EXECUTIVE SUMMARY

This application is for approval of Hydro One Networks Inc.'s (Hydro One or the Company) rates under a Custom Incentive Rate-Setting (Custom IR) framework, for a five-year test period commencing January 1, 2023 and ending December 31, 2027, for each of its Transmission business and its Distribution business (the Application). This is Hydro One's first joint application for the Transmission and Distribution businesses.[1]

Hydro One's proposed revenue requirement for the 2023 test year has been determined for each of the Transmission and Distribution businesses using a cost of service approach. The Transmission and Distribution revenue requirements for 2024-2027 will be determined formulaically using a proposed Custom IR model, with parameters specific to each business. Hydro One is requesting to recover its proposed Transmission revenue requirement through an amendment to Uniform Transmission Rates (UTRs), and its proposed Distribution revenue requirement through approval of distribution rates and charges as set out in this Application.

This exhibit provides an overview of the key aspects of the Application, as follows:

- Section 1 – Scope of the Application, including the relief requested
- Section 2 – Overview of Hydro One's business
- Section 3 – 2023-2027 Business Plan
- Section 4 – Customer engagement
- Section 5 – Productivity framework
- Section 6 – OM&A expenses
- Section 7 – 2023-2027 Transmission, Distribution, and General Plant System Plans (individually, the TSP, DSP or GSP), which provide the basis for planned Transmission, Distribution and General Plant capital expenditures

[1] Commonly used words or phrases are defined in the Glossary in Exhibit A-02-02.

- Section 8 – Performance measurement and independent expert studies
- Section 9 – Key financial components, including revenue requirement, rate base, cost of capital, and deferral and variance accounts
- Section 10 – Custom IR proposal
- Section 11 – Load forecast
- Section 12 – Cost allocation and rate design
- Section 13 – Bill impacts
- Section 14 – Conclusions

As the Application shows, Hydro One has – through a set of robust planning processes – developed 2023-2027 System Plans that are responsive to pressing system/asset needs and customer preferences. Further, the proposed 2023 OM&A expenditures reflect Hydro One's commitment to ongoing cost control and productivity savings. Given its demonstrated ability to execute large and complex work portfolios, Hydro One is confident that it can deliver the proposed plans, which benefit customers and have a reasonable rate impact.

- **Planning Framework** – As highlighted in Sections 7.1 to 7.3 below, Hydro One employs rigorous asset management and investment planning processes – in conjunction with comprehensive customer engagement – that are designed to identify and target key investment needs, drive customer-oriented outcomes, and mobilize an enterprise-wide approach to fact-based decision making. In particular, the choices and trade-offs that led to the final plans are backed by data related to system and asset needs (including equipment condition and performance in the field) and the risk mitigation impact of investment solutions on outcomes valued by customers. In this manner, Hydro One was able to evaluate, compare and consolidate investments across a range of functions and asset categories, while maintaining consistency and rigor in the underlying criteria and processes.
- **Transmission Capital Plan** – Over the 2023-2027 period, Hydro One plans to invest an average of $1,452M per year in Transmission capital, for a total of $7,258M. System Renewal investments (accounting for 82% of this total) are required to address assets

that pose significant reliability, safety and/or environmental risks – including large populations of network and connection station assets that are in poor condition, obsolete or inadequately performing as well as transmission conductors and line components that are in poor condition. System Service and System Access investments (10% of the total) are required to meet mandatory service and planning obligations, including regional infrastructure needs to alleviate system constraints and accommodate load growth (e.g., in Windsor-Essex, where electricity demand is expected to double in the next 5 years).[2]

- **Distribution Capital Plan** – From 2023 to 2027, Hydro One plans to invest an average of $1,059M a year in Distribution capital, for a total of $5,297M. System Renewal investments (43% of this total) will address poor condition assets (including a subset of poor condition poles, line sections and station assets that pose significant reliability risk) as well as various non-discretionary needs. In fact, the majority of System Renewal expenditures pertain to mandatory or demand drivers, including the replacement of failing or failed station assets, trouble calls/storm response, polychlorinated biphenyl (PCB) equipment phase-out, and replacement of the legacy Advanced Metering Infrastructure 1.0 system (as meters reach end of service life, experience increasing failures, and lead to adverse compliance and service impact). System Access (21% of the total) responds to mandatory regulatory or service obligations, such as new connections and the sustainment of existing metering infrastructure. System Service (19% of the total) includes, among other things, grid modernization and battery storage projects to improve reliability for customers and communities that suffer from poor reliability of service (consistent with customer preference for accelerated spending in these areas).[3]
- **Transmission OM&A** – Hydro One proposes a Transmission OM&A budget of $420.5M for 2023 to meet public and employee safety objectives, maintain transmission system reliability, and comply with regulatory requirements. Notwithstanding incremental

[2] The remaining 8% of the proposed TSP are attributable to General Plant investments.
[3] The remaining 17% of the proposed DSP are attributable to General Plant investments.

needs for 2023 (i.e., to address deferred station maintenance, security risks, and overhead corrective maintenance), the proposed 2023 budget represents a little more than an inflationary increase over the 2020 to 2023 period. This is largely a result of Hydro One's ongoing commitment to achieving productivity savings and sustained cost control.

- **Distribution OM&A** – Hydro One proposes a Distribution OM&A budget of $597.5M for 2023 to meet public and employee safety objectives, maintain distribution system reliability, and comply with regulatory requirements. This budget represents a less than inflationary increase over the period from 2018 to 2023. In fact, when the proposed total is normalized (i.e., excluding non-service costs component of Other Post-Employment Benefits (OPEBs) and OM&A for the former Norfolk Power, Haldimand County Hydro and Woodstock Hydro (the Acquired Utilities) on the same basis as the amounts approved in the prior distribution application, the equivalent 2023 amount is $36.4M (or 6.1%) lower than the 2018 approved OM&A escalated by inflation. This is a result of Hydro One's cost control initiatives and productivity savings.[4]
- **Historical Performance** – Hydro One has demonstrated its ability to deliver sizeable work programs and achieve strong performance results, including as reported through various Transmission and Distribution scorecards (see TSP Section 2.5 and DSP Section 3.5), assessed by independent studies that compare Hydro One's performance against peer utilities or its own past performance (see TSP Section 2.3 and DSP Section 3.3), and evidenced by a track record of delivering its large and complex work portfolios within or close to approved expenditures levels (see TSP Section 2.9 and DSP Section 3.9). For the 2023-2027 plan, Hydro One remains committed to measuring and tracking its

[4] Notably, Hydro One Distribution's ability to manage OM&A costs in recent years has been recognized in the industry, including in a June 15, 2021 C.D. Howe Institute report that noted: "While other LDCs saw their average administrative expense per customer rise 5% from $158 per customer in 2014 to $166 per customer in 2019, Hydro One's fell by 36% from $244 per customer to $155 per customer over the same period." (see https://www.cdhowe.org/sites/default/files/attachments/research_papers/mixed/e-brief_316_0.pdf, p. 6).

performance to ensure that its plans are efficiently and successfully executed to realize outcomes that benefit customers.

- **Rate Impact** – The proposed capital plans and OM&A expenditures entail revenue requirements and rate impacts that are reasonable relative to the significant value provided to ratepayers through efficient, safe and reliable operations. On a combined Transmission and Distribution basis, the estimated total monthly bill impact for a typical Hydro One medium density (R1) residential customer (750 kWh/month) is a decrease of 2.1% ($3.20) in 2023 and an average annual increase of 1.1% ($1.68) over the Application period. The estimated total monthly bill impact for a typical Hydro One GSe< 50 kW customer (2,000 kWh/month) is a decrease of 2.2% ($9.22) in 2023 and an average annual increase of 0.9% ($3.75) over the Application period.

1.0 SCOPE OF THE APPLICATION

On March 16, 2018, the Ontario Energy Board (OEB) issued a letter directing Hydro One to file a single application for distribution rates and transmission revenue requirement for a test period commencing in 2023.[5] This Application responds to the OEB's direction by seeking approval for distribution rates and transmission revenue requirement for Hydro One's Distribution business and Transmission business, respectively, for the period 2023-2027. Hydro One's Distribution business is currently governed by a Rate Order (EB-2017-0049) for the period 2018-2022. Hydro One's Transmission business is currently governed by a Rate Order (EB-2019-0082) for the period 2020-2022. The System Plans comply with the OEB's Filing Requirements for Electricity Distribution Rate Applications Chapters 2 and 5 (June 24, 2021) and the OEB's Filing Requirements for Electricity Transmission Applications (February 11, 2016), as applicable (collectively, the Filing Requirements).

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[5] See https://www.rds.oeb.ca/CMWebDrawer/Record/602425/File/document and https://www.rds.oeb.ca/CMWebDrawer/Record/648487/File/document, which provide the OEB's original direction on filing a joint rate application and its subsequent confirmation that the joint rate application should not include Hydro One Remote Communities Inc. as originally contemplated.

This Application includes Hydro One's five-year TSP, DSP and GSP. These are accompanied by a System Plan Framework (SPF) that includes elements that are common to all three plans (together with the TSP, DSP and GSP, the System Plans). The System Plans are responsive to the OEB's direction to apply for rates and revenue requirement for the Distribution and Transmission business segments in a single application. Although there are common elements to the System Plans, such as the customer engagement process, the investment planning process and the productivity framework, the majority of the plans reflect the unique and distinct nature of the Transmission and Distribution businesses through the TSP and DSP. General Plant assets, which are shared between Transmission and Distribution, are reflected in the GSP.

Consistent with the Filing Requirements and using a standardized approach and structure, the System Plans provide a consolidated set of documentation about Hydro One's asset management process and capital expenditure plans for its transmission and distribution systems and common support infrastructure. The System Plans also provide related information about the steps Hydro One has taken to coordinate its planning with third parties, identify and take into account customer needs and preferences, as well as measure performance to support continuous improvement.

In this Application, Hydro One is requesting the OEB's approval for, among other things, a transmission rates revenue requirement of $1,763.3M for 2023 and base distribution revenue requirement of $1,586.0M for 2023.[6] Further details about Hydro One's requested relief are included in Exhibit A-02-01. Approval of this Application results in the following bill impacts:

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[6] This Application does not include the former Orillia Power Distribution Corporation service area, the former Peterborough Distribution Inc. service area, Hydro One Sault Ste. Marie LP or transmission lines projects that are expected to be owned by and included in the rate base of new transmission-licenced partnerships (which projects are being addressed in a separate application to the OEB to establish a deferral account (EB-2021-0169); see further details at Exhibit A-07-02 and TSP Section 2.8).

Table 1 - Illustrative Combined Bill Impacts of the Proposed Changes in Transmission and Distribution Revenue Requirements[7]

Rate Class	Monthly Consumption (kWh)		2023		2024		2025		2026		2027		5-year average	
			Change in Total Bill ($)	Change in Total Bill (%)	Change in Total Bill ($)	Change in Total Bill (%)	Change in Total Bill ($)	Change in Total Bill (%)	Change in Total Bill ($)	Change in Total Bill (%)	Change in Total Bill ($)	Change in Total Bill (%)	Change in Total Bill ($)	Change in Total Bill (%)
R1 (without DRP)	750	DX Impact*	($2.78)	-1.8%	$1.40	0.9%	$2.36	1.5%	$3.18	2.0%	$2.26	1.4%	$1.29	0.8%
		TX Impact**	($0.43)	-0.3%	$0.49	0.4%	$0.61	0.5%	$0.77	0.6%	$0.52	0.4%	$0.39	0.3%
		Combined Impact	($3.20)	-2.1%	$1.89	1.3%	$2.97	2.0%	$3.95	2.6%	$2.78	1.8%	$1.68	1.1%
GSe	2,000	DX Impact*	($8.32)	-2.0%	$1.43	0.4%	$6.12	1.5%	$8.38	2.0%	$6.99	1.7%	$2.92	0.7%
		TX Impact**	($0.90)	-0.2%	$1.03	0.3%	$1.30	0.3%	$1.62	0.4%	$1.11	0.3%	$0.83	0.2%
		Combined Impact	($9.22)	-2.2%	$2.46	0.7%	$7.42	1.8%	$10.00	2.4%	$8.10	2.0%	$3.75	0.9%

** Distribution (DX) Impacts shown here can be found in Tables 1 to 5 of Exhibit L-6-1*
*** Transmission (TX) Impacts shown here can be found in Tables 3 and 4 of Exhibit H-10-1*

On a Transmission only basis, the estimated total monthly bill impact for a typical Hydro One medium density (R1) residential customer (750 kWh/month) is a decrease of 0.3% ($0.43) in 2023 and an average annual increase of 0.3% ($0.39) on monthly bills over the Application period. For a typical Hydro One GSe< 50 kW customer (2,000 kWh/month), the estimated total monthly bill impact is a decrease of 0.2% ($0.90) in 2023 and an average annual increase of 0.2% ($0.83) on monthly bills over the Application period.

The average bill impact of the Transmission portion of this Application for a transmission-connected customer is a decrease of 0.2% in 2023 and an average annual increase of 0.2% over the Application period, as detailed in Section 13.1, below.

On a Distribution only basis, the estimated total monthly bill impact for a typical Hydro One medium density (R1) residential customer (750 kWh/month) is a decrease of 1.8% ($2.78) in 2023 and an average annual increase of 0.8% ($1.29) on monthly bills over the Application period. For a typical Hydro One GSe< 50 kW customer (2,000 kWh/month), the estimated total

[7] Bill impacts shown in this table are for illustrative purpose only. In reality, there typically is a lag between when the approved Uniform Transmission Rates (UTRs) are reflected in the RTSRs for distribution customers. For example, Hydro One's approved 2021 RTSRs are based on 2020 Interim UTRs.

monthly bill impact is a decrease of 2.0% ($8.32) in 2023 and an average annual increase of 0.7% ($2.92) on monthly bills over the Application period.

2.0 OVERVIEW OF HYDRO ONE'S BUSINESS

Hydro One carries on the business of owning and operating electricity transmission and distribution facilities in Ontario pursuant to licenses (ET-2003-0035 and ED-2003-0043) from the OEB. Hydro One is an indirect subsidiary of Hydro One Ltd., which is publicly traded on the Toronto Stock Exchange (H). Hydro One uses US GAAP as its basis of accounting for both financial and regulatory purposes.[8]

The Transmission and Distribution businesses of Hydro One are two fundamentally different regulated businesses from the perspective of functions, operations, customers and customer needs. Although each business relies upon shared resources such as employees and a fleet of general plant assets (including real estate and facilities, transport and work equipment, as well as information and operating technology), which are critical to each business' function and reliability, the system planning, operations and maintenance activities of each business must be conducted separately.

