substation portion of 2026/27 budget enables the land purchase, land preparation, trench work, engineering studies and 30% engineering design to be completed. Discussion with the newly formed NS ISO regarding the approval for the connection of the new proposed substation to the Nova Scotia grid are ongoing. Once approved then land acquisition can proceed and preparing the land for the use will begin.

Upgrades are also planned for the removal of any remaining existing PCB filled transformers. The budgeted amount for this work is \$600k and is to be completed by December 2026.

2. Year 2: 2027/28

The bulk of the expenditure for 2027/28 is \$2.245M out of \$4.8M which is required for the New Substation on Green St.

The amount of \$750K will be required for a down payment on the new Power Transformer that will be required for the new substation.

An amount of \$1.095M is allocated for work at the new substation on Green Street. This funding includes the procurement and work for high voltage switches, substation foundation structures, substation fence, substation relaying, protection, metering, battery bank, and the prep work for the new substation yard preparation that includes grubbing, removal of existing soil, new fill, and crushed rock.

There are allocated funds of \$300K for Engineering support to complete the Substation Design package that will include all applicable drawings that will be issued for construction and \$100k to complete the remaining study work required.

Also identified \$1.5M to upgrade Old Town Circuit Feeder (81W-321) to 15 kV standards. The work includes conductor upgrades new poles, pole framing and associated hardware. This will enable the circuit to be easily connected to the new substation that is scheduled to come online in 2030.

There is \$200K allocated for the potential implementation of Smart Meters.

The total 2027/28 Budget of \$4.815M is allocated as shown below.

<i>Routine Distribution</i>	
Meters	\$200,000
Overhead Conductors	\$230,000
Poles & Fixtures	\$105,000
Services	\$75,000
Transformers - line	\$150,000
Street Lighting	\$10,000
Sub Total	\$770,000
<i>Existing Substation</i>	
Existing Substation Yard Improvements (grass, grounding, crushed rock, etc.)	\$100,000
Existing Substation Ground grid repairs	\$100,000
Existing Substation Fence Repairs	\$100,000
Sub Total	\$300,000

<i>New Substation</i>	
New Substation design/re-design 30%	\$100,000
New Substation design/re-design IFC Package	\$200,000
New Substation - New 20MVA 69kV/138kV - 12.47 kV Power transformer @ 81W	\$750,000
New HV Switches 69kv/138kv (3)	\$195,000
New 69kv circuit Switcher	\$150,000
New Substation - foundation structures	\$200,000
New Substation -fence	\$100,000
Studies Protection Study (New Sub)	\$50,000
Studies CYME voltage profile (New Sub)	\$50,000
New Substation -Trenching and Conduit work	\$100,000
New Substation -Ground Grid	\$150,000
New Substation - Oil Containment	\$200,000
Existing Substation Yard Improvements (grass, grounding, crushed rock, etc.)	\$100,000
Existing Substation Ground grid repairs	\$100,000
Existing Substation Fence Repairs	\$100,000
Sub Total	\$2,245,000
<i>Feeder Upgrades</i>	
81W-321 feeder upgrade (5.33 kV to 15Kv standards)	\$1,500,000
Sub Total	\$1,500,000
Total	\$4,815,000

3. Year 3: 2028/29

The major project for the year 2028/29 totalling \$2.1M out of \$4.47M is required for the new substation on Green Street. These funds include payments for the power transformer, associated protective equipment, control building, and equipment/work for high & low voltage bus-work.

\$1.5M has been included to upgrade Blue Rocks Circuit Feeder (81W-322) to 15kV. The work includes conductor upgrade new poles, pole framing and associated hardware. This allows the circuit to be upgraded to the new standard and will be ready for conversion once the new substation is fully online in 2030.

Also allocated are funds of \$200k for the cleanup of existing substation yard including grounding, bus work, fence upgrade/replacement and miscellaneous upgrades to ensure the existing substation is up to standard.

\$100K has been allocated for the potential implementation of Smart Meters.

The total 2028/29 Budget of \$4.47M is allocated as shown below.

<i>Routine Distribution</i>	
Meters	\$100,000
Overhead Conductors	\$230,000
Poles & Fixtures	\$105,000
Services	\$75,000
Transformers - line	\$150,000
Street Lighting	\$10,000
Sub Total	\$670,000
<i>New Substation</i>	
New Substation - New 20MVA 69kV/138kV - 12.47 kV Power transformer @ 81W	\$1,000,000
New Substation -15Kv Reclosers & associated equipment	\$200,000
New Substation - Overhead Buss Work 15 kV	\$250,000
New Substation - Overhead Buss Work 69 kV	\$250,000
New Substation - Relaying, Protection, metering, battery bank	\$200,000
New Substation - Control Building	\$200,000
Sub Total	\$2,100,000

<i>Existing Substation</i>	
Existing Substation Yard Improvements (grass, grounding, crushed rock, etc.)	\$100,000
Existing Substation Buss work (5.33 kV to 12.47 kV conversion accommodation)	\$100,000
Sub Total	\$200,000
<i>Feeder Upgrades</i>	
81W-322 feeder upgrade (5.33 kV to 15 kV standards)	\$1,500,000
Sub Total	\$1,500,000
Total	\$4,470,000

4. Year 4: 2029/30

The bulk of the funds identified for 2028/29 is \$2.0M to rebuild and upgrade the Bridgewater Road feeder (81W-231) & New Town feeder (81W-232) from 4.16 kV to 15kV standards. The work includes conductor upgrade new poles, pole framing and associated hardware. This allows the circuit to be upgraded to the new standard and will be ready for conversion once the new substation is fully online in 2030.

