Distribution System Plan

Developed in accordance with:

"Ontario Energy Board – Filing Requirements for Electricity Transmission and Distribution Applications"

Chapter 5

Consolidated System Plan Filing Requirements

Historical Period:

2022 – 2026
(2026 Bridge Year)

Forecast Period:

2027-2031
(2027 Test Year)

June 23rd, 2026

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Note: Appendices listed above are filed separately as part of this application

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GLOSSARY OF TERMS

ACA – Asset Condition Assessment

AI – Artificial Intelligence

AM – Asset Management

AMP – Asset Management Process

AMI 2.0 – Advanced Metering Infrastructure 2.0

CAIDI – Customer Average Interruption Duration Index

CI – Customers Interrupted

CIS – Customer Information System

CHI – Customer Hours Interrupted

CSA – Canadian Standard Association

DRT – Development Review Team

DSC – Distribution System Code

DSP – Distribution System Plan

EOL – End of Life

ERP – Enterprise Resource Planning

ESA – Electrical Safety Authority

GIS – Geographic Information System

GS – General Service

GTA – Greater Toronto Area

GUP – Good Utility Practice

IESO – Independent Electricity System Operator

IT – Information Technology

KPI – Key Performance Indicator

LDC – Local Distribution Company

LOS – Loss of Supply

LUI – Lakefront Utilities Inc.

LUSI – Lakefront Utility Services Inc.

MAIFI – Momentary Average Interruption Frequency Index

MED – Major Event Day

O&M – Operation & Maintenance

OEB – Ontario Energy Board

OMS – Outage Management System

O/H or OH - Overhead

REG – Renewable Energy Generation

RRFE – Renewed Regulatory Framework for Electricity

RTU – Remote Terminal Units

SAIDI – System Average Interruption Duration Index

SAIFI – System Average Interruption Frequency Index

SCADA – Supervisory Control and Data Acquisition

TUL – Typical Useful Life

TS – Transmission Station or Transformer Station

U/G or UG – Underground

VA – Vulnerability Assessment

5.2 DISTRIBUTION SYSTEM PLAN

This consolidated 2027–2031 Distribution System Plan ("DSP") has been prepared by Lakefront Utilities Inc. ("LUI") in accordance with the Ontario Energy Board's ("OEB's") Filing Requirements for Electricity Distribution System Plans, Chapter 5 (December 16, 2025) as part of LUI's 2027 Cost of Service ("COS") Application ("the Application").

LUI's DSP is filed as a stand-alone document supporting the Application. It sets out how we plan to invest over 2027-2031 and demonstrates that the proposed spending is reasonable, properly sequenced, and consistent with what the OEB expects from a distributor of our size.

The DSP provides a comprehensive view of LUI's asset base, performance, needs, and planned investments over a minimum ten-year planning horizon, as required by the OEB. This horizon is divided into:

- **Historical period –** five years ending with the bridge year (2022–2026), during which LUI evaluates actual capital performance, reliability outcomes, and the condition of its distribution assets.

- **Forecast period** – five years beginning in the test year (2027–2031), during which LUI outlines the investments required to maintain safe, reliable, resilient, and cost-effective service for customers.

The DSP is intended to be a stand-alone document within the application. All supporting materials such as detailed asset condition reports, regional planning documentation, capacity studies, customer engagement results, and business case summaries are provided in the appendices after the main DSP body, consistent with OEB expectations.

The DSP contents are organized into three major sections:

- **Section 5.2 -** Provides a high-level overview of the DSP, including coordinated planning with third parties and performance measurement for continuous improvement.

- **Section 5.3** - Provides an overview of asset management practices, including an overview of the assets managed and asset lifecycle optimization policies and practices.

- **Section 5.4** - Provides a summary of the capital expenditure plan, including a variance analysis of historical expenditures, an analysis of forecast expenditures, and justification of material projects above the materiality threshold.

The electricity distribution system is capital intensive in nature, and prudent investments and maintenance planning are essential to ensure the long-term sustainability and reliability of the network.

Customer engagement conducted in July–August 2025 confirmed that affordability, reliability, and timely outage communication remain the highest priorities for LUI's residential and commercial customers, while also revealing growing awareness of distributed energy resources, electrification, and climate resilience. These preferences have been directly integrated into the plan's composition and pacing. The result is a plan that balances the need for continued investment in an aging distribution system with LUI's responsibility to keep electricity service affordable for customers.

This DSP follows the chapter and section headings in accordance with the Chapter 5 Filing Requirements.

5.2.1 Distribution System Plan Overview

5.2.1.1 Description of the Utility Company

LUI is an electricity distributor licensed by the Ontario Energy Board. In accordance with its Distribution License ED- 2002-0545, the Applicant provides electricity distribution services in the Town of Cobourg and the former Village of Colborne (referred to as the Village of Cramahe moving forward). LUI is responsible for maintaining distribution and infrastructure assets deployed over 28 square kilometers within the Cobourg and Cramahe service areas shown in Figures 5.2-1 and 5.2-2. LUI currently serves approximately 11,460 electricity distribution customers across its two service areas.

LUI is supplied power from one transformer station and three 44 kV breakers, all owned and operated by Hydro One Networks Inc. LUI distributes electricity to the Town of Cobourg and Village of Cramahe at primary distribution voltages of 27.6 kV and 4.16 kV (through five 4.16 kV and three 27.6 kV substations). Revenue is earned by LUI by delivering electric power to homes and businesses in the service territory. The rates charged for this and the performance standards that the energy delivery system must meet are regulated by the Ontario Energy Board.

LUI is incorporated under the Ontario Business Corporations Act and is a subsidiary of the Town of Cobourg Holdings Inc. which is owned jointly by the Town of Cobourg and the Village of Cramahe. The Town of Cobourg is the majority shareholder at 99.99% and the Village of Cramahe is the minority shareholder at 0.01%.

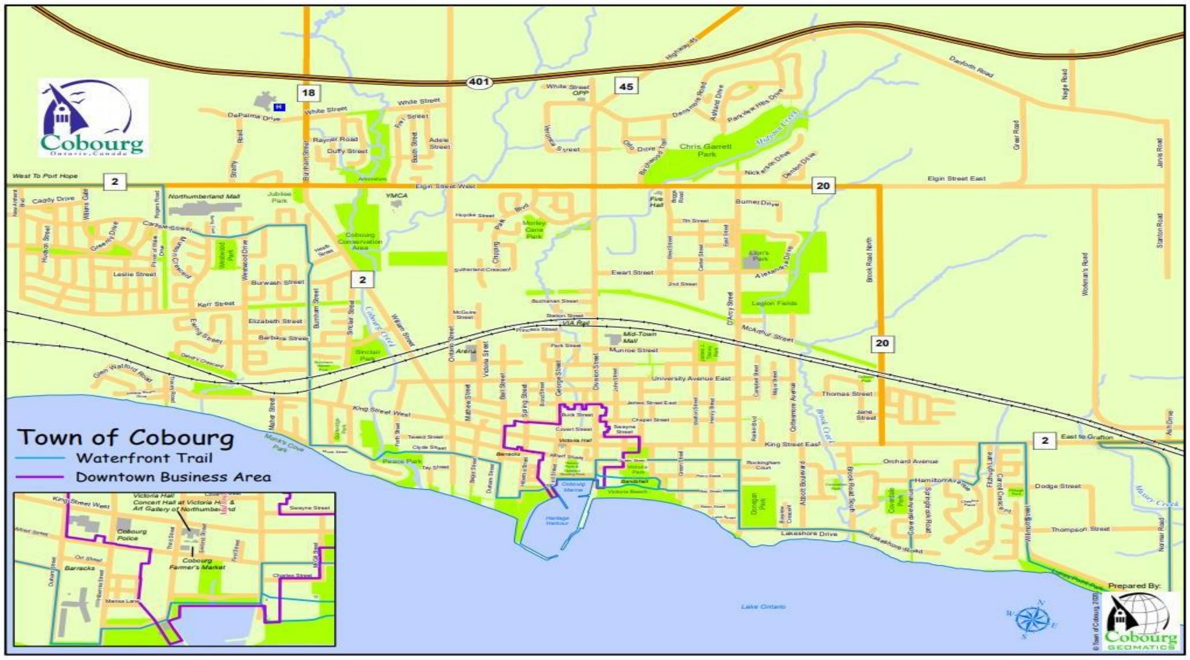

Figure 5.2-1: Map of Distribution Service Territory – Town of Cobourg

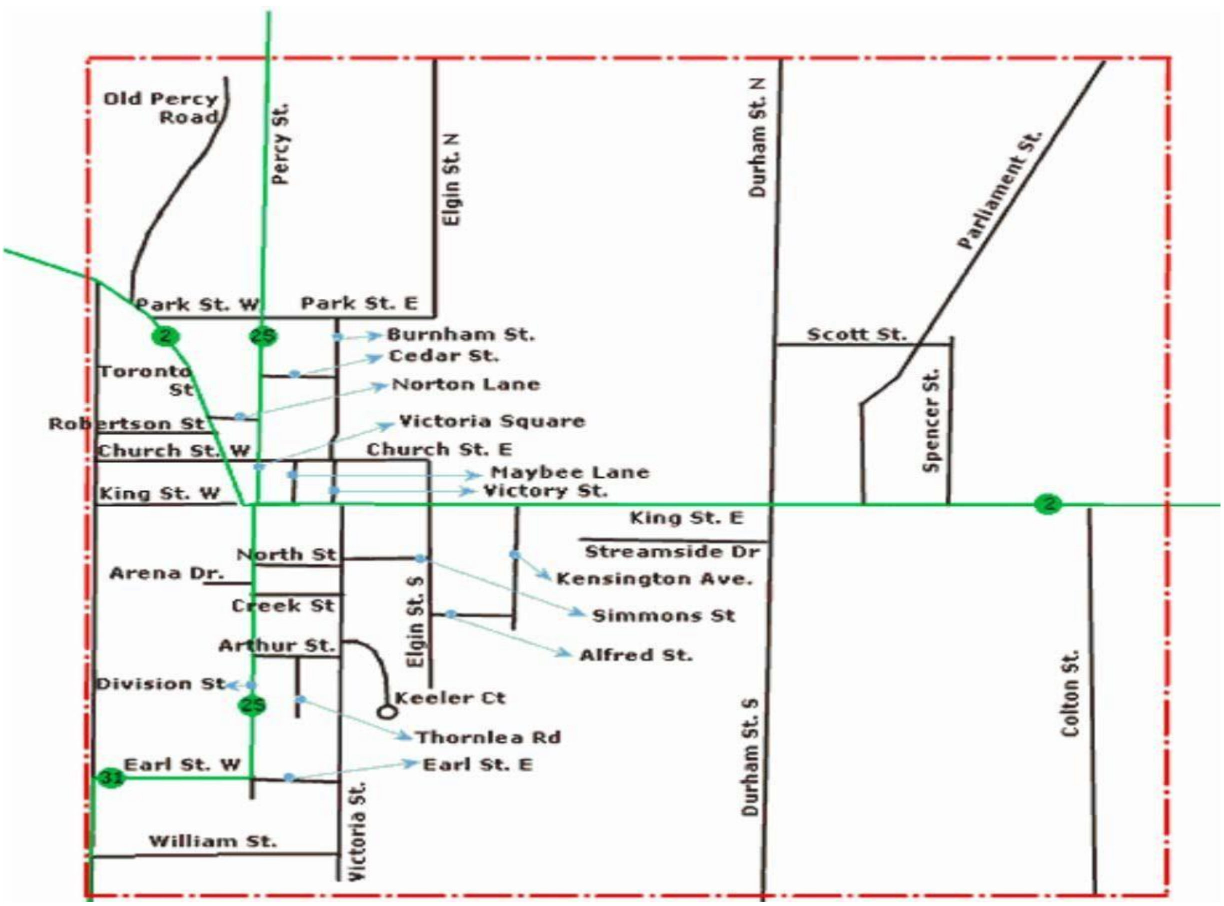

Figure 5.2-2: Map of Distribution Service Territory – Village of Cramahe

Mission, Vision, and Core Values Statement:

Our Mission - We are committed to responsibly delivering fair-cost, reliable, safe, energy solutions for the benefit of our customers through the uniqueness of our integrated utility operations

Our Vision - We are recognized as a high-performance organization, providing exceptional value to our customers and communities through dependable, responsive and innovative services.

Our Core Values - Our values serve as the organization foundation that guides our decisions and directions. Our commitment to our employees, customers and stakeholders are Collaboration, Accountability, Reliability, Innovation, Integrity, Engagement, Respect and Safety.

Primary Objectives

- **Compliance and Risk Management** - Ensure full compliance with all Acts, Regulations, Standards, Directives, and Agreements, safeguarding the organization and its shareholders from legal liabilities, with particular attention to safety.

- **Asset Management and Financial Performance** - Sustain and improve asset value to achieve targeted returns and provide prudent dividends to shareholders.

- **Governance and Transparency** - Uphold transparency, accountability, integrity, and high ethical standards in accordance with the Shareholders Agreement and support the Board's independence.

Corporate Strategic Goals - The following are LUI's strategic priorities as defined in its Corporate Goals:

- To understand the needs of our customers and to provide them with service and information in a manner that makes sense to them.

- To form partnerships and alliances with other local distribution companies for economies of scale and cost- sharing opportunities. This is accomplished through participating in the Cornerstone Hydro Electric Concept ("CHEC") and Utilities Standards Forum ("USF") groups.

- To invest in the development of our staff to provide an employee-oriented, high-performance culture of organizational effectiveness that emphasizes empowerment, quality, productivity and standards, goal attainment, and ongoing development of a superior workforce.

- To stay current with industry and regulatory changes.

- To pursue new business opportunities, partnerships, and best management practices in our quest to meet or exceed financial expectations of our community by cost-sharing, efficiency gains, cost savings, improve reliability, superior customer service and protecting the environment.

- To investigate roles and opportunities that LUI can pursue in the generation and promoting conservation and demand management initiatives.

These priorities are in line with the Corporate Vision and Mission statements.

5.2.1.2 DSP Objectives

This DSP is designed to present LUI's approach to capital expenditure planning and its interaction with system operations and maintenance. It provides comprehensive documentation of LUI's Asset Management ("AM") process, supporting both the forward-looking five-year capital plan and an assessment of performance over the historical period.

The objectives of the plan are to ensure that LUI continues to provide safe, reliable, resilient, and cost-effective electricity distribution service to its customers while managing system risks and maintaining regulatory compliance. It outlines capital investments, asset management practices, regional coordination obligations, and continuous improvement mechanisms needed to achieve these objectives over the five-year forecast period.

The DSP establishes the baseline against which LUI's performance will be evaluated in Section 5.2.3 – Performance Measurement for Continuous Improvement, including monitoring of reliability outcomes, cost performance, and progress on distributor-specific reliability targets. The plan is structured to align with, and provide evidence against, the OEB's four performance outcomes:

1. **Customer Focus** – Services are provided in a manner that responds to identified customer needs and preferences, including reliability, power quality, safety, and bill impacts.

2. **Operational Effectiveness** – Continuous improvement in productivity and cost performance is pursued, and the distribution system is planned and operated to meet reliability and quality objectives efficiently.

3. **Public Policy Responsiveness** – LUI delivers on obligations mandated by government and the OEB, including legislative and regulatory requirements, Ministerial directives and related OEB policies (e.g., conservation, electrification and DER integration).

4. **Financial Performance** – Financial viability is maintained, and savings from operational effectiveness are sustainable, supporting reasonable and stable rates over time.

This DSP reflects LUI's current planning priorities (i.e. completing the 4.16 kV voltage conversion, advancing distribution automation on feeders where manual restoration is driving the longest outage times, and replacing aging poles and transformers where condition data indicates elevated risk). These priorities were developed through LUI's asset management process and validated through customer engagement conducted in July–August 2025, which confirmed that affordability and reliability remain customers' primary expectations. To achieve a complete and compliant DSP, LUI strived to accomplish the following:

- Embed continuous improvement practices
- Assess asset age, condition, and performance using inspection results, failure history, and field observations.
- Incorporate customer preference insights into goals, priorities, and communications.
- Demonstrate compliance with the Distribution System Code ("DSC") through documented inspections, standards, and procedures.
- Integrate public and worker safety requirements into planning, design, construction, and operations.
- Forecast load growth and renewable/Distributed Energy Resources ("DER") activity and reflect those needs in program timing and scope.
- Identify system constraints and emerging capacity requirements, considering local needs and regional planning.
- Review historical and current capital, explain variances from the previous DSP, and carry forward lessons learned.
- Show how the AM process brings these inputs together to rank projects by customer value, system need, and prudent risk.
- Deliver a five-year capital plan (2027–2031) that addresses known growth, capacity, and condition needs, with enough flexibility to adjust if circumstances change.

This DSP builds on LUI's previously approved 2022–2026 DSP and reflects the lessons learned from that period. The 2025 Asset Condition Assessment ("ACA"), updated load forecasting, and feeder-level reliability analysis have all informed how investments are prioritized and paced in this plan. Over the forecast period, LUI will continue to incorporate new asset data and performance results into its planning process as they become available.

This DSP follows and builds on LUI's previously approved 2022–2026 DSP, which was filed in support of LUI's 2022 COS application and formed the planning basis for rates during the current

Incentive Rate Mechanism ("IRM") term.

5.2.1.3 Capital Investment Highlights

In accordance with Chapter 5, projects and programs in this DSP are grouped into the four OEB investment categories (System Access, System Renewal, System Service, and General Plant).

The drivers for each category are consistent with the Filing Requirements. Where a project or program involves multiple drivers, it is reported under the category corresponding to its primary (trigger) driver. All drivers are considered in the evaluation of investment options and are further discussed in the relevant sections of the DSP.

Table 5.2-1 presents LUI's historical actual and forecast expenditures for both capital and O&M. The 2026 figures represent projected actuals for projects currently expected to be completed in 2026. However, these values are preliminary and may be updated once the year-end results are finalized.

Table 5.2-1: Historical and Forecast Capital Expenditures ($ '000)

Category	Historical ($ '000)					Forecast ($ '000)				
	2022	2023	2024	2025	2026*	2027	2028	2029	2030	2031
System Access (Gross)	462	3,822	3,017	1,014	1,185	1,222	1,396	1,427	1,434	1,479
System Renewal (Gross)	1,927	1,458	1,277	1,096	465	479	748	777	866	1,089
System Service (Gross)	2	512	121	601	706	1,098	667	592	468	480
General Plant (Gross)	107	102	48	704	273	460	353	390	285	83
Gross Capital Expenses	**2,498**	**5,894**	**4,463**	**3,414**	**2,629**	**3,258**	**3,164**	**3,186**	**3,053**	**3,131**
Contributed Capital	(378)	(765)	(2,240)	(650)	(790)	(985)	(1,008)	(1,028)	(847)	(868)
Net Capital Expenses After Contributions	2,120	5,130	2,222	2,764	1,839	2,273	2,155	2,157	2,206	2,263
System O&M	767	932	775	822	950	978	1,008	1,033	1,059	1,085

***2026 Bridge year -** Values reflect forecasted budget

In developing this plan, LUI has considered the broader external environment to the extent possible. Labour market constraints, supply chain challenges for key materials (such as transformers and protective devices), elevated inflation and borrowing costs, housing-driven growth, and increasing exposure to extreme weather and climate risk all have the potential to affect both LUI and its customers.

These factors have informed the proposed pacing and prioritization of investments; however, given the inherent uncertainty, LUI may adjust elements of the plan over the DSP period using its established planning and governance processes. This DSP represents LUI's best information and judgement at the time of filing.

Customer connection forecasts are based on input from LUI's planning staff, relevant provincial, regional and municipal planning reports, developer submissions and inquiries, and historical connection trends. Variances in the timing or volume of actual connections over the DSP horizon will affect realized System Access expenditures. Similarly, the Towns undertake road reconstruction and related roadway improvements on an annual basis, with timing and scope subject to short-term municipal planning decisions. These projects are frequently rescheduled or re-scoped, and LUI will accommodate and respond to municipal road works as they occur during the DSP period, which may also influence the timing and cost of certain System Access and System Renewal projects.

Building on the external factors described above, LUI recognizes that there are specific risks and uncertainties that may affect the timing, scope and cost of the 2027–2031 capital plan. Resource and supply-chain risk remains a key consideration, particularly for long-lead materials such as transformers, switchgear and cable accessories, as well as the availability of qualified contractors.

Financial and regulatory conditions may also evolve over the DSP period such as deviations in inflation or interest rates from current forecasts, new OEB codes or guidelines, and broader policy changes (for example, updated DER interconnection rules or cyber-security directives) could introduce additional compliance-driven workstreams or require adjustments to project pacing. In parallel, as LUI's systems become more digital and interconnected, operational and cyber-security risks represent an emerging contingency that could temporarily affect system visibility or control functions and potentially trigger unplanned capital or remedial work.

To manage these uncertainties, LUI relies on an established contingency and variance-management framework. Annual capital re-forecasting, supported by quarterly reviews involving Asset Management, Operations and Finance, is used to monitor delivery performance, identify emerging variances and reprioritize programs based on updated risk, resource availability and financial constraints, while remaining within approved capital envelopes. Where new needs arise or existing risks materialize, LUI will adjust sequencing and scope within this governance process and where necessary address material changes through future regulatory filings in accordance with OEB policies.

LUI summarized its investment projects and programs into the four investment categories as outlined in Table 5.2-2:

Table 5.2-2: Investment Categories

OEB Investment Category	OEB Description	LUI Capital Expenditures / Activities (2027–2031 DSP)
System Access	Capital expenditures to connect new customers, meet customer-driven requirements, and comply with distributor obligations (e.g., relocation of plant at request of road authority).	• New subdivision connections • Residential and GS <50 kW service upgrades • Road authority relocations (e.g., municipal road widenings) • Customer-driven equipment upgrades • AMI 2.0
System Renewal	Capital expenditures to replace system assets at end-of-life or refurbish to extend useful life.	• Renewal of aging equipment • Wood pole renewal program • Delta-Wye conversions • Overhead and underground line component replacements • Pad mounted transformer replacements
System Service	Capital expenditures for modifications to the system to provide for overall capability, reliability, and resiliency.	• Continuation of 27.6 kV conversion (retirement of 4.16 kV assets and station reconfigurations) • Ground theft remediation • Sectionalizing and automation investments (SCADA, reclosers, switches, FLISR) • Reliability Improvement Program
General Plant	Capital expenditures to maintain and support utility operations.	• Software upgrades (e.g. Enterprise Resource Planning, Geographical Information System, and Customer Information System) • Facilities & Fleet • Hardware upgrades • Tools and equipment replacement

5.2.1.4 Key Changes Since Last DSP Filing

Compared to the previous DSP (2022–2026), the 2027–2031 plan reflects several changes and enhancements:

- Implementation of an Advanced Metering Infrastructure (“AMI”) 2.0 program to modernize LUI’s AMI communications and data platform, address technology obsolescence and cybersecurity requirements, improve operational visibility, improve customer service, and maintain compliance requirements.

- Advancement of the 27.6 kV standardization strategy, including retirement of remaining 4.16 kV infrastructure and associated station reconfigurations.

- Emphasis on aging-asset renewal, informed by the 2025 Asset Condition Assessment (“ACA”).

- Undertake planned software upgrades to its Enterprise Resource Planning (“ERP”), Geographic Information System (“GIS”) and Customer Information System (“CIS”) platforms to address system aging, vendor end-of-support timelines, and cybersecurity risk. These investments will modernize core business and operational systems, improve data integrity, streamline workflows, and strengthen LUI's digital foundation.

- Integration of climate-risk and resiliency considerations through the introduction of LUI’s Vulnerability Assessment and System Hardening (“VASH”) framework, used to identify assets exposed to climate-related perils and prioritize targeted resilience investments such as overhead rebuilds and pole renewals.

- System service enhancements, such as sectionalizing and feeder automation, driven by recurring outage patterns and opportunities to reduce customer interruption durations.

- Updated load growth and capacity considerations, reflecting results from historical load studies and ongoing monitoring of new subdivisions, commercial developments, and emerging DER-related activity.

These changes represent a shift toward more risk-informed, performance-driven, and climate aligned distribution planning. Through this DSP, LUI aims to:

- Reduce system exposure to climate-related events through resilience-focused renewal and automation.

- Improve reliability performance by addressing recurring outage sources and enhancing feeder flexibility.

- Renew critical aging assets in a paced and financially responsible manner to mitigate end-of-life risks.

- Support steady customer and load growth while coordinating with municipalities, Hydro One Networks Inc. ("HONI"), the Independent Electricity System Operator ("IESO"), neighboring Local Distribution Companies ("LDCs"), telecommunications entities, and renewable energy proponents.

- Deliver prudent, customer-centric capital spending consistent with the OEB's performance outcomes.

In addition to the changes mentioned above, LUI has made targeted minimal changes to its processes focusing only on updates that meaningfully improve service quality, operational efficiency, or regulatory alignment. LUI continues to prioritize prudent investment and cost control for its customers and continuous review and improvement of its inspection and maintenance programs to strengthen data quality and ensure that capital dollars are directed to the highest value needs.