Hydro One's transmission grid is the backbone of Ontario's electricity system. The system serves approximately 98% of the Province by capacity and covers some of the most challenging and diverse geographies in Canada. The company's transmission system is comprised of approximately 291 transmission stations and approximately 29,000 circuit-kilometers of high-

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[8] As discussed in Exhibit A-06-01, the OEB has stated that the continued use of US GAAP for regulatory purposes is to be considered as part of the current joint rate application and that Hydro One is required to provide certain analysis on this issue. Based on Hydro One's evaluation, supported by analysis from PricewaterhouseCoopers LLP, it has determined that there are no significant benefits to be gained by transitioning to IFRS, that even if there were significant benefits to transitioning it would be premature to do so given the ongoing uncertainty regarding the timing and substance of final standards, and that maintaining the use of US GAAP would avoid disruption to the business and avoid costs for ratepayers and the utility.

voltage lines and towers operating at 500 kV, 230 kV or 115 kV. Hydro One's system transmits electricity from generation sources to load customers, including 38 local distribution companies (LDCs), Hydro One's own distribution system, and 83 large industrial customers that are directly connected to the transmission system. In addition, Hydro One's transmission system enables the operation of all other licensed transmission systems in Ontario, including Canadian Niagara Power Inc., Five Nations Energy Inc., Hydro One Sault Ste. Marie LP, Niagara Reinforcement Project Limited Partnership, and B2M Limited Partnership. It is also linked to five jurisdictions adjacent to Ontario through 25 high-voltage interconnections.

Hydro One's distribution system delivers electricity at voltages below 50 kV from the transmission system to its end-use customers, which consist of approximately 1.4M predominantly rural Residential and Small Business customers. The distribution system also delivers electricity to Commercial & Industrial customers, Embedded Local Distribution Companies and other Large Distribution Account customers, and delivers electricity from distribution-connected generation facilities. The distribution system employs more than 123,000 km of distribution circuits, spanning a vast area of the province with varying customer densities and regional needs such as forestry, weather patterns, and load growth.

Hydro One prioritizes transmission and distribution system investments separately for each of these business segments, consistent with Transmission and Distribution having discrete drivers and considerations that inform and underpin the System Plans, separate OEB licenses and rate approvals, distinct customers, and separate revenue requirements. Common general plant investments are allocated, based on the methodology established in the Black & Veatch shared asset allocation study (See Exhibit C-03-01), and are included within each segment based on business drivers.

3.0 HYDRO ONE'S BUSINESS PLAN

Hydro One's 2023-2027 Business Plan supports Hydro One's strategic objectives, which are outcomes-driven, customer-centred and aligned with the OEB's Renewed Regulatory Framework for Electricity (RRF). The Business Plan process is a robust exercise that is typically conducted annually. The 2023-2027 Business Plan, which underpins the proposed funding framework and levels in this Application, was approved by Hydro One's Board of Directors in May 2021. Hydro One's fully integrated business planning process incorporates investment planning, business planning (including resource planning), regulatory, and customer engagement processes. In particular, Hydro One ensured that the results of its two-phase customer engagement were appropriately considered and reflected, as further discussed in Section 4.0 below and Sections 1.6 and 1.7 of the SPF.

The sections that follow further discuss the key inputs and considerations that informed the 2023-2027 Business Plan, including customer engagement (Section 4.0), productivity savings (Section 5.0), and performance measurement and third party expert studies (Section 8.0).

A full copy of Hydro One's 2023-2027 Business Plan is provided as Attachment 1 to this Exhibit.

4.0 CUSTOMER ENGAGEMENT

Hydro One undertook a number of customer engagement activities through which it gained a clear understanding of the needs and preferences of its Distribution and Transmission customers, and of the outcomes that are of greatest value to them. This understanding, and underlying customer feedback, has been integrated into Hydro One's investment planning process.

In 2019, Hydro One engaged an independent third party research and consultation firm (Innovative Research Group – IRG) to develop and conduct a comprehensive customer engagement study for purposes of this joint rate application. In conducting the study over the course of 2019 and 2020, IRG employed a two-phased approach that gave all customers the opportunity to participate and provide feedback that was taken into account in Hydro One's investment planning process, as discussed in Section 7.3 below and detailed in SPF Sections 1.6 and 1.7. This is the most comprehensive customer engagement Hydro One has ever undertaken, collecting input from more customers than any other similar engagement in Ontario to-date (to Hydro One's knowledge). In total, over 48,000 customers participated in this study through various types of activities, including focus groups, in-depth interviews, telephone surveys, and online workbooks.[9] The activities also included conversations with First Nations, the Métis Nation of Ontario, Municipalities and Other Stakeholders.

The proposed investment plans are closely aligned with customer needs and preferences. The results of the IRG study indicate strong customer support for the draft plans – customers across all segments support the investments in the plans and are willing to accept bill increases in return for these investments.[10] Throughout both phases of the study, customers sent a clear message that they expect Hydro One to be a good steward of the electricity system in Ontario and make the investments necessary to maintain the system for future generations.[11] Customers are in favour of replacing distribution and transmission assets when or before they deteriorate and are willing to pay more for investments that improve reliability or the overall health of the system.[12] Customers see value in investing in grid modernization and support technology investments that reduce costs, improve reliability, and help customers manage electricity usage.[13] Feedback from the customer engagement study was integrated directly into the development, and then finalization, of the investment plans.

In addition to the IRG customer engagement study, Hydro One regularly engages with its customers in various other ways. Additional customer feedback received through other forms of

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[9] IRG Report p. 25
[10] IRG Report p. 26
[11] IRG Report p. 26
[12] IRG Report p. 5
[13] IRG Report p. 5

engagement was also taken into account in, and helped inform, the investment planning process. These other forms of engagement include in-depth conversations with (and input received from) large customers through the Account Executive Program, as well as engagements with First Nations communities and municipalities. Other activities, such as customer satisfaction research, conversations with customer service representatives in its contact centers, and regular dialogue with industry stakeholders and consumer groups inform Hydro One's business on an ongoing basis.

In respect of Indigenous Relations, for over ten years Hydro One has engaged, and continues to engage, with First Nations and Métis communities through ongoing relationship building efforts. Hydro One seeks input from First Nations and Métis to understand their specific customer needs and preferences with respect to its distribution and transmission systems.

Further details regarding Hydro One's customer engagement activities are provided in SPF Section 1.6 and the attachments to that exhibit. Further details relating to Hydro One's First Nations and Métis Relations Strategy are provided in Exhibit A-07-02.

5.0 PRODUCTIVITY FRAMEWORK

Hydro One's commitment to achieving incremental and continuous productivity improvements is central to the planning and execution of work programs across the Company. In this regard, and to further its commitment to delivering outcomes that are valued by its customers, Hydro One continues to execute its comprehensive and rigorous process for productivity – a process that develops, implements, monitors and measures productivity initiatives that will reduce costs while maintaining or improving service quality and work outputs (the Productivity Framework). The Productivity Framework has resulted in significant cost savings and benefits to ratepayers since its inception, and will continue to do so. The Productivity Framework and associated savings are further described in SPF Section 1.4.

In response to an OEB direction, Hydro One engaged an external consultant, Concentric Energy Advisors (Concentric), to independently review and assess the Productivity Framework. Concentric found that the Productivity Framework is an effective program (meeting all of the objective criteria for an effective program), and stands out as a strong and robust program compared to that of utility peers across North America. Concentric's conclusions included that "Hydro One's Productivity Framework stands out as being particularly robust, well defined, and transparent and distinguishes itself in its continuity and scope", and that it "is focused on delivering hard cost savings that can be measured, validated, and included in the Company's business planning." Concentric's report, detailing its findings and conclusions, is provided as Attachment 2 to SPF Section 1.4.

Consistent with best practices confirmed by Concentric, and also in response to feedback from prior proceedings, Hydro One has updated and enhanced its Productivity Framework in connection with this application and going forward. This includes updating and resetting the baseline of its productivity initiatives beginning in 2023, which (among other benefits) will: demonstrate a clear link to continuous improvement during the 2023-2027 period relative to prior proceedings; and embed historical achievement of existing initiatives in the new baseline, so as to measure and report on incremental savings over and above the prior and continuing savings from those initiatives.

A further enhancement relates to progressive productivity. Hydro One has updated and enhanced its approach to directly benefit customers. Hydro One will achieve its progressive productivity targets in connection with the Custom IR Framework through the productivity factors and the supplemental stretch factors it is proposing on capital. This provides direct and upfront savings and revenue requirement reductions to customers. Further, the productivity and supplemental stretch factors on capital will be applied in a cumulative manner in each year of the Application. This represents a change from Hydro One's previous Custom IR frameworks and results in a significant upfront revenue requirement reduction for customers.

This updated approach to achieve new and incremental productivity savings will meaningfully incent capital and OM&A savings that align with the annual, formulaic reductions to the revenue requirement. Productivity savings will be measured and tracked at the initiative level using Hydro One's Productivity Framework for both Transmission and Distribution businesses. As part of the Productivity Framework, Hydro One will continue to report on its productivity savings to senior leadership on a monthly basis.

Past and continuing productivity savings are embedded in the 2023-2027 plan. Hydro One's current productivity plan is expected to achieve approximately $351M of savings in 2022 between Transmission and Distribution based on the current measurement approach. This is the equivalent of reducing revenue requirement by $52M and $115M in 2023, for each of Transmission and Distribution, respectively. In other words, had Hydro One not implemented these productivity initiatives, while holding output constant, 2023 revenue requirement would be greater by these amounts. Ratepayers will continue to receive the benefit of these initiatives as planning at this level of efficiency has become part of normal business practice.

In addition and incrementally, ratepayers will also receive the benefit of the value of the stretch factors and supplemental stretch on capital in revenue requirement, derived using the methodology detailed in Exhibit A-04-02 and Exhibit A-04-03. For Transmission and Distribution respectively, this translates to a total of approximately $24M and $60M of revenue requirement reductions across 2023-2027. Incremental benefits will be achieved by identifying new initiatives as well as incremental achievement of current initiatives versus their updated baselines.

In summary, Hydro One will use the Productivity Framework to execute and achieve the stretch factor reductions to revenue requirement while meeting planned deliverables and outcomes. Any incremental savings in Capital and OM&A beyond those embedded in Hydro One's Application as part of the Custom IR framework both for Transmission and Distribution will result in a lower rebasing in Hydro One's next application for 2028, and incremental OM&A

savings may accrue to the ratepayer through the Earning Sharing Mechanism (ESM) during the rate period.

6.0 OPERATIONS, MAINTENANCE AND ADMINISTRATION (OM&A) EXPENSES

Hydro One is seeking approval of a total 2023 test year OM&A of $420.5M for the Transmission business, and $597.5M for the Distribution business. Hydro One's OM&A expenditures are comprised of the work required to meet public and employee safety objectives, maintain system reliability at targeted performance levels, and comply with legislative and regulatory requirements. The OM&A budgets have been set in order to deliver outcomes valued by customers, while balancing the needs of the systems and customer rate impacts.

A detailed summary of forecast OM&A expenses for the 2023 test year, along with envelope level variance explanations relative to the last approved rebasing year, the most recent year of actuals, and the forecast years leading up to 2023, are provided at Exhibits E-02-01 and E-03-01 for Transmission and Distribution, respectively.

6.1 TRANSMISSION OM&A EXPENDITURES

Hydro One Transmission's OM&A expenditures are comprised of the work required to meet public and employee safety objectives, maintain transmission system reliability at targeted performance levels, and comply with legislative and regulatory requirements, including those specified by the Transmission System Code, the North American Reliability Corporation (NERC), the Independent Electricity Systems Operator (IESO) and the federal environmental legislation associated with the PCB program.

Hydro One's 2023 test year OM&A budget of $420.5M represents a little more than an inflationary increase over the 2020 to 2023 period. Specifically, the 2023 test year OM&A is $11.9M (or 2.9%) higher than the 2023 amount that would result from escalating the 2020 OEB approved OM&A by inflation, which is $408.6M, as shown in Table 2 below.

Table 2 - 2023 Transmission OM&A Comparison

	($M)	**2023**
A	2023 Transmission Test Year OM&A	420.5
B	2020 OEB-Approved Transmission OM&A Escalated by Inflation in 2023 Terms[14]	408.6
C=A-B	Variance	11.9
D=C/B	% Change	2.9%

**Exhibit reference: E-02-01, Tables 1*

The modest increase to the 2023 OM&A budget also reflects the steps Hydro One has taken to implement two challenging historical reductions. First, in 2019 Hydro One filed an inflationary adjustment application rather than rebasing. In that application, Hydro One reduced its transmission OM&A by finding some permanent savings and by making some temporary, one-time reductions to OM&A. Second, the OEB cut Hydro One's requested OM&A in the Prior Transmission Application (EB-2019-0082) by $10.1M, which in turn similarly reduced 2021 and 2022 OM&A by virtue of the Custom IR formula.

Total Actual/Forecast OM&A for 2020-2022 is less than one percent higher than total OM&A amount included in the OEB-approved revenue requirement for the same period,[15] reflecting Hydro One's ability to control its costs and achieve productivity notwithstanding unplanned expenditures associated with COVID-19.

Starting in 2023 Hydro One needs to increase its OM&A spending mainly to: (i) address deferred stations maintenance that allowed Hydro One to continue funding PCB remediation work as planned in 2019-2022; (ii) address security needs related to evolving security threats and NERC CIP standards; and (iii) fund planned corrective maintenance work on overhead lines.

[14] Inflation rate of 2.0% was used annually, which is equal to the OEB-approved inflation rate from Hydro One's Transmission annual rate update application in EB-2020-0202.

[15] Calculated based on the Custom IR formula. For 2021 this is per the OEB-approved formula in *EB-2020-0202.* The 2022 amount was derived by applying the inflation rate less stretch factor equal to the OEB approved rate in *EB-2020-0202.*

The budgeted OM&A costs have been reduced by expected productivity savings, and reflect sustained cost control. Forecasted OM&A productivity savings through to the end of 2022 are reflected in the OM&A budget in 2023, by having these OM&A efficiencies become part of regular business planning and thus reducing upward pressure on future OM&A expenditures. These forecasted and continuing savings help to reduce the OM&A amounts being requested in this Application.

Table 3 provides a summary of OM&A expenditures for the historical, bridge, and test years. The 2020 OEB-approved funding is presented at the total envelope level, consistent with the envelope funding approved by the OEB in the Prior Transmission Application (EB-2019-0082). OM&A for 2024 to 2027 will be determined by the custom IR formula.

