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February 8, 2024

Ms. Nancy Marconi, Registrar
Ontario Energy Board
PO Box 2319
2300 Yonge Street, 27th floor
Toronto, ON M4P 1E4

Dear Ms. Marconi:

Re: OEB File No. EB-2023-0195, Toronto Hydro-Electric System Limited ("Toronto Hydro") 2025-2029 Custom Rate Application for Electricity Distribution Rates and Charges – Disclosure of Documents in accordance with the Decision on Confidentiality, Issues List, and Proposed Expert Evidence.

On November 17, 2023, Toronto Hydro requested certain information in the above referenced application and related pre-filed evidence to be treated as confidential pursuant to Rule 10.01 of the OEB's *Rules of Practice and Procedure* and the OEB's *Practice Direction on Confidential Filings.*

On February 5, 2024, the OEB released its Decision on Confidentiality, Issues List and Proposed Expert Evidence and Procedural Order No. 3 ("**Confidentiality Decision"**). In accordance with the Confidentiality Decision, Toronto Hydro has removed all redactions from, and is refiling, the evidence listed in Table 1 below.

Table 1: Evidence where all redactions were removed

Exhibit	Pages
Exhibit 1B, Tab 3, Schedule 3, Appendix B – PEG Forecast Benchmarking	Sheet 1 – Model Inputs
Exhibit 2A, Tab 4, Schedule 2, Overhead Costs	pp. 4-5
Exhibit 2A, Tab 4, Schedule 2, Appendix 2-D, Overhead Expense	All pages

Exhibit	Pages
Exhibit 4, Tab 1, Schedule 1, OM&A Overview	pp. 23 and 31
Exhibit 4, Tab 4, Schedule 1, Workforce Staffing and Compensation Overview	pp. 7 and 9
Exhibit 4, Tab 4, Schedule 2, Appendix 2-K, Employee Costs / Compensation Table	All pages
Exhibit 4, Tab 4, Schedule 4, Compensation Strategy and Workforce Governance	pp. 1-3, 14, 17-18

Table 2 indicates the evidence where Toronto Hydro has modified the redactions, and is refiling, in accordance with the Confidentiality Decision:

Table 2: Evidence with partial redactions

Exhibit	Pages
Exhibit 2B, Section E8.1, Enterprise Data Centre	pp. 3-4, 6-8, 10-11, 14-29
Exhibit 2B, Section E8.2, Facilities Management and Security	pp. 14, 24, 28

Please do not hesitate to contact me if you have any questions.

Daliana Coban

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Director, Regulatory Applications & Business Support

OVERHEAD COSTS

This schedule provides a breakdown of operational, maintenance and administrative (OM&A) expenses before capitalization, in accordance with section 2.2.9 of the OEB's Filing Requirements for Electricity Distribution Rate Applications (December 15, 2022). OEB Appendix 2-D (Overhead Costs) is attached to this schedule.

1. BURDEN RATES

Toronto Hydro's capital work is bundled into projects which are compromised primarily of labour, material and vehicle costs. As set out in Toronto Hydro's Capitalization Policy filed at Exhibit 2A, Tab 4, Schedule 1, Appendix A, and consistent with the utility's last rebasing application, Toronto Hydro charges these costs directly to projects as they are incurred. This section details each of these three cost activities, and explain how the costs are allocated across projects.

1.1 Labour Costs

Toronto Hydro uses a standard labour rate ("SLR") to allocate labour costs to projects by using timesheets, consistent with the common industry practice. The SLR is a fully burdened hourly rate which is calculated by dividing the total compensation costs by total available hours. The total available hours consist of: (i) total working hours in a year less: (ii) leaves (e.g. vacation, sick time, and statutory holidays), as well as (iii) time not spent working on a specific operating or capital project (e.g. legislative training requirements, safety meetings, downtime, etc.).

Toronto Hydro calculates SLRs for each role in its workforce. These rates are updated on an annual basis and are initially derived based on the inputs gathered during the annual

planning process, which are subsequently adjusted for actuals at the year-end for any variances to the budgeted amounts.

As described in Exhibit 4, Tab 4, Schedule 3, Toronto Hydro has a diverse workforce of highly-skilled employees responsible for executing different types of work. The utility organizes its workforce under multiple labour classes based on management and operational needs and as such, different labour rates apply to each workforce segment. The methodology for calculating Toronto Hydro's SLRs is consistent with the last rate application.

1.2 Material Handling On-cost

A material handling on-cost charge is applied to material issuances from the warehouse to allocate the fully burdened rate of material costs to projects. Toronto Hydro applies a standard fixed on-cost rate on material moving average price to recover costs associated with procurement, and warehousing activities. The methodology for calculating on-cost rate, described in more detail below, is consistent with the last rebasing application.[1]

The on-cost rate is calculated by dividing procurement and warehousing related operating expenses that meet the capitalization criteria as described in Toronto Hydro's Capitalization Policy[2] with the dollar value of material moving through the warehouse in a given year. This rate is applied as a fixed percentage on all material issuances to capital and operating projects to recover cost of supply chain services to projects. The costs recovered in the material surcharge include costs as described in the Supply Chain Services program (Exhibit 4, Tab 2, Schedule 13), the Facilities Management program (Exhibit 4, Tab 2, Schedule 12), and the Allocations and Recoveries schedule (Exhibit 4, Tab 2, Schedule 21).

[1] EB-2018-0165, Exhibit 4A, Tab 2, Schedule 13.
[2] Exhibit 2A, Tab 4, Schedule 1, Appendix A.

Toronto Hydro calculates the on-cost rate on an annual basis, initially derived based on the inputs gathered during the annual planning process, and subsequently adjusted for actuals at the year-end process.

1.3 Vehicle Costs

Toronto Hydro uses a standard vehicle hire rate ("VHR") to allocate vehicle costs to projects by using timesheets, consistent with the common industry practice. The VHR is a fully burdened hourly rate which is calculated by dividing: (i) operation, maintenance, and repair costs as described in the Fleet and Equipment Services program (Exhibit 4, Tab 2, Schedule 11), (ii) fuel costs, and (iii) depreciation by total available hours. The methodology for calculating VHR is consistent with the last rebasing application with minor changes described in more detail below.

The total available hours consist of: (i) total working hours in a year less: (ii) leaves (as the vehicles are not operated when employees are on leaves such as vacation and statutory holidays), as well as (iii) time not spent working on a specific operating or capital projects (e.g. legislative training requirements, safety meetings, downtime, etc.).

Toronto Hydro calculates the VHR for each of the vehicles in its fleet. These rates are updated on an annual basis, initially derived based on the inputs gathered during the planning process, which subsequently adjusted for actuals at the year-end process.

Since the last rebasing application, Toronto Hydro updated its approach for the calculation of available hours to deduct leaves and time not spent working on specific operating or capital jobs from total working hours; previously total working hours were deducted for a factor for vehicle repairs and maintenance.

2. CAPITALIZED OVERHEAD COSTS

Tables 1 and 2 below summarize Toronto Hydro's capitalized overhead costs for the current 2020-2024 and the future 2025-2029 rate period.

Table 1: 2020-2024 Actual and Bridge Overhead Capitalization Costs ($ Millions)

Capitalized OM&A	2020 Actuals	2021 Actuals	2022 Actuals	2023 Bridge	2024 Bridge
Labour Capitalization	(117.7)	(99.0)	(117.5)	(115.0)	(130.9)
Vehicle Capitalization	(4.2)	(5.7)	(6.0)	(5.4)	(5.6)
Material Handling On-cost	(12.4)	(12.0)	(14.1)	(15.8)	(17.8)
Total Capitalized OM&A	**(134.3)**	**(116.7)**	**(137.6)**	**(136.2)**	**(154.3)**

Table 2: 2025-2029 Forecast Overhead Capitalization Costs ($ Millions)

Capitalized OM&A	2025 Forecast	2026 Forecast	2027 Forecast	2028 Forecast	2029 Forecast
Labour Capitalization	(140.9)	(151.9)	(162.4)	(172.7)	(183.9)
Vehicle Capitalization	(5.6)	(5.7)	(5.8)	(5.8)	(5.9)
Material Handling On-cost	(20.3)	(22.1)	(23.5)	(24.0)	(25.6)
Total Capitalized OM&A	**(166.8)**	**(179.7)**	**(191.7)**	**(202.5)**	**(215.4)**

Tables 3 and 4 below summarize the percentage of OM&A capitalized during the current 2020-2024 rate period and the future 2025-2029 rate period, respectively.