5.2.2 Coordinated Planning with Third Parties

LUI coordinates with HONI, the IESO, neighbouring LDCs, municipalities, developers, and large customers. The coordination that most directly shaped this plan was with HONI (on Port Hope TS capacity and the M16 feeder), the Town of Cobourg (on road reconstruction timing), the customer survey, and developers (on subdivision connection forecasts). Coordination with these stakeholders enables LUI to plan system access, renewal, and service investments in a manner that supports customer growth, integrates municipal and regional initiatives, and maintains safe and reliable service.

The following subsections describe each key coordination relationship and its influence on the 2027–2031 capital plan. LUI did not undertake a separate formal third-party consultation process specifically for the preparation of this DSP, other than its participation in formal regional planning processes. In developing this DSP, LUI relied on those formal regional planning processes together with its ongoing coordination with HONI, the IESO, neighbouring LDCs, municipalities, developers, large customers, and telecommunications entities. Inputs from these processes were considered in the development and pacing of the capital plan.

HONI and neighbouring LDCs

LUI is supplied from Port Hope TS, which is owned and operated by HONI. Given this interconnection, LUI coordinates with HONI regarding changes on their respective systems that could materially affect system capacity, reliability, customer growth, and capital planning. Coordination with HONI and neighbouring LDCs includes connection requirements, voltage conversion activities, and confirmation that there is no duplication of investment across service boundaries.

LUI also participates in the Peterborough to Kingston ("PtoK") regional planning cycle, which is led by the IESO in coordination with HONI Transmission and impacted LDCs. The regional planning process is conducted on a five-year cycle and consists of four stages:

1) Needs Assessment led by HONI Transmission
2) Scoping Assessment led by the IESO to determine the appropriate planning approach
3) Integrated Regional Resource Plan ("IRRP") led by the IESO for needs requiring coordinated regional solutions
4) Regional Infrastructure Plan ("RIP") led by Hydro One to provide further detail on recommended wires solutions.

Figure 5.2-3 illustrates the geographic boundary of the PtoK region, which encompasses LUI's service territory along with neighbouring utilities.

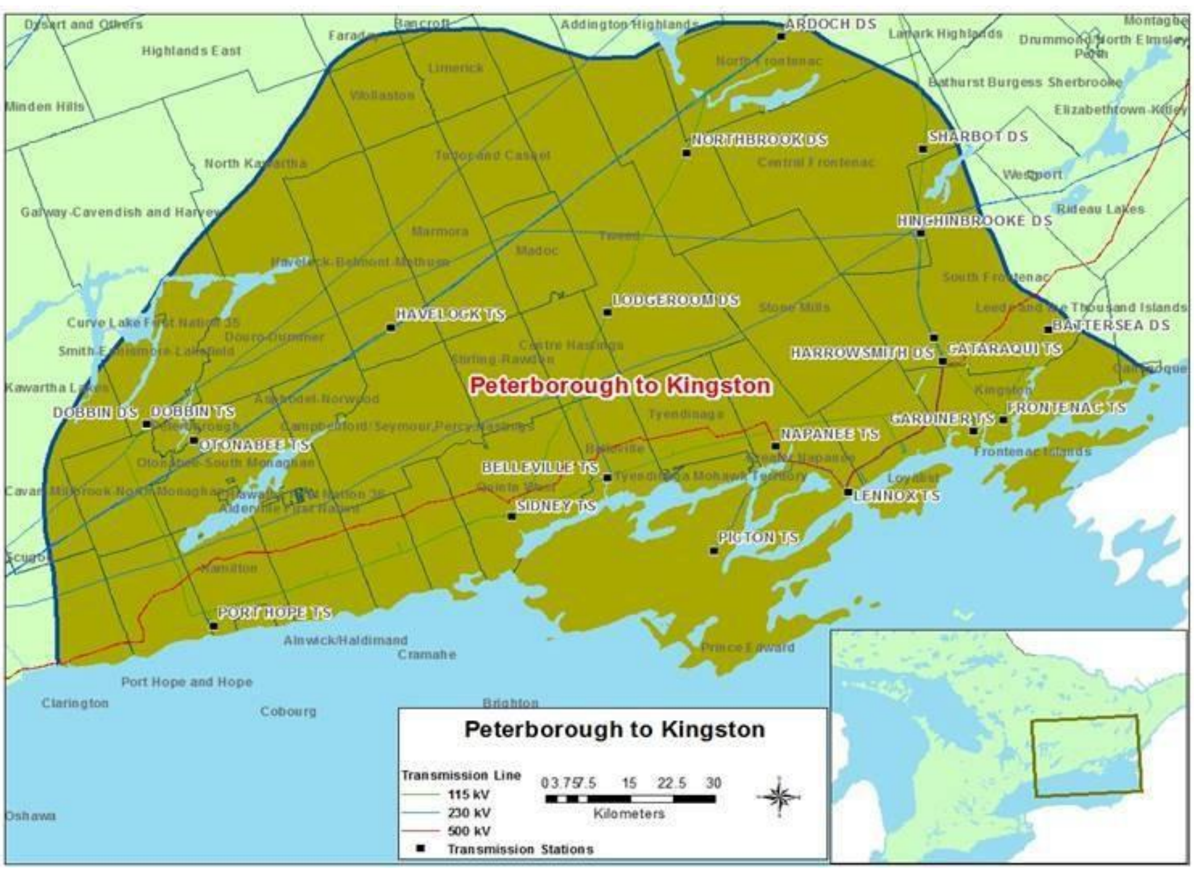

Figure 5.2-3: Map of PtoK Territory

The current cycle was initiated in September 2024 with a Needs Assessment finalized on December 20, 2024 (Appendix C) and a Scoping Assessment Outcome Report issued on April

28, 2025 (Appendix D). These documents confirmed that identified station capacity, supply capacity, and end-of-life renewal needs will be addressed through a new PtoK IRRP. LUI has considered the applicable findings in preparing this DSP to ensure its capital investments are coordinated with regional outcomes and consistent with the applicable regional plan.

Looking forward, LUI will actively participate in the next PtoK IRRP and RIP cycle, anticipated during the 2027–2031 DSP period, and will incorporate any required adjustments into future capital reforecasts.

Independent Electricity System Operator (IESO)

LUI's coordination with the IESO is primarily through the PtoK regional planning process described above. As noted in the preceding section, the current PtoK Needs Assessment and Scoping Assessment have not identified any supply constraints, regional requirements, or Renewable Energy Generation (‘REG”) related limitations for LUI's service area. This is consistent with LUI's understanding based on previous IESO correspondence and ongoing regional planning engagement.

LUI's 2027–2031 capital plan does not include any REG driven investments. As no REG investments are proposed, an IESO comment letter specific to REG investments is not required for this filing under the Chapter 5 filing requirements.

LUI will continue to participate in the ongoing PtoK IRRP during the 2027–2031 DSP period, as noted above, and will seek updated IESO correspondence if system conditions change or REG related investment needs emerge.

Municipalities

LUI coordinates closely with the Town of Cobourg and the Township of Cramahe to align planned distribution work with municipal road reconstruction, development, and infrastructure renewal programs. Through regular discussions with municipal staff, LUI reviews the implications of new development, reconfiguration of existing spaces, and third-party relocation projects on the distribution system.

As municipal projects are defined or updated, associated distribution works are categorized in the appropriate OEB investment category and integrated into LUI’s capital plan. LUI works collaboratively with Cobourg and Cramahe during project planning and execution, seeking opportunities to bundle municipal and utility work where feasible and to support municipal prioritization in a way that minimizes disruption and manages overall costs for customers.

Developers and Builders

LUI coordinates with developers on new subdivision connections and expansions, ensuring adequate system capacity and timely energization of new developments. Customer connection forecasts are based on input from LUI's planning staff, relevant provincial, regional, and municipal planning reports, developer submissions and inquiries, and historical connection trends.

Large Customers

LUI consults with large customers on load expansion requirements and potential distributed energy resource projects. These discussions ensure that system capacity planning accounts for significant load changes and DER integration requirements in a timely and coordinated manner.

Integration of Customer Consultation

In addition to formal coordination with the IESO, HONI, neighbouring distributors and municipalities, LUI treats customer consultation as a core input to its capital planning and third-party coordination process. The July–August 2025 customer engagement confirmed that affordability and reliability are customers' primary expectations. These findings had direct influence on this plan. For example, renewal work was phased to avoid rate spikes, the AMI 2.0 program was structured to prioritize the most urgent meter cohorts first, and the Distribution System Automation program was advanced in response to customer concerns about outage duration and restoration times.

When reviewing municipal secondary plans, subdivision proposals and road reconstruction programs, LUI looks for opportunities to align third-party work with planned renewal and targeted system improvements, minimizing repeat disruption and managing overall costs for customers.

In regional planning forums with the IESO and HONI, LUI's positions on transmission and interface options are informed by the same customer priorities associated with reliability and cost. Growing customer interest in DERs and electric vehicles has been reflected in LUI's capacity assessments and connection forecasting. LUI will continue to monitor adoption rates and adjust system access and service investments as conditions evolve.

The outcomes of third-party coordination are reflected throughout this DSP (i.e. in the pacing of system access investments, the sequencing of renewal work alongside municipal road programs, and the prioritization of automation on feeders that serve the most customers).

In summary, LUI's coordination with third parties directly influences the prioritization and pacing of projects within the 2027–2031 DSP. Examples include system access investments to meet subdivision growth, system renewal projects such as overhead rebuilds aligned with municipal and Hydro One schedules, and system service initiatives such as automation investments to enhance regional reliability. These coordination activities also feed into LUI's performance measurement framework (Section 5.2.3), ensuring that LUI's continuous improvement targets reflect not only internal metrics but the expectations of the communities and regional stakeholders it serves.

5.2.2.1 Telecommunications Entities

LUI identified four telecommunications entities operating within its service territory (Bell, Cogeco, Axle Telecom, and Rogers), including providers that attach to LUI's distribution poles under joint-use arrangements. Coordination with these entities is generally on an as-needed basis, typically when the plant or personnel of one party may affect the safe or reliable operation of the other.

Common examples include coordinating construction windows and work methods for the deployment of telecommunication infrastructure along shared road allowances and managing third-party attachments on LUI poles in connection with renewal or rebuild projects. In these situations, LUI seeks to align schedules, share field information where appropriate, and minimize overall disruption to customers and the public while ensuring that its own distribution assets are protected.

LUI did not conduct formal consultations with telecommunications entities during the preparation of this DSP. Coordination occurs through established operational and project interfaces, including permit and locate processes and project-specific communications where there is a foreseeable interaction with LUI assets. Where telecommunications activity is expected to coincide with planned LUI work (e.g. pole replacements under the renewal program), LUI will seek opportunities to coordinate timing and sequencing to reduce repeat disruption and manage shared right-of-way risks.

LUI's engagement with third-party communications providers did not result in any changes to the capital plan filed in this DSP. No formal consultations were requested or initiated during the current planning cycle, and no telecommunications-related needs were identified that required reflection in the 2027–2031 investment plan.

5.2.2.2 Renewable Energy Generation (REG)

LUI coordinates with the IESO and HONI regarding REG integration to confirm whether any REG related system constraints or incremental investment needs exist within its service territory, consistent with the regional planning expectations in Chapter 5. As described in the IESO section earlier, no material REG related constraints or connection limitations have been identified for LUI's service area through the current PtoK regional planning cycle or through previous IESO correspondence.

The Generation Capacity Study (Appendix G) confirms that all feeders across both the Cobourg and Cramahe systems retain significant available hosting capacity for DER and REG connections. None of LUI's feeders are currently designated as restricted for REG or DER connections.

Reflecting these findings, LUI's 2027–2031 capital plan does not include any major REG driven investments. LUI's capital planning priorities for this DSP period are focused on voltage conversion, renewal, reliability, and modest growth.

LUI will continue to monitor REG activity, connection requests, and policy developments over the DSP forecast period and will seek updated confirmation from the IESO and HONI if system conditions change such that REG related constraints or new REG driven investments may need to be considered in future planning cycles.

5.2.3 Performance Measurement for Continuous Improvement

This section summarizes LUI's performance trends over the most recent five historical years and establishes the baseline for measuring improvements associated with the 2027–2031 DSP. Reliability and service quality metrics presented in this section align with the OEB Scorecard (OEB Appendix 2-G) requirements.

5.2.3.1 Distribution System Plan

LUI monitors several performance measures, including those mandated by the OEB, that may assist in the utility's continuous improvement activities and satisfying customer requests. These measures can be divided into the following general groups:

- Customer-oriented performance
- Cost efficiency and effectiveness
- Asset/system operations performance

Where applicable, the performance measures included on the scorecard have an established minimum level of performance to be achieved. The scorecard is used to continuously improve LUI's asset management and capital planning process. LUI's current performance state is represented by LUI's official scorecard results for the recent historical year as published by OEB. The scorecard is designed to track and show LUI's performance results over time and helps to benchmark its performance and improvement against other utilities and best practices. The scorecard includes traditional metrics for assessing services, such as frequency of power outages and costs per customer.

Each metric provided in the table and subsections below influences LUI's DSP to achieve the best performance for its customers. The following sections address performance metrics as published by the OEB in the performance scorecard and with additional performance metrics identified in OEB's Rate Filing Requirements. LUI's recent year scorecard is shown in Appendix A.

Table 5.2-3: DSP Performance Measures for LUI

Performance Outcome	Measure	Motivation	Metric	Target
Customer-oriented performance	Service Quality	Regulatory/Consumer	New Residential/Small Business Services Connected on Time	> 90%
			Scheduled Appointments Met on Time	> 90%
			Telephone Calls Answered on Time	> 65%
	Customer Satisfaction	Customer	First Contact Resolution	> 99%
			Billing Accuracy	> 98%
			Customer Satisfaction Survey	> 78%
	System Reliability	Regulatory/Customer	SAIDI	2.45
			SAIFI	1.14
			CAIDI	2.15
Cost efficiency and effectiveness	Cost Control	Regulatory/ Customer/ Corporate	Total Cost per Customer	Group 2 (between 10% and 25% below predicted costs)
			Total Cost per km of Line	
			O&M Cost per Customer	
			O&M Cost per km of Line	
			O&M Cost per MW of Average Peak Capacity	
	Asset Management	Corporate/ Regulatory	*DSP Implementation Progress*	Completion
Asset/system operations performance	Safety	Regulatory/ Corporate	*Level of Public Awareness*	80%
			Level of Compliance with Ontario Regulation 22/04	C
			Serious Electrical Incident Index	0
	Distribution Losses	Corporate	*Line Losses*	< 5%

Annual performance variances that are not within target ranges or meet minimal performance thresholds would result in senior management review of performance cause that may result in changes to immediate or future places to direct performance back to target levels. LUI has been and continues to be focused on maintaining the adequacy, reliability, and quality of service to its distribution customers.

LUI's 2022–2026 DSP established several objectives to guide continuous improvement in asset management, system reliability, and planning practices. These include improving reliability performance by renewing aging infrastructure based on condition evidence, enhancing system resiliency and flexibility through automation, and finalizing standardization toward the 27.6 kV system voltage.

LUI's cost efficiency is assessed annually through the OEB total cost benchmarking framework developed by Pacific Economics Group ("PEG"). The PEG econometric model (Appendix B) compares each distributor's actual total cost to a statistically predicted cost based on system characteristics, producing a total cost performance score and a corresponding stretch factor under the IRM. In the most recent benchmarking results available at the time of this DSP, LUI's total cost is approximately 27 percent below the model's predicted cost level, placing LUI in Group 1 of the OEB's efficiency cohorts and resulting in a stretch factor in the 0 percent range. While LUI's DSP performance target is set at Group 2 as a conservative planning floor, current benchmarking results reflect performance above that threshold. This indicates that LUI is operating at a cost level materially better than the sector average while still being expected to deliver ongoing productivity improvements.

To strengthen cost efficiency and accountability, LUI has initiated the adoption of several continuous improvement measures during the 2027–2031 DSP period:

- **Semi-Annual Program Reforecasting –** ensuring early identification of variances and proactive adjustments to maintain budget alignment.

- **Standardized Project Allocation –** establishing consistent methodologies for project and resource assignment.

- **Unit Cost Tracking –** implementation of unit cost monitoring across some capital programs for trending analysis and forecasting accuracy.

- **Contractor Qualification –** strengthening evaluation and qualification processes to ensure cost-effective delivery of capital work.

- **Distribution System Automation** - LUI expects its planned Distribution System Automation program (including SCADA upgrades, remote switching and FLISR capabilities described in Section 5.4 and Appendix H) to contribute to sustained cost savings over the forecast period through improved fault location and enabling remote isolation and restoration. Automation reduces the number and duration of emergency truck rolls, overtime call-outs, and temporary switching operations required to restore service.

These initiatives will provide LUI with improved cost visibility and flexibility to adapt to changing conditions, ensuring that efficiency levels remain consistent with Group 1 performance throughout the DSP horizon.

LUI's asset management and capital planning practices are designed to sustain this level of cost performance while meeting reliability, safety, modernization and customer service objectives, and the 2027–2031 DSP has been developed with explicit consideration of maintaining this favorable benchmarking position.

Alongside these cost-efficiency initiatives, LUI is using its performance measurement framework to drive continuous improvement across distribution automation and metering modernization.

Feeder-level SAIDI, SAIFI, CAIDI, Customer Hours Interrupted ("CHI") and Customers Interrupted ("CI") results, together with the Worst Performing Feeders ("WPF") list and cause-of-interruption analysis, are used to identify locations where sectionalizing, automated switching and enhanced SCADA visibility will provide the greatest benefit. Over the 2027–2031 DSP period, LUI will track reliability performance on automated and reconfigured feeders relative to pre-automation baselines and provincial benchmarks, with material deviations triggering root-cause review and potential adjustments to operating practices, protection schemes or device placement. The lessons learned from these automation projects will be used to inform the design and prioritization of future System Service and System Renewal programs so that automation investments demonstrably contribute to meeting distributor-specific reliability targets while maintaining affordability for customers.

LUI's AMI 2.0 program is expected to support improvement across several additional scorecard area over the same period. Two-way meter communications will provide enhanced outage notification data through last-gasp signaling, enabling more timely and accurate event detection within LUI's Outage Management System and supporting more precise SAIDI and SAIFI reporting. Remote connect/disconnect capability will reduce field dispatch requirements for routine service orders, contributing to improved First Contact Resolution and Scheduled Appointments Met on Time performance. Interval data from AMI 2.0 meters will strengthen Billing Accuracy, and voltage monitoring at the meter level will provide system-wide power quality visibility.

5.2.3.2 Service Quality and Reliability

Service Quality

LUI tracks service quality indicators as required under Chapter 7 of the Distribution System Code ("DSC"). These Service Quality Requirements are reported annually to the OEB. Failure to meet minimum service quality targets would result in measures being taken to realign performance with DSC service quality standards. Service Quality measures include the following major measures: New Residential/Small Business Services Connected on Time, Scheduled Appointments Met on Time, and Telephone Calls Answered on Time. All these measures relate to LUI providing connection services as well as quality customer service. LUI is committed to meeting all targets found in the Service Quality performance measure group.

Over the past years LUI performed well in all of these measures. LUI attributes this success to its open-door policy to its customers. Employees answer the telephone themselves with no automated phone system and make personal arrangements for appointments. Customers are generally helped immediately with questions or issues at the first point of contact, whether by phone or in person. The overall answer rate is well above the industry targets and is indicative of LUI's dedication to being an organization focused on customer service. Table 5.2-4 presents the service quality metrics tracked by LUI along with LUI's historical performance records.

Table 5.2-4: Performance Measures - Service Quality

Measure	2021	2022	2023	2024	2025	LUI Target
New Residential / Small Business Services Connected on Time	92.89%	94.80%	92.66%	91.30%	90.10%	90%
Scheduled Appointments Met on Time	93.62%	98.89%	96.30%	94.62%	95.04%	90%
Telephone Calls Answered on Time	95.62%	90.27%	98.76%	98.23%	97.21%	65%

In addition to targeted engagement for the 2027–2031 DSP, LUI tracks ongoing customer satisfaction measures, including Call Centre performance and customer survey scores:

First Contact Resolution - LUI measures this performance by logging all calls, letters, and emails received and track them to determine if the inquiry was successfully answered at the first point of contact. A series of logged calls would be created to assist the customer service representative to accurately choose the logged call pertaining to the inquiry received. A specific service order has been created to track any call, letter, or email that was not resolved at the first point of contact.

Billing Accuracy - LUI performs due diligence by testing the consumption levels in correlation to the amount expensed to its customers. The utility also performs analysis of meter reading data and fixing any errors that may arise before it is communicated on the customer's bill.

Customer Satisfaction - Customer satisfaction survey results and customer engagements are important to the success of LUI. LUI is proactive and reactive in its customer engagement consultations, the majority of which provide helpful insight into the day-to-day operations of LUI. LUI engages vendors in collaboration with other CHEC member utilities to control costs and to conduct an independent biennial telephone-based customer satisfaction survey. The purpose of the survey is to focus on addressing issues of concern raised directly by customers. The survey asks questions of both residential and general service customers on a wide range of topics including power quality and reliability, price, billing payment, communications, and the customer service experience. The feedback is then incorporated into LUI's planning process and forms the basis of plans to improve customer satisfaction, meet the needs of customers, and address areas of improvement.

These measures are summarized in Table 5.2-5 and provide further insight into how customers perceive LUI's service quality and responsiveness. Together with the July–August 2025 DSP engagement survey, these measures provide a comprehensive view of customer expectations and priorities.

Table 5.2-5: Performance Measures - Customer Satisfaction

Measure	2021	2022	2023	2024	2025	LUI Target
First Contact Resolution	99.46%	99.88%	99.94%	99.96%	99.88%	99%
Billing Accuracy	99.95%	99.97%	99.98%	99.93%	99.94%	98%
Customer Satisfaction Survey Results	77.7%	77.7%	77.00%	81.17%	79.45%	78%

In addition to meeting the OEB's prescribed Service Quality Requirements, LUI has taken deliberate steps to enhance its outage communication practices in response to customer feedback from recent satisfaction surveys. LUI has implemented a multi-channel approach to ensure timely and accessible information during power interruptions. All outages are now reflected in real time on LUI's Smart Map, accessible through its website, and major events are also highlighted on the homepage to increase visibility.

LUI actively uses social media to provide initial outage notifications and ongoing updates as new information becomes available, supported by a scheduling and management tool that allows posts to be issued simultaneously across channels and enables staff to monitor and respond to public comments and private messages in a timely and coordinated manner.

During business hours, customer service representatives receive regular updates from field crews and are equipped to provide current information directly to customers. For non-business hours, LUI is in the process of transitioning to an enhanced after-hours communication service that offers better integration with the Smart Map and employs staff trained in outage management, with the objective of providing more consistent, informed and timely responses. LUI is also actively working to expand its communication channels to include email and/or text message notifications for outages and has implemented internal automated notifications to communications staff when outages exceed a defined customer threshold (e.g., more than 100 customers), ensuring that appropriate messages are issued promptly across all platforms.

These initiatives demonstrate LUI's commitment to improving the customer experience beyond minimum SQR compliance, by strengthening transparency, responsiveness and the overall quality of outage communication.

System Reliability

System reliability reflects the quality of electricity supply delivered to customers and is a key performance indicator for the utility. LUI monitors reliability performance through a combination of SCADA, its Outage Management System ("OMS"), and SmartMap software. These systems generate weekly, monthly, annual, and ad-hoc reports that help track and analyze outage frequency, duration, and root cause.

LUI collects and reports outage data (any interruption sustained for over a minute) using the standardized outage cause codes and formats outlined in the OEB's Electricity Reporting & Record Keeping Requirements (RRR). Additional data is captured through field-based trouble reports submitted by line crews.

In recent years, LUI has upgraded its OMS and customer-facing SmartMap platform to improve both outage management and the quality of information available to customers. The enhanced SmartMap provides accurate and timely device and customer-location data, enabling operations staff to pinpoint outage locations, identify affected customers, and validate field conditions more efficiently. This has strengthened outage communications by improving the credibility and consistency of the information shared and by enabling customers to provide useful on-the-ground feedback that enhances situational awareness during events.

These upgrades have also laid the groundwork for more advanced outage management capabilities: LUI is now positioned to transition to a new after-hours service provider that can interface directly with SmartMap and initiate field crew mobilization based on OMS/SmartMap alerts, supporting a seamless outage response across business and non-business hours. This evolution responds directly to customer consultation feedback, where timely outage response and communication were identified as priorities, and represents a further step toward improving LUI's service quality and reliability performance.

The reliability of supply is primarily measured and quantified by internationally accepted indices and are defined in the OEB's Electricity Reporting & Record Keeping Requirements.:

- **SAIDI** - The length of outage customers experience in the year on average expressed as hours per customer per year. It is calculated by dividing the total customer hours of sustained interruptions over a given year by the average number of customers served. An interruption is considered sustained if it lasts for at least one minute.