Table 3 - Summary of Recoverable OM&A Expenses ($M)

	Historical					Bridge	Test
	2018	2019	2020		2021	2022	2023
Transmission	**Actual**	**Actual**	**Actual**	**OEB-Approved**	**Forecast**	**Forecast**	**Forecast**
Sustainment	229.4	207.8	200.9	-	205.2	208.3	219.6
Development	5.2	4.4	6.7	-	8.3	8.9	8.6
Operations	53.4	51.0	47.9	-	48.8	48.6	49.0
Customer Care	11.0	7.2	7.0	-	6.0	6.7	6.9
Common and Other	54.9	26.7	70.5	-	51.6	50.7	65.0
Property Taxes and Rights Payments	65.3	60.8	65.4	-	69.1	70.2	71.4
Total	**419.2**	**357.9**	**398.5**	**385.0**	**389.0**	**393.4**	**420.5**

**Exhibit reference: E-02-01, Table 2*

In respect of compensation costs for both Transmission and Distribution, in order to prudently manage its overall costs, Hydro One has carefully planned its workforce resourcing requirements (in respect of both size and composition of workforce) to execute its work plan in an efficient and cost-effective manner – resulting in only a small increase in FTEs notwithstanding the significant increase in planned work over the rate period. Further, and in response to the OEB's direction in the Prior Transmission Application, Hydro One engaged Mercer to conduct an updated benchmarking study. The Mercer study results show that Hydro One has made significant progress in addressing its compensation levels relative to market – they have improved from being 12% above the P50 market median and 7% above the market range as of 2017, down to 9% above the P50 median and 4% above market as of 2020 (within +/- 5% of the P50 median is considered to be ‘at market’). Additionally, this Application includes Hydro One’s plan to further improve its levels of pay relative to market by 2027, working within the constraints of the collective bargaining regime. Details regarding the steps taken by Hydro One to manage its overall costs, the updated Mercer benchmarking study, and the plan to continue to further improve levels of pay relative to market, are discussed in Exhibit E-06-01.

Hydro One’s Transmission-allocated compensation costs in 2022 and 2023 are summarized in Table 4 below. Further details are provided in Exhibit E-06-01. Hydro One’s Distribution-allocated compensation costs in 2022 and 2023 are summarized in Section 6.2 below.

Table 4 - Summary of Total Transmission-Allocated Compensation Costs ($)

	2022 Bridge	**2023 Test**	**Change**
Capital - Transmission Compensation	478,188,667	498,172,879	19,984,212
OM&A - Transmission Compensation	188,955,014	195,673,989	6,718,975
Total Transmission Compensation	**667,143,681**	**693,846,868**	**26,703,187**

**Exhibit reference: E-06-01-02A*

6.2 DISTRIBUTION OM&A EXPENDITURES

Hydro One Distribution’s OM&A expenditures are comprised of work required to meet public and employee safety objectives, maintain distribution system reliability at targeted performance levels, and to comply with regulatory requirements, including those specified within the Distribution System Code, and the federal environmental legislation associated with the PCB program.

Hydro One is seeking approval of a 2023 test year OM&A budget of $597.5M (including OM&A related to the Acquired Utilities). This 2023 budget represents a less than inflationary increase over the period from 2018 to 2023. Specifically, the 2023 test year OM&A is $4.1M (or 0.7%) lower than the amount that would result from escalating the 2018 OEB approved OM&A[16] by inflation, which is $601.6M. Further, when the 2023 test year OM&A amount is normalized[17] on the same basis as the amounts approved in the prior application, the equivalent 2023 OM&A is in fact approximately $36.4M (or 6.1%) lower than the 2018 approved OM&A escalated by inflation, as outlined in Table 5 below.

Table 5 - 2023 OM&A Comparison

	($M)	**2023**
A	2023 Distribution Test Year OM&A	597.5
B	Less: 2023 non-service costs component of OPEBs[18]	(20.1)
C	Less: 2023 Acquired Utilities' OM&A	(12.2)
D=A-B-C	2023 Equivalent Distribution Test Year OM&A	565.2
E	2018 OEB-Approved Distribution OM&A Escalated by Inflation in 2023 Terms	601.6
F=D-E	Variance	(36.4)
G=F/E	% Change	(6.1%)

**Exhibit reference: E-03-01, Tables 1*

Through its successful implementation of cost control initiatives and achievement of productivity, Hydro One is able to keep Distribution OM&A costs below the rate of inflation. That is the case even though the 2023 test year OM&A reflects the impacts of implementing the OEB's decisions in the 2018-2022 Distribution application and the 2020-2022 Transmission application (specifically in respect of the non-service cost component of OPEBs). Relative to amounts forecasted in the 2018-2022 Distribution application, there is higher achieved productivity due to various initiatives. This productivity benefit continues into 2023 by having

[16] 2018 is the test year of the prior Custom IR period, which was the year approved by the OEB, with 2019 to 2022 then resulting from the Custom IR Framework.
[17] For non-service costs component of OPEBs and Acquired Utilities' OM&A.
[18] To equate the 2023 OM&A to 2018 levels for comparison purposes, a normalization for non-service cost component of OPEBs of $20.1M was applied to 2023, as it was not previously included in the 2018 approved OM&A and consistent with the Transmission decision in EB-2019-0082.

these OM&A efficiencies become part of regular business planning and thus reducing upward pressure on future OM&A expenditures.

The total Actual/Forecast OM&A for the period of 2018-2022 is in fact lower by $54M than the total OM&A amount included in the OEB-approved revenue requirement for the same period,[19] further reflecting Hydro One's cost controls and incremental productivity achievements that more than offset unplanned expenditures such as incremental costs associated with COVID-19.

Table 6 provides a summary of OM&A expenditures for the historical, bridge, and test years. The 2018 OEB-approved funding is presented at the total envelope level, consistent with the envelope funding approved by the OEB in Hydro One's Prior Distribution Application (EB-2017-0049). OM&A for 2024 to 2027 will be determined by the Custom IR formula.

Table 6 - Summary of Recoverable OM&A Expenses ($M)

Distribution	Historical					Bridge	Test
	2018	2018	2019	2020	2021	2022	2023
	OEB-Approved	Actual	Actual	Actual	Forecast	Forecast	Forecast
Sustainment	-	312.3	347.1	324.9	299.6	303.6	311.4
Development	-	7.5	7.1	6.0	10.0	10.2	11.0
Operations	-	37.3	36.6	33.0	39.7	41.3	40.8
Customer Care	-	111.7	97.8	111.2	108.6	107.9	118.3
Common and Other	-	84.9	66.3	79.7	68.0	67.0	110.0
Property Taxes & Rights Payments	-	5.1	4.6	5.4	5.6	5.8	6.0
Total	**544.4**	**558.8**	**559.6**	**560.2**	**531.4**	**535.8**	**597.5**

**Exhibit reference: E-03-01, Tables 2*

[19] Calculated based on the Custom IR formula. For 2019-2021, this is per the OEB approved formula in *EB-2017-0049, EB-2019-0043, and EB-2020-0030.* The 2022 amount was derived by applying the inflation rate less stretch factor equal to the OEB approved rate in *EB-2020-0030.*

In respect of compensation costs, Hydro One's total Distribution-allocated compensation costs are summarized in Table 7 below. Further details are provided in Exhibit E-06-01.

Table 7 - Summary of Total Distribution-Allocated Compensation Costs ($)

	2022 Bridge	2023 Test	Change
Capital - Distribution Compensation	395,241,353	406,071,193	10,829,840
OM&A - Distribution Compensation	379,295,578	391,638,108	12,342,530
Total Distribution Compensation	**774,536,931**	**797,709,300**	**23,172,369**

**Exhibit reference: E-06-01-02A*

7.0 SYSTEM PLANS

This section summarizes the major drivers and elements of Hydro One's five-year System Plans. It summarizes Hydro One's capital planning process and the proposed capital spending over the 2023-2027 planning period.

The planning framework that underpinned each of the TSP, DSP and GSP is informed by the Company's planning strategy and consists of two interrelated processes. First is a thorough and ongoing asset management process that involves the monitoring and review of power system and common infrastructure assets (including condition assessments), as well as identifying and scoping investment candidates (Asset Management). This is followed by a risk-based investment planning process through which investment candidates are reviewed, prioritized and optimized, and narrowed into an achievable set of planned investments that help drive Hydro One towards achieving its intended outcomes (Investment Planning).

7.1 STRATEGY & CONTEXT

Hydro One's planning process began with consideration of its Strategic Priorities, the OEB's RRF outcomes, and customer engagement findings. Hydro One's Strategic Priorities reflect the Company's commitment to exceptional customer service, safety, innovation, efficiency and sustainability, and are summarized in Figure 1 below. There is close alignment between the RRF outcomes and the priorities/outcomes that Hydro One seeks to achieve (see SPF Section 1.7.2).

Strategic Priorities:

- We will **plan, design, and build a grid for the future** that is reliable, resilient, and flexible; doing it in a way that delivers value for customers; and balances our environmental responsibility.
- We will be **the safest and most efficient utility** through transformation and improvements to our culture; enabling field operations to drive productivity and reliability; optimizing corporate support; and driving efficient capital delivery.
- We will **advocate for our customers and help them make informed decisions** based on their unique needs, improving customer experience, providing customers with actionable insights, and access to third-party products and services.
- We will **be a trusted partner**, building and strengthening trust-based partnerships with government and industry stakeholders, Indigenous peoples, and other customers to continue to provide essential services to Ontarians.
- We will **innovate and grow** the business to provide value for our customers, shareholders, and other stakeholders through responsible and prudent investment and pursuit of innovative opportunities that present value.

Figure 1: Hydro One's Strategic Priorities

Hydro One also relied upon the findings from its comprehensive customer engagement activities to inform the initial stages of planning. Specifically, Phase 1 of the IRG study took place in late 2019 and early 2020, prior to the beginning of investment planning for 2023–2027. This phase focused on identifying customer needs and preferences that helped guide planner assumptions regarding the appropriate investment levels and trade-offs, including, among other things, the importance of reliable service and reasonable rates to Distribution and Transmission customers and the customer segment support for the proactive replacements of power system infrastructure when or before they deteriorate.

7.2 ASSET MANAGEMENT

As detailed in SPF Section 1.7, TSP Section 2.7, DSP Section 3.7 and GSP Section 4.7, Hydro One employs a methodical asset management process to monitor its assets and determine the appropriate timing for asset maintenance and capital investments throughout the asset life cycle. The output of the asset management process is a key component of the investment planning process.

The development of candidate investments is underpinned by a needs assessment which considers different dimensions including (i) asset-specific investment needs (particularly condition), (ii) customer needs and preferences, and (iii) system needs (including regional planning considerations). Each of these are described below.

7.2.1 ASSET NEEDS ASSESSMENT

Hydro One performs a needs assessment to identify the drivers in the development of candidate investments and collect the data necessary to assess risks and facilitate the subsequent calibration process. The needs assessment process is centred on a continuous asset risk assessment (ARA) to determine individual asset needs. The ARA is primarily concerned with the major equipment groups across transmission (e.g., transformers, conductors, breakers, and protection and control systems) and distribution (e.g., station transformers, poles) that directly affect system reliability. In particular, asset condition, criticality, performance and utilization are key factors to identify asset risks for further screening and confirmation:

- Condition – risk related to the increased probability of failure that assets experience when their condition degrades over time.
- Criticality – represents the impact that the failure of a specific asset would have on the transmission or distribution system.
- Performance – risk that reflects the historical performance of an asset, typically derived from the frequency and duration of outages.
- Utilization – risk that reflects the increased rate of deterioration exhibited by an asset that is highly utilized.

Hydro One also considers factors such as load forecasts, equipment ratings, operating restrictions, security incidents, environmental risks and requirements, compliance obligations, equipment defects, obsolescence, and health and safety considerations to help ensure that capital expenditures target the appropriate mix of assets.

On-site assessments with field personnel are conducted to validate and confirm asset condition, based on site specific considerations. For high-value assets, such as transformers, subject matter experts perform a thorough assessment of asset condition and consider issues such as equipment obsolescence, manufacturer support, and "repair versus replace" evaluations. Inspection and validation ensure that the identified needs reflect the actual condition of assets in the field and relevant operating information including the concerns of field personnel.

Many system renewal investments are informed by the asset needs assessment process, largely driven by asset condition. Material planned investments include:

- D-SR-04 – Distribution Station Refurbishments to address poor condition station transformers
- D-SR-05 – Distribution Pole Replacements to address poor condition wood poles
- D-SR-12 – Advance Meter Infrastructure 2.0 to address poor performing and obsolete first generation meters
- T-SR-02 – Transmission Air Blast Circuit Breaker Replacements to address poor condition and poor performing air blast circuit breakers
- T-SR-19 – Transmission Line Refurbishments to address poor condition overhead conductors and related infrastructure

7.2.2 CUSTOMER NEEDS & PREFERENCES

As noted in Section 4.0 above, Hydro One conducted extensive customer engagement in 2019 and 2020. Investment planning and customer engagement processes were integrated over two phases and customer feedback was provided as key input into Investment Planning. With consideration of the findings from Phase 1 customer engagement, Hydro One developed three investment plan scenarios for each of the Transmission and Distribution businesses between

February and June 2020. Each plan scenario included a different level of investment and service outcome, with a corresponding rate impact. Hydro One presented these scenarios to customers in Phase 2 of customer engagement, and resulting customer feedback on those scenarios was considered and incorporated for the purpose of refining and finalizing the investment plan. This approach allowed Hydro One to develop a final investment plan for 2023-2027 that is responsive to customer needs and preferences. See SPF Section 1.6, TSP Section 2.6, DSP Section 3.6, and GSP Section 4.6 for further details regarding customer engagement. See SPF Section 1.7, TSP Section 2.7, DSP Section 3.7, and GSP Section 4.7 for further details on how customer results were integrated into the planning process.

7.2.3 SYSTEM NEEDS

System needs relate to work required to maintain and operate the transmission and distribution systems and adequately and reliably supply customers, driven in large part by the requirement to meet current and forecast needs based on the connection of new load customers, generation facilities and distributed energy resources (DERs). System needs include:

- Provision of adequate capacity to reliably deliver electricity to the local areas connected to Hydro One’s system;
- Addressing local area reliability performance, including pockets of distribution customers which may experience poor reliability;
- Implementing mitigation measures to minimize high-impact events and ensure the safe, secure and reliable operation of Hydro One’s transmission system in accordance with the IESO’s Market Rules, OEB’s Transmission System Code, and other mandatory industry standards such as those established by NERC and Northeast Power Coordinating Council (NPCC);
- Meeting regional transmission facility needs identified as part of the regional planning process; and
- Local distribution upgrades and enhancements to relieve system capacity constraints and meet forecast load growth, consistent with the requirements of the Distribution System Code.