Table 3: 2020-2024 Actual and Bridge Percentage of Capitalized OM&A

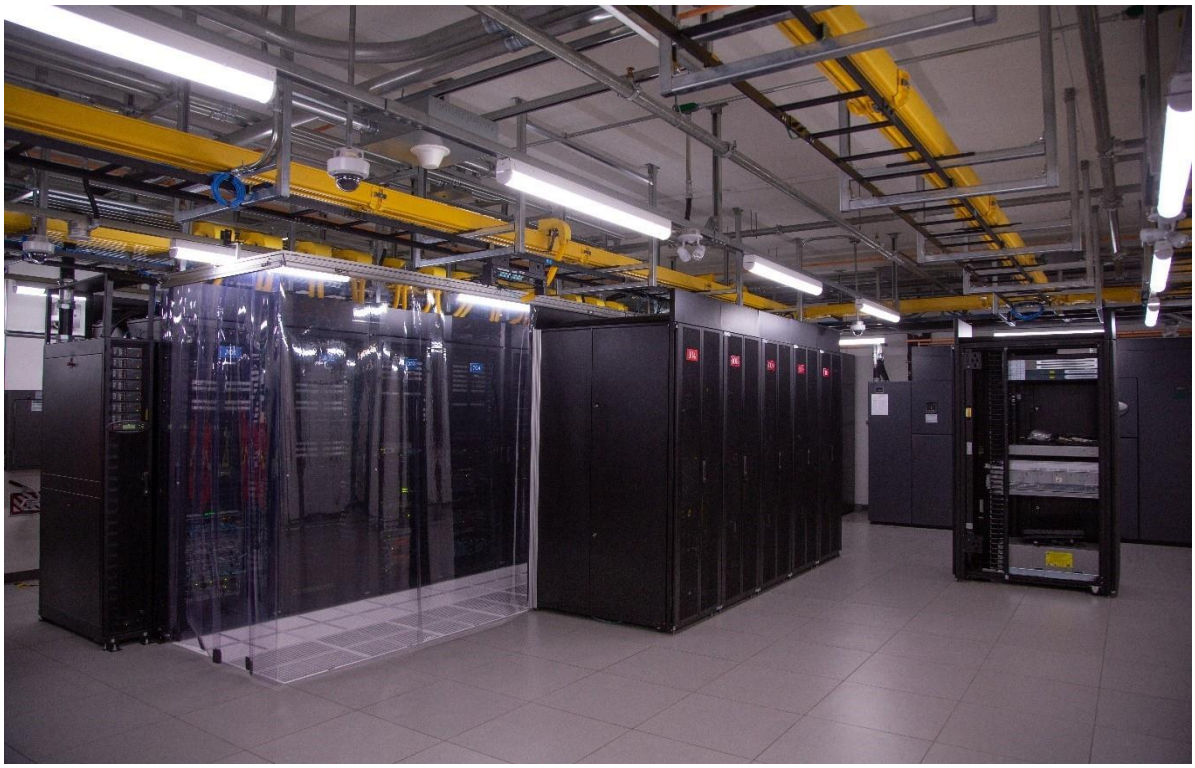
OM&A ($ Millions)	2020 Actuals	2021 Actuals	2022 Actuals	2023 Bridge	2024 Bridge
Total OM&A Before Capitalization (B)	422.4	394.2	418.0	437.7	479.8
Total Capitalized OM&A (A)	(134.3)	(116.7)	(137.6)	(136.2)	(154.3)
% of Capitalized OM&A (A/B)	**-32%**	**-30%**	**-33%**	**-31%**	**-32%**

Table 4: 2025-2029 Forecast Percentage of Capitalized OM&A

OM&A ($ Millions)	2025	2026	2027	2028	2029
Total OM&A Before Capitalization (B)	509.8	537.7	561.9	588.0	615.0
Total Capitalized OM&A (A)	(166.8)	(179.7)	(191.7)	(202.5)	(215.4)
% of Capitalized OM&A (A/B)	**-33%**	**-33%**	**-34%**	**-34%**	**-35%**

In the current 2020-2024 rate period, capitalized OM&A averages at 32 percent per year, whereas in the next rate period the average is forecasted at 34 percent. This is primarily attributed to greater labour capitalization driven by increased headcount as set out in the utility's workforce plan at Exhibit 4, Tab 4. At a macro level, this trend shows that the utility's workforce plan is driven in large part by the need to support the execution of a larger capital plan as outlined in Exhibit 2B. Since not all workforce-related costs can be directly attributed to the construction or creation of capital assets, a corresponding increase in OM&A (after capitalization) is also necessary to enable the execution of a larger capital work program. Please see Exhibit 4, Tab 1, Schedule 1 for a further discussion of the relationship between OM&A, capital expenditures and workforce.

E8.1 Enterprise Data Centre ("EDC") Relocation



E8.1.1 Overview

Table 1: Program Summary

2020-2024 Cost ($M): N/A	**2025-2029 Cost ($M):** $72.0
Segments: Facilities	
Trigger Driver: Operational Resilience	
Outcomes: Operational Effectiveness - Reliability, Operational Effectiveness - Safety, Environment, Customer Focus, Financial Performance	

Toronto Hydro's 24/7 operations are supported by its Enterprise Data Centre ("EDC"), which houses the utility's essential networking, telephony and telecommunications systems, data storage and backup systems, and server infrastructure across two distinct locations ("centres") that collectively support the following organization-wide ("enterprise") processes ("data"):

- Control centre operations, including real-time control of Toronto Hydro's distribution system through supervisory control and data acquisition ("SCADA"), and remote monitoring and operation of substations and in-field devices;
- Grid management and response, including outage management, isolation and restoration activities, and radio communications with field personnel;
- Delivery of planned investments, including capital and maintenance activities;
- Asset management activities, including system planning, analytics and decision-making, and regulatory reporting functions;
- Financial activities, including capital budgeting and financial reporting;
- Engineering activities, including design, cost estimation, and job scheduling;
- Customer services, including customer care and billing, call centre operations, meter reading, meter data management and customer communications; and,
- Information technology ("IT") services, including IT systems and software, technical support services, office phone systems, and online services.

Figure 1 illustrates the foundational role that the EDC plays within Toronto Hydro, and how a failure of this physical infrastructure could result in an organization-wide outage impacting all enterprise processes.

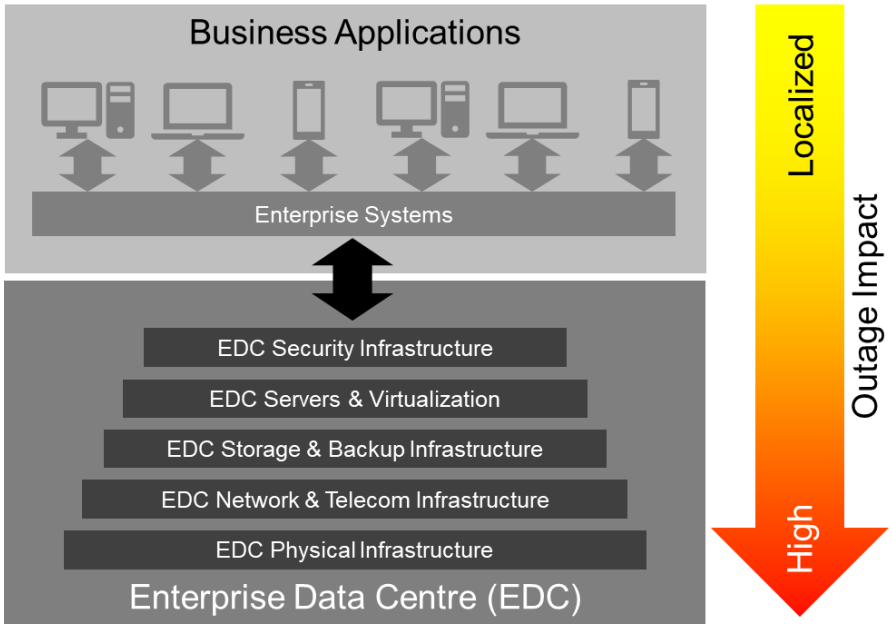


Figure 1: EDC and Supported Business Applications

An organization-wide outage would immediately disrupt operational systems and processes within Toronto Hydro's Control Centre Operations program, because power system controllers would be unable to access any real-time or near-real-time data within the Advanced Distribution Management System ("ADMS"), Outage Management System ("OMS") or Supervisory Control & Data Acquisition ("SCADA") systems.[1] Planned and unplanned activities within the utility's distribution system would suffer immediate disruption due to the loss of communication between the control centre and field crews, meaning that isolation, sectionalisation, and restoration activities would no longer be performed safely or effectively, resulting in extended outages to customers and significant delays in planned construction activities.