- **SAIFI** - The number of interruptions each customer experiences in the year on average, expressed as the number of interruptions per year per customer
- **CAIDI** - The average interruption time per customer affected and can be found by dividing the SAIDI value for the given year by the SAIFI value.

To support planning and regulatory reporting, LUI calculates SAIDI and SAIFI both including and excluding:

- **Loss of Supply (LOS) events** - Interruptions attributable to issues with transmission or bulk system assets owned by third parties (i.e., Hydro One).
- **Major Event Days (MEDs) -** identified using the IEEE 1366-2012 methodology. An MED is validated based on its uncontrollable, unpredictable, or unpreventable nature and assessed for force majeure conditions or LOS involvement.

LUI tracks Worst Performing Feeders (“WPF”) based on the following data:

- Customer Hours Interrupted— a proxy for SAIDI contribution
- Customers Interrupted— a proxy for SAIFI contribution

Planned outages, LOS, and MED events are excluded from WPF analysis to focus on underlying distribution performance. The WPF list, together with cause-of-interruption statistics, is a key input to the 2027–2031 DSP and is used to target reliability investments to the feeders and supply points that contribute most to customer-hours interrupted and interruption frequency.

Tables 5.2-6 through 5.2-11 and Figures 5.2-4 through 5.2-9 present LUI’s historical reliability performance, including SAIDI, SAIFI, CAIDI, total interruptions, customer interruptions, and customer-hours interrupted for the most recent five-year period. These results are benchmarked against provincial averages and provide context for identifying areas of strength and opportunities for improvement. Localized reliability issues identified through this analysis have informed targeted renewal projects on specific feeders, which are reflected in the System Renewal portfolio (see Section 5.4).

Table 5.2-6: Historical Reliability Performance Metrics – All Cause Codes

Metric	2021	2022	2023	2024	2025	Average
SAIDI	1.11	32.09	3.55	6.40	4.27	9.48
SAIFI	1.06	1.69	3.02	3.15	1.79	2.14
CAIDI	1.05	19.02	1.17	2.03	2.38	5.13

Table 5.2-7: Historical Reliability Performance Metrics - LOS and MED Adjusted

Metric	2021	2022	2023	2024	2025	Average
	Loss of Supply Adjusted					
SAIDI	0.99	31.67	2.80	3.22	3.05	8.35
SAIFI	0.60	1.47	2.02	1.33	1.37	1.36
CAIDI	1.63	21.54	1.38	2.42	2.23	5.84
	Loss of Supply and Major Event Days Adjusted					
SAIDI	0.99	0.63	2.80	3.22	3.05	2.14
SAIFI	0.60	0.36	2.02	1.33	1.37	1.14
CAIDI	1.65	1.75	1.39	2.42	2.23	1.89

As shown in Figure 5.2-4, LUI's SAIDI performance was heavily impacted by LOS and MED events in 2022 and 2024. When excluding LOS and MED, SAIDI has generally remained stable over the period, with modest year-over-year variability primarily attributable to significant weather events and a small number of high impact outages. System performance is broadly in line with provincial averages when excluding LOS and MED (as per the OEB System Reliability Dashboard). Localized reliability issues identified through this analysis have informed targeted renewal projects on specific feeders, which are reflected in the System Renewal portfolio (see Section 5.4) and guide the prioritization of automation projects under LUI's Distribution Automation Strategy (Appendix H).

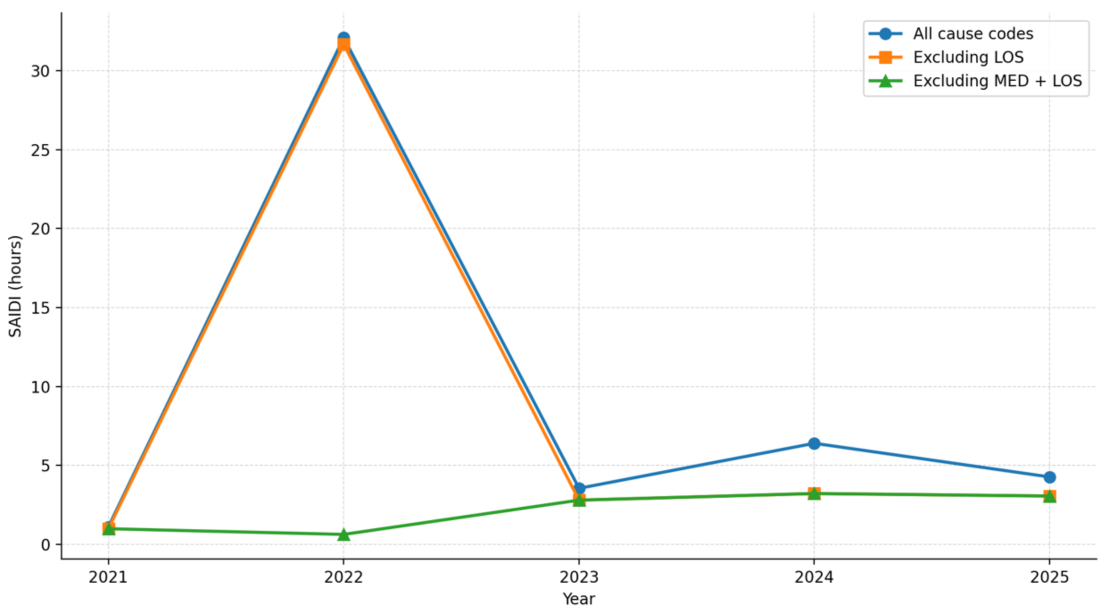

Figure 5.2-4: Performance Measure – SAIDI

Figure 5.2-5 illustrates that SAIFI experienced occasional increases in specific years driven by clusters of events on a limited number of feeders. Overall interruption frequency remains comparable to provincial peers when excluding LOS and MED indicating that LUI's inspection, maintenance, and corrective work practices are generally effective at managing outage frequency. These SAIFI patterns, combined with the WPF analysis, help LUI identify feeders where additional sectionalizing and automation investment can meaningfully reduce the number of customers affected by each event

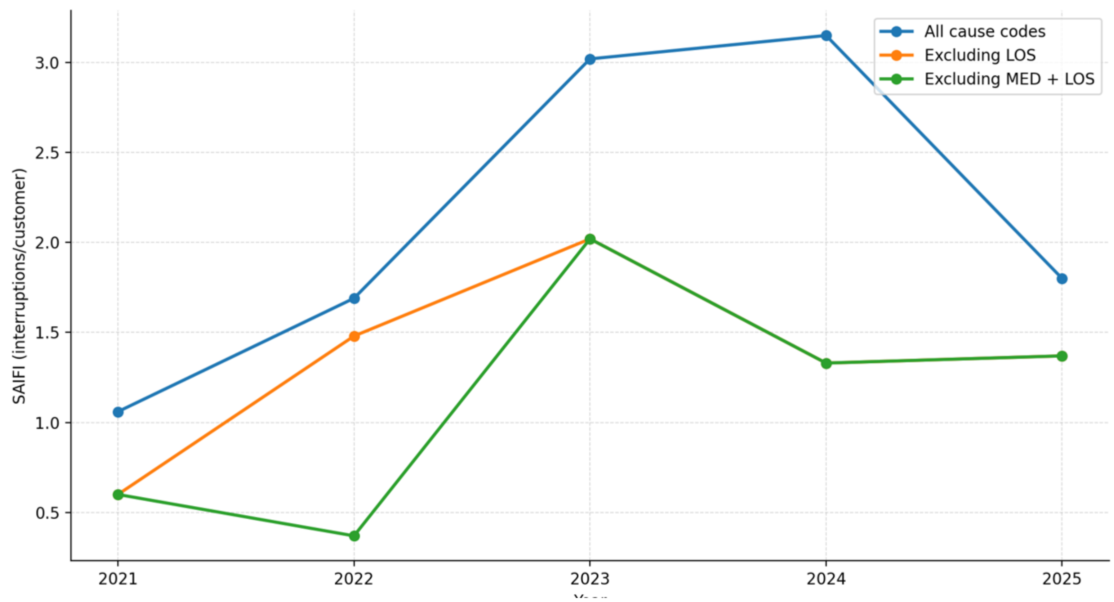

Figure 5.2-5: Performance Measure – SAIFI

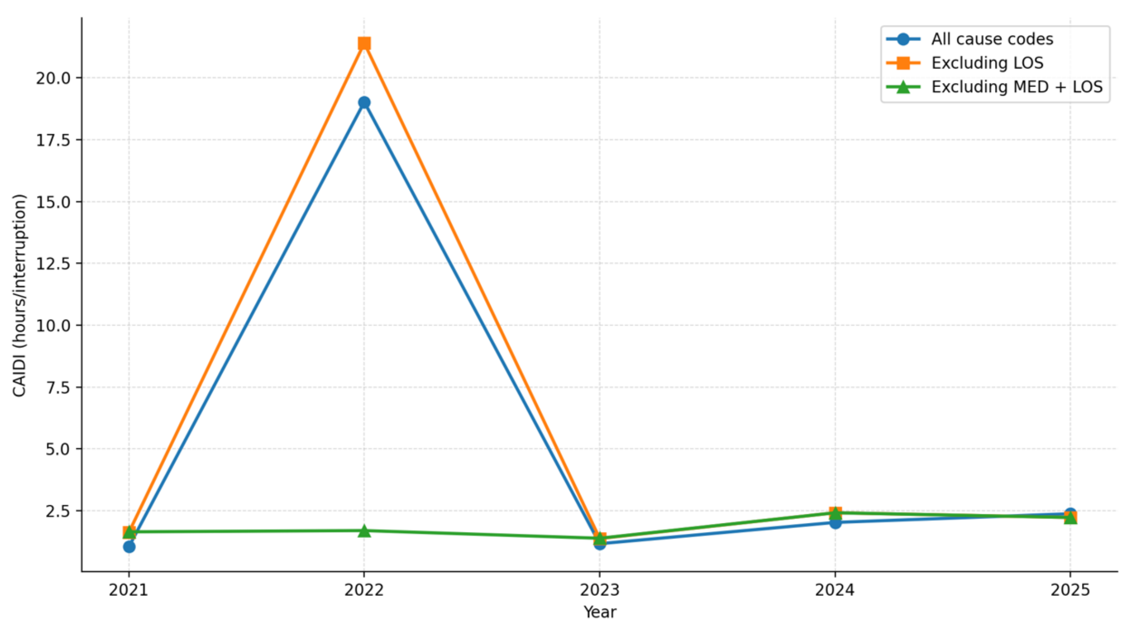

Figure 5.2-6: Performance Measure – CAIDI

Figure 5.2-6 shows that average restoration times (CAIDI) have stayed reasonably consistent once LOS and MED events are removed averaging 1.88 hours over the period. Typically feeders with limited switching options is where longer restoration times were present. In these situations crews have to isolate faults manually and can't back-feed affected sections. That's the core driver behind the automation program in the 2027–2031 plan which is intended to install remote-operable switches and FLISR capability onto the feeders where restoration currently takes longest.

Stepping back to the broader picture in Tables 5.2-6 and 5.2-7, the 2022 all-cause SAIDI of 32.09 hours stands out immediately. However, this does not reflect how the distribution system actually performed in 2022 because 10 events were classified as Major Event Days that year. Excluding LOS and MED, 2022 SAIDI drops to 0.63 hours, which was actually LUI's best year in the five-year window.

Normalized SAIDI averaged 2.14 hours and SAIFI averaged 1.14. These normalized averages form the reference point for our distributor-specific reliability targets in Section 5.2.3.3.

Table 5.2-8 and Figures 5.2-7 through 5.2-9 break this down further by total interruptions, customers interrupted, and customer-hours interrupted, both with and without LOS and MED events.

Table 5.2-8: Outage summation

Categorization	2021	2022	2023	2024	2025
All interruptions	44	43	65	67	46
All interruptions excluding LOS	42	41	64	63	39
All interruptions excluding MED and LOS	42	31	64	63	39

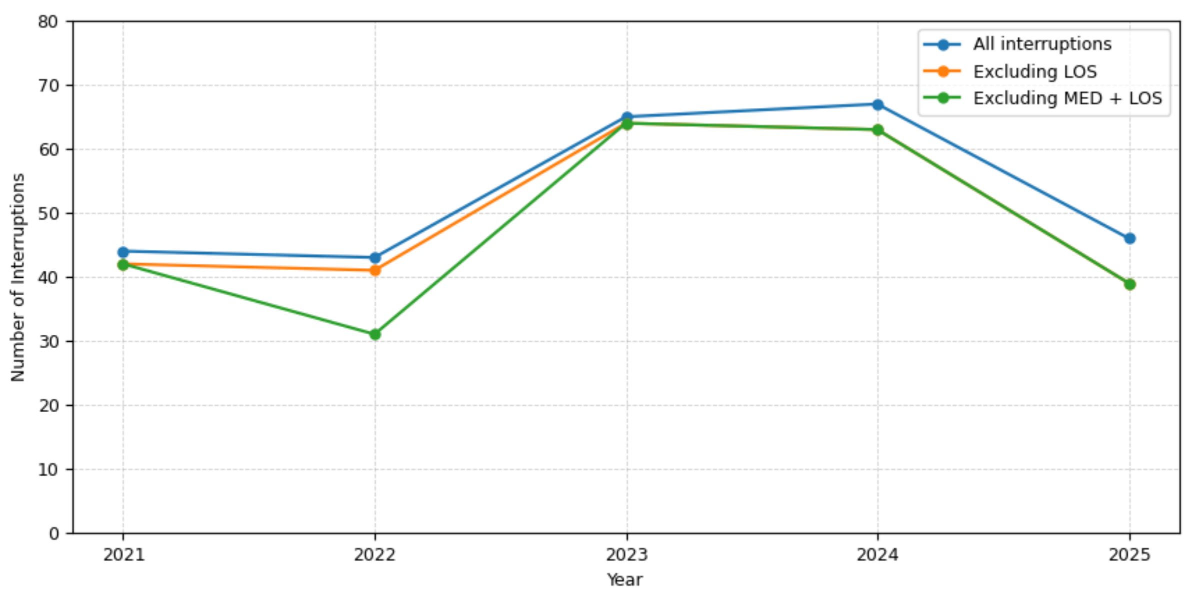

Figure 5.2-7: Total Number of Interruptions by Year

Tables 5.2-9 to 5.2-11 provide a detailed breakdown of interruptions, customers interrupted, and customer-hours interrupted by cause. Over the five-year period, the leading contributors to customer-hours interrupted have been:

- **Major Events** – limited number of high-impact events dominating customer-hour totals.
- **Loss of Supply** – upstream interruptions affecting multiple feeders simultaneously.
- **Defective Equipment** – failure of assets causing both frequency and duration impacts.
- **Foreign Interference** – including animal contact
- **Other causes** – such as tree contacts, human element, scheduled outages, and adverse weather, which contribute smaller shares of overall impact but remain important for feeder-specific improvements.

This cause-based analysis directly informs LUI's prioritization of renewal, automation, resiliency improvements, and feeder level interventions in the 2027–2031 DSP, including the sequencing of overhead rebuilds and distribution automation projects.

Table 5.2-9: Number of Outages by cause codes - Excluding MEDs

Cause Code	2021	2022	2023	2024	2025	Total Outages	% Share
0-Unknown/Other	0	0	4	2	3	9	4%
1-Scheduled Outage	21	10	13	24	5	73	29%
2-Loss of Supply	2	2	1	4	8	17	7%
3-Tree Contacts	2	4	1	2	1	10	4%
4-Lightning	0	0	1	0	0	1	0%
5-Defective Equipment	10	11	23	11	14	69	27%
6-Adverse Weather	0	0	0	2	4	6	2%
7-Adverse Environment	0	0	0	0	1	1	0%
8-Human Element	2	0	3	1	5	11	4%
9-Foreign Interference	7	6	19	21	5	58	23%
10-Major Event	Excluded						
Total	**44**	**33**	**65**	**67**	**44**	**255**	**100%**

Tables 5.2-11 and 5.2-12 build on the outage data in Table 5.2-9 by breaking down customers interrupted ("CI") and customer-hours interrupted ("CHI") by cause code over the 2021–2025

period. Defective equipment and loss of supply were the two largest contributors to customer impact, together accounting for roughly 73% of total CI and 69% of total CHI (excluding MEDs). The relative weight of each cause shifted from year to year. LOS drove disproportionate customer-hour totals in years with large upstream events, while defective equipment was a more consistent contributor across the full period. Foreign interference, adverse weather, and remaining causes made up the balance.

Major Event Days also introduced variability into annual results, as shown in Figures 5.2-7 through 5.2-9 and Table 5.2-8. When MEDs are excluded, SAIDI and SAIFI values better reflect day-to-day distribution system performance and LUI's controllable reliability outcomes. MEDs are identified using LUI's IEEE 1366–based threshold methodology. A summary of MED events during the historical period is provided in Table 5.2-10.

Table 5.2-10: Summary of MEDs during historical period

Year	Date	Major Event Description	Primary Cause Code	Feeders Affected	Customers Interrupted	Max Restoration Duration (hrs)	Customer-Hours Interrupted
2022	Dec 23rd	Winter ice storm	10	10	12,181	44	340,695

Table 5.2-11: Customers Interrupted by cause codes - Excluding MEDs

Cause Code	2021	2022	2023	2024	2025	Total CI	% Share
0-Unknown/Other	0	0	1311	6	2	1319	1%
1-Scheduled Outage	416	276	464	598	539	2293	2%
2-Loss of Supply	4902	2330	11092	20765	4989	44078	42%
3-Tree Contacts	2	1123	93	94	500	1812	2%
4-Lightning	0	0	25	0	0	25	0%
5-Defective Equipment	5942	1489	16164	4451	4323	32369	31%
6-Adverse Weather	0	0	0	6000	6017	12017	11%
7-Adverse Environment	0	0	0	0	1300	1300	1%
8-Human Element	11	0	3336	24	553	3924	4%
9-Foreign Interference	156	1117	1032	3947	43	6295	6%
10-Major Event	Excluded						
Total	**11429**	**6335**	**33517**	**35885**	**18266**	**105432**	**100%**

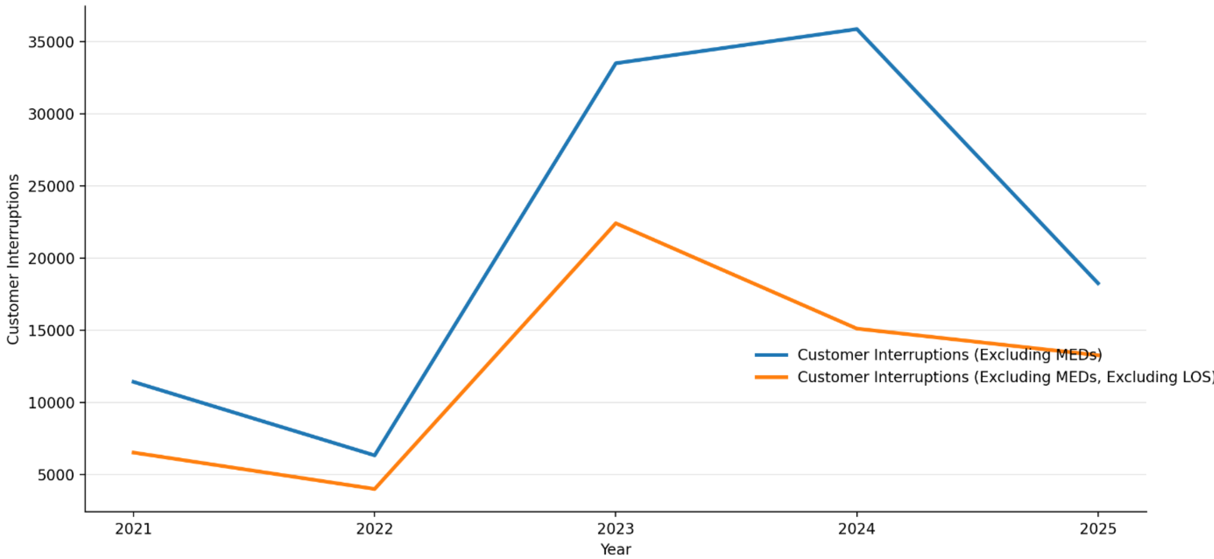

Figure 5.2-8: Total Number of Customers Interrupted by Year

Between 2021 and 2025, LUI's reliability performance showed year to year variability driven primarily by supply related interruptions, defective equipment, and foreign interference.

Table 5.2-12: Customer Hours Interrupted by cause codes - Excluding MEDs

Cause Code	2021	2022	2023	2024	2025	Total CHI	% Share
0-Unknown/Other	0	0	2207	6.5	2	2215.5	1%
1-Scheduled Outage	851.3	920.5	1838.5	1809.8	969.3	6389.4	4%
2-Loss of Supply	1380.2	4660	8319	36308.8	14178	64845.8	36%
3-Tree Contacts	1.75	2766	186	359	750	4062.7	2%
4-Lightning	0	0	12.5	0	0	12.5	0%
5-Defective Equipment	9618.3	2355.1	20936	13899	11681	58489.4	33%
6-Adverse Weather	0	0	0	15500	13034	28534	16%
7-Adverse Environment	0	0	0	0	2600	2600	1%
8-Human Element	70.5	0	3911	45.6	580	4607.1	3%
9-Foreign Interference	125.8	857.7	1964.7	5031.1	44.8	8024.2	4%
10-Major Event	Excluded						
Total	**12047.6**	**11559.4**	**39374.8**	**72959.7**	**27640.8**	**163582.3**	**100%**

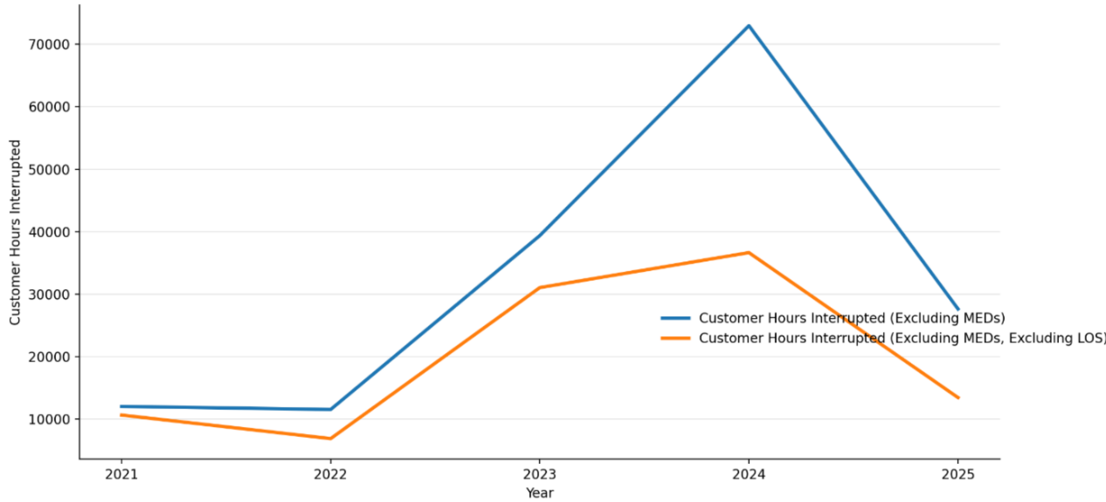

Figure 5.2-9: Total Number of Customer Hours Interrupted by Year

Normalized SAIDI (excluding LOS and MED) ranged from approximately 0.63 to 3.22 hours, reflecting the influence of major supply and equipment-related events in specific years.

When normalized for LOS and MED, these underlying cause-code patterns are reflected in LUI's year-over-year index performance. SAIDI (excluding LOS and MED) ranged from 0.63 to 3.22 hours over the period while SAIFI (excluding LOS and MED) ranged from 0.37 to 2.02 interruptions per customer, with higher frequency observed in 2023–2024 when equipment and foreign-interference events were more prevalent. The 2025 results indicate a return toward more moderate levels following elevated activity in the preceding two years. Below is a summary of the major contributors of system outages:

- **Overhead equipment failures** — including crossarms, insulators, fuses, and pole-mounted hardware were a consistent reliability driver between 2021 and 2025. These failures correlate with infrastructure age and historical construction practices. The SAIFI and SAIDI contribution of overhead equipment outages from 2021–2025 continue to support LUI's planned investments in targeted overhead line renewal.

- **Supply Related Interruptions** - These events are the single largest driver of customer-hours interrupted, particularly in 2023 and 2024, when a small number of large upstream supply outages had a disproportionate impact on SAIDI. As a result, year-over-year fluctuations in SAIDI are heavily influenced by the timing and magnitude of supply-related events, most of which occur upstream of LUI's direct control.

- **Foreign interference events –** Mostly animal contacts on overhead sections and the occasional vehicle hit. Animal contacts are a persistent nuisance on feeders running through treed residential areas. The reliability improvement program includes animal guards at the worst repeat locations to deal with this.