The new substation portion of the budget amounts to a final payment \$750K for the power transformer, \$360 k for the feeder exit cables and \$100K for communications and SCADA work to provide access to the new substation data points which includes the ability to view alarms and substation load values.

There is \$100K for the continued potential implementation of Smart Meters.

The total 2029/30 Budget of \$3.88M is allocated as shown below.

<i>Routine Distribution</i>	
Meters	\$100,000
Overhead Conductors	\$230,000
Poles & Fixtures	\$105,000
Services	\$75,000
Transformers - line	\$150,000
Street Lighting	\$10,000
Sub Total	\$670,000
<i>New Substation</i>	
New Substation - New 20MVA 69kV/138kV - 12.47 kV Power transformer @ 81W	\$750,000
New Substation -4 feeder exit cables 500 MCM U/G	\$360,000
SCADA, Communications (New Sub)	\$100,000
Sub Total	\$1,210,000
<i>Feeder Upgrades</i>	
81W-231 feeder upgrade (4.16 kV to 15 kV standards)	\$1,000,000
81W-232 feeder upgrade (4.16 kV to 15 kV standards)	\$1,000,000
Sub Total	\$2,000,000
Total	\$3,880,000

5. Year 5: 2030/31

A major achievement will have been completed with the Green St substation coming online and serving the customer in the Town of Lunenburg.

The budget includes \$1.0M to clean up the existing Starr St Substation and energize one transformer at 15 kV for reliability support and contingency for the Green St Substation, should an event occur that causes an outage to existing customers. The preference would be to keep one or two feeders online serving the Blue Rocks and First Peninsulas areas with ties points to identified point on the Green St substation feeders.

Also \$1.5M to upgrade First Peninsula Circuit Feeder (81W-233) to 15kV. The work includes conductor upgrade new poles, pole framing and associated hardware. This will be the final circuit to be upgraded to the new standard.

\$100K for the continued potential implementation of Smart Meters.

The total 2030/31 Budget of \$3.435M is allocated as shown below.

<i>Routine Distribution</i>	
Meters	\$100,000
Overhead Conductors	\$100,000
Poles & Fixtures	\$75,000
Services	\$50,000
Transformers - line	\$100,000
Street Lighting	\$10,000
Sub Total	\$435,000
<i>Existing Substation</i>	
Existing substation Yard upgrades	\$500,000
Starr St. Substation Power TX conversion to 15 kV	\$1,000,000
Sub Total	\$1,500,000
<i>Feeder Upgrades</i>	
81W-233 feeder upgrade (4.16 kV to 15 kV standards)	\$1,500,000
Sub Total	\$1,500,000
Total	\$3,435,000

6. Summary

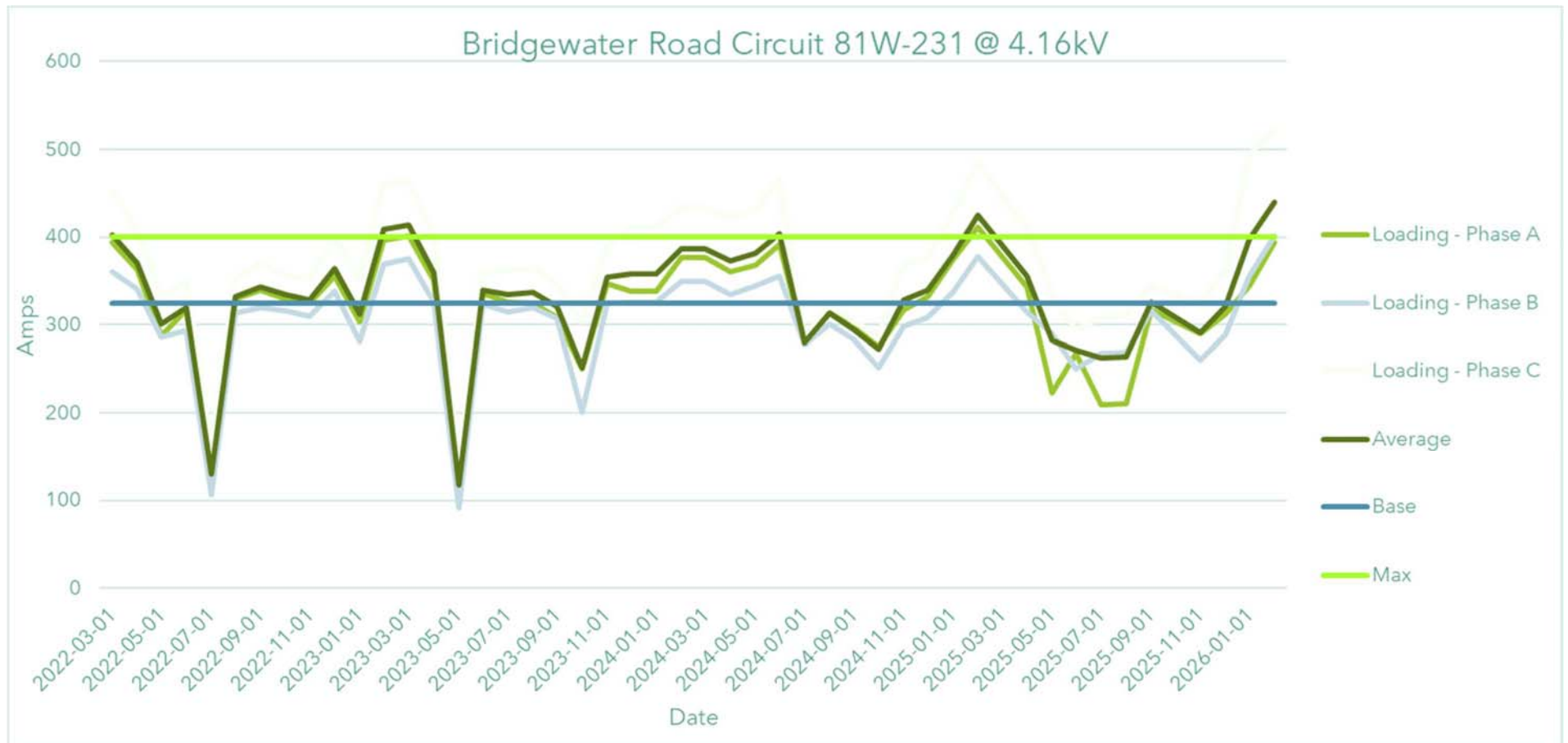
The above-mentioned sections summarized the large capital expenditures required by the Lunenburg Electric Utility to upgrade the existing distribution system to modern standards.