To better safeguard Toronto Hydro and its customers against the severe and significant impacts that an organization-wide outage could introduce, the EDC has been implemented across two physically separated locations for the purposes of providing redundancy and enhanced resiliency, should one or both EDC locations experience a normal or catastrophic failure event. Having multiple physically separated data centres is a common practice in the industry to enhance overall reliability, with recent surveys indicating that over 85 percent of organizations have three or more physically separated data centres in operation.[2] [redacted]

Toronto Hydro's EDC is facing emerging operational resilience, reliability, safety and security, and decarbonization issues specific to EDC 1 that require immediate intervention to mitigate the risks of a potential organization-wide outage. [redacted] 60 percent of the existing building infrastructure and facilities assets at EDC 1 are beyond their useful lives. Furthermore, Toronto Hydro has limited options to invest in necessary upgrades to building envelope systems at EDC 1 that can help mitigate current EDC capacity constraints. These growing facilities-related challenges are contributing to increased reliability risks for the EDC, including water damage, flooding, and physical safety and security risks that, if realized, would require the EDC to

[1] Exhibit 4, Tab 2, Schedule 7.
[2] See e.g. E. Thorne, "Corporate Data Center Geography, Explained", TeleGeography Blog, 2021, https://blog.telegeography.com/corporate-data-center-geography-explained

shut down. Finally, although Toronto Hydro estimates that it can fully meet its decarbonization goals with respect to the [redacted][3] Current energy efficiency goals as established by the Building Owners & Managers Association ("BOMA") and Energy Star are simply unfeasible to achieve within the EDC 1.

As Toronto Hydro continues to build, maintain, and operate its distribution system in accordance with the evolving needs and nature of load customers, distributed energy resource ("DER") owners and operators, and other stakeholders, it will aim to modernize its infrastructure and practices by introducing new enterprise systems and business processes throughout the 2025-2029 rate period. In other words, the EDCs will need to continue to grow to consistently meet the utility's, and by extension, its customers' needs. Although Toronto Hydro has prudently managed and maintained reliability and operational resilience within both EDC locations through its robust asset management strategy and asset renewal and repair activities,[4] the utility expects that EDC 1 will reach its capacity within the next five years and will no longer be able to accommodate new data and support new systems. Once this capacity threshold is reached, EDC 1 will no longer provide 1:1 redundancy to EDC 2. Under such a scenario, there will be a partial loss of business applications across the organization.

EDC 1 suffers from additional risks due to its limited and restricted footprint within the [redacted] which could increase the overall probability of an EDC failure event. For example, EDC 1 will continue to require at least two to three shutdowns per year to allow for the execution of necessary and essential facilities operations and maintenance activities aiming to safeguard the integrity of the location. Should EDC 2 fail during a shutdown of EDC 1, or should both EDC locations be impacted by a single event, an organization-wide outage will occur.

The EDC Relocation program (the "Program") proposes to relocate EDC 1 to [redacted] to enhance the overall redundancy and resiliency of the EDC and minimize the risks of an organization-wide outage. Through this relocation, Toronto Hydro will also be able to mitigate risks associated with operational resiliency, reliability, safety and security, and decarbonization. Subsection E8.1.2.1 on page 6 provides further details on the proposed investments within this

[3] Outlined in greater detail in Exhibit 2B, Sections D6 (Net Zero 2040 Strategy) and E8.2 (Facilities Management and Security).
[4] Respectively discussed under Exhibit 2B, Sections D5 (Facilities Asset Management Strategy) and E8.2 (Facilities Management and Security), and Exhibit 4, Tab 2, Schedule 14 (Facilities Management OM&A program).

program, while subsection E8.1.2.2 on page 15 provides further details on the key drivers and risks to be mitigated through the execution of this program.

E8.1.2 Outcomes and Measures

Table 2: Outcomes and Measures Summary

Operational Effectiveness - Reliability	• Contributes to Toronto Hydro's reliability and resiliency objectives by: ○ Reducing the risk of an organization-wide outage due to EDC failure; ○ Maintaining critical business applications, including control centre functions, grid management and response, planning and engineering, customer care and billing, and project execution; ○ Mitigating current reliability challenges due to the constraints and external factors at EDC 1; and ○ Enhancing the geographic diversity of the EDC to create redundancy and mitigate the risk of failure by reliance on a single EDC facility.
Operational Effectiveness - Safety	Contributes to Toronto Hydro's safety objectives by: • Mitigating health and safety hazards from building infrastructure deterioration at EDC 1 (raised floor, windows, life safety infrastructure and fire suppression); and • Providing safe access to the relocated EDC for deliveries and during the loading/unloading of components.
Customer Focus	• Contributes to Toronto Hydro's customer focus objectives by: ○ Allowing for customer service and call centre operations to continue uninterrupted in the event that one of the EDCs fail and minimizing the risks of potential call centre outages; and ○ Mitigating the risks of an organization-wide outage that can result in the extension of outages to customers.
Environment	• Contributes to Toronto Hydro's environmental objectives by: ○ Assisting with the achievement of goals outlined in Toronto Hydro's Net Zero 2040 Strategy by reducing scope 1 greenhouse gas emissions; and ○ Leveraging energy efficient HVAC and lightning systems.

Financial Performance	• Contributes to Toronto Hydro's financial performance objectives as measured by the total cost and efficiency measures by: ○ Reducing capital costs by sharing existing infrastructure at the proposed EDC including cabling pathways, physical security, access control, and power redundancy solutions; and ○ Leveraging an existing fiber-optic connection between EDC 2 and the proposed EDC to reduce project costs.

E8.1.2.1 Program Description

This program proposes the relocation of EDC 1 to the [redacted]. Toronto Hydro will require $72 million over the 2025-2029 rate period to execute and complete this program.

The utility proposes the [redacted] as the optimal relocation site for the following reasons:

- [redacted] and
- Existing Fibre-Optic Connections and Footprint: The proposed EDC contains a fibre-optic connection with EDC 2, which would enable the transfer of data and communications from the [redacted], thereby reducing overall project costs when compared to other potential locations. The proposed EDC also provides a 12,000 square feet footprint, which is necessary for housing all EDC assets.

Further details regarding the various relocation options and how the utility determined the optimal relocation site are provided in subsection E8.1.4 on page 23.

The proposed EDC will be a [redacted] to the existing warehouse area within the [redacted] and the EDC will be located [redacted]. A total of 11,500 square feet of space will be dedicated to house the following key components:

[5] From the completion of the Control Operations Reinforcement program in Exhibit 2B, Section E8.1 of Toronto Hydro's 2020-2024 Custom Incentive Rate Application (EB-2018-0165). See also Exhibit 2B, Section E4 of this application.

- Physical Infrastructure: Provides the necessary vertical and horizontal space requirements to load, test and integrate, and store core assets within the proposed EDC. This includes the data hall, staging area, access trap, and loading dock;
- Electrical Infrastructure: Powers the EDC and provides redundancy should a localized failure at the proposed EDC occur. This includes the electrical supply points, uninterruptible power supply ("UPS"), and generators;
- Environmental Infrastructure: Maintains optimal environmental conditions within the EDC, while also providing essential protection against threats such as fires. This includes the HVAC and fire suppression systems;
- Telecom Infrastructure: Connects the EDC to Toronto Hydro's Control Centres, work sites, offices, substations and distribution system components;
- Network Infrastructure: Facilitates communications between servers, storage, and applications;
- Storage and Backup Infrastructure: Provides centralized storage of all production, test, and development data for online access and long-term archival;
- Computing Resources: Includes the servers, which provide the necessary processing, memory, virtualization, and connectivity to support business applications and associated middleware/database components; and
- Security Infrastructure: Enables physical and cyber security controls to sufficiently protect assets contained within the EDC.

The Program aims to retire the existing assets and infrastructure at EDC 1, while supporting Toronto Hydro's continued efforts to modernize its operational systems. The execution of the Program will ensure that Toronto Hydro's EDC continues to withstand evolving hazards and threats, thereby allowing the utility to continue operations and provide customer services, effectively safeguard, manage, and operate its distribution system, minimize potential safety hazards to the public and employees, and minimize business interruption impacts on its customers as efficiently and effectively as possible. The following subsections provide further details on the various components as specified above.

Figure 2 illustrates key components within the proposed EDC and its relation to the broader [redacted], all components of the proposed EDC will be secured with [redacted]

1. Physical Infrastructure

To further enhance the resiliency and reliability of the EDC 2 and EDC 1 locations, Toronto Hydro has aligned these locations to the requirements established by the Uptime Institute within its Tier Classification System.[6] EDC 1, [redacted], aligns to Tier I requirements within this classification system and cannot be further enhanced to align to Tier II or Tier III requirements, due to the lack of available space, electrical supply, environmental conditions, and installed redundancy within EDC 1.