- **Adverse Weather:** Interruptions attributed to adverse weather such as severe windstorms, freezing rain, and heavy snow are an important contributor to customer interruptions over the historical period. When these events occur, they tend to drive short-term spikes in both SAIDI and SAIFI due to widespread tree contact, equipment breakage, and challenging field conditions that extend restoration times. While LUI's vegetation management, asset hardening, and storm-response practices help to mitigate impacts, the underlying weather drivers are external to LUI's control.

LUI's reliability performance over the five-year period reflects a stable system with recurring root-cause drivers that are well understood and manageable. Defective equipment and supply-related events as the primary contributors to reliability outcomes and directly inform LUI's 2027–2031 investment plan. These investments are expected to sustain and where practicable improve LUI's reliability performance while managing exposure to supply, climate, and asset-condition risks over the forecast period.

System Losses

LUI system losses are monitored annually. System design and operation are managed such that system losses are maintained within OEB thresholds, as defined in the OEB Practices Relating to Management of System Losses. Losses are monitored to ensure that the OEB 5% threshold is not exceeded. LUI system losses over the historical period are shown below:

Table 5.2-13: Performance Measure – System Losses

Measure	2021	2022	2023	2024	2025	LUI Target
System Losses	3.34%	3.73%	3.47%	3.51%	3.72%	< 5.0%

Losses are averaging 3.55% over the 5-year period shown in Table 5.2-13, with the recent reporting year being 3.72%. It is evident that LUI is performing well for this performance measure.

5.2.3.3 Distributor Specific Reliability Targets

The Ontario Energy Board's Reliability and Power Quality Review (RPQR) framework establishes distributor-specific annual reliability performance improvement targets for SAIDI and SAIFI. For rebasing applications effective in 2027 and beyond, the OEB assigns each distributor annual percentage improvement factors applied sequentially to a five-year baseline derived from 2020–2024 reliability data (EB-2021-0307, October 3, 2025).

For LUI, the OEB assigned the following annual improvement factors:

- SAIDI: 0.25% annual improvement
- SAIFI: 1.50% annual improvement

Historical reliability performance presented in this DSP reflects the most recent available results (i.e. 2021–2025), consistent with LUI's KPI reporting and OEB scorecard definitions. However, in accordance with the RPQR methodology, reliability targets for 2027–2031 are calculated using the required 2020–2024 baseline and the assigned annual improvement factors.

Based on a 2020–2024 normalized baseline (excluding Loss of Supply and Major Event Days) of:

- SAIDI baseline = 2.46
- SAIFI baseline = 1.17

The sequential RPQR targets for the 2027–2031 period are presented in Table 5.2-14. Targets are calculated as:

$$SAIDI_{Target} = Baseline_{2020-2024}(1 - improvement\%)^n \Rightarrow 2.46(1 - 0.0025)^n$$

$$SAIFI_{Target} = Baseline_{2020-2024}(1 - improvement\%)^n \Rightarrow 1.17(1 - 0.015)^n$$

$$where\ n\ represents\ the\ number\ of\ years\ following\ the\ abseline\ period\ (n = 2\ for\ 2027)$$

Table 5.2-14: RPQR Reliability Performance Targets (2027-2031)[12]

Year	2027	2028	2029	2030	2031
SAIDI Target (hours)	2.45	2.44	2.44	2.43	2.42
SAIFI Target	1.14	1.12	1.10	1.09	1.07

These targets reflect a measured and continuous improvement trajectory consistent with LUI's historical performance and system characteristics. The capital plan for 2027-2031, including system renewal, targeted feeder investments, and distribution automation initiatives, supports achievement of these performance expectations while balancing affordability considerations.

5.3 Asset Management Process

This section provides an overview of LUI's asset management process, a description of assets managed by LUI, and a presentation of LUI's asset lifecycle optimization policies and practices.

[1] Reliability and Power Quality Review (RPQR) calculated using 2020-2024 baseline averages and OEB-assigned annual improvement factors of SAIFI at 1.5% and SAIDI at 0.25%. The 2020–2024 normalized baseline (excluding Loss of Supply and Major Event Days) reflects annual SAIDI values of 4.67, 0.99, 0.64, 2.80, and 3.22, and annual SAIFI values of 1.53, 0.61, 0.37, 2.02, and 1.33, for the years 2020 through 2024 respectively.
[2] Targets calculated as Baseline x (1-improvement %) ^n, where n = 2 for 2027 and increases sequentially each year.

5.3.1 Planning Process

LUI applies a structured asset management framework guided by condition-based, risk-informed decision making. The overarching objective remains to ensure safe, reliable, and cost-effective delivery of electricity service while balancing customer expectations, regulatory requirements, and system performance needs.

Key elements of the process that drive the composition of LUI's proposed capital investments are highlighted along with LUI's asset management philosophy. The relationship between the Renewed Regulatory Framework for Electricity ("RRFE") outcomes, corporate goals, asset management objectives, and the linkage to the selection and prioritization of LUI's planned capital investments is explained which control LUI's financial performance and planning.

Table 5.3-1: RRFE Outcomes - Corporate Objectives - Asset Management linkage

RRFE Outcomes	Strategic Corporate Goals	Asset Management Objectives	AM Objective Measure	AM Objective Target
Operational Effectiveness	Safety	Construct, maintain and operate all assets in a safe manner.	1. Lost/non-lost time 2. ESA Non-Compliance	1. WSIB rate class 10-year benchmarks 2. Zero (Max 1 NI)
	Reliability	Monitor and address asset condition issues promptly to ensure the continued reliable supply of electricity delivery.	1. SAIDI 2. SAIFI	1. SAIDI within range of past 5-year performance 2. SAIFI within range of past 5-year performance
Customer Focus	Customer Focus	Ensure capital and maintenance plans align with customer service expectations	1. Customer Survey	Customer survey results => previous year for: Customer Care Company Image Management Operations Reliability
Financial Performance	Financial Performance	Actively manage investment planning to mitigate rate impacts while maintaining corporate financial stability and long-term sustainable performance	1. Investment Spending 2. Investment Scheduling	1. Group 2 (between 10% and 25% below predicted costs) 2. >90% annual projects/ programs completed on time

Public Policy Responsiveness	Public Policy Responsiveness	Ensure that environmental considerations are factored into the design and management of the distribution system.	1. Carbon emissions	1. Net-zero by 2030

The components of the asset management process that informed this capital plan including asset condition data, reliability analysis, load forecasting, and customer engagement findings are described in detail in Section 5.3.1.2

Since the 2022 DSP, LUI has made the following targeted improvements to its asset management practices:

- Using feeder-level reliability data (i.e. SAIDI, SAIFI, and worst performing feeder analysis) to directly inform which feeders are prioritized for automation and renewal investment.
- Completing an updated Asset Condition Assessment in 2025 that provided health indices across all major asset classes and identified wood poles and transformers as the highest priority renewal needs.
- Maintaining a lifecycle cost management focus, ensuring investment decisions optimize long-term value for customers.

These improvements mean that the investments proposed in this DSP are directly tied to condition and performance evidence.

5.3.1.1 Process

LUI's Asset Management process encompasses on a high-level its direction, principles, and mandatory requirements. It serves as a framework for interpreting the company's vision, mission, and values and serves as the connection between the top-level corporate goals and objectives through to the bottom-level asset management practices.

LUI's Asset Management process is structured to coordinate activities in a way that ensures the assets are optimally achieving the company's corporate and asset management objectives. The process includes:

- Defining criteria for optimizing and prioritizing asset management objectives
- Lifecycle management requirements of assets
- Stating the approach and methods used to manage assets, including performance, condition and criticality assessments

- Outlining the approach to risk management
- Identifying continuous improvement initiatives
- Engaging customers and aligning their needs with capital plan priorities

LUI's asset management approach follows a continuous improvement cycle of Plan-Do-Check-Act which can be summarized as:

Plan: Establishment of the asset management strategy, objective, plans, and performance measures needed to deliver results in alignment with LUI's policy and strategic plan.

Do: Establish asset management supporting systems (e.g. GIS, staff, structure, tools, etc.) to develop and implement LUI's plans.

Check: Monitor and measure performance results against asset management objectives.

Act: Take actions to make sure that asset management objectives are achieved and to continuously improve the asset management system and the asset management performance.

Figure 5.3-1 illustrates LUI's Asset Management system and relationship between its key planning inputs, decision support processes, and plan execution activities.

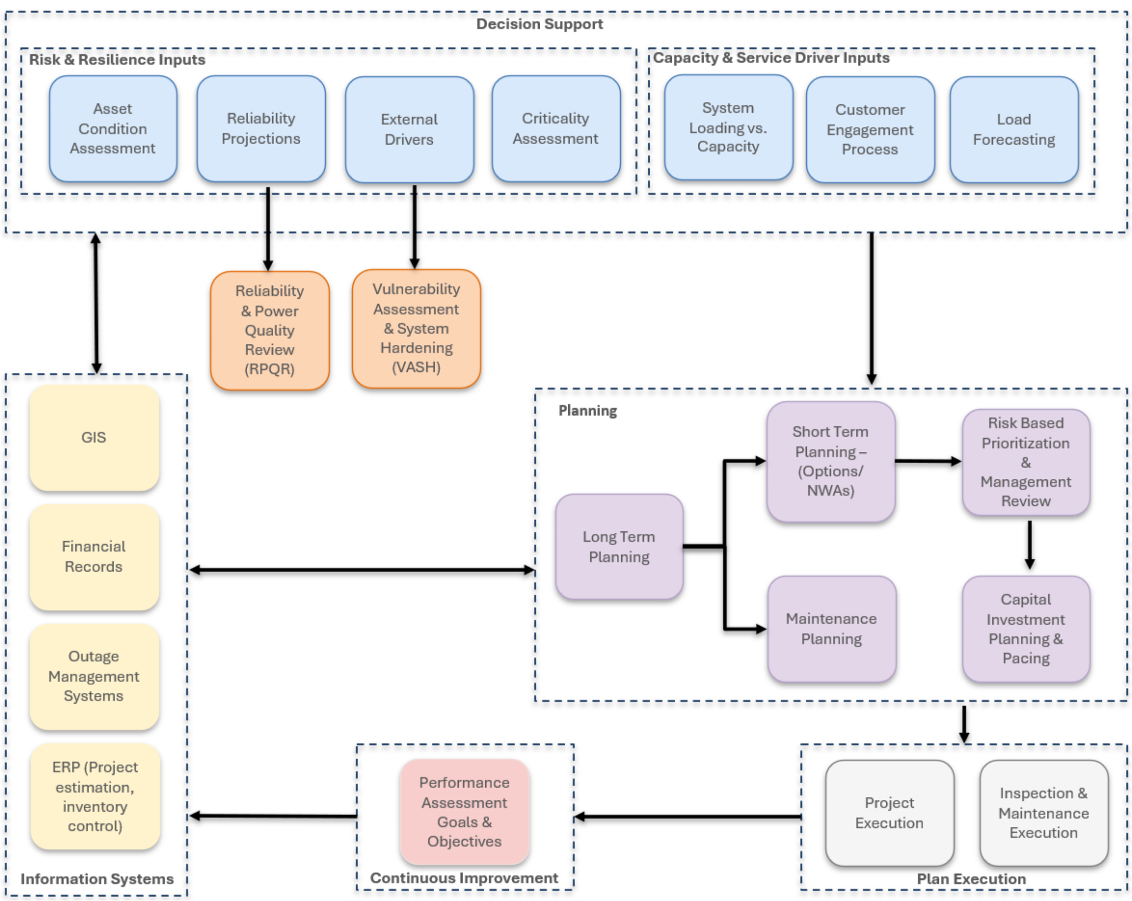

Figure 5.3-1: LUI's Asset Management System

The compiled plans outline the asset management practices that are part of an optimized lifecycle strategy for LUI's assets. These plans include the programs and major projects required to sustain LUI's electrical distribution system. They also detail tasks necessary to meet LUI's asset management objectives.

The asset management plans incorporate:

- Documented planning methodology used
- Key assumptions made
- Available interventions and the options considered
- Tasks and activities required to optimize costs, risk, and performance
- Timelines by which the actions are to be achieved

Within the Plan stage, LUI's capital planning process follows a stepwise (identify – evaluate – prioritize – pace) sequence summarized below:

- Investment needs are first identified through data-driven triggers such as inspection findings, asset condition and health indices, reliability performance, capacity and loading constraints, customer connection requests, and external obligations.

- Potential options are then evaluated using value and risk-based criteria (e.g., safety, reliability, regulatory compliance, financial impacts, and environmental), including non-wires alternatives where appropriate. As part of this planning cycle, LUI explicitly evaluates the risks and consequences of both proceeding and not proceeding with individual capital programs and projects (for example, choosing between reactive versus proactive replacement approaches for specific asset classes, or deferring major station or feeder renewal work), informed by the risk management framework

- Projects and programs are then prioritized through a combination of scoring criteria (condition, reliability impact, safety, cost) and management review. In practice, the reviews typically happen at program re-forecasting time.

- Finally, the selected portfolio is paced across the five-year DSP horizon within forecast budget envelopes, with attention to smoothing bill impacts, coordinating with third-party works, and deferring lower-risk activities where prudent.

The goals and objectives embedded in LUI's asset management system are focused on safety, reliability, and cost-efficiency. Each objective has associated targets that define measurable success criteria for asset management programs and practices. These objectives are reviewed and adjusted as business conditions change to support continuous improvement and alignment with corporate priorities.

Additionally, LUI's AM objectives form the high-level framework for its capital program. These objectives help to define the content of the programs and the major projects in the capital expenditure plan to be able to sustain LUI's electrical distribution system.

The objectives serve as a foundation for effective capital investment decision-making, ensuring optimal use and value maximization of LUI's assets. They represent an initial starting point that continues to evolve (developed, enhanced, or adjusted) in response to the changing business environment and support continuous improvement.

LUI's asset management objectives have been qualitatively integrated into its capital investment planning process and are used to prioritize investments across the planning horizon, including the bridge and test years.

In accordance with the IEP Directive, LUI has also considered the broader external planning considerations relevant to this DSP including reference, low and high demand sensitivities reflecting electrification, economic growth, weather-sensitive heating and cooling demand, and evolving DER adoption. LUI considered the potential impacts of fuel switching from gas or gasoline to electricity in developing this DSP. No capital investments in this plan are primarily driven by fuel-switching considerations. The capital plan is primarily driven by asset condition, voltage conversion, and reliability improvement.

LUI is observing early signs of EV adoption and occasional interest in heat pumps, rooftop solar, and battery storage within its service territory. While these trends are not currently at a scale that warrants dedicated capital investment, LUI considers potential electrification-related load growth when reviewing load forecast assumptions, equipment sizing, and system capability so that emerging needs can be identified in a timely manner. LUI has also considered how different demand outcomes could affect the capital plan. The Load Forecast Study (Appendix F) reflects historical trends and known customer activity. LUI expects continued modest growth but does not currently anticipate additional major capacity investments over the forecast horizon.

Under a high sensitivity, faster uptake of EV charging, heat pumps, or a large commercial electrification project could increase localized loading pressure on certain feeders and may accelerate the need for distribution system optimization. The Generation Capacity Study (Appendix G) indicates significant available hosting capacity across LUI's feeders. Therefore, LUI considers near-term uncertainty to be more likely on the load side than from generation connections. Under a low sensitivity, slower subdivision development or reduced large-customer load could result in lower System Access volumes and contribution revenue than forecast. LUI manages these uncertainties through annual reforecasting and quarterly capital reviews rather than building excess capacity into the base plan. Frequent and extreme weather impacts on infrastructure are addressed through LUI's resilience and VASH planning.

5.3.1.2 Data

LUI uses several inputs to assess the status of its distribution system assets and to assist in determining the capital and operational investments to be made in the system. The main elements considered within the asset management process include but not limited to:

- Information Systems
- Reliability Analysis
- External Drivers
- Asset Condition Assessment
- Inspection & Maintenance
- System Loading & Capacity
- Customer Engagement

Information Systems

LUI's Geographic Information System (GIS) serves as the designated asset register for field assets and provides an accurate representation of its distribution system. The GIS database supports both the ACA process and capital planning. Asset data is captured from various sources, including construction as-built records and legacy records. While some inspection results such as dates, transformer maintenance logs, and third-party attachments are stored outside the GIS, they are accessible and referenced as required. As assets are visited for inspections or maintenance, their data is verified and updated in the GIS as needed.

While LUI's asset data has improved since its last DSP, the 2025 ACA identified data availability gaps in certain asset classes such as underground cable, overhead conductors, and some station assets where incomplete attribute records limit the completeness of health index results. LUI intends to address these gaps through its planned GIS upgrade in 2027 which will include system migration, updated data collection processes, and improved asset attribute tracking. These improvements will strengthen the quality of condition data available for future planning cycles.

As LUI's operational and customer-facing systems become more digital and interconnected, cybersecurity and data stewardship are managed as an integral component of information systems governance. LUI maintains a layered cybersecurity approach across operational technology (“OT”) and information technology (“IT”) environments aligned with the OEB Cybersecurity Framework. The OT environment operates independently and is segmented from the corporate IT network to provide additional protection against external threats. LUI has completed the Canadian Cyber Security Tool (baseline controls for small and medium organizations) and confirms it meets or exceeds the applicable control requirements. Third-party access is managed and monitored through controlled interfaces.

Reliability Analysis

LUI places strong emphasis on ensuring its distribution system meets customer expectations for reliability. Continuous improvements are made to processes for collecting, analyzing, and applying outage data within the asset management process.

Feeder-level outage causes are analyzed to evaluate outage risk and prioritize feeders for investment consideration. These insights are integrated into the O&M programs and the annual capital expenditure planning process.

External Drivers

External drivers influence LUI's capital and maintenance planning decisions. These drivers include:

- **Political:** Alignment with government directions, strategies, and mandates.
- **Economic:** Regional economic trends and shifts in business activity.
- **Social:** Evolving customer expectations and energy use behaviors.
- **Technological:** Sector innovations, such as automation, EVs, energy storage, and DERs.
- **Environmental:** Impacts related to weather events, renewable energy integration, and environmental sustainability.
- **Regulatory/Legal:** Changes in laws or OEB requirements, as well as safety regulations, labour laws, and consumer protection mandates.

LUI remains attentive to these drivers to ensure its planning remains aligned with broader external influences.

Asset Condition Assessment

The goal of the Asset Condition Assessment is to interpret the inspection and performance data of key assets to assess the overall condition of the asset. The ACA is a key supporting tool for developing an optimized lifecycle plan for asset sustainability with a prioritized list of assets that require capital intervention. Under the proposed capital plan, decisions to repair, refurbish or replace existing assets continue to be based on experienced judgment and knowledge of staff augmented. Section 5.3.2.4 provides a summary of LUI's Asset Health Index. See Appendix I for ACA study.

Inspection and Maintenance

LUI maintains a full schedule of distribution asset inspection and maintenance programs operating on a three-year rotation as required by the OEB's DSC. Inspection, maintenance, and operational data are collected and stored which is used to support LUI's operating and capital expenditure plans.

Completion of the inspection and maintenance programs is not only a matter of compliance but the results from the inspection and maintenance programs allow a continual update of the asset database. The programs allow for assets to be inspected and assessed for any necessary actions that need to be taken promptly in a proactive approach. LUI's inspection and maintenance programs are audited every year as required by Ontario Regulation 22/04.

System Loading and Capacity

Load forecasting and capital growth planning continue to be the underlying basis for the near and longer-term capital requirements for new or enhanced capacity. The loading and capacity information are inputs to the ACA as well as for identifying system constraints. The information is collected on system peak loading at many points in the system including LUI supply point meters, substation feeder measurement devices and sub-feeder load measurement devices. The data is analyzed as needed to measure the risk of system overloading and to mitigate any concerns.

LUI's efforts in forecasting these demand-based investments are more challenging due to the two distinct operating districts that LUI services, which have varying features between them such as differing demographics, economic conditions, and physical geography. The Load Forecast has been updated with 2025 summer peak loads and a review of projected developments. The results of the study have been summarized in Table 5.3-2:

Table 5.3-2 – Cobourg System Capacity Summary

System	Capacity Status	Notes/Planned Actions
44 kV	Sufficient capacity over study period (with Port Hope M17 supporting during peaks)	Consider re-conductoring M2 with 556 ASC to increase feeder capacity.
27.6 kV	Sufficient capacity over study period	Address localized constraints through switching, sectionalizing, and targeted upgrades as growth materializes.
4.16 kV	Planned for conversion	Remaining 4.16 kV sections will be converted to 27.6 kV supply.

Customer Consultations

LUI engaged with customers and stakeholders in July–August 2025 to better understand customer preferences and expectations for the 2027–2031 planning horizon. Survey responses were received reflecting input from residential, commercial, and institutional customers. These engagement activities provided insights into affordability concerns, expectations for continued reliability, and customer views on modernization and emerging technologies.

Affordability was consistently highlighted as a primary concern. Customers emphasized the need for LUI to balance required renewal and modernization with rate impacts demonstrating a preference for prudent phased investment. This perspective has been incorporated into the DSP investment plan by ensuring that renewal priorities are targeted and that non-discretionary work is prioritized.

Customers also identified reliability as a priority, expressing an expectation that LUI maintain current performance levels and address pockets of underperformance. The survey results confirmed that customers value service quality and continuity, with reliability consistently ranking alongside affordability as a key priority.

Engagement feedback also highlighted growing customer awareness and interest in distributed energy resources (DERs) such as rooftop solar, net metering, and electric vehicles. Customers expect LUI to be prepared for these emerging technologies while ensuring integration does not compromise safety or reliability.

In addition, customers expressed concern regarding long-term system sustainability, including environmental considerations and resilience to climate change impacts. These perspectives align with the utility's investment planning related to system hardening and coordination with municipalities. Customer feedback has therefore been integrated into the investment planning process across multiple dimensions: affordability, reliability, modernization, and sustainability. Table 5.3-3 summarizes the customer engagement themes and their integration into the DSP.

Table 5.3-3 – Summary of Customer Engagement Themes and Responses

Theme	Customer Feedback	Utility Response / Integration
Affordability	Customers emphasized the importance of limiting rate impacts while maintaining service levels.	Renewal work is phased and discretionary projects deferred where appropriate to balance affordability with system needs.
Reliability	Customers indicated reliability is a top priority, with concerns in specific areas experiencing outages.	Targeted automation and renewal projects included to maintain performance and address pockets of underperformance.
Distributed Energy Resources (DERs)	Customers expressed growing interest in rooftop solar, net metering, and EV adoption.	DER accommodation included in planning; access and service projects identified to support safe integration.
Sustainability & Climate	Customers raised concerns about long-term system resiliency and climate impacts.	Hardening investments and municipal coordination included in the plan to address climate resiliency.

5.3.2 Overview of Assets Managed

Cobourg and Cramahe are located in Southern Ontario, within the Northumberland County and both are situated on Lake Ontario. The region is classified as having a humid continental climate. Cobourg experiences temperate climate with significant precipitation throughout the year, including during the driest months. The average temperature in Cobourg is 7.5 °C with typical seasonal extremes ranging between -15°C in the winter and 30°C in the summer.

On average, the area receives approximately 793 mm of precipitation annually, with a monthly average of 78 mm. The service area typically experiences between 150 to 170 frost-free days per year, generally beginning in early May and ending in early October.

5.3.2.1 Customer Trend

The table below shows LUI's customer base over the historical period divided into residential, general services less than 50kW and general service great or equal to 50 kW. This table includes accounts such as streetlighting

Table 5.3-4 – Customer Base Trend

Annual Year	Residential	General Service <50kw	General Service >50kW	Total
2025	10,180	1,167	113	11,460
2024	10,122	1,147	102	11,371
2023	9,825	1,156	100	11,081
2022	9,601	1,134	100	10,835
2021	9,524	1,128	104	10,756

5.3.2.2 System Demand and Efficiency

Table 5.3-5 shows the annual season and average peak demand (kW) for LUI's distribution system.

Table 5.3-5: Peak system demand statistics

Annual Year	Winter Peak (kW)	Summer Peak (kW)	Average Peak (kW)
2025	43,356.80	45,274.70	39,776.68
2024	40,885.90	42,179.80	37,895.75
2023	40,919.70	41,418.50	37,970.04
2022	43,279.70	43,905.50	39,224.84
2021	40,302.60	45,112.80	38,324.91

LUI experiences a marginal system peak during the summer months in comparison to the winter months. Peak data shown includes the net effect of embedded loads and generators. Variances in the seasonal peaks are attributed to weather temperature in both winter and summer and loading impacts associated with the number of degree days. Table 5.3-6 indicates the efficiency of the kilowatt-hour purchased by LUI and delivered.