The majority of the budget involves the work associated with the construction of a new substation on Green Steet and the upgrade of the five feeders within the Town. This new station provides the backbone for the Town's Electric Utility, increases reliability, allows the town to grow, supports existing customers, provides a mechanism for renewable energy integration, and supports the growth of Electric Vehicles by having the ability to connect EV chargers easily to the system without impacting feeder capacity levels.

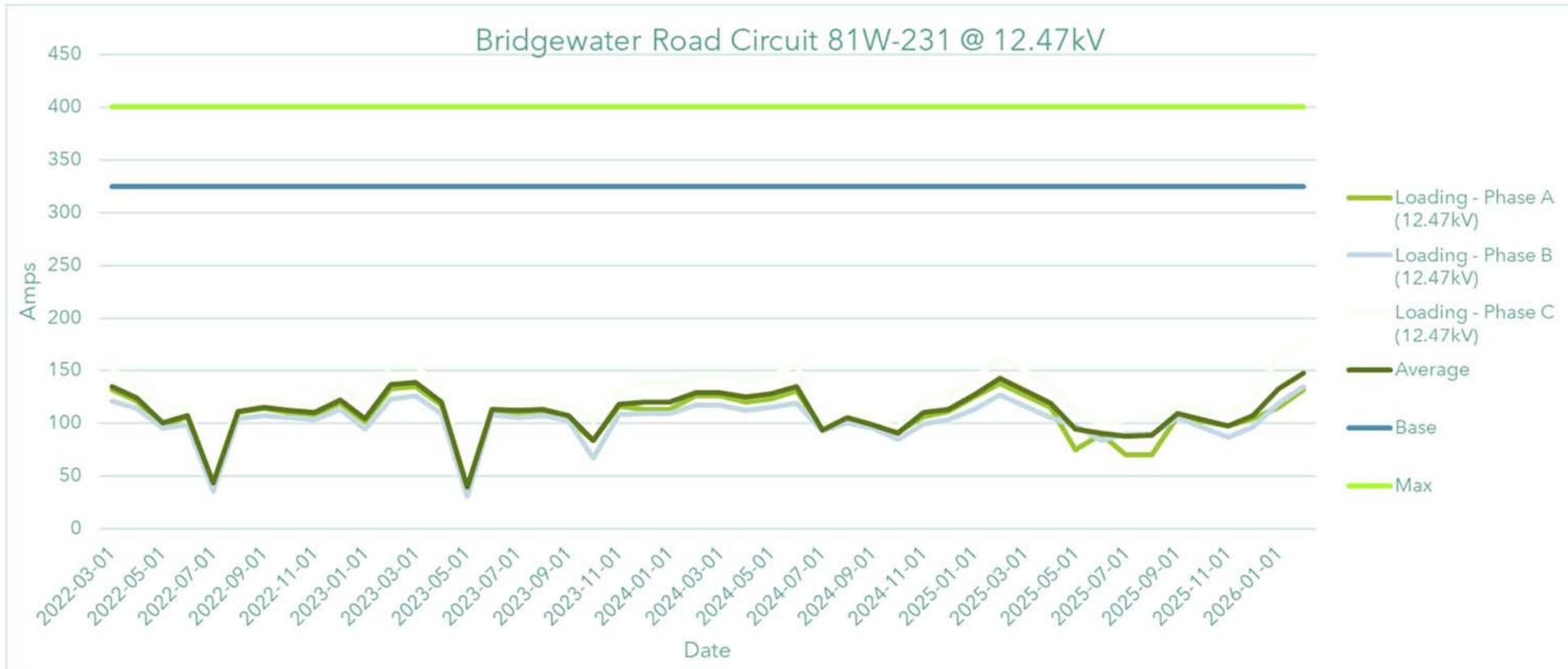
Once the feeder upgrades are completed and energized on the new Green Street substation, the available feeder capacity increases by a factor of 3 for the 4.16 kV feeders and a factor of 2 for the 5.88 kV feeders.