With the increased space availability at the location for the proposed EDC, it will be possible for Toronto Hydro to align the proposed EDC with Tier III requirements, meaning that the EDC will be more reliable than the existing EDC 1 and EDC 2 locations by several orders of magnitude, with completely redundant components. Despite the enhanced Tier III functionalities, the utility will build the proposed EDC at a cost that remains proportional to the up-front costs for EDC 2.

[6] Uptime Institute, Tier Classification System https://uptimeinstitute.com/tiers. A higher tier indicates more sophisticated standards and controls and thus, greater expected reliability.

Key physical infrastructure components within the proposed EDC will include the following:

- Data Hall: A 3,800 square feet area that holds the server racks, servers, storage and cooling units. This data hall is significantly larger than the current one in EDC 1 and will provide the necessary physical capacity to ensure that more equipment can be added as Toronto Hydro's operations continue to grow;
- Loading Dock: A dedicated loading dock designed to provide no height restrictions, with 7 feet x 6 feet doors, providing the necessary clearances to move critical asset infrastructure in and out of the EDC. This will help reduce time, costs, and overall complexity of bringing equipment into the EDC, especially when compared to EDC 1, which does not possess a loading dock;
- Corridor: A 2,030 square feet corridor designed to allow assets to be safely and securely moved from the loading dock to the staging room. This corridor will help reduce time, costs and overall complexity of transporting and integrating equipment into the EDC, especially when compared to EDC 1 where equipment is currently brought in through the main freight elevator and then brought in through the general office area before integration into the data hall directly;
- Staging Room: An 830 square feet staging room designed to allow assets to be assembled and tested before being integrated into the EDC. This staging room will greatly reduce the risk of asset failure by allowing assets to be properly evaluated prior to their integration. By comparison, EDC 1 does not contain a staging room or lab area, and therefore assets cannot be tested at all prior to integration;
- Electrical Rooms: Contains all dedicated electrical supply infrastructure supporting the proposed EDC. The isolation of the electrical rooms and UPS allows for facilities operations and maintenance activities to be performed without any shutdowns being required to the EDC, unlike EDC 1;
- Mechanical Rooms: Provides critical cooling capacity to the EDC through two computer room air conditioning ("CRAC") gallery rooms;
- Communications Rooms: Contains all necessary telecommunications equipment, designed to support Toronto Hydro's telephone and radio systems;
- Access Trap: Designed to provide enhanced security features within the proposed EDC. This access trap will permit only one door to be unlocked and opened only after the other door has been locked and closed;

- Locking Cabinets: Designed to house EDC assets and associated infrastructure;
- Cable Systems and Network Designs: Designed as per the TIA-942 industry standard; [7] and
- [redacted]

The increased size of the proposed EDC data hall allows for expanded corridors between EDC assets and provides enhanced physical capacity to install additional equipment in the future. For illustrative purposes, the physical capacity of EDC 2 is shown in Figure 3. By comparison, EDC 1's data hall is already at physical capacity and adding additional infrastructure would require significant reconfiguration of the existing EDC assets.

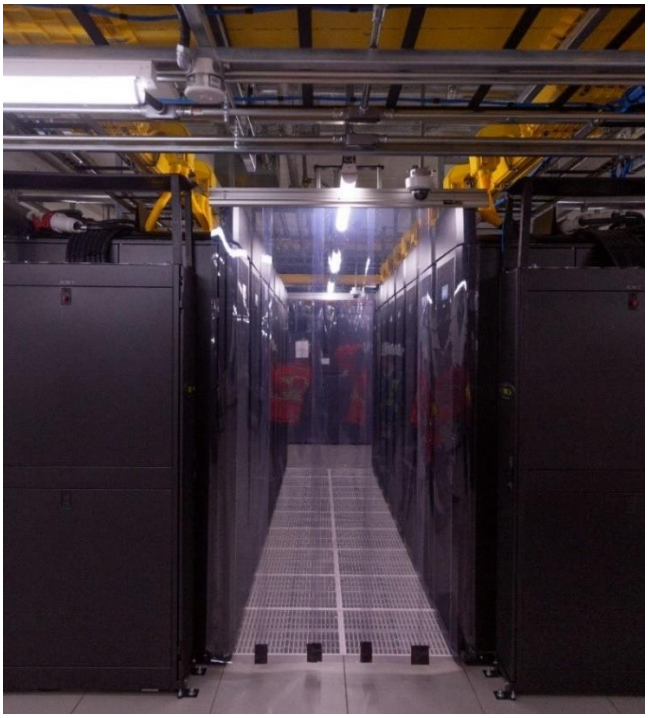


Figure 3: Available Physical Capacity at EDC 2

[7] "ANSI/TIA-942A 2012 Telecommunications Infrastructure Standard for Data Centers", Telecommunications Industry Association, 2012.

2. Electrical Infrastructure

The proposed EDC will have its own dedicated electrical supply points, along with dedicated electrical rooms, UPS and generators. A dedicated 1.25 megavolt-amperes substation will provide power distribution into the EDC. Two dedicated 1.0-megawatt generators will provide enhanced redundancy should an electrical supply failure or upstream outage occur. The dedicated supply points will allow the proposed EDC to remain unaffected by any facilities operations or maintenance activities taking place within [redacted]

Two 550 kilovolt-ampere modular UPS systems will serve the proposed EDC, with each system providing enhanced redundancy, while also being within the secure access perimeter. The size of these UPS systems will be to enable continued growth and allow the proposed EDC to maintain 1:1 redundancy with EDC 2.

3. Mechanical / HVAC Infrastructure

The proposed EDC will contain an advanced HVAC system designed to provide optimal cooling to the overall EDC environment and contained assets. A 24-inch raised floor system will be installed to provide efficient cold air flow panels with flow management capabilities for 20 network cabinets and 64 server equipment cabinets. This HVAC system will leverage free cooling technology to deliver reliable cooling at reduced energy costs when compared to the existing EDC 1. Only the cooling system will be installed within the raised floor system to maximize underfloor space, while the electrical supply will feed EDC equipment from overhead. For illustrative purposes, the underfloor capacity at EDC 2 is shown in Figure 4.

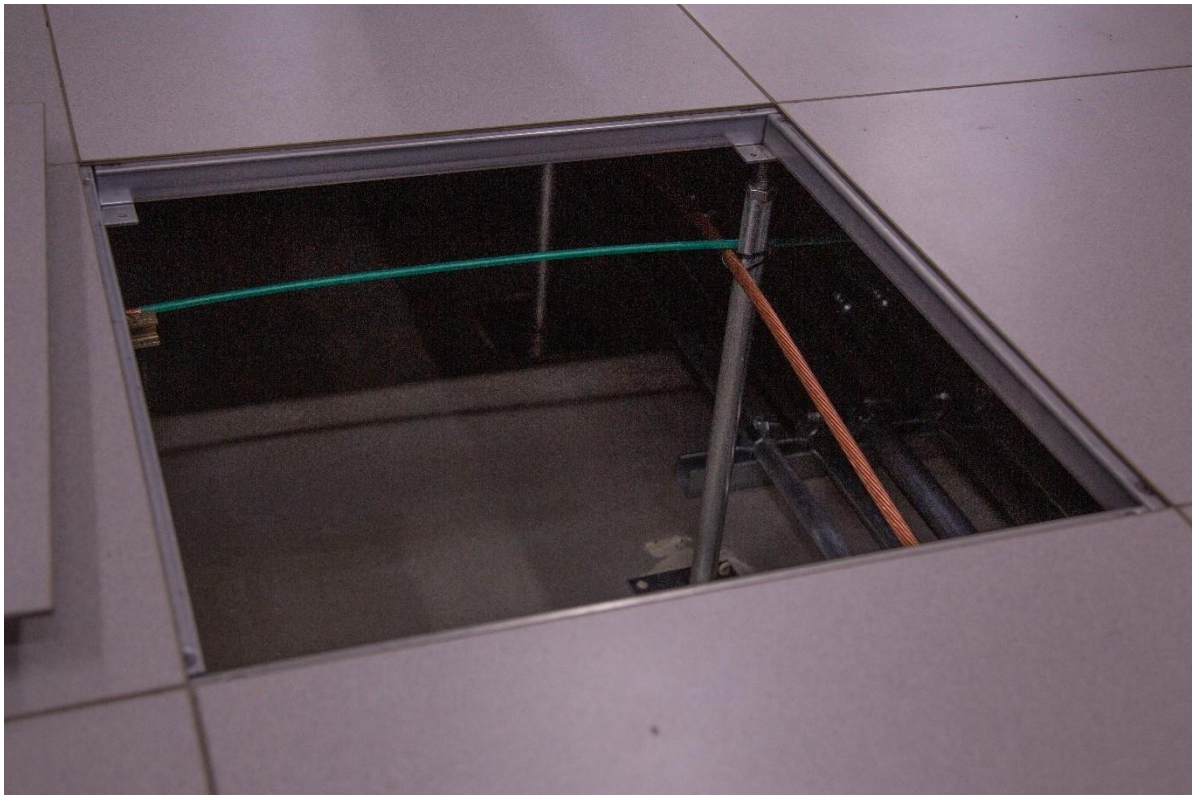


Figure 4: Available Underfloor Capacity at EDC 2

Two CRAC units will be installed within their own dedicated gallery rooms. These units will be stand-alone from the HVAC system and designed to provide redundancy within the proposed EDC. By comparison, the CRAC units within the current EDC 1 are installed directly within the data hall and do not provide redundancy, meaning that if the system fails, there is no backup cooling units available, which may cause the temperature of EDC hardware to increase beyond safe operation limits and result in equipment failure.