System needs assessments, regional planning, and bulk planning processes result in the identification of System Service investments, including:

- D-SS-01 – System Upgrades drive by load growth to address local and regional capacity constraints
- D-SS-02 – Reliability Improvements to improve regional reliability performance
- T-SS-03 – Merivale x Hawthorne Upgrades to increase capacity to meet future demand requirements

7.3 INVESTMENT PLANNING

Based on identified investment needs, Hydro One develops a suite of candidate investments for further screening and prioritization. In this regard, opportunities to group and bundle related needs, based on logical, functional and geographic groups, are considered where appropriate. The information and data collected through the asset management process (particularly, the ARA) establish the requisite fact base to assess the probability and consequence of safety, reliability and environmental risks at the scoring stage of the investment planning process.

Through its investment planning process, Hydro One develops a consistent understanding of risks and investment benefits to cost effectively deliver high value investments to serve its customers. This process allows the effective assessment and prioritization of candidate investments (as identified through the asset management process) based on the level of risk mitigated relative to the cost required.

In this regard, Hydro One planners determine risk probability (based on asset condition, performance and utilization) and risk consequence (based on asset criticality across three taxonomies of safety, reliability and environmental risks). Each risk taxonomy features clear definitions and consistent assessment, permitting a proper comparison between candidate investments. Planners quantify the risk mitigated by comparing the expected operational risks of not making the investment versus the residual risks that would remain if the investment is made. As an important basis for prioritization, this risk assessment emphasizes fact-based and quantitative decision-making, relying on historical data to the extent possible and taking into account the efficiency and total benefits of risk mitigated by each candidate investment.

Notably, customer-driven outcomes directly impact this process through the definition of consequence scores and risk taxonomies as well as “flags” that reflect priorities and investment benefits beyond quantified risk mitigation. In alignment with RRF outcomes and corporate priorities, flags are clearly defined to reflect either mandatory obligations (e.g., obligations to regulators, stakeholders or contractual counterparties) or customer preferences and other priorities (e.g., productivity commitments, corrective maintenance/replacements, preventative maintenance/renewal).

Once candidate investments have been scored and flagged, enterprise-wide calibration sessions are held to ensure consistent evaluation across investments and lines of business. Based on the risk scores and estimated investment costs, candidate investments (broken into mandatory versus non-mandatory groups) are ranked according to risk mitigation achieved per dollar. As another layer of planning rigor and validation, challenge sessions take place among a broad set of stakeholders to debate the feasibility and merits of investments on the margin and to ensure that valuable investments (from both a risk and non-risk perspective) are included in the plan. As well, Phase 2 customer engagement results were incorporated into the final plan at this stage. The output is an investment portfolio that is subject to enterprise engagement with portfolio owners and the executing lines of business, so as to create a realistic and up-to-date plan (i.e. reflecting the latest cost estimates, schedules and investment scope) and account for operational and execution considerations (e.g., resourcing, material availability and outage feasibility).

The Investment Planning process is described in greater detail in SPF Section 1.7 (as well as TSP Section 2.7, DSP Section 3.7, and GSP Section 4.7).

7.4 TRANSMISSION CAPITAL EXPENDITURES

Table 8, below, summarizes Hydro One's planned transmission capital expenditures by OEB category over the 2023-2027 planning period with productivity savings.

Table 8 - Transmission Capital Expenditure Summary

Forecast Period ($M)					
OEB Category	**2023**	**2024**	**2025**	**2026**	**2027**
System Access	79.4	70.9	59.8	36.5	50.1
System Renewal	1178.0	1228.3	1251.6	1277.3	1264.0
System Service	90.9	101.6	85.8	93.1	90.1
General Plant	146.8	124.0	114.2	115.9	105.0
Subtotal	**1495.0**	**1524.9**	**1511.4**	**1522.8**	**1509.2**
Productivity[20]	-61.0	-61.0	-61.0	-61.0	-61.0
Grand Total	**1434.0**	**1463.9**	**1450.4**	**1461.8**	**1448.2**

**Exhibit Reference: TSP Section 2.1 Table 4*

Over the 2023-2027 period, Hydro One plans to invest an average of $1,451.7M per year in Transmission capital, for a total of $7,258.4M, to respond to a range of asset and system needs, and to meet the customer service imperatives that are at the core of Hydro One's business mandate. System Renewal investments account for 82% of Hydro One Transmission's 2023-2027 capital plan. These investments will manage and mitigate risks stemming from assets that are in poor condition, have inadequate performance or are obsolete. The proposed System Service and System Access investments are non-discretionary and account for 10% of the total capital plan. The remaining 8% of the proposed capital plan are attributable to the General Plant investments.

[20] Progressive productivity represents commitments made for 2022 that will be sustained through the test period. See SPF Section 1.4 for a further explanation on the rationale for only including 2022 progressive productivity during the test period.

System Access

Hydro One's transmission capital plan includes $296.7M (4%) of capital expenditures over the five-year period required for non-discretionary System Access investments that facilitate new load and generation customer connections and address transmission asset modifications to accommodate third party requests. Major investments include $189.1M in capital expenditures to connect load customers by building new or expanding existing transformer stations to increase capacity, meet load growth and provide connections to customers. This includes the connection to six traction power stations for the Metrolinx rail electrification project. The expansion of the agricultural sector and unprecedented load growth in the Windsor-Essex region of Southwest Ontario is the most significant driver of expenditure in this subcategory, representing $129.1M (51%) of the capital expenditures. The load forecast in the region is anticipated to double over the next five years, requiring three new load supply stations to connect and supply new customers in the region.

System Renewal

Over 10% of all major transmission assets are in poor condition, with two of these asset categories (transformers and conductors) experiencing increasing numbers of deteriorated assets compared to prior years and the remaining asset categories remaining relatively stable compared to prior years.[21] Deteriorated assets are more likely to fail, resulting in unplanned outages that are more costly to address and may have widespread impact on service. The need to address such assets is one of the major factors driving the proposed System Renewal investments. System Renewal investments have been selected based on asset condition, their criticality, performance and obsolescence criteria, considering customer needs and preferences, and Hydro One's ability to execute the renewal work. System Renewal investments have been reasonably paced to address assets that are in poor condition, have inadequate performance or are obsolete, including an average annual pacing of: 3.3% of the transformer fleet, 2.5% of the

[21] Transformers (116 units in poor condition in 2016, and 198 in 2020), breakers (499 in 2016 and 541 in 2020), protection systems (3,267 in 2016 and 3,397 in 2020), conductors (2,643 in 2016 and 3,874 in 2020), and wood poles (4,832 in 2016 and 4,693 in 2020).

breaker fleet, 3.4% of the protections fleet, 1.1% of the conductor fleet, 3.3% of the insulator fleet, 2.7% of the wood pole fleet, and 1% of the steel structure fleet (via tower coating to extend their useful life).

The plan includes station renewal investments, which are required to address station assets including transformers and circuit breakers, as well as protection, control and telecom equipment. Major station renewal investments include $1,569.7M over the five-year period through 35 investments that will replace network station assets that are in poor condition, have inadequate performance or are obsolete, which link major generation resources to load centers. Hydro One's network system forms part of the Bulk Electric System (BES), and as such the proposed renewal investments are required to ensure continuous power flow throughout the province and to meet relevant IESO, NERC and NPCC criteria. Expenditures in this category address refurbishment work at major stations and replace Air Blast Circuit Breakers (ABCBs) through 11 investments. ABCBs are the poorest performing breakers in Hydro One's transmission system. These assets are installed at Ontario's most critical transmission network stations that connect nuclear and hydraulic generation stations that account for a total output equal to 30%[22] of Ontario's electricity generation. Station renewal investments also include $1,877.3M over the five-year period through 102 investments that will replace connection station assets that are in poor condition, have inadequate performance or are obsolete, that connect network stations and transmission load delivery points. LDCs and large industrial facilities are among the customers served by connection stations. The LDCs, in turn, serve Ontario's residential, commercial, institutional and small industrial end-users.

The plan also includes lines renewal investments, which are required to address deteriorated lines components including conductors, wood poles, towers, insulators and shieldwire. Major investments include $833.2M over the 5-year period through 16 investments to address poor

[22] (11,607MW/38,944MW) x 100%; see https://www.ieso.ca/-/media/Files/IESO/Document-Library/planning-forecasts/reliability-outlook/ReliabilityOutlook2021Mar.ashx.

condition lines assets. This renewal work sustains a variety of network and radial line connected customers, including large and small municipalities, First Nations communities and businesses, large load facilities such as petrochemical processing facilities, mines and paper mills. Lines renewal investments also include $1,085.8M over the five-year period to address various transmission line components (e.g. wood poles, insulators, shieldwires) that have been confirmed to be in poor condition. These components are integral parts of transmission line system required to enable and support the overhead conductor to perform its functions.

System Service

Hydro One's transmission capital plan includes $461.4M (6%) of capital expenditures over the five-year period required for non-discretionary System Service investments that maintain inter-area network transfer capability, ensure local area supply adequacy, mitigate system risks related to safety, security and reliability, and address customer power quality concerns. These investments have been identified as a result of regional planning processes, IESO bulk planning studies or the 2017 Long-Term Energy Plan (2017 LTEP). As the lead transmitter, Hydro One is actively involved in the regional planning process and the development of regional infrastructure plans for 19 of the 21 regional planning zones in Ontario.

Major System Service investments include $191.7M capital over the five-year period for inter-area capacity investments, which will provide new or upgraded transmission facilities to increase the transfer capability within Ontario and with neighbouring utilities. A significant driver of investment is the required reinforcements identified by the IESO as a part of bulk planning studies for the West of Chatham and West of London transmission systems. The IESO has directed Hydro One to develop new 230 kV lines between Chatham and Lakeshore (West of Chatham) and Lambton and Chatham (West of London) because of unprecedented growth in the agricultural sector in the Windsor-Essex region of Southwest Ontario and the need to ensure the necessary bulk transfer capability to support growth in load and generation. The required station expansion work to facilitate these new transmission lines represents 38% of the System Service expenditures. Hydro One plans to invest $230.5M net capital over the five-year period in local area supply to provide new or upgraded facilities to ensure area supply adequacy, and meet load forecast requirements in areas where existing transmission facility loading levels reach or exceed capacity.

The transmission capital plan also includes $606.0M of General Plant capital that is required over the planning period, as detailed in Section 7.6 below.

Further details regarding the transmission capital plan may be found in the TSP.

7.5 DISTRIBUTION CAPITAL EXPENDITURES

Table 9 below summarizes Hydro One's planned distribution capital expenditures by OEB category over the 2023-2027 planning period.

Table 9 - Distribution Capital Expenditure Summary

OEB Category	Forecasting Period ($M)				
	2023	**2024**	**2025**	**2026**	**2027**
System Access	239.6	240.6	227.0	212.6	204.3
System Renewal	373.1	410.3	494.2	491.5	497.8
System Service	196.5	169.7	229.6	192.0	205.9
General Plant	195.9	207.4	170.1	175.5	162.9
Total	**1,005.1**	**1,028.0**	**1,120.8**	**1,071.7**	**1,070.9**

**Exhibit reference: DSP Section 3.1, Table 3*

Over the planning period, Hydro One plans to invest an average of $1,059.3M per year in Distribution capital, for a total of approximately $5.3B. These investments will enable Hydro One Distribution to connect new customers and meet the growing needs of communities across the province, including the agricultural sector in southwestern Ontario, as well as to address a range of other priorities. In particular, investments in the distribution system will enable Hydro One to modernize existing facilities through automation to improve overall reliability, deliver on obligations mandated by legislation and regulatory requirements, address customer needs and preferences, and mitigate asset and operational risks by addressing critical asset needs to sustain the current fleet of assets. Moreover, the investments will support improved emergency response and the replacement and refurbishment of distribution poles. The plan will also focus on replacing first generation advanced metering infrastructure, which are failing, through a paced approach, setting the foundation for cost-effective grid modernization initiatives, DER integration, in-home automation and other technologies.

System Renewal

Planned System Renewal investments total $2,266.9M or about 43% of the total DSP, and are critical to addressing the growing population of distribution assets that are in poor condition. Major System Renewal investments will address a subset of poor condition distribution wood poles, replace end of service life meters and metering infrastructure, maintain or restore the continuity of supply for customers, and reconstruct and relocate feeder sections that are in poor condition and difficult for crews to access in the event of an outage. Failure to address these and other System Renewal investment needs over the 2023-2027 period will pose an ever-increasing reliability risk. DSP Section 3.11 includes detailed descriptions of each investment.

Accounting for 25% of the System Renewal category, the pole sustainment program includes planned expenditures of $562.6M over the 2023-2027 period. Out of the 1.6M distribution poles owned and maintained by Hydro One, approximately 79,000 poles are in poor condition and at high risk of failure, as identified through condition assessments. The pole sustainment program will proactively test and treat 103,000 poles, refurbish 2,800 poles, and replace 10,300 poles annually.[23] Together, the replacement and refurbishment work will address 13,100 poles annually or 65,500 poles over the five-year period. This plan only addresses a subset of the poor condition poles and allows Hydro One to effectively manage the poles that pose the highest risk to customer reliability. The volumes of poles addressed are consistent with the customer engagement results. Under this approach, poles with the lowest potential impact on customer reliability will be replaced reactively if they were to fail. Details on Hydro One's pole

[23] The test and treat and pole refurbishment programs are new programs introduced in 2021.

sustainment strategy, including details on the rationale, timing, and scope of the program, can be found in DSP Section 3.2 as well as in DSP Section 3.11, D-SR-07.

Hydro One's existing meter infrastructure is approaching its end of service life and needs replacement. The Advanced Metering Infrastructure (AMI) 2.0 program (DSP Section 3.11, D-SR-12), represents planned replacement of Hydro One's legacy AMI 1.0 system. Hydro One forecasts expenditures of $558.3M (or about 25% of the System Renewal category) for this investment in the 2023-2027 period. The AMI 1.0 system is comprised of approximately 1.4M meters, of which approximately 840,000 are between 11-13 years old and will soon reach the end of their expected 15-year service life. Manufacturer service life attestations, benchmarking studies, independently conducted Accelerated Life Testing (ALT) of meters, and trends in increasing meter failures all support an approximately 15-year service life for AMI 1.0 meters. Notably, the ALT study found critical failures in meters involving the rapid degradation of the capacitor that enables meters to reliably communicate. Based on these findings, close to 579,000 meters are projected to fail by the end of the test period in 2027. The physical deterioration of meter components and meter failures pose impacts and critical risks to Hydro One affecting various elements of its business including:

- Reduced billing reliability and resultant customer dissatisfaction from estimated billing and billing corrections;
- Increasing costs associated with reactive individual meter replacements as a result of failed meters;
- Higher labour costs for unplanned individual failed meter replacement relative to mass meter replacement;
- Replacement of failed meters with obsolete technology, and the associated lost opportunities for future benefits that address foreseeable needs; and
- Regulatory non-compliance.