Table 5.3-6: Efficiency of kWh purchased by LUI

Annual kWh Purchased	Total kWh Delivered (excluding losses)	Total kWh Purchased	Losses as % of Purchased
2025	200,430,238.68	201,974,907.92	0.76%
2024	234,727,738.25	236,611,528.67	0.8%
2023	235,637,734.38	237,484,003.24	0.78%
2022	246,497,214.60	249,836,664.87	1.34 %
2021	241,883,121.69	243,477,974.10	0.65%

5.3.2.3 System Configuration Summary

Table 5.3-7 summarizes LUI's municipal substations in Cramahe and Cobourg, identifying each station's operating voltage, installed capacity (MVA), and the distribution feeders supplied from each site. Refer to Appendix F for more details.

Table 5.3-7: Municipal Substation Listing

Cramahe / Colborne			
Station	**Voltage**	**Capacity (MVA)**	**Feeders**
MS 1 - Victoria	4.16 kV	6.7	F1, F2, F3
MS 2 - Durham	4.16 kV	5.5	F4, F5
Cobourg			
Station	**Voltage**	**Capacity (MVA)**	**Feeders**
MS 2 – D'Arcy	4.16 kV	5	F10
MS 3 – Orr	4.16 kV	5	F13, F14
MS 5 – Kerr	4.16 kV	5	F19
MS 28-1 - Victoria	27.6 kV	26.6	F1, F2
MS 28-2 – Brook	27.6 kV	32	F4, F6
MS 28-3 – Ontario	27.6 kV	33.3	F7, F8, F9

The LUI distribution system comprises approximately:

- 169 km of overhead primary circuits;
- 77 km of underground primary circuits;
- 3,870 poles;
- 1,298 distribution transformers;
- 18 switchgear units; and
- Station Assets - 7 transformers,

5.3.2.4 Asset Condition and Demographics

LUI conducted an updated ACA study in 2025 (Appendix I) to establish the health and condition of station and distribution assets in-service. The 3rd party study included consultations with LUI subject matter experts to define the Health Indices ("HI") appropriate for the asset types, review and consolidation of the client's data sets, analysis of LUI's asset records to calculate the HI values, and preparation of the final document.

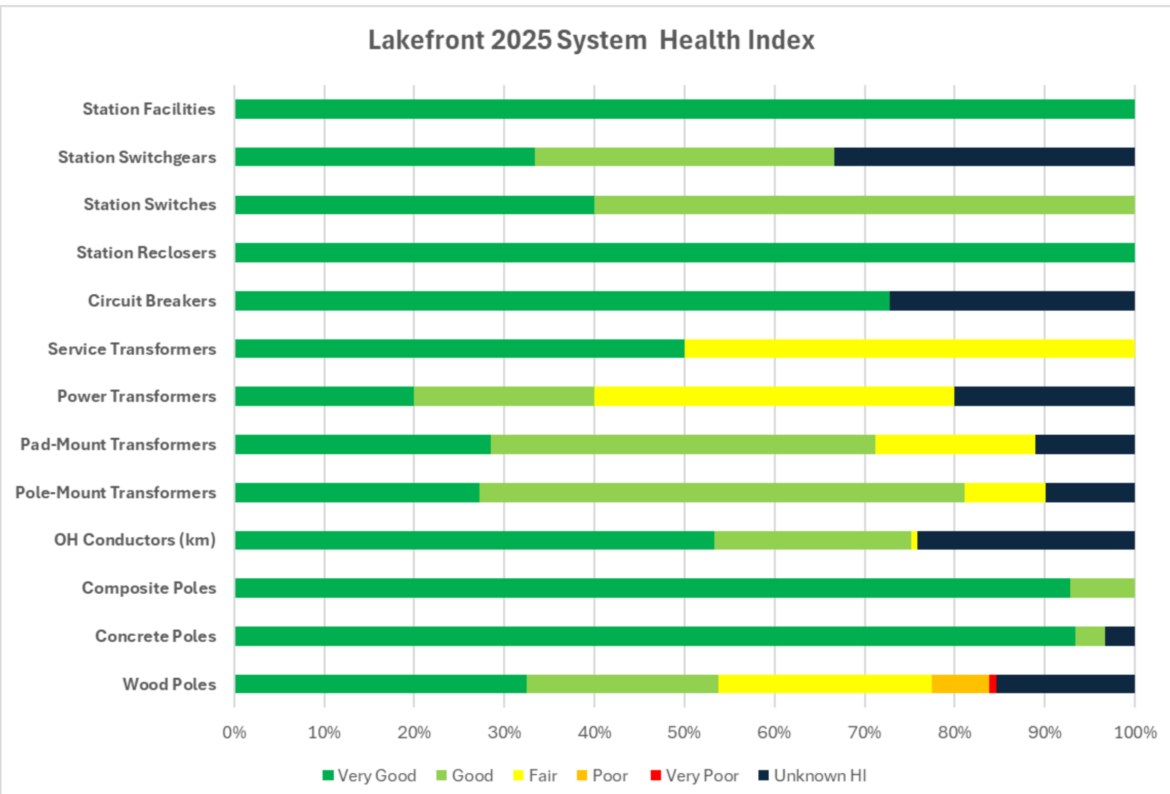

Figure 5.3-2 – Health Index Results

As the figure above indicates, the majority of assets in LUI's network are found to be in Fair or better condition. The table below presents the numerical Health Index summary for each asset class. For each asset class, the following details are listed:

- Total population,
- Average *Data Availability Index* (“DAI”),
- Health Index distribution.

A Data Availability Index (DAI) represents the proportion of Degradation Factor data available for an asset or asset class, weighted by each factor’s contribution to the Health Index (HI) formulation. A DAI of 100% indicates that all required data is available. Where the DAI is below 70%, there is insufficient data to calculate a valid HI.

Table 5.3-8 – Asset Condition Assessment Overall Results

Asset Category	Population	HI Distribution (%)					Unknown HI	Average DAI
		Very Good	Good	Fair	Poor	Very Poor		
Distribution Assets								
Wood Poles	3688	32%	21%	24%	6%	1%	15%	91%
Concrete Poles	30	93%	3%	0%	0%	0%	3%	99%
Composite Poles	152	93%	7%	0%	0%	0%	0%	100%
Overhead Conductors (km)	147	53%	22%	1%	0%	0%	24%	90%
Pole-Mount Transformers	618	27%	54%	9%	0%	0%	10%	92%
Pad-Mount Transformers	680	29%	43%	18%	0%	0%	11%	91%
Station Assets								
Power Transformers	5	20%	20%	40%	0%	0%	20%	85%
Service Transformers	2	50%	0%	50%	0%	0%	0%	100%
Circuit Breakers	11	73%	0%	0%	0%	0%	27%	89%
Station Reclosers	3	100%	0%	0%	0%	0%	0%	100%
Station Switches	5	40%	60%	0%	0%	0%	0%	96%
Station Switchgears	3	33%	33%	0%	0%	0%	33%	82%
Station Facilities	5	100%	0%	0%	0%	0%	0%	100%

The 2025 System Health Index results indicate that LUI’s major station and distribution asset classes are generally in Good or Very Good condition.

On the distribution side, concrete and composite poles and pole-mount transformers demonstrate strong condition results. However, the assessment identified early signs of deterioration in certain asset classes that inform LUI’s renewal planning. Wood poles, which represent the largest population (3,688 units) maintain a high average DAI of 91% but approximately one-third of the population is assessed as Fair to Very Poor, including roughly 7% in the Poor or Very Poor categories.

On the station side, majority of assets are in strong condition. Reclosers and station facilities are assessed as Very Good across all units, and station switches are split between Very Good and Good. While these results are encouraging, power transformers and service transformers show a moderate proportion in Fair condition, and Victoria Municipal Substation (MS28-1) has been identified as a priority location for proactive refurbishment planning driven by aging infrastructure and elevated station loading levels

Some asset classes show notable data availability limitations. Station assets such as power transformers, circuit breakers, and switchgears carry Unknown HI ratings reflecting limited historical test data, which constrains the completeness of the station condition picture. Distribution assets such as overhead conductors and underground cable face gaps stemming from incomplete attribute records in LUI's current GIS system. LUI intends to address these through its ongoing data-quality program, targeted testing, and the planned 2027 GIS upgrade, which will include system migration, updated data collection processes, and change management measures to improve the completeness and reliability of asset attribute data. These efforts will further inform scope and timing of station and system level investments.

Overall, these Health Index results support the targeted and paced System Renewal investments set out in this DSP, with a particular focus on aging wood poles and transformers.

In addition to the findings of the ACA study, LUI's existing smart meter fleet is also approaching end-of-life with approximately 9,844 meters requiring attention by 2031. LUI has established the AMI 2.0 program to address this in a structured and cost-effective manner. Further details are provided in Section 5.4 and Appendix L.

5.3.2.5 Asset Capacity and Utilization

LUI's distribution system utilization reflects both the continued impact of historical voltage conversion initiatives and the need to address emerging capacity and contingency constraints. Majority of the service territory now operates at 27.6 kV, providing improved load transfer capability and facilitating greater operational flexibility. Conversion efforts will be completed in the 2027–2031 planning horizon, including the remaining Delta-Wye conversion projects, further enhancing system balancing and contingency response.

Station utilization remains a key driver of LUI's asset management strategy. While Victoria Municipal Substation (MS28-1) continues to be a priority location for potential refurbishment based on station loading and asset condition, LUI has not included station refurbishment expenditures in the forecast capital budget for this DSP period. LUI will instead complete the required engineering and planning work to confirm the preferred scope, timing, delivery approach and cost estimate (including assessment of feasible alternatives and staging). Once this work is complete and the need, scope and costs are sufficiently defined, LUI may seek approval and funding through the Incremental Capital Module ("ICM") process to proceed with the refurbishment.

Feeder-level utilization also informs investment prioritization. Feeders M4, F9, F6, and F2 have been highlighted as experiencing significant adverse weather-related customer hours and interruptions. These feeders also carry substantial load responsibilities, underscoring the importance of targeted system hardening measures such as pole renewals, automation, and sectionalizing to maintain system capacity and resilience under stress conditions.

System automation and self-healing initiatives planned for the 2027–2031 period will further support utilization by enhancing load transferability across feeders. While these projects do not expand station transformer ratings directly, they improve the ability to leverage available capacity across the system during contingencies, thereby reducing the risk of localized overloads and improving service reliability.

Table 5.3-9 summarizes key system utilization drivers identified in LUI's planning process and the corresponding planned mitigation measures within the 2027–2031 DSP horizon.

Table 5.3-9: Summary of Key System Utilization Drivers

Station/Feeder	Key Driver	Planned Mitigation
Victoria MS	Aging infrastructure	Study underway to plan for proactive refurbishment
M4	High adverse weather exposure, heavy load responsibilities	Targeted pole renewal, automation, sectionalizing
F9	High adverse weather exposure, load transfer constraints	Targeted pole renewal, automation, sectionalizing
F6	Moderate weather exposure, utilization under contingency	Automation/self-healing investment to improve transferability
F2	Localized constraints, weather-related interruptions	Sectionalizing and reinforcement to improve resiliency

Together, these initiatives demonstrate LUI's integrated approach to managing utilization. They ensure that capacity constraints are proactively addressed while supporting broader objectives of system reliability and resilience. The following section expands on how these utilization considerations are embedded in LUI's lifecycle optimization and risk management practices.

5.3.2.6 Economic Growth

LUI has experienced modest but steady growth in its service territory. New residential subdivisions in LUI's service territory, as well as incremental commercial development, are expected to contribute to demand over the 2027–2031 planning horizon. Industrial activity is forecast to remain stable, contributing selectively to load requirements.

LUI expects overall peak demand to stay roughly flat over the forecast period. The main growth pressure comes from residential subdivisions in Cobourg such as Densmore Meadows rather than broad-based load growth. That said, if a large industrial customer were to electrify a process or if EV adoption accelerates faster than expected, LUI could see localized capacity pressure on specific feeders. The plan accounts for the growth LUI is currently aware of, and

Section 5.3.2.5 explains how unforeseen utilization requirements are managed.

A key planning challenge is LUI's relatively small size compared to larger Ontario utilities. The utility serves a small number of large industrial customers; any significant load loss or transition to self-generation by these customers could materially impact revenue recovery. Conversely, new large connections or electrification of industrial processes could create localized capacity pressures.

Demographic shifts within LUI's service territory also influence planning. An increasing proportion of residential customers are seniors on fixed incomes, reinforcing the need to carefully balance investment with affordability considerations. These socioeconomic trends compound the modest overall growth outlook, further underscoring the need for prudent, phased investment planning.

5.3.2.7 Transmission or High Voltage Assets

LUI does not own or is planning to own transmission or high voltage (>50kV) assets.

5.3.2.8 Host & Embedded Distributors

LUI's distribution system is embedded in the distribution system of Hydro One. LUI is not a host distributor.

5.3.3 Asset Lifecycle Optimization Policies and Practices

LUI owns all the distribution assets within its service area and is responsible for the management of all its distribution and substation assets. This section describes LUI's asset lifecycle optimization and risk management practices, which guide decisions on inspection, maintenance, replacement, and renewal in a way that balances safety, customer service, cost, performance, and risk.

LUI's asset base presents a specific set of lifecycle challenges. Currently a large wood pole population with roughly one third assessed as Fair to Very Poor condition, a meter fleet approaching end-of-life, legacy 4.16 kV infrastructure that is being actively retired, and station assets that are aging but still performing. The practices described in this section reflect how LUI manages those challenges through structured inspection and maintenance programs, condition-based replacement decisions, and targeted renewal investment while keeping costs manageable for customers.

5.3.3.1 Inspection and Maintenance Programs

Routine inspections of poles, overhead and underground distribution equipment, stations, and vegetation corridors form the foundation of LUI's asset health and risk assessment. Infrared scanning, pole testing, and system patrols are used to identify emerging issues before failure.

Preventive maintenance activities (e.g., switchgear servicing, transformer oil sampling) reduce the likelihood of in-service failures, while predictive tools such as infrared thermography guide timely interventions. Following inspections, collected data is reviewed and used to initiate and prioritize follow-up work orders.

In fulfilling its asset management responsibilities, LUI undertakes the following types of maintenance programs:

Predictive Maintenance

- **Visual Inspection** - Supports risk management and provides an ongoing assessment of plant condition while satisfying regulatory requirements. LUI inspects approximately one-third of the system each year so that the full system is visually patrolled on a three-year cycle.

- **Testing** - Provides a more detailed, focused assessment than visual inspection and typically involves measuring specific asset characteristics (e.g., insulation resistance, oil quality, temperature). As part of this program, system-wide infrared ("IR") thermography of underground plant is performed on a regular basis. IR thermography is a relatively low-cost method of identifying otherwise difficult-to-detect problems and risks and, when carried out annually as planned, serves as an early warning system for emerging issues. These interval-based testing activities, including IR scans, help identify condition trends and hotspots so that the risk of asset failure can be proactively managed across the system.

Preventative Maintenance

Activities designed to extend trouble-free operation of assets in a cost-effective manner and to support continued reliable performance. Preventive maintenance is generally performed on a cyclical basis and, where practical, is coordinated with inspection cycles to optimize resource use. For overhead preventative maintenance, vegetation management (tree trimming) represents one of LUI's most significant risk mitigation programs. Vegetation contact can quickly become a leading cause of outages across the distribution system, and LUI manages this risk through a structured three-year trimming cycle aligned with its three geographic inspection zones (Figures 5.3-3 and 5.3-4), completing one zone each year.

The program focuses on trimming trees and other vegetation, such as vines in proximity to LUI's overhead assets that could contribute to forced outages. By proactively managing vegetation around conductors, poles, and related equipment, LUI reduces exposure to both reliability and public safety risks while controlling long-term maintenance costs. The program is continually refined based on outage data and inspection feedback to target resources where risk is highest, and the work is performed by contracted utility arborists with specialized knowledge of local species, growth rates, and appropriate trimming practices.

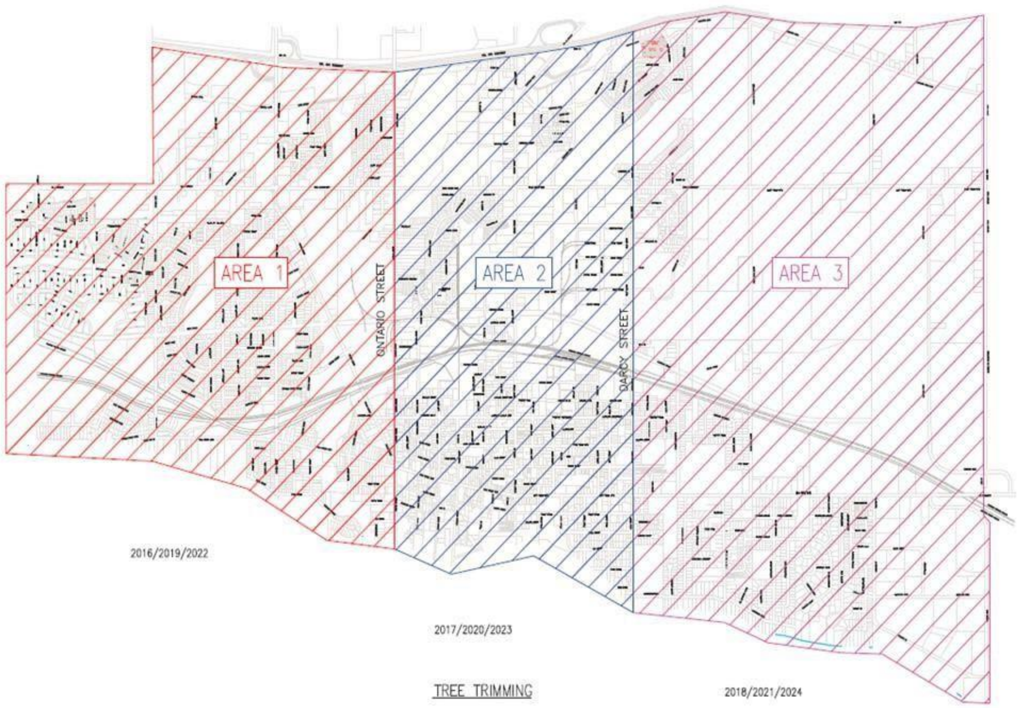

Figure 5.3-3: Vegetation Management Areas for Cobourg

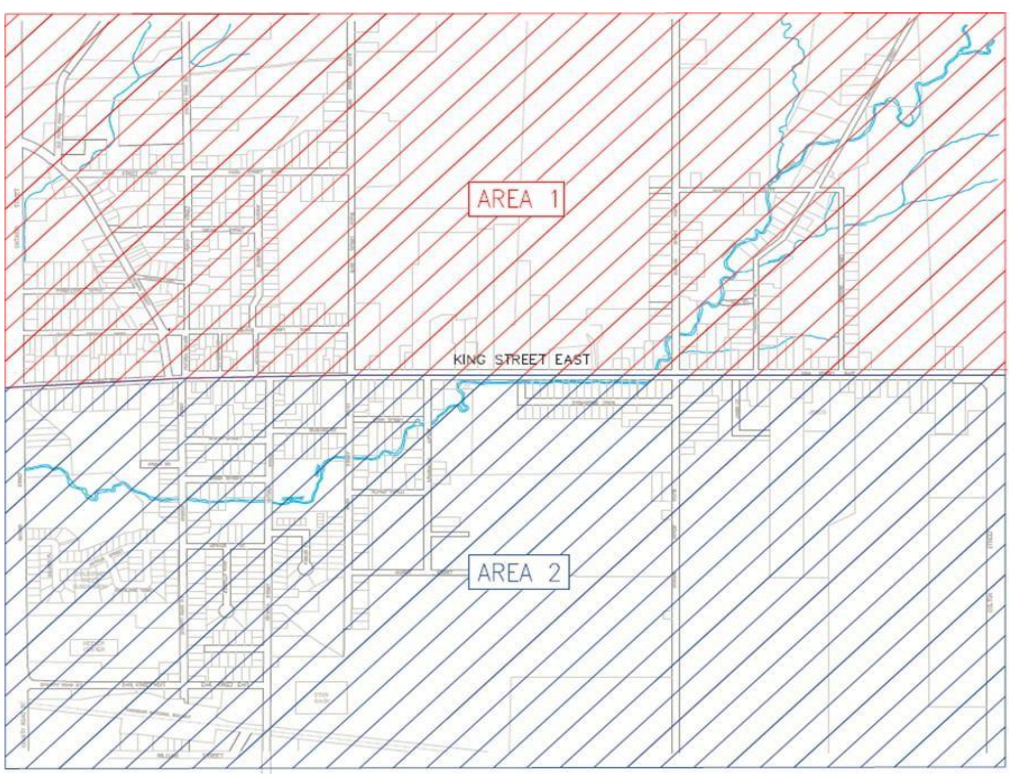

Figure 5.3-4: Vegetation Management Areas for Cramahe

For underground assets, LUI follows the same process defined for overhead assets with respect to responding to deficiencies discovered. A service order is issued and prioritized based on the identified defect. The defect is classified into a critical category based on the risk to the asset. The work is dispatched to the appropriate crew(s) and the work is completed. Once the work is completed, appropriate signoffs are made to ensure the distribution system is safe for the public and staff and that the system is restored to proper working order to ensure LUI controls the risk found.

Condition-Based or Reactive Maintenance

This is work performed when the distribution asset is found to be out of specification or malfunctioning and corrective action is required. Follow-up activities to restore assets to full function, including repair or, where most economical, replacement, are included in this category.

LUI completes inspections in accordance with the requirements of the Distribution System Code, using an approach and frequency that address public safety, reliability, and cost-efficiency. Predefined geographical areas are designated for inspection so that the entire system is patrolled on a three-year cycle. The areas to be inspected are identified on GIS-generated maps and issued to field crews. Upon completion, maps and written deficiency reports are returned by the crews to finalize the inspection process. LUI's demarcation the inspection zones as follows:

- **Area 1:** Cobourg – Ontario Street to the west end of town, from Lake Ontario to Highway 401
- **Area 2:** Cobourg – D'Arcy Street to Ontario Street, from the Lake to Highway 401
- **Area 3:** Cobourg – East of D'Arcy Street to the east end of town, from the Lake to Highway 401, including all of Cramahe

Figures 5.3-5 and 5.3-6 illustrate the Inspection Areas for Cobourg and Cramahe, respectively. After the inspections are carried out, the information is processed that allows LUI to manage and complete all follow-up work within reasonable periods. The information is appropriately retained and is available for future review or verification should it be needed.

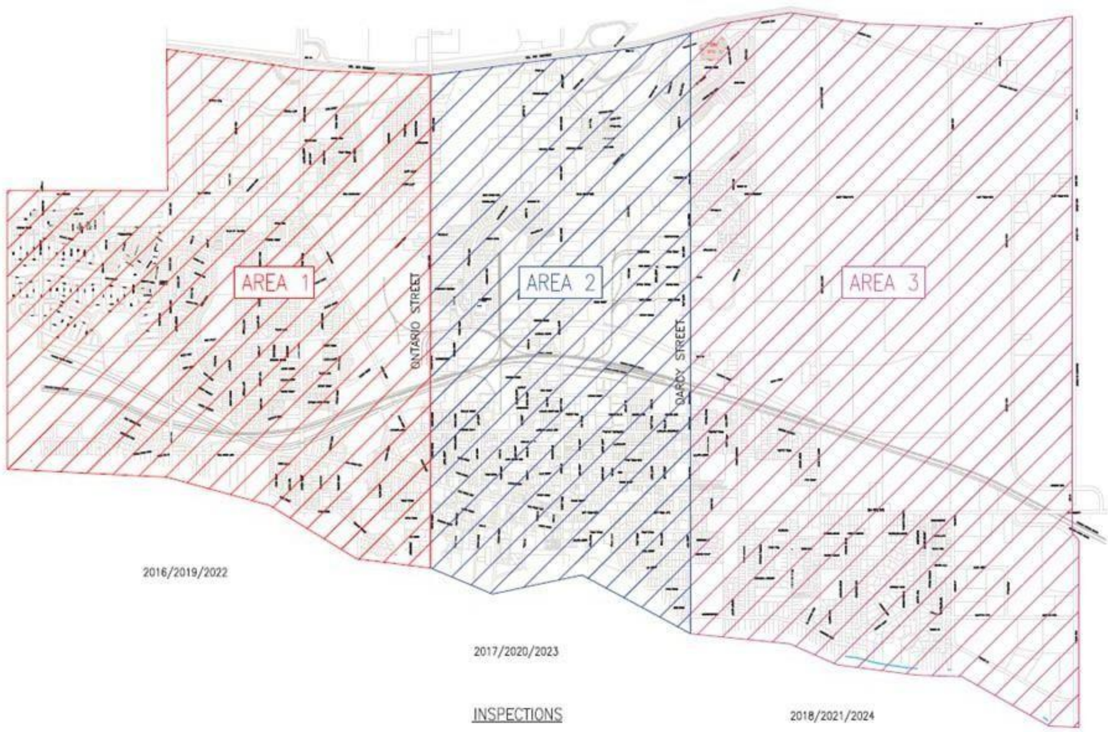

Figure 5.3-5: Inspection Areas for Cobourg

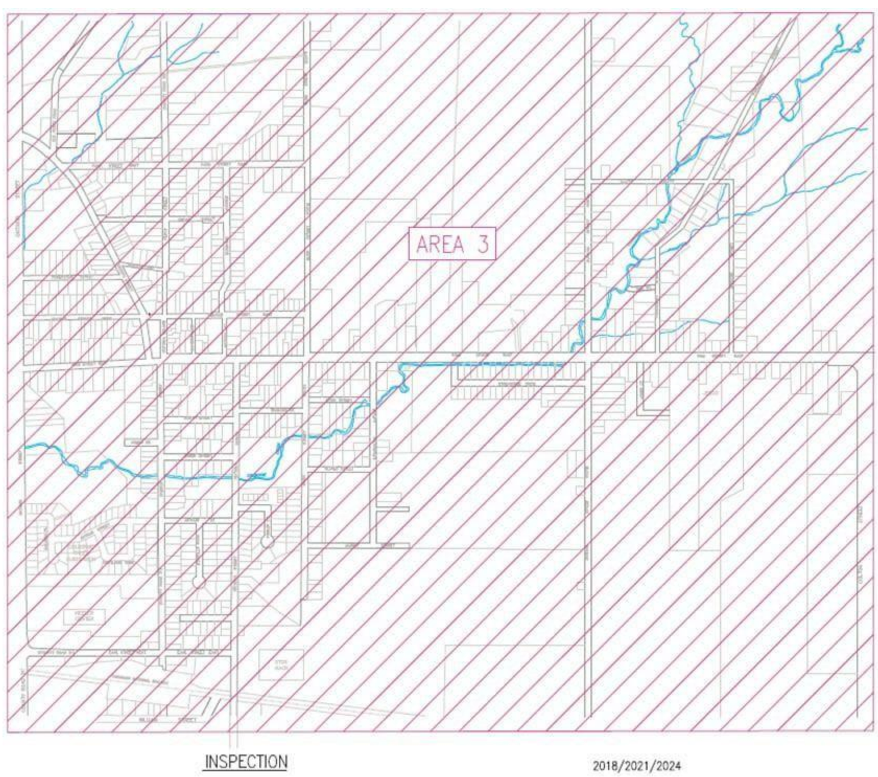

Figure 5.3-6: Inspection Areas for Cramahe

5.3.3.2 Asset Replacement

LUI considers a wide range of factors when deciding whether to refurbish or replace a distribution asset, including public and employee safety, service quality, rate impacts, maintenance costs, fault frequency, asset condition, and life expectancy so that investment in replacement plant can be prudent.