The graphs below depict these changes for the circuits within the Town. The first graph for each feeder represents the current conditions and the second chart is after the voltage conversion is completed and the feeders are energized at 12 kV. As you can see after the work is completed there is more capacity available on each feeder which in turn allows growth and additional load to be added to the system with very little impact to the grid.

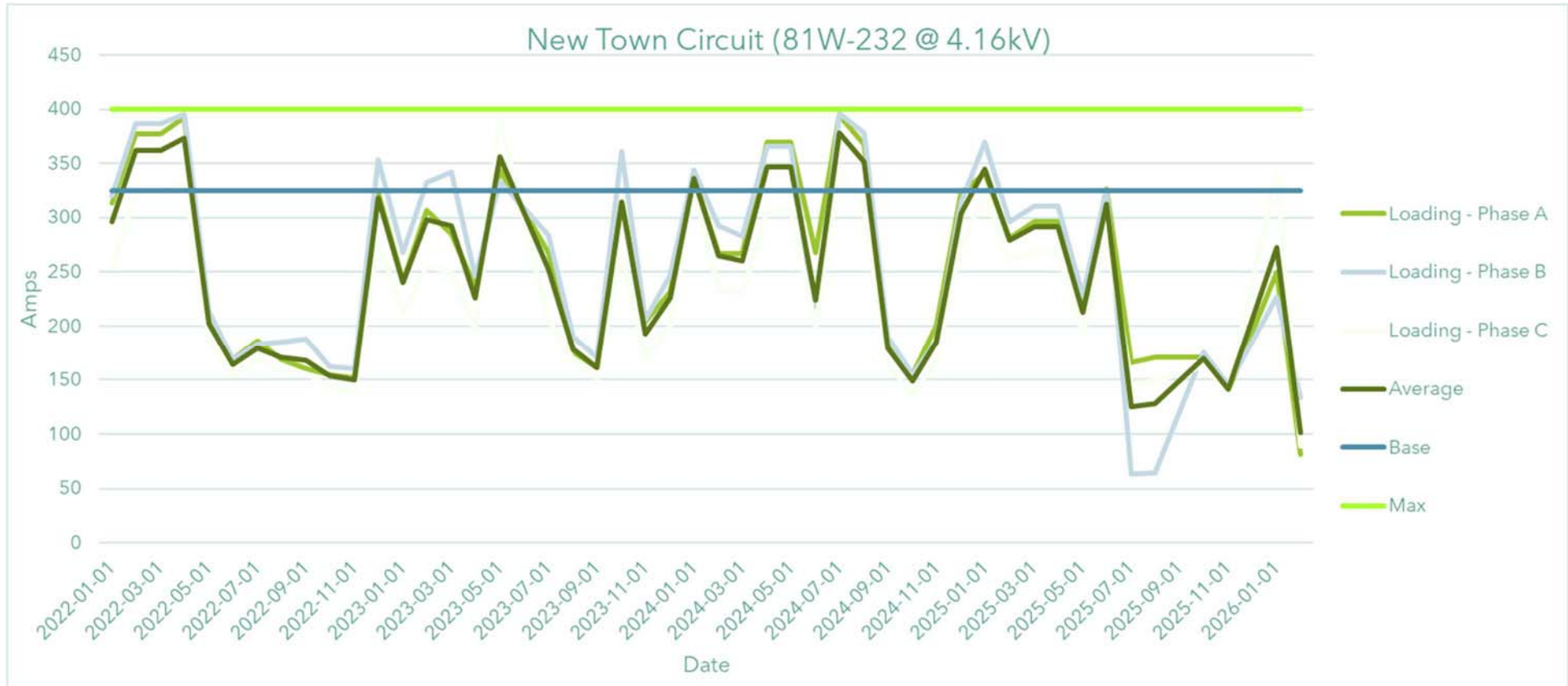
Pre- Conversion



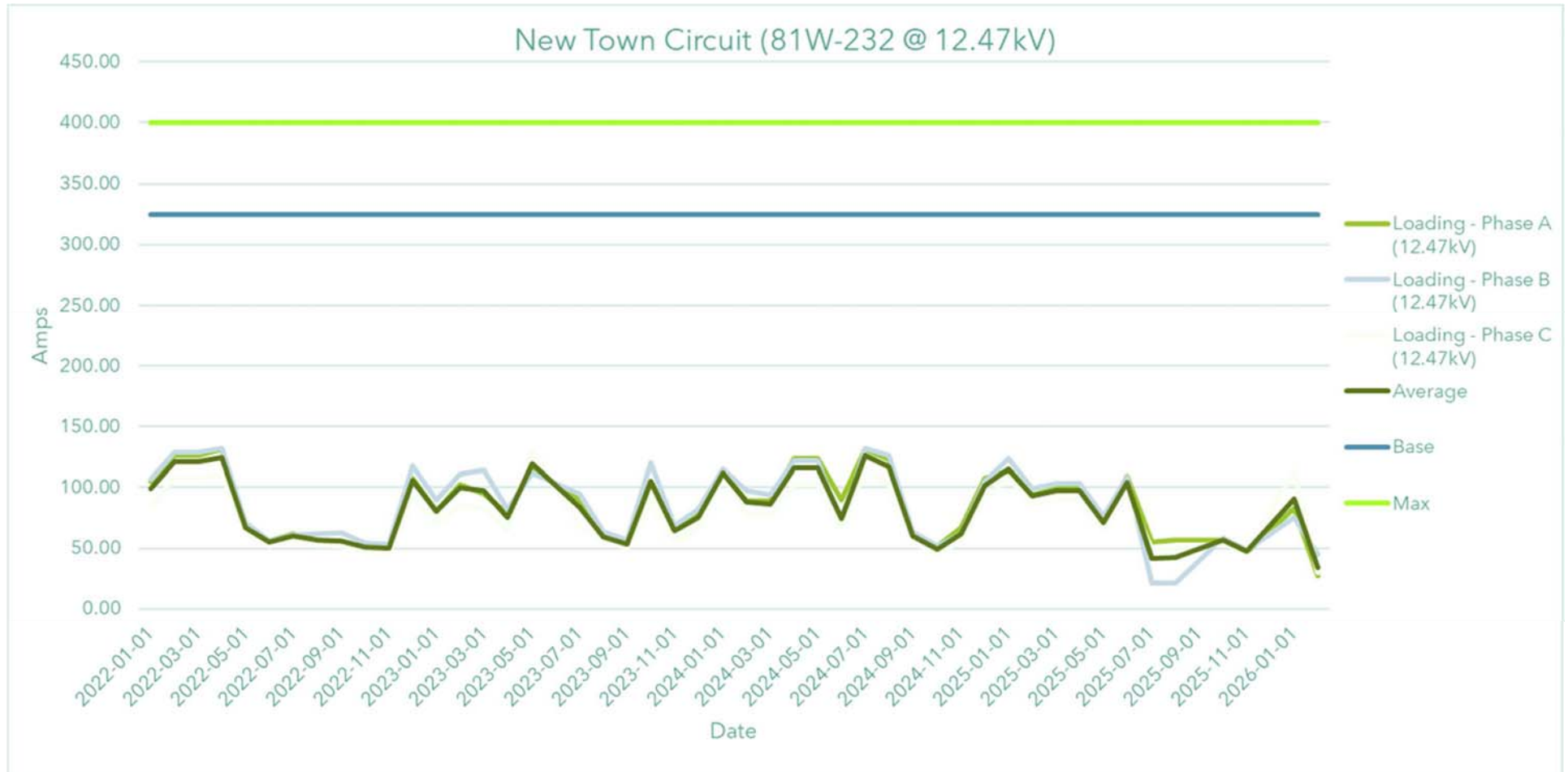
Post-Conversion