Additional details on the rationale, timing, and scope of the AMI 2.0 program investment can be found in DSP Section 3.2 and in DSP Section 3.11, D-SR-12.

The Distribution Lines Trouble Calls and Storm Damage Response program represents total expenditures of $551.7M (or about 24% of the System Renewal category) over the 2023-2027 period. These expenditures comprise the work required to maintain or restore the continuity of supply for Hydro One customers. Hydro One's forecasting for storm response expenditures is based on an inflation-adjusted average of annual expenditures since 2005, with "outlier" years of unusually high expenditures removed from the forecast.

The Distribution Lines Sustainment Initiatives program represents total expenditures of $183.0M (or about 8% of the System Renewal category) over the 2023-2027 forecast period. This program involves the reconstruction of feeder sections (involving about 5,200 poles) that are in poor condition, including the relocation of off-road sections (about 460km in length) that are difficult for crews to access in the event of an outage. These expenditures are expected to reduce the frequency of both sustained and planned outages for the line sections that have been reconstructed, and reduce restoration efforts where an off-road feeder section has been reconstructed within road allowances. Additionally, about 200 km of direct buried underground cable will be treated to improve their life expectancy by up to 40 years.

System Access and System Service

The DSP includes $1,124.1M in proposed System Access and $993.7M in System Service capital investments over the 2023-2027 period.

System Access investments represent 21% of the total capital portfolio in the forecast period. They are driven by statutory, regulatory or other mandatory obligations that Hydro One must meet to provide access to the distribution system. Primarily, investments relate to customer requests for connection or connection modifications, but can also include the relocation of system assets to accommodate municipal infrastructure development or modifications, third party requests for joint use attachments, and replacement of failed meters to maintain customer billing reliability.

System Service investments are modifications to Hydro One's distribution system to ensure that the system continues to meet operational objectives while addressing anticipated future customer electricity service requirements. Over the 2023-2027 period, System Service investments will increase to meet load growth, address worst performing feeders, and install energy storage to improve reliability for customers where conventional alternatives are not possible or cost prohibitive. The largest investment in this category is the suite of energy storage solution investments that will address the needs of customers with especially poor reliability.

The DSP also includes $911.8M of general plant capital that is required over the planning period, as detailed in Section 7.6 below.

Further details regarding distribution capital may be found in the DSP.

7.6 GENERAL PLANT CAPITAL EXPENDITURES

General Plant assets are critical to the utility's operational continuity and the successful execution of a complex portfolio of Transmission and Distribution work programs. Hydro One's main General Plant functions include Fleet, Facilities and Real Estate (F&RE), Information Solutions and System Operations. For the purposes of this Application, the GSP presents total expenditures for General Plant investments and the allocation of those expenditures to Transmission and Distribution.[24] The GSP capital expenditures for the 2023-2027 period are summarized in Table 10.

[24] General Plant investments include capital expenditures that are either (i) shared between Transmission and Distribution; or (ii) are fully attributable to Transmission or Distribution and fall under the General Plant OEB investment category. For shared investments, the allocation between Transmission and Distribution is based on Black and Veatch's Shared Asset Allocation Study presented in Exhibit E-04-08 Attachment 1.

Table 10 - Planned net capital expenditures for General Plant from 2023-2027

OEB Category	Forecast Period (Planned $M)				
	2023	2024	2025	2026	2027
Fleet	76.4	78.0	78.9	80.0	82.6
Facilities & Real Estate	91.4	92.1	61.7	58.1	50.5
Information Solutions	119.9	118.1	113.6	122.1	106.1
System Operations	27.4	18.5	8.2	8.0	6.5
Other	27.5	24.6	22.0	23.2	22.3
General Plant Total	**342.7**	**331.4**	**284.3**	**291.4**	**268.0**
General Plant - Transmission Allocation	146.8	124.0	114.2	115.9	105.0
General Plant - Distribution Allocation	195.9	207.4	170.1	175.5	162.9

**Exhibit reference: GSP Section 4.1, Table 2*

The annual GSP capital expenditures range from $268.0M to $342.7M during the forecast period, with higher levels in 2023 and 2024. Year–to-year variations in total capital expenditures are mainly driven by the timing of investments in F&RE and System Operations.

The investments planned under the GSP are summarized below by function:

- **Fleet** – Planned Fleet investment levels remain relatively steady during the forecast period, gradually increasing from $76.4M to $82.6M per year. This level of investment is required to minimize fleet lifecycle costs and equipment downtime (consistent with expert-recommended lifecycles and investment pacing). In turn, this allows Hydro One to optimize fleet equipment levels to meet work program demands and mitigate potential delays in response time to unplanned system interruptions, such as trouble calls and storm response.
- **Facilities and Real Estate** – Planned F&RE investments total just above $90M in each of 2023 and 2024 ($91.4M and $92.1M, respectively), and follow a decreasing trend from $61.7M in 2025 to $50.5M in 2027. The initial peak in the earlier test years is driven by projects to address end of life assets, consolidate facilities to manage lease expirations, and meet facility-related operational requirements of Hydro One's Transmission and Distribution businesses. Hydro One has identified existing sites that are sub-optimal for operations due to overcrowding conditions, inefficient configurations, and/or disparate

sites for field teams. The proposed investments aim to consolidate these facilities to increase efficiencies, accommodate growth, and reduce operational costs (e.g., by terminating leases). Similar investments are planned in 2025 through 2027 at a lesser volume. Throughout all test years, there are baseline investments of approximately $30M for on-going sustainment program work to address end of life conditions, safety and security concerns, exterior structures and elements, and building systems and accommodations.

- **Information Solutions** – These investments range from $106.1M to $122.1M annually, with a focus on providing Hydro One lines of business with the technology required to complete their work and enable them to achieve the expected outcomes of their respective System Plans. These investments include:
  - upgrades to existing applications that are approaching their end of vendor support, such as foundational investments in Hydro One's SAP enterprise software and Geographic Information System (GIS) enterprise platform, and refresh of IT hardware and software to ensure lines of businesses have reliable access to technology to complete daily work;
  - digital transformations of paper processes and automation of manual tasks to improve operational efficiencies and access and quality of data;
  - updates to systems used by transmission and distribution planning, execution and field teams to improve efficiencies in work delivery and increase visibility of asset conditions and work plans across these lines of businesses; and
  - improvements to Hydro One's security posture, such as upgrades to the cyber security assets protecting the operating technology infrastructure and applications that monitor and control Hydro One's power system, upgrades to the physical security protecting critical stations and facilities to reduce the risk of external threats, and refresh of Hydro One's security monitoring solution that is nearing its end of life and vendor support period.
- **System Operations** – These investments decrease over the forecast period, starting from $27.4M in 2023 and decreasing to $6.5M in 2027. This trend reflects the upgrade

of all critical systems applications that are at or are nearing the end of vendor support, including the Network Management System, Outage Response Management System and Distribution Management System.

- **Other General Plant** – These investments include the replacement of grid control equipment that are nearing their end of vendor support and capital contributions from Distribution to Transmission. These capital expenditures are relatively steady during the planning period, ranging from $22.0M to $27.5M annually. Investments in grid control are required to ensure compliance with IESO market rules and the capital contributions between Hydro One's Distribution and Transmission businesses are required as per the Transmission System Code.

8.0 PERFORMANCE MEASUREMENT & INDEPENDENT STUDIES

8.1 PERFORMANCE MEASUREMENT

Hydro One tracks and reports its performance relative to: (i) its Transmission Scorecard; (ii) its Distribution OEB Scorecard; and (iii) the OEB-mandated Electricity Distributor Scorecard. Each of these are included and described below.

The Transmission Scorecard is included in Figure 2 below. The measures in the scorecard were developed based on RRF outcomes, past measures, benchmarking studies and relevant measures on other scorecards. The targets were developed based on the expected outcomes of the projects and programs proposed in this Application. The performance reporting governance framework is described in SPF Section 1.5 and information on the proposed transmission measures and targets is found in TSP Section 2.5.

Performance Outcomes	Performance Categories	Measures
Customer Focus	Service Quality	Customer Delivery Point (DP) Performance Standard Outliers as % of Total DPs
	Customer Satisfaction	Overall Customer Satisfaction (% Satisfied)
		Satisfaction with Outage Planning Procedures (% Satisfied)
Operational Effectiveness	Safety	Recordable Incidents (# of recordable injuries/illnesses per 200,000 hours worked)
	System Reliability	T-SAIFI-S (Ave. # Sustained interruptions per Delivery Point)
		T-SAIFI-M (Ave. # of Momentary interruptions per Delivery Point)
		T-SAIDI (Ave minutes of interruptions per Deliver Point)
		System Unavailability (%)
		Unsupplied energy (minutes)
	Asset & Project Management	Transmission System Plan Implementation Progress (%)
		CapEx as % of Budget
		OM&A Program Accomplishment (composite index)
		Transmission Capital Accomplishment Index (TCAI) - (%)
	Cost Control	Total OM&A and Capital per Gross Fixed Asset Value (%)
		OM&A per Gross Fixed Asset Value (%)
		Line Clearing Cost per kilometer ($/km)
		Brush Control Cost per Hectare ($/Ha)
Public Policy Responsiveness	Connection of Renewable Generation	% on-time completion of renewables customer impact assessments
	Regional Infrastructure Planning (RIP) & Long-Term Energy Plan (LTEP) Right-Sizing	Regional Infrastructure Planning progress - Deliverables met, %
		End-of-Life Right-Sizing Assessment Expectation
Financial Performance	Financial Ratios	Liquidity: Current Ratio (Current Assets/Current Liabilities)
		Leverage: Total Debt (includes short-term and long-term debt) to Equity Ratio
		Profitability: Regulatory Return on Equity — Deemed (included in rates) Achieved

Figure 2: Electricity Transmitter Scorecard Measures

Hydro One Distribution measures its performance under the OEB's RRF through the Electricity Distributor Scorecard, shown in Figure **3**, and the Distribution OEB Scorecard, shown in Figure **4**. The Electricity Distributor Scorecard is the OEB-mandated scorecard for all Ontario electricity distributors and is discussed in detail in DSP Section 3.5.

Performance Outcomes	Performance Categories	Measures	
Customer Focus **Services are provided in a manner that responds to identified customer preferences.**	**Service Quality**	New Residential/Small Business Services Connected on Time	
		Scheduled Appointments Met On Time	
		Telephone Calls Answered On Time	
	Customer Satisfaction	First Contact Resolution	
		Billing Accuracy	
		Customer Satisfaction Index	
Operational Effectiveness **Continuous improvement in productivity and cost performance is achieved; and distributors deliver on system reliability and quality objectives.**	**Safety**	Level of Public awareness	
		Level of Compliance with Ontario Regulation 22/04	
		Serious Electrical Incident Index	Number of General Public Incidents
			Rate per 10, 100, 1000km of line
	System Reliability	Average Number of Hours that Power to a Customer is Interrupted (Excluding LOS and Excluding FM)	
		Average Number of Times that Power to a Customer is Interrupted (Excluding LOS and Excluding FM)	
	Asset Management	Distribution System Plan Implementation Progress	
	Cost Control	Efficiency Assessment	
		Total Cost per Customer	
		Total Cost per km of Line	
Public Policy Responsiveness **Distributors deliver on obligations mandated by government (e.g., in legislation and in regulatory requirements imposed further to Ministerial directives to the Board).**	**Conservation & Demand Management**	Net Cumulative Energy Savings	
	Connection of Renewable Generation	Renewable Generation Connection Impact Assessments Completed On Time	
		New Micro-embedded Generation Facilities Connected On Time	
Financial Performance **Financial viability is maintained; and savings from operational effectiveness are sustainable.**	**Financial Ratios**	Liquidity: Current Ratio (Current Assets/Current Liabilities)	
		Leverage: Total Debt (includes short-term and long-term debt) to Equity Ratio	
		Profitability: Regulatory Return on Equity	Deemed (included in rates)
			Achieved

Figure 3: Electricity Distributor Scorecard

The Distribution OEB Scorecard, shown in Figure **4** below, supplements the Electricity Distributor Scorecard with additional measures to track outcomes that customers value and areas that Hydro One has targeted for improved performance.

RRF Outcomes		Measure
Customer Focus	Customer Satisfaction	Small Business and Residential Satisfaction (%)
		Handling of Unplanned Outages Satisfaction %
		Call Centre Customer Satisfaction %
		My Account Customer Satisfaction %
Operational Effectiveness	Cost Control	Pole Replacement - Gross Cost Per Unit in $
		Vegetation Management - Gross Defect Correction (OCP) Cost per km$
		Station Refurbishments - Gross Cost per MVA in $
		OM&A dollars per customer
		OM&A dollars per km of line
	System Reliability	*Number of Line Equipment Caused Interruptions*
		Number of Vegetation Caused Interruptions
		Number of Substation Caused Interruptions
		SAIDI for Equipment Caused Interruptions
		SAIDI for Vegetation Caused Interruptions
		SAIDI - Rural - duration in hours
		SAIFI - Rural - frequency of outages
		SAIDI - Urban - duration in hours
		SAIFI - Urban - frequency of outages
		Large Customer Interruption Frequency (LDA's) - Interruptions per LDA

Figure 4: Distribution OEB Scorecard

Hydro One is committed to both sets of Distribution performance measures in evaluating its progress in executing the 2023-2027 investment plan, which balances the needs and preferences of customers, compliance obligations, asset condition/needs, and rate impacts. Hydro One's plan reflects a number of initiatives that control costs, increase productivity and maintain customer reliability. These are all outcomes that customers have indicated they value, are central to Hydro One's corporate objectives, and align with the OEB's RRF.

8.2 INDEPENDENT EXPERT STUDIES

In support of the Application, Hydro One engaged independent experts to undertake various benchmarking assessments, process reviews, asset condition analyses, and lifecycle studies.[25] Highlighted below are the key conclusions from various studies, which helped Hydro One understand its performance relative to peers (or relative to its own past performance), formulate key components of the Custom IR proposal, inform or validate business processes and investment choices, and/or identify opportunities for improvement. Table 11 below is not intended to be a comprehensive summary of findings from all studies, which are detailed in the relevant reports and exhibits.