To optimize equipment value and minimize replacement costs, LUI considers the reuse of equipment from the field where safe to do so. This is done in compliance with Ontario Regulation 22/04 (Reg. 22/04), Section 6(1) (b) – Approval of Electrical Equipment and ensures used equipment meets current standards and poses no undue hazard for re-use in new construction. Examples of equipment subject to potential reuse are distribution transformers, load break switches and pad mount switchgear. All equipment subject to reuse must meet certain minimum condition criteria and must be deemed safe to use by a competent person. If this is the case, then the asset is returned to inventory.

If it has been determined that the asset cannot be reused, then a repair estimate is obtained to return the asset to a safe and usable condition in addition to an estimate of the expected remaining useful life. If the cost of the repair plus the financial value of the asset is less than the replacement cost and the new expected useful life exceeds the original remaining useful life, then the asset is repaired, otherwise, the asset is replaced. Plant equipment is replaced at the end of life when all refurbishment options have been exhausted.

When refurbishing or replacing assets, LUI explicitly considers future capacity and power flow requirements so that new investments remain fit for purpose over their expected service life. Conductor, transformer and switchgear renewals are specified with regard to forecast load growth, expected electric vehicle adoption, and potential DER export, as well as planned station and feeder reconfiguration. This approach helps avoid premature capacity-related obsolescence and ensures that lifecycle renewal decisions support long-term system needs.

5.3.3.3 Distribution System Automation Investments

Beyond traditional replacement/refurbishment, automation projects are being introduced to optimize lifecycle outcomes. These initiatives allow LUI to improve reliability and leverage existing system capacity more effectively by enabling sectionalizing and automatic fault isolation, thereby reducing stress on assets and extending asset lives.

LUI developed a distribution system automation roadmap to guide deployment of automation across its distribution system. This work includes assessing the current state of automated devices and communication infrastructure, identifying feeders and locations where automated switches, reclosers and FLISR schemes would provide the greatest reliability benefit, and defining scalable strategies for integrating these devices with the SCADA system and existing OMS. As part of this roadmap, LUI is also identifying software requirements compatible with its current platforms and developing a high-level project plan that specifies preferred locations for automation equipment (e.g., SCADA-operated load-break switches, reclosers, controllers) and associated implementation timelines, with draft findings incorporated into this DSP.

The preliminary 2027–2031 capital plan includes a multi-year Distribution System Automation program, consisting of SCADA system upgrades (including a cellular communications network) and the installation of automated field devices on 44 kV and 27.6 kV feeders. These investments are targeted to feeders with higher outage exposure and critical customers, and are designed to enable fault location, isolation and service restoration, reduce outage durations, and make better use of existing capacity.

5.3.3.4 Risk Management

LUI's capital investment decisions are centered around a risk management framework that considers multiple risk factors. The following summarizes each risk area and how it has influenced the 2027–2031 capital plan:

- **Condition risk –** informed by inspection programs, asset testing, and 2025 ACA results. The ACA identified wood poles and pad-mounted transformers as the asset classes with the most pressing renewal needs, directly informing the System Renewal program in Section 5.4.

- **Reliability risk –** measured through SAIDI, SAIFI, CAIDI, and feeder-level performance. The worst performing feeders were identified as the highest priority location for automation and sectionalizing investment.

- **Capacity and utilization risk –** evaluated through station and feeder loading analysis. Victoria Municipal Substation (MS28-1) has been identified as a priority location for proactive refurbishment planning, and feeder-level transfer limitations are being addressed through the Distribution System Automation program.

- **Safety risk –** Wood poles in Poor or Very Poor condition pose both public and worker safety risks, particularly on feeders running through residential areas. Pole replacements under the System Renewal program directly address this risk.

- **Financial and affordability risk –** managed through unit cost tracking, semi-annual program reforecasting, and contractor qualification processes. LUI's current PEG benchmarking position reflects the effectiveness of these controls and is a performance level LUI is committed to maintaining.

LUI's VASH framework was introduced during this planning cycle as a new input to LUI's broader risk management practices. Using the Generic Option, LUI completed a Vulnerability Assessment focused on wind loading of overhead poles and used the results to identify practical hardening measures that have been incorporated into the capital plan.

The full VASH methodology, results, and identified measures are described in Section 5.3.6 and documented in Appendix J. LUI plans to extend the approach to additional asset classes and climate perils in future planning cycles.

Examples of risk-based investments in the 2027–2031 DSP include:

- **Elgin feeder rebuilds** – addressing condition and reliability risks by replacing deteriorated overhead assets.
- **Delta-Wye conversion** – reducing safety risks.
- **AMI 2.0** – mitigating risks associated with compliance with Measurement Canada.
- **Distribution Automation projects** – lowering reliability risks by minimizing outage impacts and improving resiliency during adverse events.

These practices demonstrate LUI's structured approach to risk management, where asset health, performance, vegetation exposure, and resilience considerations are translated into investment priorities. This approach ensures that customers are protected from the most significant risks while maintaining affordability and efficiency.

5.3.4 System Capability Assessment for Renewable Energy Generation and Distributed Energy Resources

LUI assesses its distribution system capability to accommodate renewable energy generation (REG) and distributed energy resource (DER) connections in alignment with the OEB's filing requirements. This section summarizes historical REG activity, forecasts expected adoption during the 2027–2031 DSP horizon and outlines available capacity and potential constraints based on LUI's most recent Generation Capacity Study (Appendix G).

Historically, LUI has received a limited number of REG applications, largely consisting of rooftop solar PV installations, with only a small portion exceeding 12 kW in size. Since the wind-down of the FIT and microFIT programs, the majority of new applications have shifted to net-metering arrangements. Applications over 12 kW continue to be assessed individually through the Connection Impact Assessment ("CIA") process; to date, no applications have required significant system reinforcement beyond standard connection upgrades.

The forecast for renewable and DER connections within LUI's service territory is expected to remain modest over the 2027–2031 DSP period. Growth is anticipated to be primarily customer-driven, reflecting provincial policies that encourage electrification and DERs, including solar PV, battery energy storage and EV charging. Net metering is expected to remain the dominant form of REG adoption, with limited new projects exceeding 12 kW. LUI therefore expects incremental increases in small-scale solar PV and DER interconnections but does not anticipate large-scale renewable projects that would require major distribution system upgrades during the DSP horizon.

The Generation Capacity Study quantifies available hosting capacity at the transmission, station and feeder levels across LUI's Cobourg and Cramahe systems. The study confirms that LUI's supply from Hydro One's 115 kV Port Hope Q50 circuit does not impose any upstream constraints on distribution-connected generation.

For Cobourg, the study adopts planning ampacities and establishes limits on connecting generation. Based on these criteria and existing connected generation, the study provides feeder-level generation capacity, connected MW and remaining available capacity for each Cobourg and Colborne feeder.

None of LUI's feeders are designated as "restricted" for REG/DER connections. All feeders retain sufficient headroom to accommodate the modest incremental DER expected over the 2027–2031 DSP horizon. If future conditions require LUI to restrict connections on specific feeders, those feeders will be identified as restricted in LUI's connection documentation, on its public hosting-capacity information, and in subsequent DSP updates.

Pursuant to item 15 of the IEP Directive, where a distributor plans to improve the distribution system's ability to connect additional DERs in areas with restricted hosting capacity, an assessment of potential solutions is required. As none of LUI's feeders are currently restricted, this requirement does not apply to LUI's 2027–2031 capital plan.

LUI coordinates with the IESO and HONI on an ongoing basis regarding REG and DER integration as described in Section 5.2.2. Through LUI's participation in the current PtoK regional planning cycle (including the Needs Assessment in December 2024 and Scoping Assessment in April 2025) no material REG related constraints or connection limitations have been identified for LUI's service area.

LUI will continue to monitor REG/DER activity, connection requests and policy developments over the DSP forecast period and will seek updated confirmation from the IESO and HONI if system conditions change such that REG related constraints or new REG driven investments may need to be considered in future planning cycles. Where localized constraints emerge (e.g. where multiple customers connect EV charging on the same distribution transformer or lateral), LUI will address them through the CIA process or targeted upgrades.

LUI has not incurred, and does not currently forecast, any distribution system costs to accommodate renewable generation that are eligible for recovery through the provincial cost-recovery mechanism under section 79.1 of the Ontario Energy Board Act, 1998.

5.3.5 Non-Wires Solutions to Address System Needs

LUI considers non-wires solutions ("NWS") as part of its options analysis whenever a material system need is identified.

As part of the options analysis described in Section 5.3.1.1, LUI considers whether NWS options including demand response, storage, flexible load management, and third-party DER solutions could feasibly address the need in whole or in part, either on a stand-alone basis or in combination with traditional wires investments.

Consistent with the OEB’s NWS Guidelines and Benefit-Cost Analysis (“BCA”) Framework, the level of assessment is proportionate to the nature and scale of the need. Where a pre-assessment indicates that an NWS approach may be viable and a rate-funded NWS is being proposed, LUI would complete a BCA comparing traditional, NWS, and hybrid options.

LUI is not proposing any rate-funded NWS projects in this plan. The needs being addressed in this DSP (i.e. aging poles, voltage conversion, and distribution automation) are not well suited to NWS solutions. Demand response and storage cannot replace a deteriorated wood pole or complete a voltage conversion, and the localized nature of LUI's reliability issues is better addressed through targeted switching and sectionalizing investments than through flexible load management. None of the proposed investments exceed the $2M BCA threshold.

That said, LUI participates in the PowerShare consortium of Ontario LDCs, which is focused on developing practical, market-based approaches to flexibility and NWS. PowerShare’s work includes readiness assessments, standardized documentation and approaches for DER procurement, and protocols for monitoring and dispatch that align with bulk system requirements. Through this collaboration, LUI will be able to build the tools, capabilities, and shared services needed to evaluate and implement cost-effective NWS in future planning cycles, while prudently managing implementation risks. This positions LUI to consider NWS alongside traditional investments when suitable opportunities arise.

In addition, LUI considered CDM as a potential alternative to planned investments over the forecast period. While CDM initiatives implemented under historical frameworks have contributed to some decline in peak demand, LUI's primary capital drivers are asset condition and end-of-life replacement rather than load growth or capacity constraints. CDM does not provide a practical alternative to the renewal and automation work proposed in this plan, and no CDM activities are planned over the forecast period as a result.

LUI will continue to consider the ability to use distribution rate funded CDM to potentially defer or avoid investments and monitor the availability of new CDM programs and activities to offer our customers under future CDM frameworks.

5.3.6 Climate Vulnerability Assessment and System Hardening

LUI completed its Climate Vulnerability Assessment using the Generic Option. Wind loading on overhead poles was selected as the primary climate peril for evaluation over the 2027–2031 DSP period given the composition of LUI's distribution system and the historical contribution of wind-related events to outage performance.

LUI developed severity thresholds using representative pole configurations from the Elgin Street West pole line and completed non-linear pole loading analysis to determine the wind speeds at which structural failure becomes likely. A planning-level threshold was set at 75% of modeled capacity to account for field variability and unknown deterioration.

LUI used the Vulnerability Assessment ("VA") results alongside its asset condition data, historical outage records, and Worst Performing Feeders analysis to identify where hardening measures would have the most practical benefit. The Elgin Street West overhead rebuild was the first project assessed through this process. A benefit-cost analysis was completed using the BCA Toolkit, and the results support the investment case alongside the condition and reliability drivers.

The pre-assessment also identified hardening measures that can be applied without triggering full asset replacement. Storm guying was identified as a targeted measure for poles in exposed locations where the VA indicated higher wind vulnerability, but where condition does not yet warrant full replacement. LUI plans to incorporate storm guying into its pole renewal program. Where poles are being replaced on feeders with higher wind exposure, LUI will also consider specifying higher class poles where appropriate to ensure that that planned renewal investments deliver resilience value without requiring separate hardening investments.

The Distribution System Automation program (Section 5.4) also contributes to climate resilience. Remote switching, FLISR capability, and enhanced SCADA visibility allow LUI to isolate faults and restore service faster during severe weather events, reducing customer impact even when asset damage occurs.

VASH functions as a decision support input within LUI's asset management process (Figure 5.3-1) alongside the RPQR, Asset Condition Assessment, criticality assessment, and external drivers. It does not trigger asset replacement on its own, it instead adds a climate resilience lens to prioritization decisions already informed by condition, criticality, reliability, and customer impact. LUI plans to extend this approach to additional asset classes and climate perils in future planning cycles.

The complete VA Toolkit, severity threshold methodology, pre-assessment results, and BCA results are provided in Appendix J.

5.4 CAPITAL EXPENDITURE PLAN

This section presents LUI's Capital Expenditure Plan, consolidating planned investments across all four OEB investment categories for the 2027–2031 forecast period alongside historical performance for the 2022–2026 period. It provides a capital expenditure summary with variance analysis of historical plan-versus-actual results, a detailed breakdown of forecast investments by category, a comparison of historical and forecast spending trends, and the justification for material investments.

5.4.1 Capital Expenditure Summary

The investments in this section are the product of LUI's asset management and capital expenditure planning process described in Section 5.3. The plan covers five historical years (2022–2026) including actuals and plan-versus-actual variances, and five forecast years (2027–2031). Each project or program has been allocated to one of the four OEB investment categories (System Access, System Renewal, System Services, General Plant) based on its primary trigger driver.

Tables 5.4-1 and 5.4-2, prepared using OEB Appendix 2-AB format, summarize capital expenditures and system O&M by investment category. See Appendix M for Capital Projects Table using OEB Appendix 2-AA format. Refer to Appendix K for 2022-2026 material project details.

Table 5.4-1: Historical Capital Expenditures and System O&M (2022-2026)

CATEGORY	**Historical Period** (previous plan & actual)														
	2022			**2023**			**2024**			**2025**			**2026 (Bridge Year)**		
	Plan	**Actual**	**Var**	**Plan**	**Actual**	**Var**	**Plan**	**Actual**	**Var**	**Plan**	**Actual**	**Var**	**Plan**	**Budget**	**Var**
	$ '000		%	*$ '000*		%	*$ '000*		%	*$ '000*		%	*$ '000*		%
System Access	145	462	218.8%	318	3,822	1101.8%	244	3,017	1136.3%	330	1,014	207.2%	336	1,185	252.7%
System Renewal	1,435	1,927	34.3%	1,131	1,458	28.9%	869	1,277	46.9%	1,173	1,096	-6.6%	1,195	465	-61.1%
System Service	320	2	-99.5%	315	512	62.6%	242	121	-49.9%	327	601	83.8%	333	707	112.2%
General Plant	60	107	77.8%	131	102	-21.8%	574	48	-91.6%	135	704	421.3%	138	273	97.6%
TOTAL EXPENDITURE	1,960	2,498	27.4%	1,895	5,894	211.0%	1,929	4,463	131.3%	1,965	3,414	73.8%	2,002	2,629	31.3%
Capital Contributions	(100)	(378)	278.2%	-	(765)	--	-	(2,240)	--	-	(650)	--	-	(790)	--
NET CAPITAL EXPENDITURES	**1,860**	**2,120**	**14.0%**	**1,895**	**5,130**	**170.7%**	**1,929**	**2,222**	**15.2%**	**1,965**	**2,764**	**40.7%**	**2,002**	**1,839**	**-8.1%**
System O&M	1,020	767	-24.8%	1,039	932	-10.3%	1,058	775	-26.7%	1,078	822	-23.7%	1,098	950	-13.5%

Table 5.4-2: Forecast Capital Expenditures and System O&M (2027-2031)

CATEGORY	**Forecast Period** (planned)				
	2027	**2028**	**2029**	**2030**	**2031**
	$ '000				
System Access	1,222	1,396	1,427	1,434	1,479
System Renewal	479	748	777	866	1,089
System Service	1,098	667	592	468	480
General Plant	460	353	390	285	83
TOTAL EXPENDITURE	3,258	3,164	3,186	3,053	3,131
Capital Contributions	(985)	(1,008)	(1,028)	(847)	(868)
NET CAPITAL EXPENDITURES	**2,273**	**2,155**	**2,157**	**2,206**	**2,263**
System O&M	978	1,008	1,033	1,059	1,085

5.4.1.1 Plan vs Actual Variances over Historical Period

For LUI, reviewing differences between planned and actual capital spending is a key part of improving forecasting, project scoping and delivery performance over time. Annual capital budgets are developed using preliminary designs, historical costs (where applicable) and multi-year program targets. As projects move from planning to detailed design and construction, cost estimates are refined and used as the basis for in-year monitoring.

Customer-driven projects are forecast using recent historical experience and known development activity, with variances in those areas often balanced by adjusting the timing of discretionary work in other categories. Monthly and in-year reviews compare updated forecasts to actual expenditures, allowing LUI to adjust the timing and pacing of discretionary work so that overall spending remains aligned with approved envelopes, and customer bill impacts are managed.

- **System Access** is the hardest category to forecast because it's mostly driven by timing of external parties such as developers, the municipality, individual customers requesting upgrades, etc. LUI budget is based on recent history and what LUI is currently aware of from the Development Review Team, but in any given year the actuals can swing significantly. 2023 is a good example where LUI didn't plan for the MS28-3 station build when the COS plan was developed, but the pace of housing development made it necessary to implement it.

  LUI mitigates these variances through early engagement and ongoing communication with developers and municipal staff, and by rebalancing other discretionary programs as the year progresses when System Access volumes are higher or lower than anticipated.

- **System Renewal** spending variances generally arise from changes in work volumes and project timing as condition and risk information is refined. As inspection and maintenance work is completed, LUI may identify additional assets requiring more urgent replacement, or confirm that assets originally targeted for renewal can safely remain in service for a longer period. In the latter case, work is deferred rather than undertaken solely to match the budget, which benefits customers by avoiding unnecessary costs.

  In years where customer-driven work or other priorities increase, some renewal projects may be shifted into future years within the broader renewal program while LUI continues to target the highest-risk assets first. The multi-year renewal plan provides the framework for managing these deferrals so that overall asset-condition and reliability objectives are still achieved over the DSP horizon.

- **System Service** spending variances are typically related to the timing of larger (often multi-year) projects that improve capacity, reliability and system configuration such as feeder reconfigurations, automation initiatives or voltage conversions. These projects are sensitive to factors such as outage availability, material lead times, coordination with third-party works and the availability of internal and external construction resources.

  In some periods, elevated levels of emergency can require LUI to reassign crews, resulting in System Service work being rescheduled into subsequent years. LUI manages these timing-related variances by sequencing System Service projects across the planning period, focusing on addressing the most critical needs first and aligning execution with available resources.

- **General Plant** Variances in this category are most often driven by shifts in project timing such as changes in vendor delivery schedules, procurement contracts, implementation readiness for system upgrades, or coordination with other corporate initiatives. LUI prioritizes General Plant projects that are necessary to maintain operational capability and customer service, while using in-year monitoring to determine whether individual projects should be advanced or deferred to remain within overall capital constraints.

Table 5.4-3 provides LUI's historical capital expenditures actuals for 2022 to 2025, and bridge-year 2026 budget, compared against the 5-year plan. The actuals shown in Table 5.4-3 include the 2023 construction and energization of Substation MS28-3 (Ontario Street), an investment that was not included in the original DSP plan and was subsequently brought forward for cost recovery through the Incremental Capital Module (ICM) as part of LUI's 2025 IRM application.