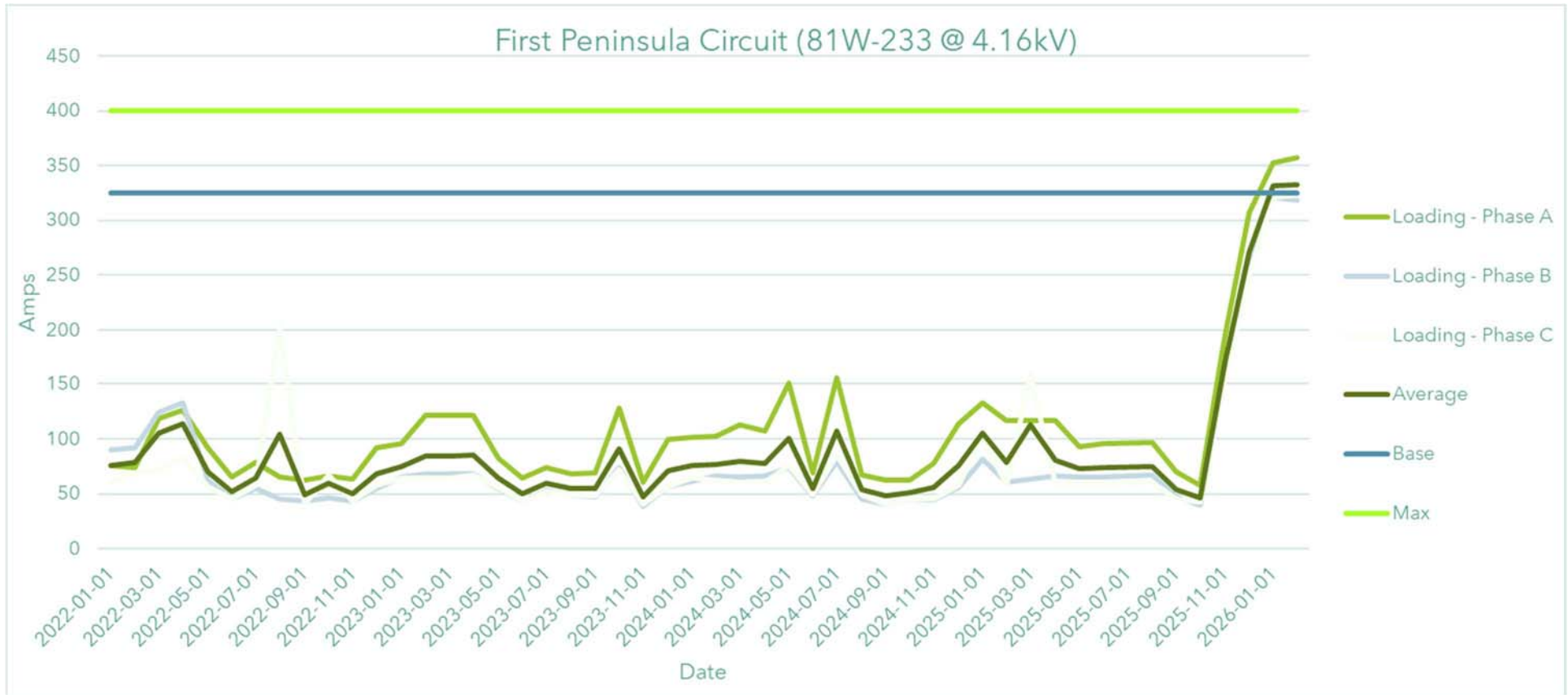
Pre- Conversion



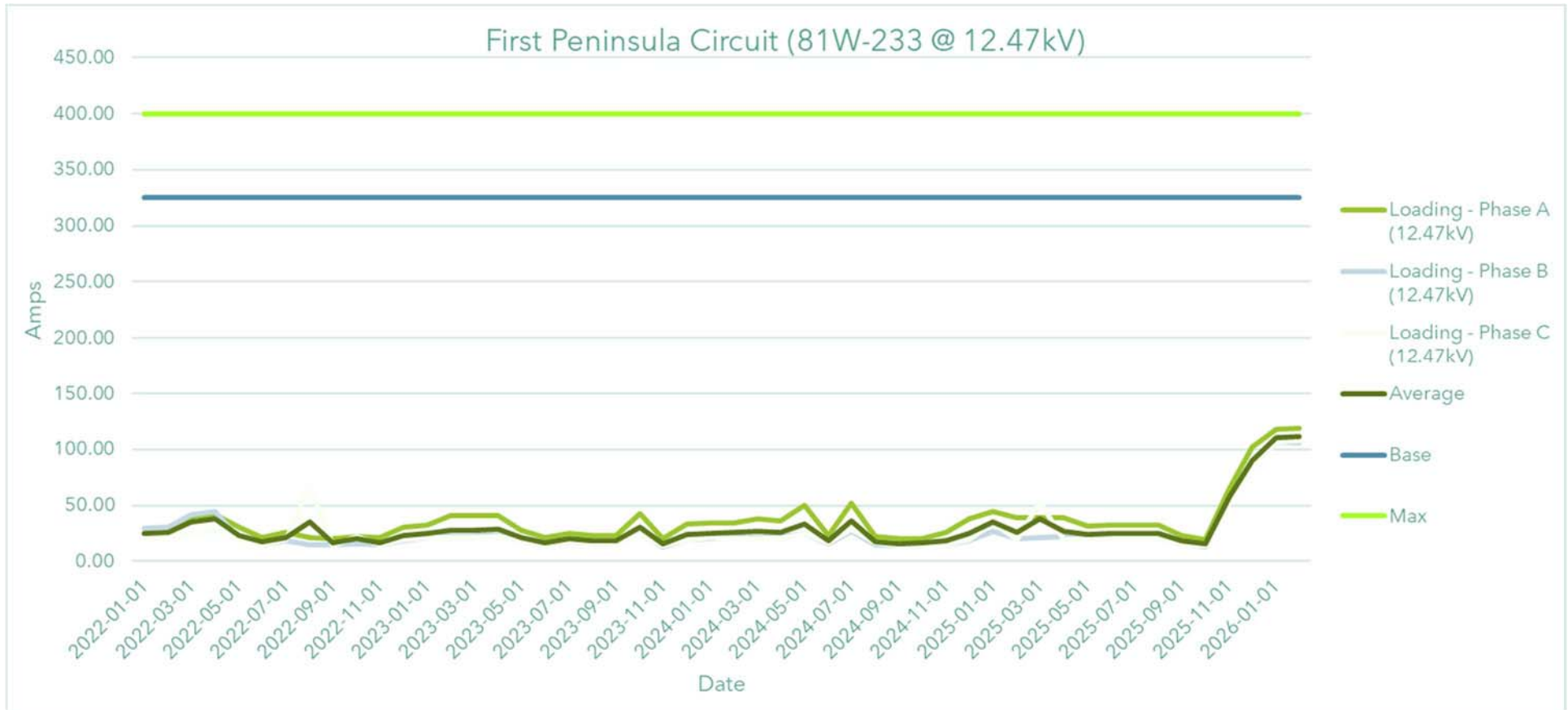
Post- Conversion



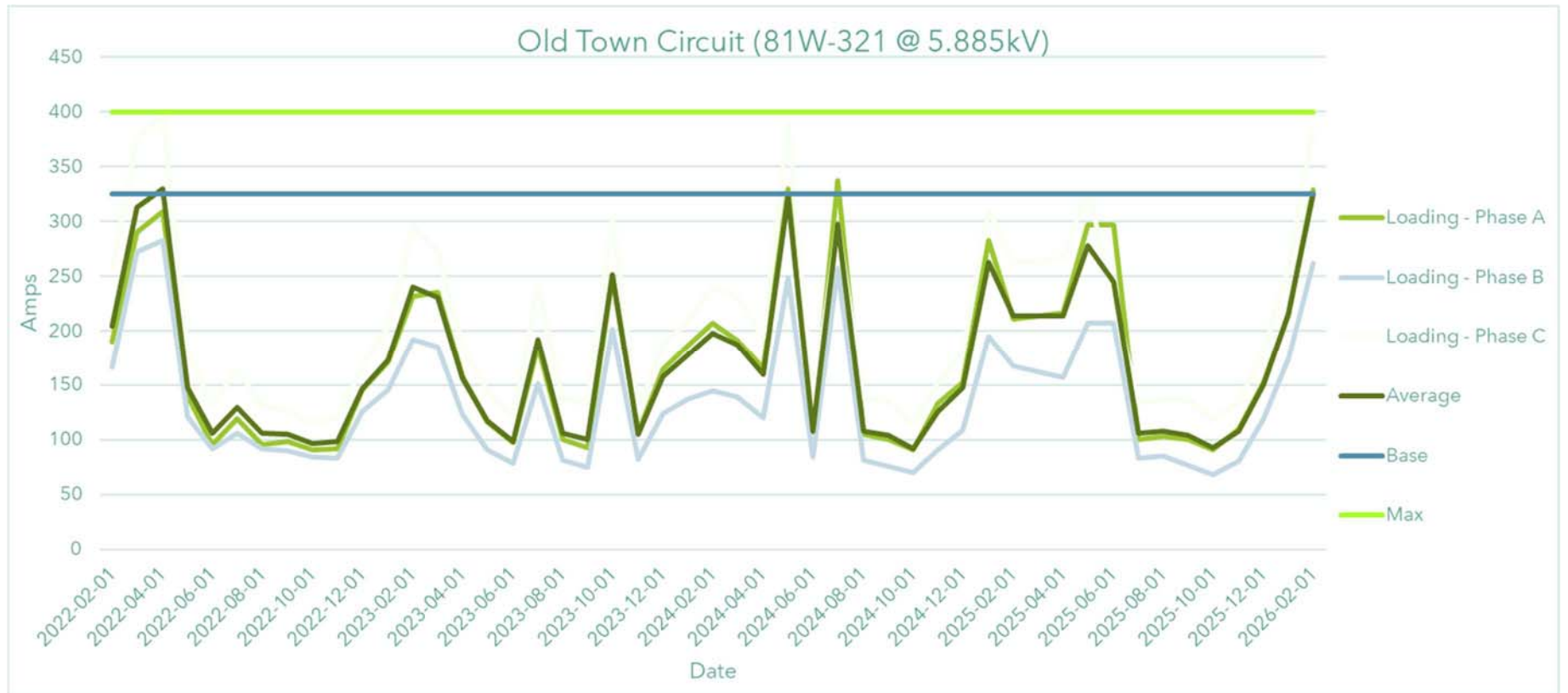
Pre- Conversion