Table 11 - Key Findings of Independent Expert Studies

Reference	Report	Highlighted Conclusions
A-04-01, Attachment 1	Benchmarking and Productivity Research for Hydro One Networks' Joint Rate Application – Clearspring Energy Advisors	• Based on findings related to Transmission (including declining trends in industry total factor productivity as well as Hydro One's superior total cost performance), 0% was recommended for both the transmission base productivity factor and transmission stretch factor. • Based on findings related to Distribution (including negative industry total factor productivity trends as well as Hydro One's average total cost performance), 0% was recommended for the distribution base productivity factor and 0.3% for the distribution stretch factor.
SPF Section 1.4, Attachment 2	Hydro One Productivity Framework Review - Concentric Energy Advisors	• Hydro One's Productivity Framework is effective at identifying and quantifying productivity initiatives, appropriately applies baselines for measurement, has an appropriate validation/audit process, drives true productivity gains, and considers productivity in the context of forward looking planning. • Relative to peers, this framework stands out as being uniquely robustly, well defined, and transparent, and distinguishes itself in its continuity and scope.

[25] The approach for procuring the services of third party experts is discussed in SPF Section 1.3.

TSP Section 2.3, Attachment 1	Transmission Capital Project Execution Review - UMS	• Hydro One is second quartile or better in 7 of the 10 performance domains (including Cost Management, Scope Management, Resource Management, Risk Management, Quality Management and Contract Communications). • Hydro One is at the median in two domains: Schedule Management and Integration Management. • Hydro One is approaching the third quartile in Technology Enablement.
TSP Section 2.3, Attachment 2	Pole Replacement Program Study - Guidehouse and First Quartile	• Hydro One Transmission's wood pole replacement practices are in line with comparators and replacement costs ($27,450 per pole) are below the comparator group mean ($32,882). • In the last 5 years, on average Hydro One replaced 2.1% of its wood poles annually, vs. 2.6% for the comparator group. Hydro One expects to replace 2.9% of its poles per year in the next 5 years, vs. 2.2% for the comparator group. Given the age and condition of Hydro One's wood poles, "a marginally higher replacement rate is expected".
TSP Section 2.3, Attachment 3	Transformer Condition Assessment - EPRI	• Of the 208 transformer tanks that Hydro One deems to be in poor condition, EPRI's analysis of main tank oil data confirmed main tank degradation for 155, deemed 17 to be in marginal condition, and found 36 to not be in poor or marginal condition. (Note that the 208 units were deemed poor by Hydro One based on a combination of factors including but not limited to main tank oil tests, such as oil leaks, tap changer issues, cooling system issues, etc.).
TSP Section 2.3, Attachment 4	Line Loss Assessment - Stantec	• Hydro One follows industry best practices with respect to transmission line loss management. Its Transmission Line Loss Guideline provides a reasonable, clear and efficient process for considering the cost of losses in evaluating alternatives. • Stantec recommended (i) consistent implementation of the Guideline for new investments that impact line losses and (ii) tracking of projects assessed for line loss and associated loss reduction as documented in approved business cases.
DSP Section 3.3, Attachment 1	Distribution Poles and Substations Benchmarking - Guidehouse (formerly Navigant) and First Quartile	Poles: • Hydro One Distribution replaces poles based on condition and has a higher replacement rate, including poles replaced on failure, than comparators (recognizing that the industry as represented by the comparator group appears to be replacing or refurbishing poles at a rate that is insufficient to sustain their pole population over the long term). • Hydro One's pole replacement costs are comparable to the mean of the comparator group. Substations: • Hydro One has lower than average costs to replace power transformers (which primarily consist of smaller units) and

		lower than average costs for distribution substation refurbishments on a per transformer basis. • Hydro One has also introduced a lower cost unfenced pad mount transformer solution for replacement of smaller substations (where feasible), which most other utilities have not considered.
DSP Section 3.3, Attachment 2	Vegetation Management Program (UVM) Benchmarking - CN Utility	• Hydro One has an average program budget 2.5 times that of the Peer 2019 group (as defined in the report). This disparity is largely explained by Hydro One's unique and challenging UVM setting (i.e., similarly sized customer base as the Peer 2019 group but twice the distribution right-of-way kms). • With the implementation of the Optimal Cycle Protocol (or OCP, which began at the end of 2017), Hydro One's cost per managed right-of-way km has dropped over 50%, non-force majeure SAIDI trend has improved, and vegetation maintenance interval has dropped from 9.5 years to a projected first cycle of 4.1 years.
DSP Section 3.3, Attachment 3	Optimal Cycle Protocol – Clear Path Utility Solutions	• Sampling of OCP feeders showed a 96% improvement in vegetation defects (relative to 2017 survey, 0-2 year slot class). • An analysis of Tree Caused Outages comparing non-OCP feeders vs. OCP feeders showed an improvement of between 23% and 41%. • Workload (i.e., number of trees trimmed or removed under OCP) for 2018-2020 was 13% greater than 2017 modeled projections. Actual unit cost (per tree and per km) was significantly higher than 2017 modeled cost, due to factors that were not reasonably foreseeable at the time.
DSP Section 3.3, Attachment 5	Accelerated Life Testing of Meters - Hydro Quebec	• There were significant failures in GEN 1 meters involving the rapid degradation of capacitor C21. • Applying the study's GEN 1 meter findings (i.e., Time to Failure and Acceleration Factors) at the recommended confidence level of 50% results in projections of approximately 88% or 579,000 meters failing through 2027.
DSP Section 3.3, Attachment 6	AMI Replacement Costs Benchmarking - Guidehouse and First Quartile	• Hydro One's average meter acquisition cost ($160) is 10% higher than the mean of the comparator group ($145). Hydro One costs reflect contracted prices for low volume individual meter replacements and do not incorporate economies of scale that would be expected with bulk purchases. • Hydro One's average labour cost of $122 (excluding materials surcharge and overheads) per meter replaced is higher than the comparator average of $47. This is because Hydro One's costs reflect individual replacements rather than mass replacements, and because of the large, mostly low-density nature of Hydro One's service territory (i.e., lowest customer density out of the comparator group, 23 times less than its closest comparator).

DSP Section 3.3, Attachment 7	Billing and Call Center Costs Benchmarking - Information Services Group (ISG)	• Call Centre costs at Hydro One are below the market average. • Billing costs at Hydro One are towards the lower end of the market range. • Total Call Centre and Billing spend at Hydro One is 9% below the market average. • The number of Customer Service Representatives at Hydro One is below the peer group average. • The number of Billing FTEs at Hydro One is well below the peer group average.
GSP Section 4.3, Attachment 1	Fleet Operations Benchmarking Report - Utilimarc	• Hydro One ranked in the second quartile of comparator utilities based on cost per vehicle equivalency and cost per on-road vehicle, and in the first quartile in terms of cost per on-road vehicle km. • Of the comparator group, Hydro One has the lowest percentage of vehicles that are considered “low mileage”. Hydro One vehicles run 5,000 km higher on average than peers.
GSP Section 4.3, Attachment 2	Fleet Lifecycle Study - Utilimarc	• Based on the assessed funding scenarios, in order to keep the population of “out of life” vehicle assets at a manageable level and prevent significant escalations in maintenance costs, Utilimarc concluded that an increase in annual capital investment is needed to replace more units than historical capital funding levels allow.
GSP Section 4.3, Attachment 3	Enterprise IT Spending & Staffing Benchmark – Gartner	• Gartner found that, among other things, Hydro One allocated 31% of IT Spending to “Grow” and “Transform” activities (a 90% increase since the 2016 Gartner study), IT Spending per Employee was 17% less than the peer group average, and Hydro One relies more heavily on outsourcing than peers. • Gartner made various recommendations related to the appropriate IT investment levels and value of outsourcing arrangements.
C-08-02, Attachment 2	Capitalization of Common Corporate Costs Review - PwC	• Hydro One’s proposed methodology for capturing common corporate costs and allocating such costs to capital activities is reasonable, supportable and consistent with the principle that the assignment of such costs should be based on a causal link. • The methodology follows the guidance promulgated historically by the OEB and FERC and is consistent with the practice of other utilities that apply rate regulated accounting guidance under US GAAP and IFRS.
E-04-02, Attachment 1	Common Corporate Costs Benchmarking Study - UMS	• The overall finding is that Hydro One’s common corporate costs are very competitive with the Comparator Group. • Of the 9 functions benchmarked, 5 are at or near first quartile levels and 4 are at or near median levels.

E-06-01, Attachment 1	Compensation Benchmarking Study - Mercer	• When assessing compensation competitiveness, Mercer considers compensation levels to be competitive, on an overall/employee group basis, when it is within +/- 5% of the target market positioning, which is the median for Hydro One. Hydro One is positioned 4% above this competitive range; down (closer to market median) from 7% above the competitive range in the 2017 study. • Hydro One's overtime pay practices are, as a whole, generally aligned with or less generous than practices in the market. • The design (i.e. target incentive levels) of Hydro One’s short-term incentive program is more aligned with the market median of the comparator group.

9.0 KEY FINANCIAL COMPONENTS

9.1 REVENUE REQUIREMENT

Hydro One has calculated its Transmission and Distribution revenue requirement using the approaches and methodologies that have been accepted in previous OEB proceedings, with exception to the treatment of its PCB Retirement and Waste Management program (the PCB Program) expenses in the determination of revenue requirement.

In this Application, Hydro One has proposed a different treatment of its PCB Program expenses to ensure that there is continued Sustainment OM&A funding in revenue requirement that corresponds to the Sustainment OM&A work required over the test period, namely to avoid an unwarranted reduction to OM&A expense after 2025 when the program ends. As discussed in Exhibit D-01-01, PCB costs are an OM&A related expenditure that was previously accounted for in the capital related revenue requirement through its recognition as a depreciation and amortization expense, but will now be reclassified back to OM&A.

For both Transmission and Distribution, the PCB Program will end in 2025 and will be replaced by other Sustainment OM&A work required to be undertaken over the remainder of the forecast period. See details on the proposed treatment of PCB Program costs in Exhibit D-01-01.

9.1.1 TRANSMISSION REVENUE REQUIREMENT

The requested 2023 total Transmission revenue requirement of $1,823.2M, as shown in Table 12 below, represents an increase of 0.9% (or about $15.6M) compared to the 2022 forecast. This increase is below the expected rate of inflation, and is predominantly driven by work that is necessary to achieve outcomes valued by customers, sustain safe and reliable transmission system operations, maintain equipment performance, and address system needs and service obligations. The increase is partially offset by reduced cost of capital and incremental productivity gains in 2023, as further described in SPF Section 1.4.

Table 12 - Transmission Revenue Requirement ($M)

Components	2020[1] Rebasing Year	2021[2]	2022[3]	2023 Rebasing Year	Reference
OM&A	385.0	-	-	420.5	Exhibit E-02-01
Environmental Provision addback to OM&A	-	-	-	7.6	Exhibit D-01-01
Depreciation and Amortization	473.4	-	-	535.8	Exhibit E-08-01
Environmental Provision reduction to Expense	-	-	-	-7.6	Exhibit D-01-01
Income Taxes	30.1	-	-	40.5	Exhibit E-09-02
Return on Capital	741.0	-	-	826.3	Exhibit F-01-01
Total Revenue Requirement	**1,629.6**	**1,704.3**	**1,807.6**	**1,823.2**	

**Exhibit Reference: D-01-01, Table 1*

Note 1: Represents OEB approved 2020 revenue requirement in EB-2019-0082
Note 2: Represents OEB approved 2021 revenue requirement in 2021 Annual Update in EB-2020-0202
Note 3: 2022 Revenue Requirement = $1,704.3(2021 Revenue Requirement)(1 + (2.00% inflation factor - 0.30% stretch factor + 2.70% capital factor)) + $28.4(DTA Recovery) = $1,807.6. 2022 OEB approved revenue requirement to be established as part of the 2022 Annual Update.*

9.1.2 DISTRIBUTION REVENUE REQUIREMENT

The requested 2023 total Distribution revenue requirement of $1,632.4M, as shown in Table 13 below, represents a decrease of about 2.5% (or about $42.2M) compared to the 2022 forecast. This decrease is predominantly driven by certain benefits expected in 2023, such as a reduced cost of debt and incremental productivity gains, as further described in SPF Section 1.4. This decrease is partly offset by expenditures necessary to provide safe and reliable distribution of power and sufficient grid capacity to accommodate customer demand and to align with customer preferences, increases to OM&A due to the inclusion of OPEB non-service costs,[26] and the incremental revenue requirement related to the Acquired Utilities in 2023.

2023 revenue requirement includes an incremental amount of $30.0M related to the Acquired Utilities, which is not included in the 2022 OEB-approved forecast. If 2023 is adjusted to exclude this amount, which would provide for a more comparable analysis, then the decrease in revenue requirement relative to the forecasted 2022 OEB-approved amount results in a reduction of about 4.3% or about $72.2M.

[26] As directed by the OEB in EB-2019-0082.

Table 13 - Distribution Revenue Requirement ($M)

Components	2018[1] Rebasing Year	2019[1]	2020[2]	2021[3]	2022[4]	2023 Rebasing Year	Reference
OM&A	544.4	-	-	-	-	597.5	Exhibit E-03-01
Environmental Provision add-back to OM&A	-	-	-	-	-	5.5	Exhibit D-01-01
Depreciation and Amortization	397.8	-	-	-	-	465.6	Exhibit E-08-01
Environmental Provision reduction to Expense	-	-	-	-	-	-5.5	Exhibit D-01-01
Income Taxes	43.1	-	-	-	-	37.2	Exhibit E-09-02
Return on Capital	473.2	-	-	-	-	532.1	Exhibit F-01-01
Total Revenue Requirement	**1,458.5**	**1,497.9**	**1,539.2**	**1,596.2**	**1,674.6**	**1,632.4**	

**Exhibit Reference: D-01-01, Table 7*

Note 1: Represents OEB approved 2018 and 2019 revenue requirement in EB-2017-0049
Note 2: Represents OEB approved 2020 revenue requirement in 2020 Annual Update in EB-2019-0043
Note 3: Represents OEB approved 2021 revenue requirement in 2021 Annual Update in EB-2020-0030
Note 4: 2022 Revenue Requirement = $1,596.2(2021 Revenue Requirement)(1 + (2.20% inflation factor 0.45% stretch factor + 1.85% capital factor)) + $21.0(DTA Recovery) = $1,674.6. 2022 OEB approved revenue requirement to be established as part of the 2022 Annual Update.*

9.2 RATE BASE

The requested Transmission and Distribution rate base over the test period is provided in Table 14 below. The 2023 total Transmission rate base represents a $14,592.7M (7.0%) increase over 2022 OEB-approved levels. The 2023 total Distribution rate base represents a $9,372.0M (6.5%) increase over 2022 OEB-approved levels.