Table 5.4-3 – Average Net Historical Capital Expenditures Summary

Category	5 Year Plan	5 Year Actual	Variance	
	$ '000	$ '000	$ '000	%
System Access	1,273	4,676	3,403	267%
System Renewal	5,803	6,222	419	7%
System Service	1,537	1,943	406	26%
General Plant	1,038	1,234	196	19%
Total (Net)	**9,651**	**14,075**	**4,424**	**46%**

Table 5.4-4 – 2022 Capital Expenditure (Net) Variance Analysis

Category	COS Plan	Actual	Variance	Variance Explanation
System Access (Net)	$45,000	$84,104	$39,104	System Access was higher than plan in 2022 due to increased number than forecasted of meter replacements totalling $128,900. The replacments were associated with seal expiry
System Renewal (Net)	$1,435,000	$1,927,055	$492,055	System Renewal exceeded plan in 2022 mainly because LUI completed more overhead line rebuild and pole renewal work than forecasted to address condition and reliability needs. This is the kind of work where the timing of closeout can shift based on outages, make-ready, and construction sequencing., including: • Elgin St - Birchwood to Chipping = $349,023 • Row 44/28kv - 973 to Burnham St = $292,540 • Victoria St - Station to Ontario St = $405,156 • Kerr ROW - Station to Division = $209,116 • Brook F5 Feeder = $347,351 Actuals also include miscellaneous replacement work (UG/OH) and delta-wye metering conversions completed to meet requirements.
System Service (Net)	$320,000	$1,762	($318,238)	System Service was materially below plan in 2022 because LUI deliberately rebalanced execution toward System Renewal as renewal work progressed at a higher pace than forecast. To manage overall program delivery within available resourcing capacity, LUI prioritized renewal scopes that were ready to construct and close to in-service, and correspondingly deferred or limited System Service initiatives that could be rescheduled without creating an immediate reliability or safety risk.
General Plant (Net)	$60,000	$106,768	$46,768	General Plant was above plan due to the timing of routine replacements and upgrades that LUI completed in 2022, mainly across fleet, IT hardware/software, facilities, and tools. These purchases tend to be bundled and delivery-driven rather than perfectly levelized year to year. The variance reflects timing of asset replacements needed to support LUI's operations and capital delivery, not a material change in LUI's General Plant investment approach.
Total (Net)	**$1,860,000**	**$2,119,689**	**$259,689**	

Table 5.4-5 – 2023 Capital Expenditure (Net) Variance Analysis

Category	COS Plan	Actual	Variance	Variance Explanation
System Access (Net)	$318,000	$3,056,900	$2,738,900	System Access was materially higher than the COS plan in 2023 primarily because LUI spent $2,535,311 in Substation MS28-3 (Ontario Street) as a discrete System Access investment. The project was advanced to address development related capacity needs, while also providing needed system reliability and redundancy and supporting LUI's broader 4.16 kV to 27.6 kV voltage conversion strategy. The station project is considered by LUI to be addressing both access and service issues, with approximately 20% of its use being related to system access and 80% related to system service, but that for ease of presentation it has been included entirely within access. Beyond the station addition, 2023 actuals were also impacted by increased access driven work (11 subdivisions applications and 20 large connections) and as well as increased need for metering effort to accomodate the demand and seal expiries
System Renewal (Net)	$1,131,000	$1,458,047	$327,047	System Renewal exceeded plan primarily due to higher-than-forecast execution and closeout of pole replacement / overhead renewal work in 2023. This is consistent with LUI advancing renewal scopes that were ready to construct and close to in-service. Projects include: • Durham St overhead rebuild = $478,410 • King St - Pole line rebuild – $239,022 • Victoria St – pole line rebuild - Stn to King St = $187,281 Actuals also include emergency storm restoration effort and equipment failure replacements which were not forecasted: • Storm restoration $280,932 • Pole replacements = $230,727
System Service (Net)	$315,000	$512,194	$197,194	System Service was higher than plan because LUI advanced a significant Operational Technology scope in 2023, largely related to the Outage Management System / GIS-related enhancements captured in the actuals. This type of investment tends to be implemented in discrete releases and capitalized when delivered, which can create year-to-year volatility.
General Plant (Net)	$131,000	$102,494	-$28,506	General Plant was below plan in 2023 due to timing of routine purchases and replacements. LUI's actuals reflect a modest set of fleet, facilities, IT, and tools expenditures, with some planned items effectively deferred or rescheduled to support the overspend in the other portfolios
Total (Net)	**$1,895,000**	**$5,129,635**	**$3,234,635**	

Table 5.4-6 – 2024 Capital Expenditure (Net) Variance Analysis

Category	COS Plan	Actual	Variance	Variance Explanation
System Access (Net)	$244,000	$788,771	$544,771	System Access was materially above plan in 2024 because LUI closed and placed in service a significant volume of subdivision-related work during the year, some of which had high net spend: • Rondeau Subdivision = $189,515 • Densmore Meadows Subdivision = $122,678 In Addition, There was high volume of commercial connections. Some of which had high net cost: • Dodge Street = $87,883 • 202 Green St - $26,205 Meter seal replacements was also higher than anticipated at $92,736
System Renewal (Net)	$869,000	$1,263,983	$394,983	System Renewal exceeded plan in 2024 primarily due to higher execution and closeout of overhead renewal work than assumed in the COS plan. These scopes tend to be packaged and scheduled around outages, make-ready, and construction sequencing. • Elgin St – Chipping to Ontario = $446,477 • Kerr St – Burnham to POW Dr = $414,215 • Buck/George to King = $180,442 In addition, LUI incurred targeted UG/OH failure replacements captured under miscellaneous replacements = $119,294
System Service (Net)	$242,000	$121,273	-$120,727	System Service was below plan in 2024 to accommodate the need for additional System Access and System Renewal demands, which impacted overall resourcing capacity and financial constraints. The spend in this portfolio involved minor voltage conversion effort and reliablity improvement program that could not be deferred.
General Plant (Net)	$574,000	$48,175	-$525,825	General Plant was materially below plan in 2024 due to delays with bucket truck delivery. Actuals were limited to smaller facility, IT, and tools/equipment purchases. This lead to pacing adjustments in the system renewal side.
Total (Net)	**$1,929,000**	**$2,222,202**	**$293,202**	

Table 5.4-7 – 2025 Capital Expenditure (Net) Variance Analysis

Category	COS Plan	Actual	Variance	Variance Explanation
System Access (Net)	$330,000	$364,088	$34,088	System Access was above plan in 2025 because LUI completed a higher level of meter renewal work (seal-expiry replacements and related metering activity) and continued to close a steady volume of customer connection work during the year. These activities are driven by customer requests and compliance timing, so the annual result can exceed a levelized COS allowance depending on when work closes to in-service. Subdivision-related activity was present but was not the dominant driver of the variance on a net basis.
System Renewal (Net)	$1,173,000	$1,095,710	-$77,290	System Renewal was almost on plan (minor underspend) in 2025. Material projects completed included: • Elgin St – Ontario to William = $504,874 • Elgin St - Brook to D'Arcy = $150,000 In addition, LUI incurred targeted UG/OH failure replacements captured under miscellaneous replacements = $343,315
System Service (Net)	$327,000	$600,947	$273,947	System Service was materially above plan in 2025 because LUI capitalized significant feeder-related work that started in 2024 alongside discrete reliability activities.
General Plant (Net)	$135,000	$703,825	$568,825	General Plant was significantly above plan in 2025 due primarily to the timing of the bucket truck which was budgeted for 2024. Other General Plant items (facilities, tools, limited IT) were comparatively minor, so the variance is dominated by fleet timing rather than a structural change in LUI's ongoing General Plant needs.
Total (Net)	**$1,965,000**	**$2,764,570**	**$799,570**	

Table 5.4-8 – 2026 (Bridge Year) Capital Expenditure (Net) Variance Analysis

Category	COS Plan	Actual	Variance	Variance Explanation
System Access (Net)	$336,000	$395,000	$59,000	In 2026, LUI's System Access program includes a sizeable gross subdivision/economic evaluation item, but it is predominantly developer-contributed and majority of costs will be recovered. The remaining System Access items (seal-expiry meter replacements, new services/commercial connections, and a municipal sidewalk-widening interface) are comparatively modest and do not offset the contribution-driven reduction in net.
System Renewal (Net)	$1,195,000	$465,000	-$730,000	System Renewal is materially below plan in 2026 because LUI's forecasted in-service additions in this portfolio are limited to a small set of renewal scopes (pole replacements/design support, delta-wye meter conversions, and UG/OH miscellaneous replacements). LUI completed 2026 renewal work ahead of time
System Service (Net)	$333,000	$706,500	$373,500	System Service is materially above plan in 2026 because LUI's forecast includes significant voltage conversion work including: • Spring - Furnace to Orr = $241,500 • Covert - Division to George = $295,000 • Spot conversions = $100,000
General Plant (Net)	$138,000	$272,663	$134,663	General Plant is forecasted to be higher than COS plan due planning investments required to support software upgrades (GIS, CIS and ERP) platforms. Additional costs include tools required to equip the bucket truck that was delivered in 2025
Total (Net)	**$2,002,000**	**$1,839,163**	**-$162,837**	

5.4.1.2 Capital Expenditures over Forecast Period

Table 5.4-9 and Figure 5.4-1 summarize the planned capital expenditures, by investment category, throughout the DSP forecast period (2027-2031).

Table 5.4-9: Net Forecast Years planned capital expenditures by investment category ($ '000)

Category	2027($)*	2028($)	2029($)	2030($)	2031($)	Avg. ($)
System Access	439	589	601	587	611	***565***
System Renewal	479	748	777	866	1,089	***792***
System Service	896	465	389	468	480	***540***
General Plant	460	353	390	285	83	***314***
Total Capital	**2,273**	**2,155**	**2,157**	**2,206**	**2,263**	***2,211***

****2027 Test Year***

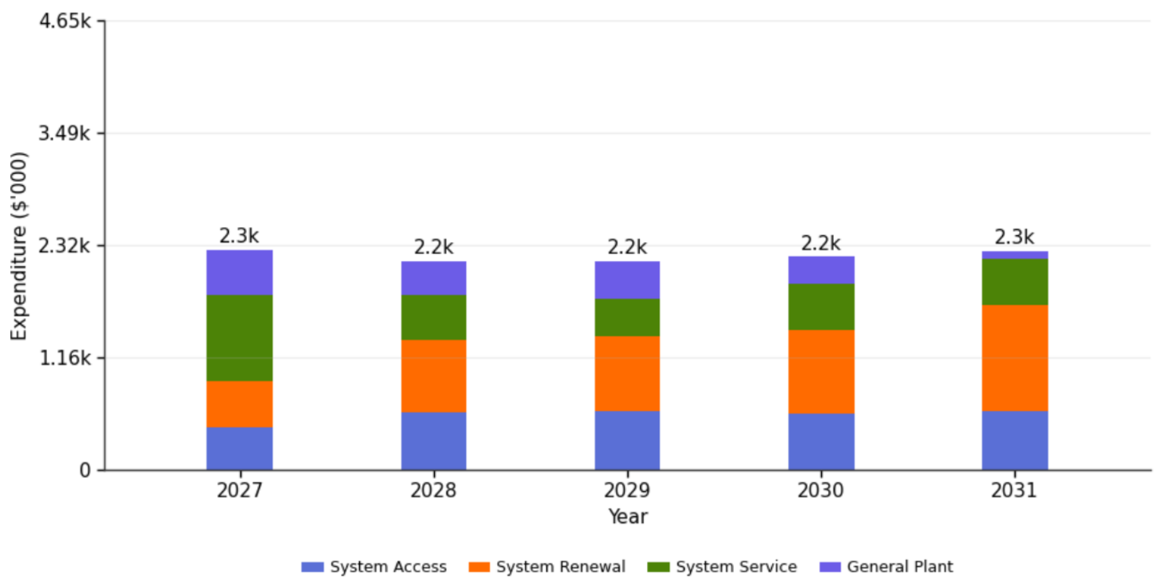

Figure 5.4-1: Net Forecast Years planned capital expenditures by investment category

The figure and table above demonstrate that over the forecast period of the DSP, LUI plans to pace and prioritize capital expenditures to produce a predictable impact on rates and prevent spikes in spending. LUI plans to invest an average of $2.21M in capital expenditures per year across all four investment categories.

Forecast capital expenditures for 2027–2031 are presented in nominal dollars. LUI has applied general capital cost escalation of 3.0% per year for 2027–2028 and 2.5% per year for 2029–2031.

LUI has developed a prudent capital budgeting process combined with a system of capital project prioritization that considers customer preferences, business performance and accountability. This framework is integrated with LUI's asset management practices and reflects its long-term strategy while allowing sufficient flexibility to respond to changing priorities as they arise. Each annual capital budget and the five-year forecast considers the relative priority of proposed investments, distinguishing between non-discretionary and discretionary items.

Non-discretionary items include:

- Projects required to meet LUI's obligation to connect, including new customers and load growth.
- Projects required to accommodate municipal, regional or Ministry works.
- Projects or expenditures necessary to satisfy regulatory initiatives, environmental or health and safety requirements, and LUI's Conditions of Service.

Discretionary items include:

- Infrastructure renewal projects whose timing can be paced within risk tolerances.
- Distribution automation and other System Service enhancements that improve flexibility and reliability.
- Information technology and enterprise systems.
- Fleet, tools and facilities improvements that support efficient day-to-day operations.

The combination of this prioritization framework and LUI's asset management and capital planning processes results in a five-year capital expenditure forecast with a detailed one-year budget organized by the four OEB investment categories (System Access, System Renewal, System Service and General Plant).

LUI forecasts that the equipment installed under the forecasted projects will be in-service at year end and the costs will be a capitalized in the year of installation. In the event that a project does span over multiple years, LUI follows the OEB's accounting processes.

System Access

Expenditures in this category are driven by external requirements such as servicing new customer loads and relocating distribution plants to suit road authorities. The timing of investment is driven by the needs of the external parties. These expenditures are mandatory.

Specific project scopes are rarely known at the time that the budget is set, and total expenditures can vary from year to year. Most of the forecasted investments in this category are based on historical requirements and coordination with Development Review Team. Specific projects such as relocations are budgeted based on LUI's estimates and historical averages in conjunction with information from external agencies (such as Cobourg and Cramahe) of the work required over the project life cycle. LUI's proposed 2027 – 2031 System Access forecast investments are found in Table 5.4-10.

Table 5.4-10: Forecasted System Access Investments (Net)

Category	2027($)	2028($)	2029($)	2030($)	2031($)	Avg. ($)
System Access	438,821	589,301	600,846	586,846	610,910	**565,346**

System Access investments consist of the following major items: customer connections, new services, and metering. Customer connections include connecting existing customers to the system. New services include supplying electrical equipment and materials to residential, commercial, and industrial accounts where no electrical supply currently exists. Metering includes supplying metering equipment and materials to residential, commercial, and industrial accounts as well as implementation of AMI 2.0 as described in the material investment narrative (Appendix L).

System Renewal

Expenditures within the System Renewal category are largely driven by the condition of distribution system assets and play a crucial role in the overall reliability, safety, and sustainment of the distribution system. LUI's ACA recommends assets for renewal based on condition data from tests and inspections. The asset management process outlines the strategy used to determine the criteria for asset replacement. The output of the asset management process drives the development of the capital expenditure plan and prioritization for System Renewal. LUI's proposed 2027-2031 System Renewal forecast investments are found in Table 5.4-11.

Table 5.4-11: Forecasted System Renewal Investments (Net)

Category	2027($)	2028($)	2029($)	2030($)	2031($)	Avg. ($)
System Renewal	478,630	747,936	776,948	866,044	1,089,374	**791,786**

System Renewal investments comprise of asset renewal programs, rebuild projects, and Delta-Wye Conversions. As part of the asset renewal projects, LUI plans to replace overhead and underground assets which exhibit signs of deterioration consistent ACA results and end-of-life ("EOL") criteria as defined by the utility's asset management standards. These investments are aimed at maintaining the safety and reliability of the distribution system while mitigating the cost impacts to customers. The Pole Replacement program focuses on replacing wooden poles with poor and very poor health index results. Older, deteriorated poles that lose their structural integrity pose a safety risk to the employees servicing them and the public. Similarly, pad mounted transformer replacements can affect system reliability performance, potentially resulting in outages that would be longer and can cost more under a reactive replacement than under a proactive replacement approach. The System Renewal program spend is above average in 2030 and 2031 due to planned investment - Elgin St overhead rebuild.

System Service

Expenditures in this category are driven by the need to ensure that the distribution system continues to meet operational objectives (such as reliability, grid flexibility and DER integration) while addressing anticipated future customer electricity service requirements (i.e. station capacity increases, feeder extension, etc.). LUI 2027 – 2031 System Service forecast investments are found in Table 5.4-12.

Table 5.4-12: Forecasted System Service Investments (Net)

Category	2027($)	2028($)	2029($)	2030($)	2031($)	Avg. ($)
System Service	895,928	465,315	389,555	468,132	479,851	**539,756**

System Service expenditures over the 2027–2031 period are driven primarily by a multi-year Distribution System Automation program, SCADA system upgrades, completion of voltage conversion projects, targeted reliability improvement program, and the F7 feeder expansion.

LUI has developed a Distribution Automation Strategy that provides the roadmap for staged deployment across LUI's distribution system. Building on LUI's existing Survalent SCADA platform, field relays/IEDs and communications assets, the strategy identifies priority feeders, sectionalizing locations, and candidate devices (reclosers, motor-operated switches and normally-open ties) to enable remote switching, fault location, isolation and service restoration ("FLISR") and improved visibility.

Over the 2027–2031 period, the proposed Distribution System Automation program implements the first phase of this roadmap, focusing on feeders serving critical facilities and circuits with higher outage exposure, with the objective of reducing the number of customers affected by permanent faults, shortening restoration times, and making better use of existing capacity. Further methodological detail, scenario analysis and supporting cost estimates are provided in Appendix H.

SCADA upgrades ensure secure, real-time visibility of field devices and substations, and that the system can reliably support an increasing number of automated endpoints.

LUI's voltage conversion program goal is to convert the last sections of LUI's system from 4.16 kV to 27.6 kV, which involves renewing and upgrading the infrastructure as required. It is a continuation of the program put together in the historical period. The voltage conversion allows LUI to mitigate losses in the system and upgrade the system to the latest standards. A voltage conversion in an area comprises of two phases. The first phase is to build the required 27.6 kV infrastructure before transitioning the 4.16kV system onto the 27.6kV system. The second phase involves the actual 4.16kV load transferred to the 27.6kV system. Once this load transfer is complete, the 4.16kV system will be decommissioned appropriately.

Finally, the F7 expansion and associated reconfiguration work increases feeder capacity and transfer capability, supports the staged retirement of remaining 4.16 kV infrastructure, and positions the system to accommodate future growth and potential DER connections on the 27.6 kV network. The spend is above average in 2027 due to the pressing need to implement reliability initiatives to support the reliability targets identified in Section 5.2.3.3

General Plant

Expenditures in this category are driven by the need to modify, replace or add assets that are not part of the distribution system but support utility operations (e.g., facilities, tools and equipment, fleet, and IT/enterprise systems). While these items are important for safe and reliable service, General Plant investment levels and timing are generally more flexible than in other categories. However, prolonged deferral can lead to larger, less manageable investments later. LUI 2027 – 2031 General Plant forecast investments are found in Table 5.4-13.

Table 5.4-13: Forecasted General Plant Investments (Net)

Category	2027($)	2028($)	2029($)	2030($)	2031($)	Avg. ($)
General Plant	459,750	352,749	389,756	284,781	82,831	**313,973**

Over the forecast period, General Plant investments focus on maintaining the tools, fleet, facilities and information systems needed to support LUI’s operations and capital program. The plan includes ongoing funding for field tools and equipment, as well as new pole and dump trailers required to safely transport poles and materials. Fleet investments are centered on the replacement of a pickup truck, timed to align with age, usage and condition.

Facilities spending is modest and targeted, providing for minor building upgrades and an incremental investment to improve garage heating and insulation for year-round operations.

The largest General Plant investments are software upgrades including ERP, GIS (Appendix L) and CIS platforms to address system aging, vendor end-of-support timelines, and cybersecurity risk. These investments will modernize core business and operational systems, improve data integrity, streamline workflows, and strengthen LUI's digital foundation.

Overall, General Plant expenditures are paced to avoid large bill impacts while ensuring LUI’s corporate support infrastructure keeps pace with system growth, automation and customer expectations.

5.4.1.3 Comparison between historical and forecast Capital Expenditures

Table 5.4-14 and Figures 5.4-2 & 5.4-3 reflect LUI's historical (2022–2026) and forecast (2027–2031) capital expenditures by investment category. Over the 2022–2026 historical period, LUI's gross capital expenditures averaged approximately $3.8 million per year, or about $2.8 million per year on a net basis after capital contributions. Over the 2027–2031 DSP forecast period, average annual gross capital spending decreases to roughly $3.2 million, with average net capital of about $2.2 million.

This represents an approximate 16% reduction in gross capital and 22% reduction in net capital compared to the historical and bridge-year period. The forecast maintains focus on replacing aging assets, completing remaining elements of the voltage conversion, expanding distribution automation (including enabling communications and FLISR capability), software upgrades, and accommodating steady customer growth while pacing investments to keep customer bill impacts manageable.

At the same time, the plan preserves flexibility to respond to emerging needs as they become sufficiently defined. For example, LUI is undertaking further engineering and planning work to confirm the preferred scope, timing and cost for potential station refurbishment investments. Should capacity or condition-driven requirements crystallize beyond what is included in the forecast, LUI would consider advancing those incremental investments through the ICM process, supported by updated evidence of need and cost.

Table 5.4-14: Historical +Bridge Year & Forecasted Capital Expenditures

Category	Historical ($ '000)					Forecast ($ '000)				
	2022	2023	2024	2025	2026*	2027	2028	2029	2030	2031
System Access (Gross)	462	3,822	3,017	1,014	1,185	1,222	1,396	1,427	1,434	1,479
System Renewal (Gross)	1,927	1,458	1,277	1,096	465	479	748	777	866	1,089
System Service (Gross)	2	512	121	601	706	1,098	667	592	468	480
General Plant (Gross)	107	102	48	704	273	460	353	390	285	83
Gross Capital Expenses	**2,498**	**5,894**	**4,463**	**3,414**	**2,629**	**3,258**	**3,164**	**3,186**	**3,053**	**3,131**
Contributed Capital	(378)	(765)	(2,240)	(650)	(790)	(985)	(1,008)	(1,028)	(847)	(868)
Net Capital Expenses After Contributions	2,120	5,130	2,222	2,764	1,839	2,273	2,155	2,157	2,206	2,263
System O&M	767	932	775	822	950	978	1,008	1,033	1,059	1,085

***2026 Bridge year -** Values reflect forecasted budget

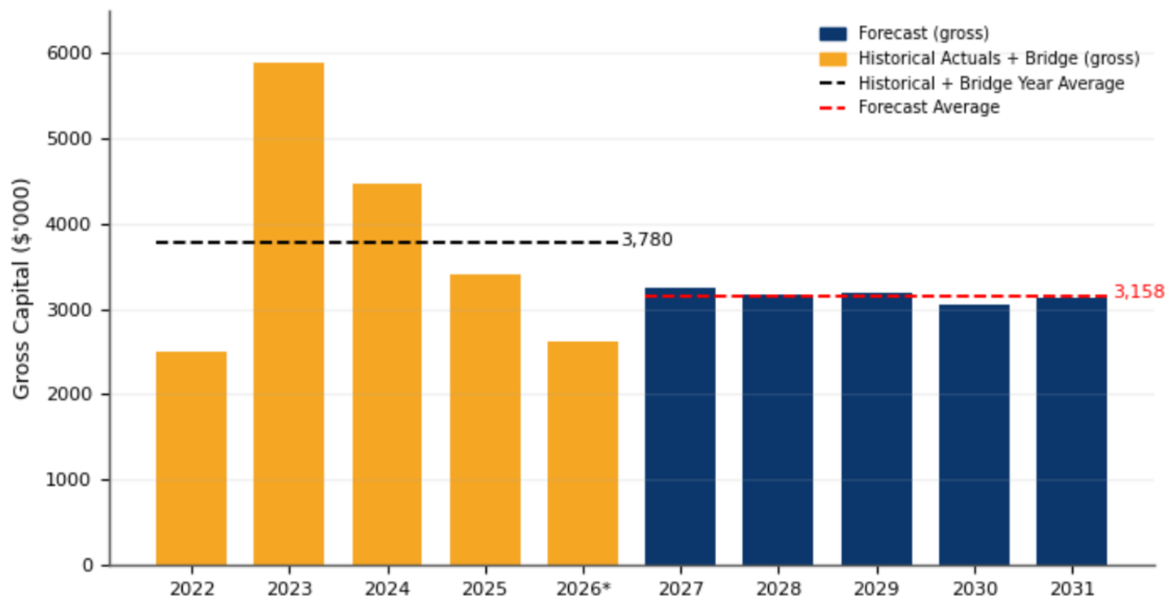

Figure 5.4-2: Overall Gross Capital Expenditures

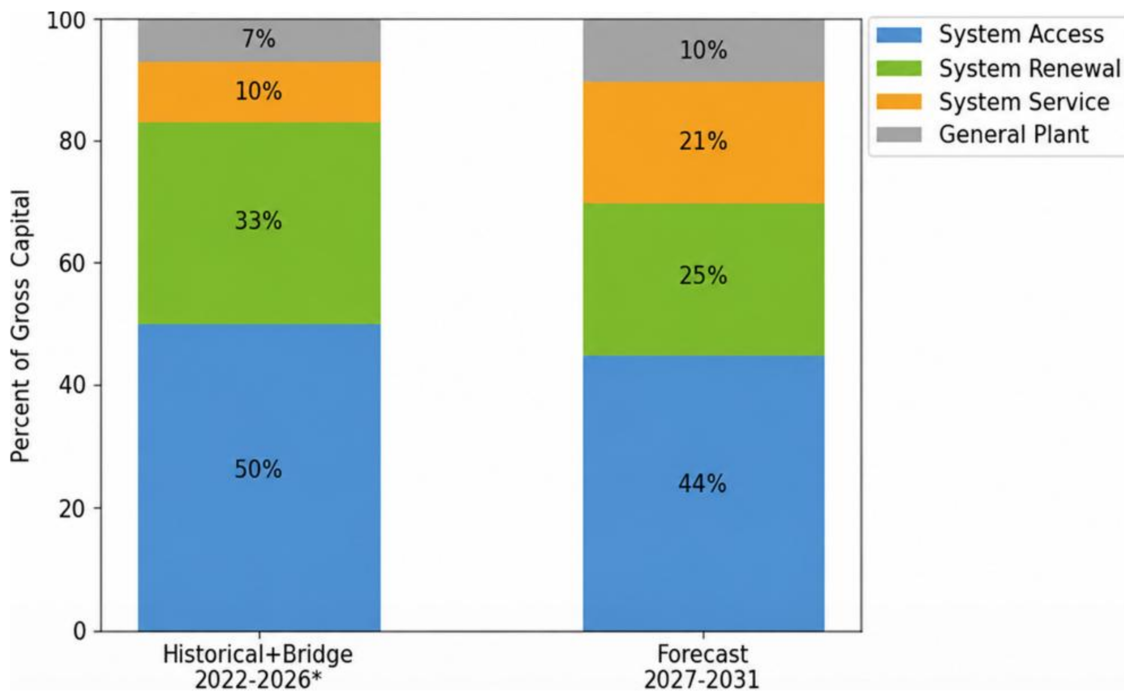

Figure 5.4-3: Average Annual Gross Budget Allocation (Historical vs Forecast)

The change in mix reflects several program-level trends:

System Access expenditures are lower and more stable in the forecast period compared to the historical and bridge-year period (Figure 5.4-4). Historically, System Access spending included a temporary peak associated with the station rebuild completed in 2023 and 2024, while the bridge year and forecast reflect a more typical run-rate of customer and developer driven connection activity. Over 2027–2031, gross System Access spending is forecast to remain steady at approximately $1.22M to $1.48M per year, driven by commercial connections, and new services, and supported by ongoing metering programs (including AMI 2.0 to address end-of-life / seal expiry requirements).