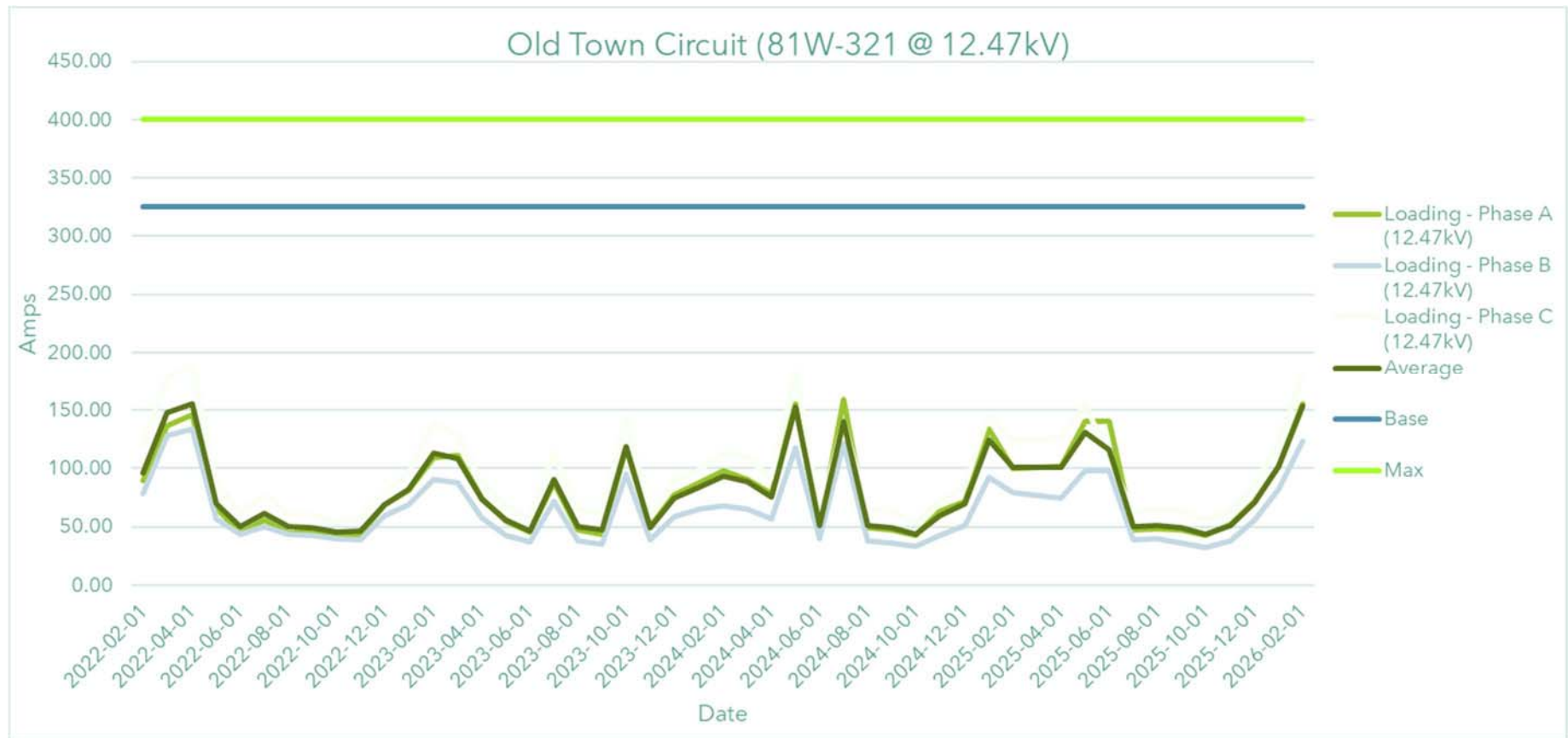
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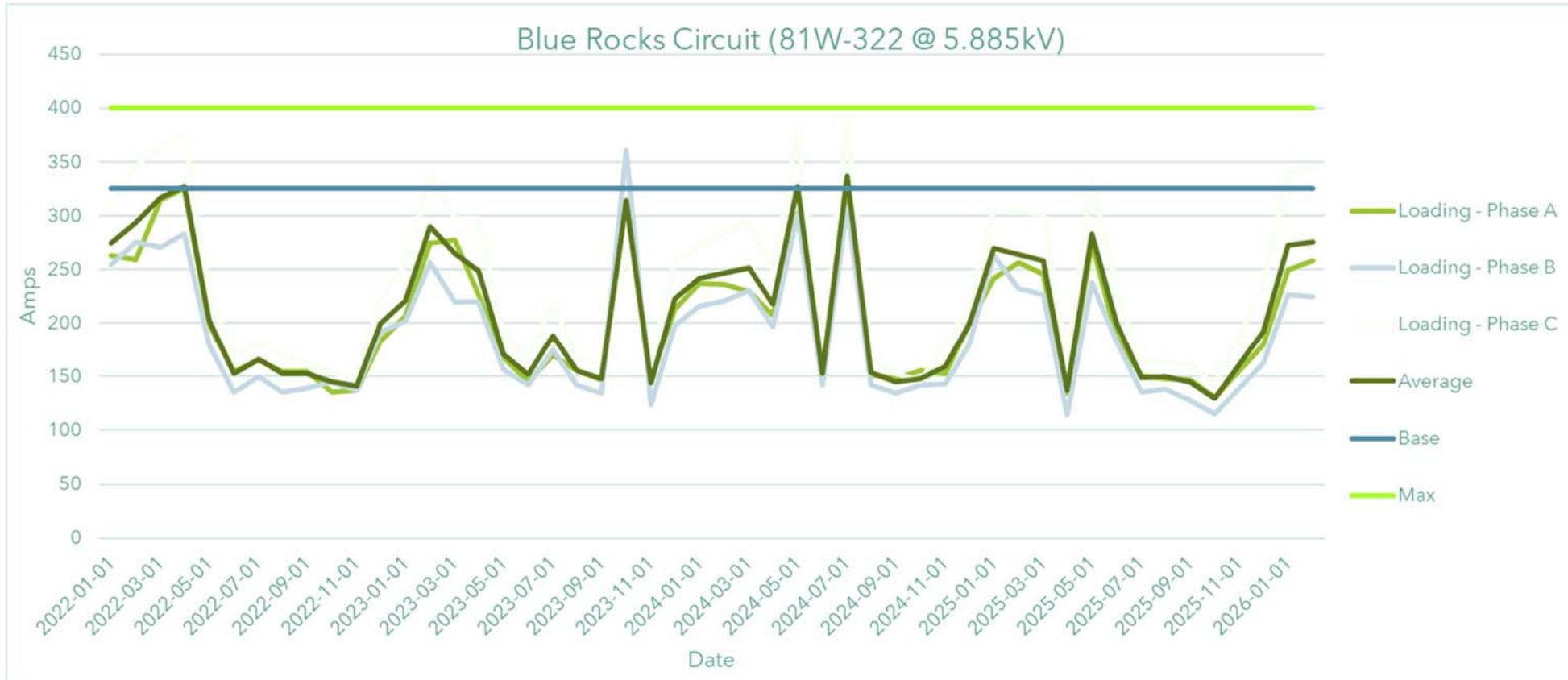
Pre- Conversion



Post- Conversion



Pre- Conversion



Post- Conversion