Table 14 – 2022 OEB-Approved and 2023-2027 Transmission and Distribution Rate Base ($M)

Description	OEB-Approved	Test				
	2022	2023	2024	2025	2026	2027
Transmission Rate Base	13,640.9	14,592.7	15,450.3	16,448.9	17,394.1	18,256.2
Distribution Rate Base	8,803.7	9,372.0	9,962.9	10,641.2	11,301.8	11,880.5

**Exhibit reference: C-1-1, Tables 2 and 3 (Transmission) and C-1-1, Tables 7 and 8 (Distribution)*

9.3 COST OF CAPITAL

The cost of capital and financing assumptions, as described in Exhibits F-01-01 and F-01-02, have been reflected in the 2023-2027 revenue requirements of this Application. Hydro One's Transmission and Distribution deemed capital structures for rate-making purposes are 60% debt and 40% common equity of utility rate base, consistent with the *Report of the Board on the Cost of Capital for Ontario's Regulated Utilities*, dated December 11, 2009 (EB-2009-0084). The 60% debt component is comprised of 4% deemed short-term debt and 56% long-term debt. Hydro One Inc.'s debt financing strategy takes into consideration the objectives of cost effectiveness, evenly distributed debt maturities over time, and alignment of the term of the debt portfolio with the long service lives of the Company's assets.

Hydro One anticipates updating the revenue requirements for the 2023 to 2027 test years as part of the Draft Rate Order process to reflect: (i) the OEB-approved 2023 return on equity and deemed short term debt rate; and (ii) long-term debt rates based on Hydro One's actual 2021 and 2022 debt issuances to-date and forecasted debt issues in 2023 with coupon rates based on the September 2022 Consensus Forecast.

Hydro One proposes that the 2023 cost of capital parameters be used to determine the final revenue requirement for 2023 to 2027 test years. The placeholder for Transmission and Distribution cost of capital parameters are set out in Tables 15 and 16, below.

Table 15 - Transmission Cost of Capital Parameters

	2023			
Particulars	**($M)**	**%**	**Cost Rate (%)**	**Return ($M)**
	(a)	(b)	(c)	(d)
Long-term debt	7,873.7	54.0%	4.04%	318.3
Short-term debt	583.7	4.0%	1.56%	9.1
Deemed long-term debt	298.2	2.0%	4.04%	12.1
Total debt	8,755.6	60.0%	3.87%	339.5
Common equity	5,837.1	40.0%	8.34%	486.8
Total rate base	14,592.7	100.0%	5.66%	826.3

**Exhibit reference: F-01-03 (page 4)*

Table 16 - Distribution Cost of Capital Parameters

	2023			
Particulars	**($M)**	**%**	**Cost Rate (%)**	**Return ($M)**
	(a)	(b)	(c)	(d)
Long-term debt	4,880.7	52.1%	4.07%	198.6
Short-term debt	374.9	4.0%	1.56%	5.8
Deemed long-term debt	367.7	3.9%	4.07%	15.0
Total debt	5,623.2	60.0%	3.90%	219.4
Common equity	3,748.8	40.0%	8.34%	312.7
Total rate base	9,372.0	100.0%	5.68%	532.1

**Exhibit reference: F-01-03 (page 3)*

9.4 DEFERRAL AND VARIANCE (DVA) ACCOUNTS

Accounts for Hydro One Transmission and Distribution, as well as the Acquired Utilities, have been cleared as of the following dates:

- Transmission DVA balances were cleared as of December 31, 2018 on a final basis (the Prior Transmission Application – EB-2019-0082)
- Distribution Group 1 DVA balances were cleared as of December 31, 2019 on a final basis (2021 annual update – EB-2020-0030)
- Distribution ESM balance was cleared as of December 31, 2019 on an interim basis (2021 annual update – EB-2020-0030)
- Distribution Group 2 DVA balances were cleared as of December 31, 2016 on a final basis (Prior Distribution Application – EB-2017-0049)
- The Acquired Utilities Group 1 DVA balances were cleared as of December 31, 2019 on a final basis (2021 annual update – EB-2020-0031)

Details are included in Exhibit G-01-01.

In this Application, Hydro One proposes to dispose of its DVA balances over a five-year period to align with the Custom IR term as follows:

- Transmission DVA balances as of December 31, 2020 on a final basis
- Distribution Group 1 and Group 2 DVA balances as of December 31, 2020, on a final basis. This includes the Group 1 account balances for the Acquired Utilities as of December 31, 2020.

Details are included in Exhibit G-01-01 and Exhibit G-01-04.

9.4.1 REGULATORY ACCOUNTS – TRANSMISSION

Hydro One requests approval to dispose of its audited 2020 balances on Transmission DVAs, totaling a debit balance of $5.6M inclusive of projected carrying charges to December 30, 2022. As set out in Exhibit G-01-02, Hydro One Transmission is requesting approval to continue or discontinue existing accounts, and to establish or modify the following accounts:

1. Capitalized Overheads Tax Variance Account (Transmission) (New) - to capture revenue requirement impacts arising from the adoption of a new approach on income tax by accelerating deductions of capitalized overheads for tax purposes
2. Externally Driven Transmission Projects Variance Account (New) - to record the revenue requirement impact, including tax, of variances between the in-service additions embedded in Hydro One's approved revenue requirement relating to mandatory transmission construction, expansion, reinforcement, modification and relocation work required by governmental authorities, including indirectly through agencies, Crown corporations, or similar parties through regulation, policy changes or other official directives (Externally Driven Work) and the actual in-service additions arising from Externally Driven Work during the 2023-2027 period
3. Capital In Service Variance Account (CISVA) (Modification) – the modification would enable the balance in the account to be calculated yearly using the cumulative in-service additions over the Custom IR term so as to provide an opportunity for Hydro One to "catch-up" in later years within the term on any shortfalls in in-service additions that may occur in earlier years, and thereby to reverse the applicable impact recorded in a prior year of under in-servicing to the extent it makes up for such a shortfall
4. Rights Payments Variance Account (Modification) – the modification would enable the account to be used to capture amounts in relation to payments that Hydro One is required to make under Long Term Relationship Agreements or similar, regardless of how those payments are characterized or their form, so long as the payments are necessary for Hydro One to obtain the consents required to complete the transfer of title to Hydro One for the relevant lands
5. OPEB Asymmetrical Carrying Charge Variance Account (Modification) – the modification

consists of a new alternative methodology that responds to the OEB's previous findings and reflects OPEB costs in total depreciation expense based on reasonable assumptions

6. Pension and OPEB Forecast Accrual Versus Actual Cash Payment Differential Variance Tracking Account (Modification) - the modification is related to the modification of the OPEB Asymmetrical Carrying Charge Variance Account, and also consists of a new alternative methodology that responds to the OEB's previous findings and reflects OPEB costs in total depreciation expense based on reasonable assumptions

9.4.2 REGULATORY ACCOUNTS – DISTRIBUTION

Hydro One requests approval to dispose of its audited balances of Distribution DVAs, totalling a credit balance of $87.7M inclusive of projected carrying charges as at December 30, 2022. This is based on the clearance of a 2020 Group 1 credit balance of $69.5M, and a Group 2 credit balance of $18.1M (inclusive of projected carrying charges as at December 30, 2022).

As set out in Exhibit G-01-02, Hydro One Distribution is requesting approval to continue or discontinue existing accounts and to establish or modify the following new accounts:

1. Capitalized Overheads Tax Variance Account (Distribution) (New) - to capture revenue requirement impacts arising from the adoption of a new approach on income tax by accelerating deductions of capitalized overheads for tax purposes
2. Externally Driven Distribution Projects Variance Account (New) - to record the revenue requirement impact, including tax, of overspending or underspending relative to Hydro One's distribution capital investment plan which underlies the proposed revenue requirement for the 2023-2027 period, where such overspending or underspending is for work related to third-party initiated relocation, DER connections, or service upgrades, which Hydro One is required to undertake
3. Distribution Connection Cost Agreement (CCA) Variance Account (New) - to track the impacts on the Distribution revenue requirement of capital contribution true-ups paid by Hydro One Distribution to Hydro One Transmission and the capital contributions collected by Hydro One Distribution from its embedded distributors and large customers

4. AMI 2.0 Variance Account (New) - to record the difference between the revenue requirement associated with the planned in-service additions included in the forecasted cost of the AMI 2.0 program over the 2023-2027 period and the revenue requirement associated with the actual in-service additions achieved as part of the AMI 2.0 program over the 2023-2027 period
5. Depreciation Expense (Asset Removal Costs) Asymmetrical Cumulative Variance Account (New) - to record the difference between the revenue requirement associated with asset removal cost forecasts that have been included in the proposed depreciation expenses for 2023-2027 and actual asset removal costs incurred in each of the test years, inclusive of tax
6. OPEB Asymmetrical Carrying Charge Variance Account (Modification) - the modification consists of a new alternative methodology that responds to the OEB's previous findings and reflects OPEB costs in total depreciation expense based on reasonable assumptions
7. Pension and OPEB Forecast Accrual Versus Actual Cash Payment Differential Variance Tracking Account (Modification) - the modification is related to the modification of the OPEB Asymmetrical Carrying Charge Variance Account, and also consists of a new alternative methodology that responds to the OEB's previous findings and reflects OPEB costs in total depreciation expense based on reasonable assumptions

10.0 CUSTOM IR PROPOSAL

The Application is based on a Custom IR approach for the 2023-2027 period. For each of Hydro One Transmission and Hydro One Distribution, the revenue requirement for the first year of the five-year period (2023) is determined using a cost of service, forward test year approach. For 2024-2027, Hydro One proposes a Custom Revenue Cap IR in which the revenue requirement for the test year t+1 is equal to the revenue requirement in year t inflated by the Revenue Cap Index (RCI).

The Custom RCI is expressed as:

$$RCI = I - X + C$$

Where:

"I" is the Inflation Factor, based on a custom weighted two-factor input price index.

"X" is the Productivity Factor, equal to the sum of Hydro One's custom Industry Total Factor Productivity measure and its custom stretch factor. The Productivity Factors of 0.3% for Hydro One Distribution and 0% for Hydro One Transmission are based on the recommendations of its independent expert, Clearspring Energy Advisors (Clearspring), and are calibrated to the results of the industry productivity trends and Clearspring's total cost benchmarking studies.

"C" is Hydro One's Custom Capital Factor, designed to recover incremental revenue each test year necessary to support Hydro One's proposed system plans, beyond the amount of revenue recovered through the I – X adjustment, but reduced by a supplemental stretch factor on capital of 0.15%.

The supplemental stretch and X-factor will be applied in a cumulative manner in each year of the test period. This represents a change from Hydro One's previous Custom IR frameworks and results in a significant upfront revenue requirement reduction for customers.

A summary of the RCI components is provided in Table 17 and Table 18 below. Details of these components, and Clearspring's benchmarking results and recommendations used to inform the RCI, are found in Exhibits A-04-01 to A-04-03.

Table 17 - Revenue Cap Index Components – Transmission (%)

Custom Revenue Cap Index by Component	**2024**	**2025**	**2026**	**2027**
Inflation Factor (I)	2.00	2.00	2.00	2.00
Productivity Factor (X)	0.00	0.00	0.00	0.00
Capital Factor (C)*	4.29	2.63	3.56	1.68
Custom Revenue Cap Index Total	**6.29**	**4.63**	**5.56**	**3.68**

** Includes the supplemental stretch of 0.15% on capital.*

Table 18 - Revenue Cap Index Components – Distribution (%)

Custom Revenue Cap Index by Component	**2024**	**2025**	**2026**	**2027**
Inflation Factor (I)	2.20	2.20	2.20	2.20
Productivity Factor (X)	-0.30	-0.30	-0.30	-0.30
Capital Factor (C)*	2.93	2.41	3.48	2.56
Custom Revenue Cap Index Total	**4.83**	**4.31**	**5.38**	**4.46**

** Includes the supplemental stretch of 0.15% on capital.*

To further align Hydro One's interests with those of its customers and to provide additional elements of protection for customers, Hydro One is proposing the following additional features as part of its overall Custom IR framework for each of Hydro One Transmission and Hydro One Distribution:

- an ESM that will provide customers with a 50% share of any earnings that exceed the OEB-allowed regulatory ROE by more than 100 basis points in any year of the Custom IR term;
- a CISVA to track the difference between: (i) the revenue requirement associated with actual in-service capital additions; and (ii) the revenue requirement associated with OEB-approved in-service capital additions, for any capital in-service additions that are lower than 98% of the OEB-approved level (with verifiable productivity savings being excluded to ensure that true productivity savings are incented through the Custom IR term). The CISVA proposal for Transmission includes a modification as described under Regulatory Accounts – Transmission above and detailed in Exhibit G-01-02; and

- Z-factor and off-ramp mechanisms that apply OEB-approved criteria.

Hydro One's proposed Custom IR framework aligns the utility's needs with the interests of and outcomes valued by its customers, and drives performance and continuous improvement in realizing those outcomes.

11.0 LOAD FORECAST

Hydro One's load and customer forecast methodology uses established industry practices and methods, such as econometric and end-use models, Conservation and Demand Management (CDM) inputs from the IESO, and weather normalization based on a 31-year average of relevant weather data. The forecast methodology has been used and approved by the OEB in Hydro One's Transmission and Distribution rate applications since 2006 and remains appropriate.

The load forecast uses actual 2020 amounts (peak, sales and number of customers) as the starting point, and includes consensus information available as of February 2021 for provincial/commercial/industrial GDP, population, housing starts, and disposable income forecasts over the application period. The load forecast also accounts for changes in electricity usage trends as well as significant growth due to developments in the Leamington area of southwestern Ontario.

A detailed description of the methodology and all of the inputs to the econometric and end-use models used for load forecasting are provided in Exhibits D-03-01 to D-05-01.

11.1 TRANSMISSION LOAD FORECAST

The monthly average transmission peak load is projected to grow at an average annual rate of 0.2% over the 2023-2027 period, largely driven by lower CDM assumptions, a higher housing starts consensus forecast, and growth related to developments in southwestern Ontario.

Table 19 - 2022-27 Weather-Normal Tx Forecast (Net of CDM and Embedded Generation)

	2022	2023	2024	2025	2026	2027
Average Monthly Peak (MW) – OEB Approved	19,543					
Average Monthly Peak (MW) – Forecast	19,381	19,451	19,527	19,547	19,584	19,607
% change over prior year	+0.2%	+0.4%	+0.4%	+0.1%	+0.2%	+0.1%

The transmission load forecast was last approved by the OEB in 2020 for the 2020 to 2022 period. Resetting of the current OEB-approved 2022 forecast as proposed in this Application is estimated to contribute to a 0.6% increase in transmission rates in 2023, while increasing peak demand over the remainder of the Application period is expected to result in an average decrease in transmission rates of 0.2% per year.