An advanced pre-action fire suppression system with sprinkler piping and heads, along with a clean agent gas fire suppression system will be installed within its own dedicated area to provide multi-zone protection within the proposed EDC, including the data hall, CRAC galleries and, electrical rooms.

4. Telecom Infrastructure

The proposed EDC already possesses a fibre-optic connection EDC 2, enabling continuous communications between these two facilities and thereby supporting the 1:1 redundancy across the

EDC. This fibre-optic connection is under 20 miles in length, and therefore aligned with industry standards of ten to 50 miles to provide replication data integrity and operational efficiency. By leveraging this existing connection, Toronto Hydro can reduce overall program costs.

5. Network Infrastructure

Network infrastructure within the proposed EDC will be designed to enhance overall disaster recovery ("DR") and reliability by improving end-to-end fault-tolerance architecture, modular redundancy, operational performance, reliability, and availability of enterprise physical Infrastructure. The network infrastructure will be configured to enhance overall scalability capabilities by featuring an optimized architecture designed from the ground up with flexibility and scalability to support the utility's evolving needs.

6. Storage and Backup Infrastructure

All storage and backup infrastructure within the proposed EDC will be on-premises, thereby allowing for data to be retrieved quickly, while allowing compliance with applicable data sovereignty and legislative and regulatory requirements.

7. Computing Resources

All computing resources will be modernized such that they are dynamic and capable of enabling physical connectivity in a scalable manner. Resources will be monitored via real-time monitoring technologies to measure overall performance and respond to emerging risks.

8. Security Infrastructure

The security infrastructure of the proposed EDC will consist of an enhanced security perimeter containing all EDC infrastructure, including the dedicated electrical room, UPS, generators, data hall, staging area, access trap and loading dock, thereby reducing potential safety and security risks.

To enhance overall physical security and control access within the proposed EDC, a multi-step entry system with limited entry points will be configured. EDC access will be based upon dual authentication through card readers and keypads. Access into the data hall, CRAC galleries, staging room, and electrical room will be based upon the card reader system. Access control will be further enhanced via perimeter lighting, thermal cameras, a vehicle security station, and license plate

recognition systems to enable employee and vehicle access, as well as incursion protection and video surveillance systems.

E8.1.2.2 Program Drivers

Table 3: Program Drivers

Trigger Drivers	Operational Resilience
Secondary Driver(s)	Reliability, Safety, Customer Service, Decarbonization, Financial

1. Operational Resilience

Operational resilience is the primary driver of Toronto Hydro's need to maintain dual EDCs in good condition. A failure of the EDC would result in the immediate interruption of services across the organization that rely on business applications, underlying data, and communication systems. This organization-wide outage, which would include catastrophic disruptions to the previously discussed business processes and operations, would impact overall operational resilience across the organization as further discussed below.

[redacted] As Toronto Hydro's business and operations continue to evolve, the EDC will require more physical and electrical capacity to store and manage more data and to support more enterprise systems and business processes.

In the event of an organization-wide outage due to an EDC failure, the following impacts would immediately arise:

- Reliability impacts: Mission-critical applications that allow the utility to monitor and manage the distribution system, including ADMS and OMS systems would no longer function, eliminating any visibility of the grid. Outages that are already in progress or occur following

an EDC failure would be extended indefinitely, until such time that the EDC can go back online;

- Safety impacts: Without visibility of the grid or functioning radio systems, power system controllers can no longer effectively monitor the system, manage planned and reactive outages, or communicate with field crews, giving way to potential safety risks to both crews and the public; and
- Customer service impacts: Toronto Hydro's meter data management ("MDM") systems, customer information system ("CIS") and telephone systems would be unable to function, impeding the meter-to-cash process and the ability of customer care personnel to manage customer service requests.

As noted in Toronto Hydro's Facilities Asset Management Strategy (the "Strategy", filed at Exhibit 2B, Section D6), [redacted] In addition, fully achieving the utility's decarbonization goals with respect to 14 Carlton appears unattainable. Most critically, the operation and maintenance of work centre and EDC assets often involve conflicts between the effects of activities in one sphere upon the other. For example, any high-impact renovation and construction projects aimed at improving the work centre assets would require the EDC space to be vacated during the renovations to avoid physical impacts upon EDC infrastructure and vice versa.

[redacted] Over the past five years, these risks and challenges have continued to increase in volume.

Table 4: [redacted] Condition Assessment Results

Item	Condition	Status
Roof	**Very Poor**	[redacted]
Stone Cladding	**Poor**	Performance depends on external conditions.
Windows	**Poor**	[redacted]
Heating & Cooling	**Fair**	Unreliable five-pipe system cannot be replaced without first vacating EDC 1.
Storm Water Piping	**Poor**	Aging stormwater piping must be replaced.
Domestic Water	**Poor**	Aged piping must be repaired.
Sanitary	**Poor**	Aged sanitary system must be repaired.
Electrical Distribution	**Very Poor**	[redacted]
Electrical Service	**Poor**	[redacted]
Abatement	**Very Poor**	[redacted]

Examples of asset condition issues within EDC 1 that cannot be resolved due to the risk of materially affecting the integrity of the EDC include the following:

- Building exterior, including masonry and façade issues [redacted] and deteriorating building envelope and water tightness;
- Deterioration of windows due to age and poor condition, leading to the risk of water infiltration; and
- An aging, unreliable, and corroding five-pipe heating and cooling system that cannot be replaced with a modern duct-based system due to lack of headroom clearance.

In some cases, even smaller initiatives can have larger and broader impacts on EDC 1. For example, shutdowns of EDC 1 were necessary when Toronto Hydro [redacted]

[redacted]. This logistical complication increased the costs of installing the new stations.

As the location continues to age and the backlog of high-impact renovations and maintenance activities close to the EDC increase in volume, EDC 1 will impose significant challenges and restrictions in mitigating these asset risks, leading to higher overall costs due to the complexity, effort, and time needed to coordinate the execution of facilities operations and maintenance activities without materially impacting EDC operations. By deferring these high-impact renovations, the utility's operational resiliency will continue to deteriorate over the 2025-2029 rate period.

Currently, EDC 1 aligns to Tier I data centre requirements at best, which include the following:

- A single UPS for power sags, outages, and spikes;
- A dedicated location for IT systems;
- Dedicated cooling equipment that runs 24 hours a day, 365 days a week; and
- An engine generator that will allow the facility to operate through power outages.

According to the Uptime Institute, meeting Tier I requirements only constitutes a basic level of resiliency controls. For example, while a Tier I data centre is expected to provide protection against failures due to human error, it would not provide necessary protection against unplanned failures or outages.[8]

The previously discussed challenges, combined with the current footprint and asset configuration of the [redacted], render it impossible to upgrade EDC 1 to better align to Tier II or Tier III requirements. Even if Toronto Hydro were to attempt upgrades, it would have to take EDC 1 offline for a significant period of time. This would require all EDC operations to be solely supported by EDC 2 for the duration of the upgrades, which would eliminate the redundancy between the two EDC facilities and unacceptably increase the risk of an organization-wide outage.

2. Reliability

As previously illustrated in Figure 1, the EDC plays a foundational role in supporting all of Toronto Hydro's business applications and processes that are in operation 24/7, including control centre

[8] Uptime Institute, Tier Classification System https://uptimeinstitute.com/tiers. A higher tier indicates more sophisticated standards and controls and thus, greater expected reliability.

functions, grid management and response, planning and engineering, customer care and billing, and the execution of planned capital work across the distribution system.