Capital contributions are expected to continue offsetting a significant portion of gross System Access costs, consistent with historical cost-sharing arrangements for connection-related work. As a result, net System Access expenditures are forecast to remain relatively stable at approximately $0.44M to $0.61M per year over 2027–2031. This forecast maintains LUI's ability to meet its obligation to connect and provide timely service while smoothing rate-funded capital requirements and moderating customer bill impacts.

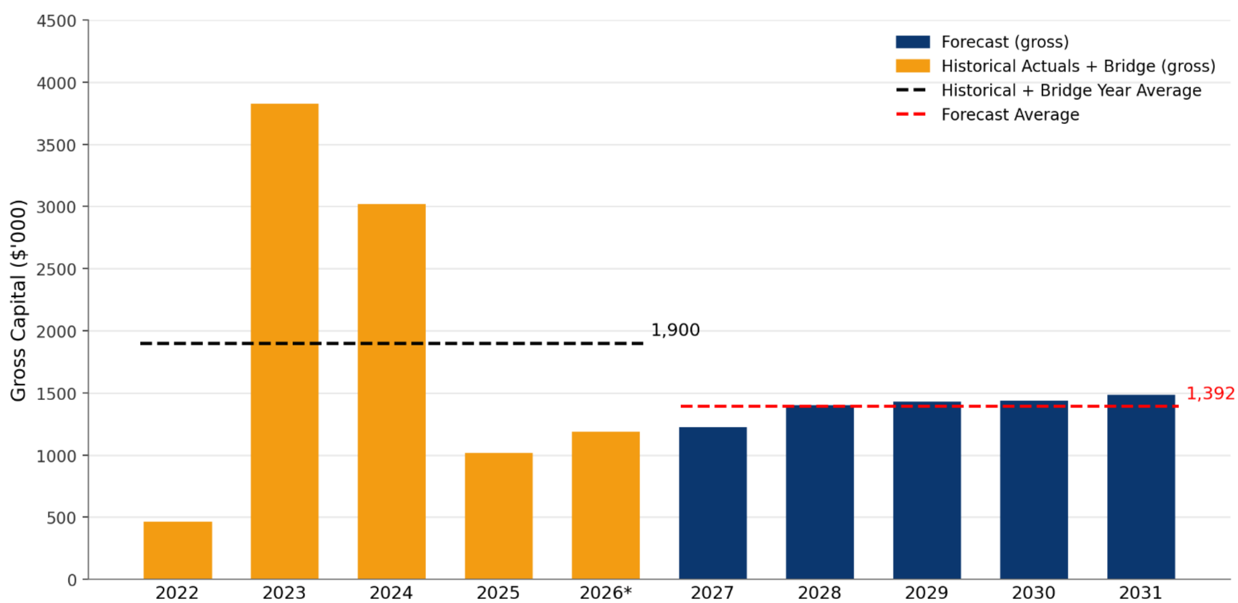

Figure 5.4-4: Gross Capital Expenditures – System Access

System Renewal expenditures decline in the forecast period compared to the historical and bridge-year period (Figure 5.4-5). Over 2022–2026, Renewal spending averaged approximately $1.25 million per year, reflecting a concentrated period of renewal activity that included several rebuild projects and related replacement work. As a result, the historical and bridge-year profile is relatively front-ended. In contrast, the 2027–2031 forecast averages approximately $0.79 million per year and reflects a more targeted renewal plan, with 4 rebuilds planned in the forecast period. Forecast Renewal spending is instead driven primarily by ACA-related asset replacements, including pole replacements and pad-mounted transformer replacements, together with wye-delta conversion work required to address ongoing asset condition, risk, and system needs.

The forecast profile is more moderately paced and somewhat back-end weighted than the historical pattern. Renewal spending is lowest in 2027 and generally increases through 2031 as work packages are staged and advanced through scoping, design, procurement, and construction. This pacing supports continued progress on priority renewal needs while balancing outage coordination, internal and contractor resources, and customer bill impacts.

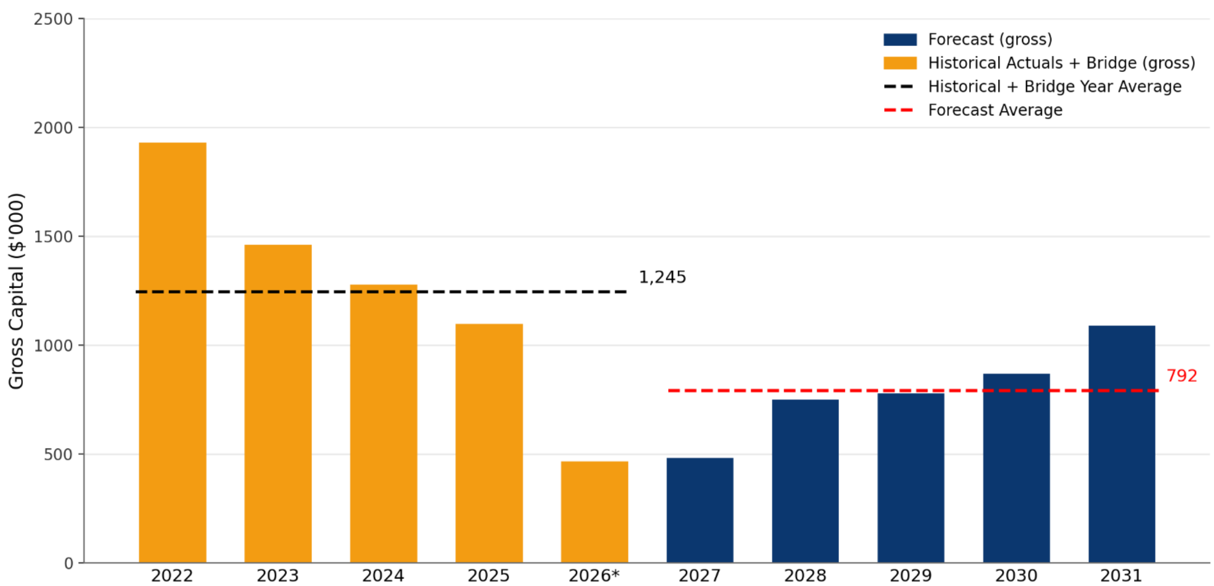

Figure 5.4-5: Capital Expenditures – System Renewal

System Service doubles as a share of the budget, from about 10% to 21%. This is a significant shift in the plan and its due to the need to catch up in this area. During the 2022–2026 period, LUI consistently underspent on System Service because renewal and access work consumed available resources. The automation and sectionalizing work proposing in this plan should have started sooner, but a practical decision was made to prioritize the overhead rebuilds and MS28-3 station that were more immediately pressing. LUI is now in a better position to address the automation gap.

The reliability data in Section 5.2.3 reinforces the justification for this need. LUI's worst performing feeders are not necessarily because the assets are failing, but because when a fault does occur, there's no way to remotely isolate it or back-feed affected customers. Crews have to drive out, locate the problem, and switch manually. That's what drives the longer restoration times showing up in our CAIDI numbers.

The 2027–2031 System Service program targets that directly. It includes the Distribution System Automation program (SCADA upgrades, automated switches, FLISR capability on priority feeders), the F7 feeder expansion to improve transfer capability, and the final push to complete the 4.16 kV to 27.6 kV voltage conversion. LUI also has budget for a targeted reliability improvement program covering items like animal guards and switching upgrades at locations with repeat outage history.

The spend is front-loaded (2027 is the heaviest year at roughly $1,098K gross) because there is a need to start the effort now in order to align with LUI's targets referenced in section 5.2.3.3, and the SCADA and communications foundation needs to go in before the field automation devices can be deployed effectively. By 2030–2031, the annual System Service spend settles back to approximately $470–480K.

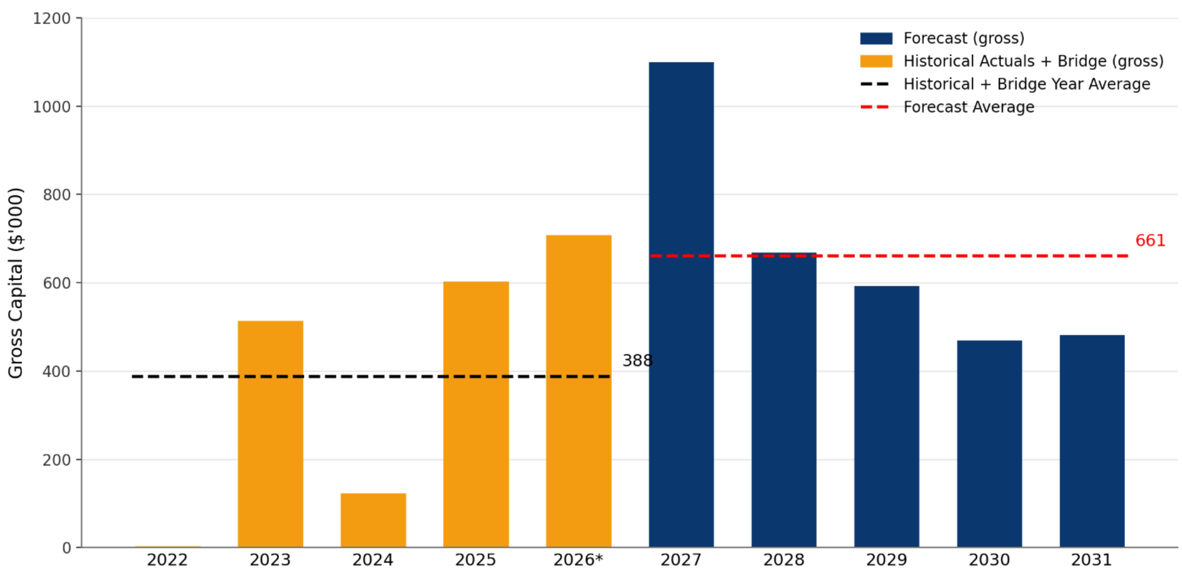

Figure 5.4-6: Gross Capital Expenditures – System Service

General Plant remains the smallest investment category but is on average moderately higher in the forecast period than compared to historical period (Figure 5.4-7). Average annual spending increases from approximately $0.25 million over the historical and bridge-year period to about $0.31 million over 2027–2031. The increase is driven primarily by software and information systems upgrades (GIS, ERP and CIS) that support billing, customer service, asset management, and project delivery. The forecast also includes modest spending on facilities, tools, and equipment needed to support day-to-day operations.

Fleet expenditures within General Plant are treated as enabling, largely non-discretionary replacements required to safely deliver core distribution activities including construction, inspection and maintenance, and storm restoration. In the forecast period, fleet spending is limited to a pole trailer replacement in 2028 and dump trailer and pickup truck replacements in 2029, with no fleet purchases planned in 2027, 2030, or 2031.

These investments address known end-of-support timelines, cybersecurity requirements, and data integrity needs that have accumulated since the last DSP. They have been paced across the five-year horizon so that General Plant remains a modest, predictable component of LUI's capital program.

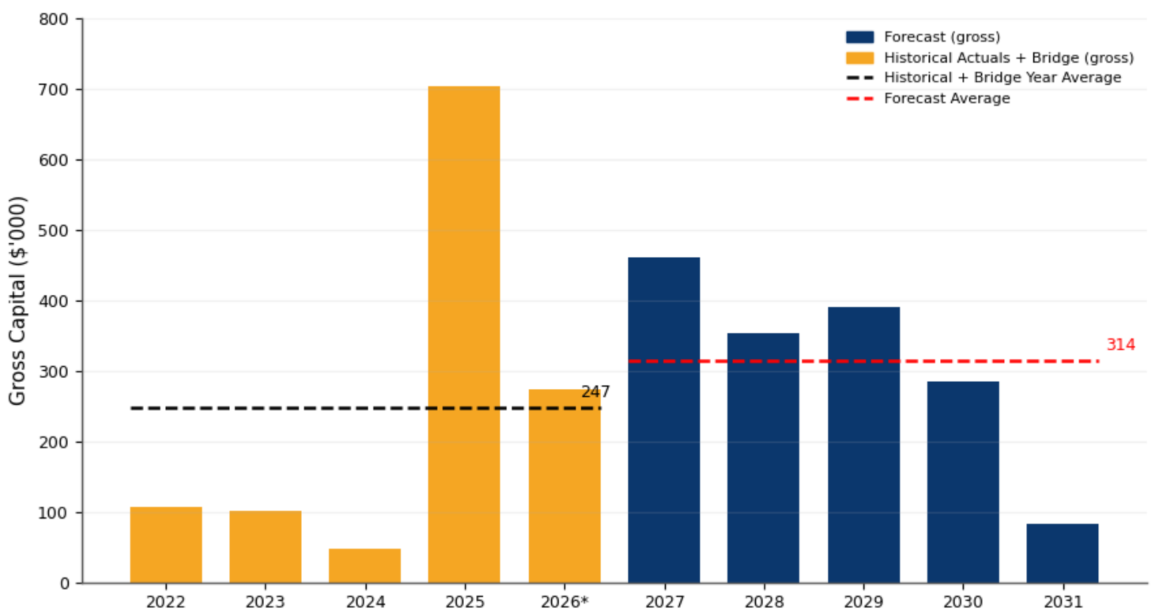

Figure 5.4-7: Capital Expenditures – General Plant

5.4.1.4 Key Capital Program Changes Since Last DSP

As described throughout the System Access, System Renewal, System Service, and General Plant sections, LUI has introduced several new or enhanced capital programs since its last DSP to address assets that are driving reliability issues, to modernize system operations, and to better support future growth and automation. Key modifications include:

- **AMI 2.0** - LUI has established the AMI 2.0 program to replace its aging meter fleet with next-generation two-way communicating meters, maintain Measurement Canada compliance, and deliver enhanced capabilities including interval data, remote connect/disconnect, outage notification, and voltage monitoring to support modern grid operations and improved customer service. Refer to Appendix L for more details.

- **Distribution System Automation and SCADA upgrades** - LUI has added a multi-year distribution automation program, as well as associated SCADA server and communications upgrades. This program responds to reliability analysis that highlighted the need for faster fault isolation, improved back-feed capability and better visibility of feeder conditions.

- **Reliability Improvement Program** - A new targeted program to install assets that support reliability improvement such as switching and protection improvements and animal guards to mitigate reliability risks associated with events that were captured during the historical period.

- **Completion of 4.16 kV conversion** - The forecast now includes a structured program to finalize 4.16 kV to 27.6 kV conversion and eventual decommissioning of legacy 4.16 kV stations. These investments address reliability risks associated with the legacy system.

- **Software Upgrades** – Planned software upgrades to its ERP, GIS, and CIS platforms to address system aging, vendor end-of-support timelines, and cybersecurity risk. These investments will modernize core business and operational systems, improve data integrity, streamline workflows, and strengthen LUI's digital foundation.

Together, these modifications represent a shift from primarily line-rebuild focused capital toward a more balanced portfolio that targets specific reliability drivers, modernizes system control, and renews critical station, metering and corporate support assets.

5.4.1.5 Forecasted Impact of capital expenditures on O&M

Relocation or replacement of existing plant with similar new assets generally results in little change to ongoing inspection and routine maintenance requirements. Line and station assets must still be patrolled and inspected in accordance with regulatory and internal standards. However, replacing older equipment with new assets can provide some life and reliability advantages that reduce reactive repairs and emergency work over time.

Replacement of end-of-life assets with new plant will still require ongoing O&M resources, but the nature of the work shifts. For many overhead assets such as poles, there are limited repair options and renewal tends to occur at end of life or when critically damaged. Proactive replacement can reduce in-service failures and associated outage restoration activity.

System support investments as Distribution System Automation and SCADA upgrades, and new CIS/ERP systems will introduce additional software licensing, communications, cybersecurity, data management and periodic upgrade costs. These will put upward pressure on some O&M lines. However, improved asset information, analytics and automation are expected to allow existing staff to work more efficiently (e.g., fewer truck rolls due to better outage location and remote switching, more efficient planning and scheduling, streamlined customer service and billing processes), helping to offset growth-related increases in field O&M activity.

Fleet and facilities investments (e.g., replacement of a pickup, trailers, minor building upgrades) are expected to reduce maintenance costs on the replaced units and support safe, reliable operations, with incremental ongoing costs that are modest relative to the total O&M budget.

Overall, as shown in Table 5.4-14, LUI does not expect the planned system investments to create a large step-change in total O&M costs beyond normal inflationary and growth pressures. The combined effect of reduced reactive maintenance and improved system and data tools is anticipated to largely offset the incremental operating costs associated with new automation, information systems and support assets, resulting in a neutral to slightly upward impact on O&M over the 2027–2031 DSP period.

Statement that there are no expenditures for non-distribution activities

LUI confirms that there are no expenditures for non-distribution activities in LUI's budget

5.4.2 Justifying Capital Expenditure

Customer Value

The July–August 2025 customer engagement identified three consistent priorities:

- Reliable power (particularly during adverse weather)
- Reasonable and predictable costs
- Timely outage restoration supported by clear outage communication.

These findings directly shaped the composition and pacing of the 2027–2031 capital plan (i.e. influencing which programs were advanced, which were deferred, and how spending was distributed across the five-year horizon).

System Access investments are prioritized to meet LUI's obligation to connect customers and respond to growth-related service needs in a timely manner. Capital contributions and economic evaluations are used to allocate costs fairly between new and existing customers, ensuring that growth-related spending does not place undue burden on existing customer base.

System Renewal investments are scoped to maintain asset condition, manage safety and reliability risk, and avoid a deterioration in service performance while keeping the overall capital envelope affordable. Unlike the historical and bridge-year period, which included a more concentrated rebuild phase, the forecast period includes 4 rebuilds and is driven primarily by condition-based asset replacements including pole replacements and pad-mounted transformer replacements, together with wye-delta conversion work. Renewal spending is paced across the DSP period to address the highest-priority condition and risk needs without creating unnecessary bill volatility.

System Service investments directly respond to customer priorities relating to reliability, outage duration, and restoration performance. The Distribution System Automation program, SCADA upgrades, and F7 expansion are targeted at feeders and areas with limited transfer capability, with the objective of reducing outage duration, improving switching flexibility, and strengthening restoration capability.

General Plant investments primarily software upgrades to GIS, ERP, and CIS platforms support the internal systems that LUI relies on to deliver accurate billing, responsive customer service, and effective asset management. These investments are modest in scale and have been paced to avoid rate impacts while addressing known end-of-support and cybersecurity risks.

Overall, the 2027–2031 capital plan reflects a deliberate balance between what customers told LUI they need (i.e. reliable power at reasonable cost) and what the system requires to deliver that over the long term. The highest-priority investments have been advanced, lower-priority work has been deferred where risk allows, and spending has been paced to keep bill impacts manageable. The plan also supports economic growth in LUI's service territory by ensuring timely connection of new residential and commercial developments, maintaining system reliability that supports business continuity, and maintaining the system reliability that businesses and residents depend on.

Technological Changes and Innovation

The 2027–2031 plan includes three technology-driven investments that address specific operational gaps identified through LUI's asset management and reliability analysis process.

- **Distribution System Automation:** The reliability analysis in Section 5.2.3 identified that LUI's worst performing feeders suffer from long restoration times not because assets are failing, but because faults cannot be remotely isolated and affected sections cannot be back-fed without manual crew intervention. The automation program addresses this directly by installing remotely operated switches, reclosers, and sectionalizing devices on priority feeders, combined with SCADA and communications upgrades that enable fault location, isolation, and service restoration without requiring a truck roll.

- **AMI 2.0:** LUI is implementing a structured program to replace its entire active meter fleet with next-generation two-way communicating meters. The program addresses overlapping drivers including Measurement Canada seal-expiry compliance, aging meter infrastructure, and the need for enhanced metering data to support modern grid operations. Within the 2027–2031 DSP period, the program will prioritize the highest-urgency cohorts while laying the procurement, communications infrastructure, and data management foundation required to support full fleet replacement by 2036. AMI 2.0 meters will provide two-way communications, interval data, remote connect/disconnect capability, tamper and outage notification, and voltage monitoring.

- **Modern Systems:** LUI's GIS, ERP, and CIS platforms are approaching vendor end-of-support timelines and present growing cybersecurity and data integrity risks that need to be addressed within the DSP period. Upgrades to these platforms will improve billing accuracy, internal work management, and asset data quality, including addressing data gaps identified in the 2025 ACA for underground cable and overhead conductor records while providing a more secure and reliable foundation for LUI's operational and customer-facing systems.

These three investments are connected. Better metering data improves outage detection, automation reduces restoration times, and modern back-office systems support the operational efficiency needed to deliver both. Together they represent LUI's transition from a manually operated distribution system toward one with improved visibility, faster response, and stronger data foundations for future planning.

Consideration of Traditional Planning Needs

LUI's capital plan is centered around three traditional planning drivers that are currently specific to its system:

- Modest but steady load growth from residential subdivisions.
- Wood pole and transformer population with a significant proportion approaching or past end-of-life.
- Reliability performance on specific feeders constrained by limited switching capability rather than asset failure.

The new Victoria MS28-3 station and associated feeder development addressed near-term capacity needs, while forecast feeder expansions (e.g., F7) and targeted reconductoring and sectionalizing work ensure that the system can accommodate expected future load growth and maintain adequate contingency.

The 2025 ACA identified that approximately one third of LUI's wood pole population is in Fair to Very Poor condition, and pad-mounted transformers show early signs of deterioration in a meaningful proportion of the fleet. Combined with feeder-level reliability analysis, these findings directly inform the following renewal priorities:

- Completing remaining 4.16 kV to 27.6 kV conversion on streets such as Spring, enabling eventual decommissioning of legacy 4.16 kV substations
- Feeder rebuilds on high-risk or high-impact circuits (e.g., Elgin and associated corridors)
- Pole and transformer renewal

Replacing all assets in Fair, Poor or Very Poor condition within a single DSP period would not be affordable and would exceed available internal and contractor resources. The plan therefore targets the highest-risk assets first and paces remaining work over multiple cycles — consistent with what customers confirmed in the July–August 2025 engagement, that they expect reliable service but also expect LUI to manage costs responsibly.

Overall Capital Expenditures

The 2027–2031 capital plan addresses LUI's most pressing system needs, including completing the voltage conversion, renewing the highest-risk poles and transformers, advancing distribution automation on the feeders with the longest restoration times, and modernizing core business systems. These investments have been paced to keep spending manageable for customers.

5.4.2.1 Material Investments

For the purposes of this DSP, LUI treats as material any discrete project or annual program with forecast gross capital expenditures of $50,000 or more in any year of the 2027–2031 period. This threshold is consistent with the Chapter 2 materiality guideline applicable to a utility of LUI's size and ensures that the DSP narrative and supporting evidence focus on the investments that drive the majority of forecast capital spending.

Material investments are supported by individual Material Investment Narratives (Appendix L) that summarize the investment need, scope, timing, alternatives, and expected benefits. Table 5.4-15 provides the 2027 test year material investment list and shows the 2027 estimated cost (net) for each included project or program. Forecast-period costs are reflected in the category-level capital tables in Section 5.4.1.2 and in the supporting capital schedules filed separately as part of this application.

Table 5.4-15: Test Year Material Investment List

Category	Project Code	Project Name / Description	2027 Test Year Estimated Cost (Net)
System Access	SA-001	Customer Economic Evaluation Assessments	$103,000
	SA-002	New Services	$72,100
	SA-003	AMI 2.0 Program	$263,721
System Renewal	SR-001	3PH Pad Transformer Replacements	$72,100
	SR-002	Pole Replacements	$61,800
	SR-003	Underground Miscellaneous	$58,710
	SR-004	Overhead Miscellaneous	$77,250
	SR-005	Engineering Design and Support Staff	$77,250
System Service	SS-001	Spring - Furnace to Orr (4.16kV to 28 KV Conversion)	$293,550
	SS-002	Misc 28kV Conversion (Spot Replacements)	$51,500
	SS-003	Distribution System Automation	$404,678
	SS-004	Advanced Lateral Protection	$105,000
General Plant	GP-001	Facilities	$61,800
	GP-002	Software Upgrades (ERP)	$208,575
	GP-003	Software Upgrades (GIS)	$125,000

5.4.2.2 Benefit-Cost Analysis Framework

As described in Section 5.3.5, LUI applies a qualitative pre-assessment to screen each identified system need for NWS viability before determining whether a formal BCA is required. Project-level NWS screening is included in the material investment narratives in Appendix L.

The BCA applies where the projected capital cost of the proposed solution to an identified electricity system need is $2 million or more, excluding general plant investments. Based on the 2027–2031 capital plan, no proposed investment included in this DSP meets that threshold. LUI is also not proposing any rate-funded NWS projects over the forecast period.

Accordingly, no formal BCA under the OEB's BCA Framework has been undertaken for the investments included in this DSP. The system needs identified over the planning horizon are being addressed through traditional distribution investments informed by asset condition, risk, reliability, operational, and customer service considerations.

LUI will continue to apply this screening approach as part of its ongoing planning process and will undertake further assessment including a formal BCA where warranted by the nature and scale of a future identified need.