11.2 DISTRIBUTION LOAD AND CUSTOMER FORECAST

Distribution load is projected to grow by 2.7% in 2023 as a result of including the Acquired Utilities as part of Hydro One's forecast, and is projected to grow at an average rate of 0.3% over the 2024-2027 period. The number of customers is expected to grow by 5.3% in 2023 as a result of including the Acquired Utilities as part of Hydro One's forecast, and it is expected to grow at an average of 0.7% over the 2024-2027 period. In addition to growth driven by including the Acquired Utilities in Hydro One's load forecast, the expected load growth over the Application period is driven by lower CDM assumptions, a higher housing starts consensus forecast and growth related to developments in southwestern Ontario.

Table 20 - 2022-27 Weather-Normal Dx Forecast (Net of CDM and Embedded Generation)

	2022	2023	2024	2025	2026	2027
Sales (GWh) – OEB Approved	32,593					
Sales (GWh) – Forecast	32,912	33,807	33,921	34,030	34,136	34,239
% change over prior year		2.7%	0.3%	0.3%	0.3%	0.3%
Customer # (M) - OEB Approved	1.334					
Customer # (M)[27] – Forecast	1.343	1.414	1.424	1.434	1.444	1.453
% change over prior year		+5.3%	+0.7%	+0.7%	+0.7%	+0.6%

Hydro One's distribution load forecast was last approved by the OEB in 2019 for the 2018 to 2022 period. Due to the large share of Distribution revenue collected from fixed charges, and the fact that the number of customers is forecast to increase relative to the OEB-approved number of customers for 2022, resetting the distribution forecast in the current Application is expected to contribute to a decrease in rates of about 1.4%[28] in 2023 and a further decrease of approximately 0.6% in each of the subsequent years of the Application period.

12.0 COST ALLOCATION AND RATE DESIGN

12.1 TRANSMISSION COST ALLOCATION AND RATE DESIGN

Hydro One continues to follow the methodology, approved by the OEB since 2006, to allocate its transmission rates revenue requirement into three rate pools (Network, Line Connection and Transformation Connection). That methodology is described in Exhibits H-01-02 and H-01-03. Hydro One's transmission rates revenue requirement, allocated by rate pool, is used as an input to the calculation of UTRs as detailed in Exhibit H-06-01.

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[27] Number of customers is mid-year.

[28] This does not include the impact on rates due to the inclusion of the Acquired Utilities, which will be largely offset by the inclusion of the Acquired Utilities revenue requirement starting in 2023.

12.2 DISTRIBUTION COST ALLOCATION

Hydro One has prepared its cost allocation evidence in accordance with Chapter 2 of the Distribution Filing Requirements and using the latest cost allocation model from the OEB.

This Application includes the creation of new rate classes for customers from the three Acquired Utilities and an added option for customers in relation to the Sub-Transmission rate class.[29] Aside from changes related to these new items, the cost allocation process follows the process previously approved by the OEB for Hydro One Distribution.

12.2.1 NEW ACQUIRED CLASSES

Hydro One proposes to make a number of changes effective January 1, 2023 in relation to the rate classification of customers from the Acquired Utilities. These changes include establishing two new sets of rate classes into which residential and general service customers of the Acquired Utilities will be placed, as described in Exhibit L-01-02. Acquired Utilities customers in the Street Lights, Sentinel Lights, Unmetered Scattered Load and Large User classes will be merged into corresponding Hydro One rate classes starting in 2023.

Hydro One's total 2023 Distribution revenue requirement, including all shared/common costs, will be allocated to legacy Hydro One rate classes and the new rate classes for the Acquired Utilities on the same basis using the cost allocation principles embedded with the OEB's cost allocation model.

As detailed in Exhibit L-03-01, the results from the cost allocation and rate design process show that $32.8M is proposed to be collected from customers of the Acquired Utilities in 2023, which is less than the $42.2M that would have otherwise have been collected from them in 2023 in the

[29] This Application also implements the OEB's previously approved decision to eliminate the Seasonal class. Implementation of the Seasonal class elimination is being addressed in an on-going separate proceeding (EB-2020-0246). This Application assumes an implementation date of January 1, 2023 for eliminating the Seasonal rate class.

absence of the transactions, representing a benefit to those customers of $9.4M or a 22% reduction in the total revenue requirement that would otherwise have been collected from them. Moreover, the $32.8M to be collected from customers of the Acquired Utilities in 2023 is greater than the $30.9M in Hydro One’s incremental revenue requirement associated with serving those customers. This represents a benefit to Hydro One’s legacy customers as it results in a $1.9M reduction in the revenue that would otherwise have been collected from Hydro One’s legacy customers in the absence of the transactions. This demonstrates that the acquisitions resulted in a benefit for both legacy and the Acquired Utilities’ customers.

12.3 DISTRIBUTION RATE DESIGN

This Application continues the OEB-mandated move to all-fixed residential distribution rates for Hydro One’s Medium-Density (R1) and Low-Density (R2) residential rate classes, who will complete their transition to all-fixed rates in 2024. The transition to all-fixed rates for Hydro One’s High Density Residential (UR) class was completed in 2021.

As described in Exhibit L-02-01, this Application also proposes to remove the requirement for ST customers to own their local transformation, and to instead provide such customers with the option to pay a transformer charge if they meet all of the other requirements of the ST class and prefer to be connected to Hydro One local transformers. This change responds to customer feedback and preference for having the utility be responsible for all elements of its distribution connection and aligns with the approach to transformer ownership taken by other utilities.

13.0 BILL IMPACTS

Whether in respect of Transmission or Distribution, the average impact on customer rates is driven by changes to the proposed revenue requirement and the load forecast[30] over the Application period, as well as impacts from the disposition of regulatory accounts. The impacts

[30] Load forecast refers to the forecast of energy consumption, peak demands and number of customers.

on individual distribution customers within different rate classes will depend on the outcome of the cost allocation and rate design process, as well as the load forecast by rate class.[31]

Exhibits H-10-1 and L-06-01 provide the bill impacts that will result from approval of the Application for the Transmission and Distribution businesses, respectively.

13.1 TRANSMISSION BILL IMPACTS

Table 21 shows the estimated average bill impacts of the proposed changes in Hydro One's transmission rates revenue requirement and load forecast on transmission and distribution connected customers over the Application period.

Table 21 - Average Rate and Bill Impacts on Transmission and Distribution-connected Customers

	2022	2023	2024	2025	2026	2027	2023-2027 Average
Revenue Requirement ($M)	**1807.6**	**1,823.2**	**1,937.8**	**2,027.5**	**2,140.3**	**2,219.0**	
Adjustments to Revenue Requirement ($M) (Note 1)	**71.2**	**(16.4)**	**(54.7)**	**(54.4)**	**(53.1)**	**(53.5)**	
Rates Revenue Requirement ($M)	1,878.8	1,806.8	1,883.1	1,973.1	2,087.2	2,165.5	
% Change over prior year		-3.8%	4.2%	4.8%	5.8%	3.8%	2.9%
Estimated Load Impact on Rates		0.6%	-0.4%	-0.1%	-0.2%	-0.1%	-0.05%
Estimated Impact on Transmission Rates (Note 2)		-3.1%	3.6%	4.4%	5.3%	3.4%	2.7%
Average Transmission Customer Bill Impact		-0.2%	0.3%	0.3%	0.4%	0.3%	0.2%
Average Distribution Customer Bill Impact		-0.2%	0.2%	0.3%	0.3%	0.2%	0.2%

Note 1: Adjustments include non-rate revenues, export revenues, disposition of regulatory accounts and low voltage switchgear credit. For purpose of estimating rate impacts, adjustments also include historical misallocated Future Tax Savings amounts being recovered in 2022 (+$87.1) and 2023 (+$43.5) per the OEB Decision in proceeding EB-2020-0194.
Note 2: The calculation of net impact on transmission rates accounts for Hydro One's revenue disbursement allocation factor of 94.2% as approved for 2021 UTR Revenue Requirement (EB-2020-0251) issued on December 17, 2020.

[31] In the case of transmission, the impacts will vary depending on the type of services used by transmission customers (i.e. Network, Line Connection, Transformation Connection), and the forecast charge determinants for those services.

The impact on Transmission rates of Hydro One's transmission-related proposals in this Application is estimated to be a reduction of 3.1% in 2023 followed by small annual increases, resulting in an average annual increase of 2.7% over the Application period. This translates into average bill impacts on both transmission and distribution end-use customers of a decrease of 0.2% in 2023 followed by small increases in subsequent years, resulting in a 0.2% average annual increase over the Application period.

13.2 DISTRIBUTION BILL IMPACTS

The impact on individual distribution customer bills by rate class results from the cost allocation and rate design process, as well as the disposition of regulatory accounts. Table 22 summarizes the 2023-2027 total bill impacts for typical customers in all customer classes resulting from Hydro One's distribution-related proposals in this Application. Bill impacts across a range of consumption levels are provided in Exhibit L-06-01.

Table 22 - 2023-2027 Total Bill Impacts for Typical Customers in all Customer Classes

	2023		2024		2025		2026		2027	
Rate Class	**$**	**%**	**$**	**%**	**$**	**%**	**$**	**%**	**$**	**%**
UR	($2.58)	-2.0%	$0.75	0.6%	$1.38	1.1%	$1.86	1.4%	$1.58	1.2%
R1 (with DRP)	($0.95)	-0.7%	$0.00	0.0%	$0.00	0.0%	$0.00	0.0%	$0.00	0.0%
R1 (without DRP)	($2.78)	-1.8%	$1.40	0.9%	$2.36	1.5%	$3.18	2.0%	$2.26	1.4%
R2 (with DRP)	($1.10)	-0.8%	$0.00	0.0%	$0.00	0.0%	$0.00	0.0%	$0.00	0.0%
R2 (without DRP)	($17.09)	-9.8%	$3.15	2.0%	$4.78	3.0%	$6.46	3.9%	$5.47	3.2%
Seasonal-UR	($33.11)	-29.0%								
Seasonal-R1	($10.31)	-9.0%								
Seasonal-R2	$49.65	43.5%								
GSe	($8.32)	-2.0%	$1.43	0.4%	$6.12	1.5%	$8.38	2.0%	$6.99	1.7%
UGe	($4.66)	-1.4%	$0.72	0.2%	$3.28	1.0%	$4.53	1.4%	$3.77	1.1%
GSd	($128.84)	-1.6%	$0.45	0.0%	$97.49	1.2%	$131.49	1.6%	$111.48	1.3%
UGd	($90.49)	-1.1%	$0.79	0.0%	$58.25	0.7%	$78.55	0.9%	$66.61	0.8%
St Lgt	($7.99)	-2.7%	$0.71	0.2%	$5.36	1.8%	$7.20	2.4%	$6.09	2.0%
Sen Lgt	($1.00)	-5.8%	($0.13)	-0.8%	$0.40	2.5%	$0.54	3.3%	$0.46	2.7%
USL	($6.90)	-6.5%	$0.36	0.4%	$1.09	1.1%	$1.78	1.8%	$1.90	1.9%
DGen	($17.96)	-2.7%	$12.54	2.0%	$14.53	2.2%	$19.59	3.0%	$16.69	2.4%
ST	($2,071.03)	-0.9%	$83.15	0.0%	$256.89	0.1%	$346.26	0.2%	$608.83	0.3%
Former Woodstock Hydro Customers to Hydro One Rate Classes										
AUR	($1.02)	-0.8%	$1.24	1.0%	$1.14	0.9%	$1.53	1.2%	$1.30	1.0%
AUGe	($7.70)	-2.6%	$2.23	0.8%	$2.12	0.7%	$2.89	1.0%	$2.37	0.8%
AUGd	($372.04)	-4.4%	$23.28	0.3%	$26.46	0.3%	$29.07	0.4%	$30.97	0.4%
St Lgt	$235.22	2.3%	$197.04	1.9%	$184.46	1.8%	$247.35	2.3%	$209.61	1.9%
USL	$35.98	18.8%	$1.98	0.9%	$1.50	0.7%	$2.52	1.1%	$2.64	1.1%
ST	($1,667.22)	-1.0%	$319.45	0.2%	$293.43	0.2%	$395.34	0.2%	$694.63	0.4%
Former Norfolk Power Customers to Hydro One Rate Classes										
AR	$0.90	0.7%	$1.51	1.2%	$1.38	1.1%	$1.86	1.4%	$1.58	1.2%
AGSe	($7.43)	-2.3%	$3.14	1.0%	$2.64	0.8%	$3.67	1.2%	$3.13	1.0%
AGSd	($197.47)	-1.6%	$56.24	0.5%	$52.59	0.4%	$69.30	0.6%	$63.33	0.5%
St Lgt	$227.41	9.5%	$50.46	1.9%	$47.24	1.8%	$63.35	2.3%	$53.68	1.9%
Sen Lgt	$5.64	22.3%	$0.84	2.7%	$0.76	2.4%	$1.03	3.2%	$0.88	2.6%
USL	$30.26	23.5%	$1.69	1.1%	$1.29	0.8%	$2.14	1.3%	$2.26	1.4%
Former Haldimand County Hydro Customers to Hydro One Rate Classes										
AR	$0.88	0.7%	$1.51	1.2%	$1.38	1.1%	$1.86	1.4%	$1.58	1.2%
AGSe	$4.66	1.5%	$3.14	1.0%	$2.64	0.8%	$3.67	1.2%	$3.13	1.0%
AGSd	($230.14)	-2.2%	$54.64	0.5%	$51.08	0.5%	$67.33	0.7%	$61.50	0.6%
St Lgt	($2,331.62)	-21.3%	$164.76	1.9%	$154.24	1.8%	$206.83	2.3%	$175.27	1.9%
Sen Lgt	($9.45)	-33.5%	$0.52	2.8%	$0.48	2.5%	$0.64	3.2%	$0.54	2.7%
USL	$22.12	29.6%	$1.40	1.4%	$1.09	1.1%	$1.77	1.8%	$1.90	1.9%

Note 1: *In 2024 to 2027, customers of R1 and R2 rate classes will be fully protected by the DRP credit against any changes in distribution rates and will not see any year-over-year change in their distribution charges.*
Note 2: *2024 to 2027 Seasonal customers' bill impact not available as the Seasonal rate class has been eliminated in 2023*
Note 3: *Hydro One proposes mitigation plans by way of a bill credit to be applied to each affected customer for any rate classes that are expected to experience total bill impacts greater than 10%, as discussed in Exhibit L-06-01.*

14.0 CONCLUSION

The proposed revenue requirements for the Transmission and Distribution business segments are appropriate and will enable Hydro One to deliver significant value to ratepayers through efficient, safe and reliable operations, as well as appropriately prioritized and reasonably paced investments in the Transmission System, Distribution System and General Plant. Moreover, the proposed Custom IR framework will effectively drive Hydro One to continuously improve its productivity and performance.

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