A complete EDC failure would result in all of Toronto Hydro's business applications becoming unresponsive and non-functional. In the event of a distribution system outage, this would have cascading and substantial financial and economic impacts on customers within the City of Toronto—the largest city and economic centre of Canada, as well as fourth largest city in North America. During an organization-wide systems failure, customers would have no way of reporting distribution system outages or communicating with the utility due to the disruption to contact centre and communications channels. Due to power losses, commercial customers would face immediate revenue impacts as well as major disruptions to their business operations and harmful side effects, such as the potential spoilage of inventory goods and materials. Industrial customers without available backup systems would see immediate disruptions to their business (e.g. manufacturing) processes and even after power is restored, it would take time for these customers to return to full operations. Critical customers such as hospitals, water pumping stations, emergency management services, or transit operators such as the Toronto Transit Commission ("TTC") would also see immediate disruptions during an organization-wide outage event.

Another reliability factor informing the Program is that EDC 1 is expected to reach its electrical capacity within the next five years due to the limitations of the current UPS system. [redacted]

Finally, EDC resiliency is threatened by increasing vandalism, cyber and physical terrorist threats, and extreme weather event trends. A recently commissioned study conducted by the U.S. Department of Energy has shown an increasing trend since 2015 with respect to vandalism and extreme weather events that are impacting utility-owned infrastructure, as illustrated in Figure 5.[9] As extreme weather and vandalism events continue to grow, both in terms of magnitude as well as frequency, [redacted]

[9] U.S. Department of Energy, Electric disturbance events (DOE-417), Archives https://www.oe.netl.doe.gov/oe417.aspx; Toronto Region Conservation Authority, Taking Action on Climate Change in Toronto Region https://trca.ca/climate-change-impacts-gta/

Relocating EDC functions to the proposed EDC will enhance geographic diversity and help mitigate the risk of a single point-of-failure due to an extreme weather, vandalism, or terrorist event.

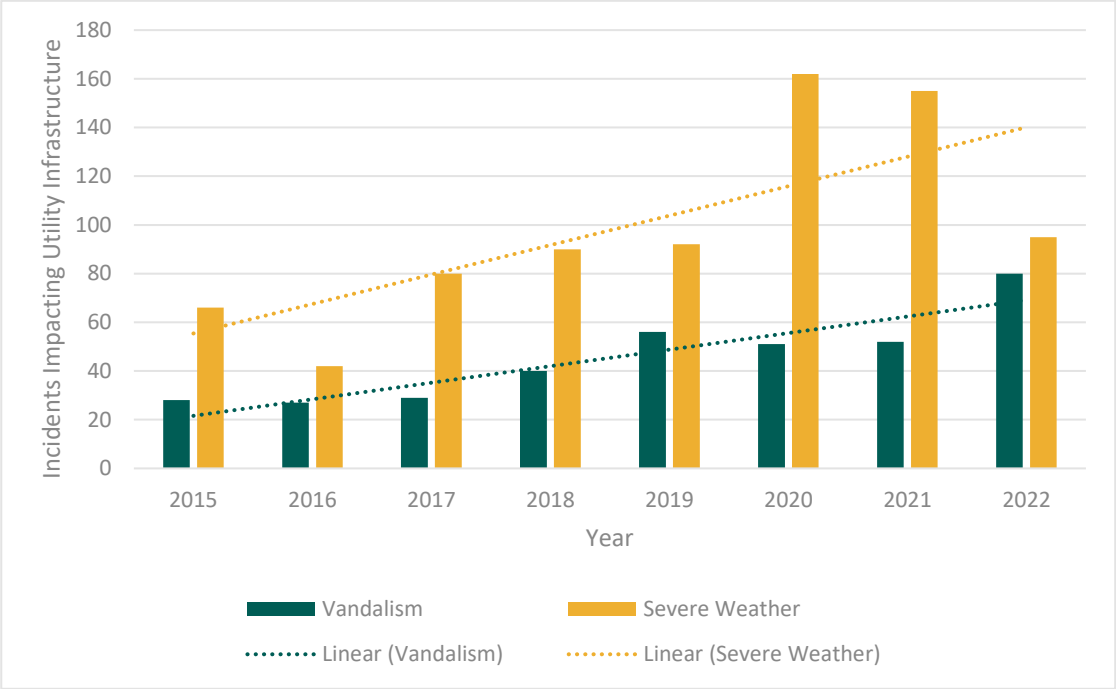
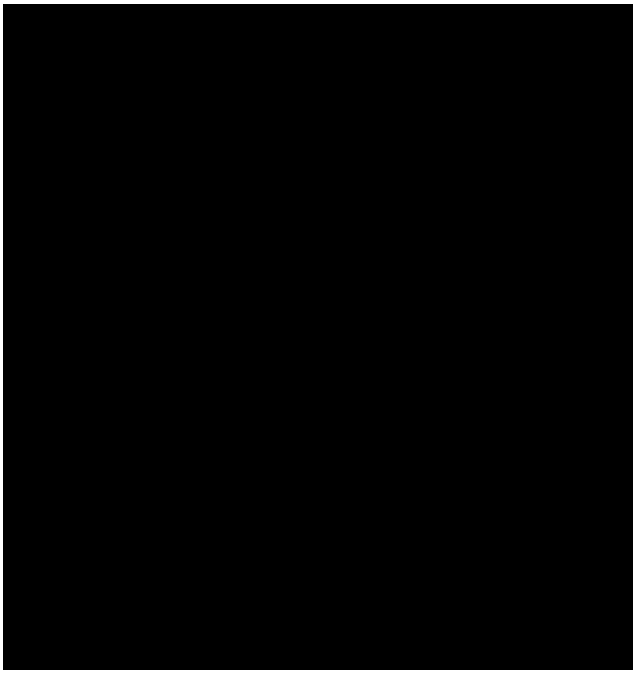


Figure 5: Severe Weather & Vandalism Incidents Impacting Utility Infrastructure

3. Safety & Security

Figure 6 illustrates the supporting systems for EDC 1 that currently reside outside of the secure access perimeter and within common areas of the [redacted] that are exposed to additional safety and security risks. There is also no dedicated or secure location for the storage of EDC assets and spare parts. Only one of Toronto Hydro's UPS units is located within the secure access perimeter of EDC [redacted] Furthermore, EDC 1 does not provide adequate physical capacity for components such as a loading dock, staging area, or access trap. For these reasons, EDC 1 remains exposed to considerable safety and security-related risks. By contrast, as illustrated by Figure 2, all [redacted] EDC components and functions would be fully secure within the secure access perimeter with two-factor authentication, such that only authorized persons can gain access.



[redacted]

4. Decarbonization

As outlined in the Net Zero 2040 Strategy, in Exhibit 2B, Section D7, Toronto Hydro plans to implement several initiatives throughout the 2025-2029 rate period and beyond to reduce the utility's scope 1 greenhouse gas emissions and achieve net zero by 2040. Although Toronto Hydro estimates that it can fully achieve its decarbonization goals for the [redacted], requiring the EDC space to be fully vacated and thus giving rise to the previously discussed risks. Current energy efficiency goals as established by the BOMA and Energy Star are not achievable within the [redacted]

5. Financial

Toronto Hydro's options analysis in section E8.1.4 on page 23 describes the criteria and requirements that the utility assessed to identify the optimal site for the proposed future location for the EDC in

light of the high costs of asset management due to the continued risks, challenges, and constraints that are caused by the EDC 1.

E8.1.3 Expenditure Plan

The Program proposes to relocate the existing EDC infrastructure located at Toronto Hydro's EDC 1 to a new location within the proposed EDC to maintain the utility's operational capabilities and mitigate identified resiliency, reliability, safety and security, and decarbonization risks.

The proposed EDC meets all necessary pre-requisites for Toronto Hydro to align to Tier III data centre capabilities as defined by the Uptime Institute.[6] This includes establishing concurrently maintainable capabilities using redundant components and redundant power distribution paths. [redacted] also possesses a vital fiber-optic connection to the 500 Commissioners location which enables the 1:1 redundancy between these two locations as well as communications between Toronto Hydro's Control Centres. Program costs can be significantly reduced by leveraging this existing connection.

Finally, the proposed EDC is located more than 18 km (33 minutes) away from EDC 2. This provides greater geographical diversity between the two locations, reducing the possibility for a single event (e.g. deliberate attacks, extreme weather) to simultaneously impact both locations at the same time.

Toronto Hydro requires $72 million over the 2025-2029 rate period to execute and complete the Program. This expenditure plan consists of four work categories, namely:

- Non-direct construction costs: Pre-construction planning and equipment expenditures;
- Alterations and demolitions: Costs associated with performing targeted demolitions and alterations within the proposed EDC to support the integration of the EDC;
- Building: Costs associated with facility upgrades needed to meet required standards; and
- Site works: Preparation of the area where the EDC will be constructed.

E8.1.3.1 Planned Project Timeline

The planned project timeline will take place within the 2025-2029 rate period. Planned work and non-direct construction costs will begin in 2025. The construction work will be phased out to minimize any overtime or premium costs and minimize disruptions to business operations. The estimated in-service date for the project is 2029.

E8.1.4 Options Analysis / Business Case Evaluation ("BCE")

Toronto Hydro has considered the following options to manage the current risks associated with the EDC, including:

- Status quo: Maintaining the EDC 1 and EDC 2 locations in their current state;
- Relocating all EDC functionality to EDC 2;
- Relocating EDC 1 to a non-Toronto Hydro-owned property; and
- Relocating EDC 1 to a Toronto Hydro-Owned Property.

E8.1.4.1 Option 1: Status Quo

The status quo option would entail continuing with the existing EDC 1 as it is configured today, with redundancy being maintained between EDC 1 and EDC 2.

Under this scenario, current risks relating to operational resiliency, reliability, safety and security, and decarbonization would remain in place. Toronto Hydro will be unable to further expand EDC 1, due to current vertical and horizontal footprint limitations and the [redacted] Consequently, EDC 1 will be unable to support a more advanced cooling system to support the introduction of higher density asset infrastructure. Without increases to the density of asset infrastructure, due the utility's reliance on the EDC to process increasing volumes of data and business processes, the UPS of EDC 1 will reach the limits of available capacity over the next five years. This would significantly reduce the efficiency of the UPS in providing sufficient backup power during an outage event and eliminate the 1:1 redundancy between the two EDC locations. In other words, in the event of a failure at EDC 2, EDC 1 could only support a finite number of business applications, meaning that the utility would suffer at least a partial systems outage and incur major business continuity risks.

As major systems within EDC 1 reach end-of-life, the asset management costs to replace or upgrade individual components will increase due to the limited footprint and [redacted] and the unique hazards it presents (such as the presence of asbestos), any cabling or electrical work may lead to delays, cost overruns, and overall higher replacement/upgrade costs.

Due to physical and electrical constraints, EDC 1 can never attain Tier II or Tier III data centre controls and therefore can never provide full redundancy should any of the EDC assets require maintenance

or outright replacement. [redacted]

Finally, due to the geographical proximity of EDC 1 and 2, both locations and the EDC infrastructure contained within them could be impacted by a single extreme weather event, natural disaster, threat, or attack. In such a scenario, all functions supported by the EDC would be immediately and adversely impacted and result in operational disruptions and safety risks to Toronto Hydro personnel and potentially to the public. These risks would impede Toronto Hydro's ability to: (a) locate failed assets and affected parts of the distribution system; (b) perform the necessary system isolations to enable crews to safely perform repairs; (c) mobilize crews to affected locations within the system; and (d) remotely control distributed energy resources.

To sufficiently mitigate and manage risks within tolerance levels at EDC 1 while maintaining operations of the current EDC configuration, Toronto Hydro would need to spend approximately $110.4 million, making the status quo option the costliest for the utility.

E8.1.4.2 Option 2: Relocate All EDC Functionality to EDC 2

An alternative option would be to eliminate EDC 1 in favor of having a single EDC operating out of EDC 2. Under this option, Toronto Hydro would entirely shift EDC functionality to the EDC 2 location, which would eliminate the redundancy that currently exists by virtue of the utility's operation of two physically separate EDC locations.

This scenario would also increase Toronto Hydro's risk exposure, as a single disruptive event at the EDC 2 could potentially impact the entire EDC and result in an organization-wide systems outage. Although EDC 2 provides the necessary features and footprint to support continued growth of the EDC and enable the attainment of Tier II data centre controls, the lack of geographical redundancy would nonetheless significantly expose the utility to the risk of weather-related events, natural disasters, and deliberate threats.

As this scenario would leave the single EDC excessively vulnerable to a variety of risks and the costs to mitigate these potential risks would be too high, the utility does not consider this to be a feasible option.

E8.1.4.3 Option 3: Relocating EDC 1 to a Non-Toronto Hydro-Owned Property

In developing the Program, Toronto Hydro also assessed whether alternative real estate and construction configurations may result in greater cost savings. For example, one alternative would be the relocation of EDC 1 to a location outside the city of Toronto, where real estate costs are significantly lower. The utility further evaluated whether it would be feasible and cost-effective to replace the on-premises EDC 1 with an entirely cloud-based solution.

1. Relocating EDC 1 to a Location Outside of Toronto

Toronto Hydro assessed potential cost-saving opportunities from relocating EDC 1 to a location that is outside of Toronto, where real estate and development costs would be lower than in the city of Toronto.

The major challenge posed by this approach would be maintaining the 1:1 redundancy between the relocated EDC and EDC 2, which is currently achieved [redacted] at a location outside of Toronto Hydro's service area would be extremely costly, due to the larger distances required to secure this connection. These additional costs would likely offset any savings achieved in real estate and/or development costs. To install this [redacted], Toronto Hydro would also be required to coordinate with the utility that is managing the adjacent service area. This level of coordination and approval may result in greater project delays and cost overruns.

As the EDC directly supports all of Toronto Hydro's Control Centre functions, and as there are shared resources and infrastructure with respect to cabling pathways, physical security & access control solutions, as well as power redundancy solutions that can be extended to the proposed EDC location, there are enhanced benefits in moving the EDC [redacted]

Distance also becomes a key parameter in disaster response. For example, employees would have to travel large distances to potentially inaccessible locations to provide emergency and disaster responses. This is not safe or ultimately reliable for employees. When considering these constraints as well as the additional costs, this option is not considered to be feasible or viable for Toronto Hydro.

2. Development of a Cloud-Based Control Operations Systems Centre

Toronto Hydro's EDC 1 is [redacted]

As discussed in Toronto Hydro's Information Technology Asset Management and Investment Planning Strategy in Exhibit 2B, Section D8, the availability of cloud-based solutions, where a third-party provider can manage the servers and perform the maintenance and security updates supporting a business function or software platform, is steadily increasing. Cloud-based solutions are also available in the form of "private clouds", where all cloud computing resources remain exclusive to a single client. However, the cost structure of cloud-based data centre hosting would be significantly different than implementing an [redacted], as vendors typically charge for cloud solutions on an ongoing, monthly basis. In other words, the implementation of a cloud solution would introduce new operational, maintenance, and administrative ("OM&A") costs for Toronto Hydro that over time would exceed the up-front capital expenditures that are proposed under this program and reduce the cost effectiveness of this option.

Furthermore, the implementation of a cloud-based solution—even a "private" one—would introduce several reliability or operational risks that would not exist under an on-premises solution. Toronto Hydro would have to rely upon its vendor(s) to manage the reliability of the cloud-based environment or restore functionality after planned downtimes or unplanned outages, in contrast to an [redacted] This would increase reliability and business continuity risks with respect to the critical functions performed by the EDC. Many of the business applications supported by the EDC, particularly those that are critical for Control Centre Operations,[10] would be better served by an [redacted] that would better meet the latency and communications parameters required for the underlying functions.

In addition, several traditional hard-wired components that are directly supporting the EDC and its connectivity with the field asset infrastructure, including fibre-optic connections, would not be

[10] Exhibit 4, Tab 2, Schedule 7.

compatible with cloud-based services. Given the collective risks presented by the above factors, Toronto Hydro determined that a cloud-based solution would not be feasible option.

E8.1.4.4 Option 4: Shifting EDC 1 to a Toronto Hydro-Owned Property

The fourth and final option involves relocating EDC 1 to an existing property already owned and operated by Toronto Hydro and within Toronto Hydro's service area. Relocating EDC 1 to an alternative Toronto Hydro location would introduce cost savings by utilizing existing footprints and building systems in place. The subsequent sub-sections will individually examine potentially viable locations to assess the feasibility of relocating the EDC functions.

3. Relocating EDC 1 to [redacted]

Toronto Hydro's operations [redacted] Unlike the proposed EDC, the [redacted] does not possess the necessary square footage to house all EDC assets. In addition, there is no current fiber-optic connection with EDC 2, to maintain the 1:1 redundancy between the EDC locations. While a fiber-optic connection can be installed between these two locations, it would considerably raise the overall costs for the program. As the EDC directly supports all of Toronto Hydro's Control Centre functions, and as there are [redacted], there are enhanced benefits in keeping both EDC locations close to the existing Control Centre facilities. [redacted] For these reasons, the [redacted] is not considered to be a prudent, cost-effective option.

4. Relocating EDC 1 to the Proposed EDC (Selected Option)

Toronto Hydro's operations [redacted] As is the case with the [redacted], the proposed EDC has the necessary footprint and characteristics to support the development of a Tier III data center solution, as defined by the Uptime Institute. As there are cost-savings opportunities by leveraging shared resources and infrastructure, including cabling pathways, physical security & access control solutions as well as power redundancy solutions that can be extended to the proposed EDC location, there are enhanced benefits in moving the EDC to a [redacted]

Cost savings are further achieved as the proposed EDC [redacted], which is needed to maintain 1:1 redundancy between the two EDC locations. This current-state connection is further illustrated in Figure 7. The [redacted] possesses a total of 11,500 square feet of space to accommodate a fully functioning EDC with all required assets. Ultimately, when taking into consideration costs, footprint and building characteristics, [redacted] remains the sole option that meets all requirements and cost considerations.

[redacted]

E8.1.4.5 Evaluation of Options

Toronto Hydro selected a set of evaluation criteria to compare each available option, and identify the most optimal, cost-effective, and prudent option for this program. Evaluation criteria included the following:

- Environment (humidity, moisture/condensation, extreme floods, ice storms, etc.);
- Space for EDC footprint;
- Space for EDC generators;
- Prerequisites to meet Tier III requirements as defined by Uptime Institute;
- Geographic diversity (the longer the distance between the two EDC locations, the better);
- [redacted]
- Proximity to Existing Control Centre; and
- Total Cost Impact to Ratepayers.

Each of the above criteria were taken into consideration when selecting the best overall option for Toronto Hydro.

Figure 8 illustrates the results of the options analysis, comparison, and final recommendations, based upon what has already been discussed for each of the options above.

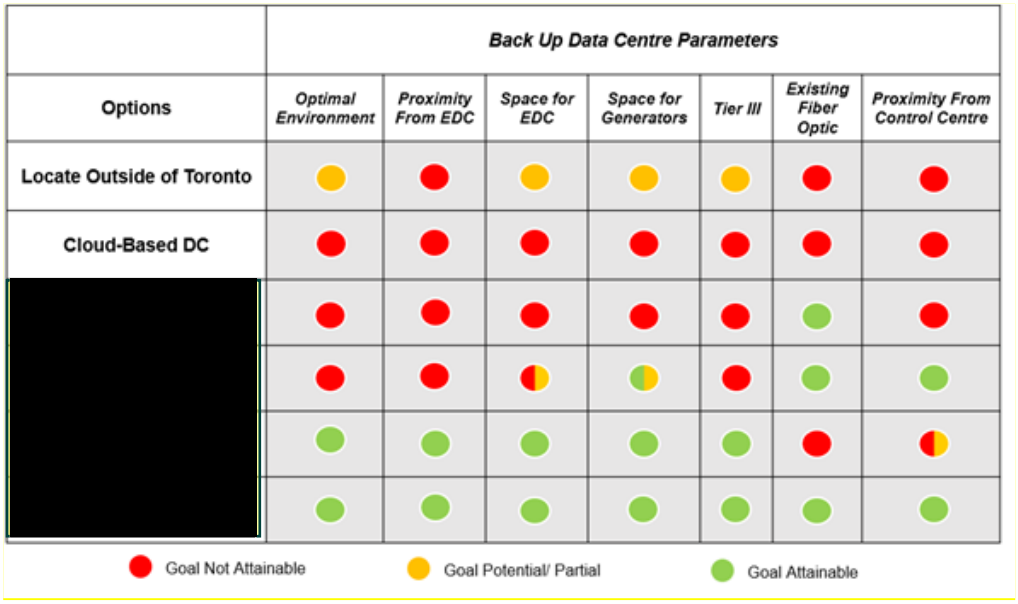


Figure 8: Results of Option Analysis

When assessing current-state risks, availability of space and technological capabilities, costs, as well as overall ability to meet the current and future objectives for the EDC, this comparison indicates that the relocation of EDC 1 to the proposed EDC satisfies all the criteria. Ultimately, relocating the EDC to the proposed location is the most effective and prudent solution to satisfy all requirements for this program.

E8.1.5 Execution Risks & Mitigation

The largest risk to the successful execution of the Program involves timing and costs. Material costs are generally subject to greater price fluctuations over time and therefore cost overruns may transpire. However, through the expertise of experienced project management leadership and industry experts, a proactive approach will be taken to manage these costs.

In addition, there are also construction related risks associated with the Program, including:

- Unexpected construction conditions;
- Occupational health and safety;
- Disruption to Toronto Hydro employees at [redacted];
- Design change approvals;
- Budget shortfalls;
- City approval delays;
- Procurement / Tender delays; and
- Design changes.

These issues can be mitigated with proper communication, leveraging the expertise of the consultants and proper project planning. Overall, leading project management tools and practices will be utilized, and the expertise of highly qualified project management leadership and industry experts will be leveraged to take a proactive approach to managing unknown conditions.

Toronto Hydro's Facilities Asset Management Strategy (filed at Exhibit 2B, Section D6) has established a strong foundation to ensure that these potential planning and execution risks will be mitigated accordingly.

E8.2 Facilities Management and Security

E8.2.1. Summary

Table 1. Program Overview

2020-2024 Cost ($M): 84.8	**2025-2029 Cost ($M):** 145.5
Segments: Facilities Management and Security	
Trigger Driver: System Maintenance and Capital Investment Support	
Outcomes: Operational Effectiveness - Safety, Operational Effectiveness - Reliability, Financial Performance, Environment	

Through the Facilities Management and Security Program (the "Program"), Toronto Hydro invests in building improvements that are critical to the operation of the utility's electricity distribution system, demand-driven projects that support the utility's decarbonization objectives, and the ability to modernize its business processes in accordance with the evolving needs and nature of its customers. The facilities owned by Toronto Hydro and covered by the Program include four work centres that have unique footprints and functions, along with 185 stations that serve a critical role in operating the utility's distribution system.

The Program's primary objective is to maintain the infrastructure that supports critical operations of Toronto Hydro's distribution system and replace assets that are end of life and in poor or critical condition. These assets pose an increased risk of failure, which results in an increased risk of business interruption and the deterioration of key outcomes such as safety, reliability, customer service, and productivity. The Program also supports the management and maintenance of Toronto Hydro's buildings in accordance with the growth and evolving needs of the distribution system.

The Program is comprised of the following three areas:

1) **Stations**: Includes investments and improvements to build and maintain the facilities that house Toronto Hydro's distribution stations and manage risks that may arise from any facilities assets deteriorating to the point of poor condition or end of life. As the integrity and operating conditions of stations buildings may significantly affect safety and the reliability of distribution equipment housed within, these assets are critical to grid safety and performance.

2) **Work Centres:** Includes repairs to the facilities that provide a work space for Toronto Hydro personnel and also serve as storage and parking spaces for the utility's equipment, materials, and vehicle fleet. The utility's four work centres are located in the city of Toronto at 14 Carlton Street, 500 Commissioners Street, 71 Rexdale Boulevard and 715 Milner Avenue. The primary function of investments in this area is to minimize safety risks to utility personnel, visitors, and the general public and ensure productivity by replacing poor condition and end of life assets that may otherwise cause hazards or business interruptions. This area also includes investments that support the utility's strategic objectives and outcomes, such as the modernization of business processes in accordance with the evolution of customer expectations and distribution services, and investments to decarbonize in line with Toronto Hydro's Net Zero 2040 Strategy in Exhibit 2B, Section D7.
3) **Security Improvements:** Includes investments in security enhancements at Toronto Hydro's facilities that are necessary to protect the safety and security of employees, assets, and the public. These investments include up-to-date security equipment and technologies. Toronto Hydro also plans to upgrade its preventative security measures to reduce the risk of trespassing, theft, injuries, and cybersecurity attacks.

The Program is a continuation of the activities described in Toronto Hydro's 2020-2024 Rate Application,[1] embodying the utility's Facilities Asset Management Strategy (the "AM Strategy") in Exhibit 2B, Section D5, as well as applicable industry standards, such as ISO 55001. The utility relies on the AM Strategy to manage assets in a cost-effective manner and in order to ensure that facilities remain safe and functional. As discussed in the AM Strategy, the asset condition assessment process determines both a) the risks that may be present in respect of facilities assets and b) plans to mitigate these risks. This assessment and risk management process is a significant part of the planned scope of work for the 2025-2029 rate period. Without sufficient funding to make these investments, Toronto Hydro's facilities would be exposed to the risk of structural failures and significant hazards and/or damage, e.g. due to flooding or leaking. If these risks were to materialize, they would cause severe disruption to the utility's business activities and potentially prolonged outages.

The Program coordinates evaluation and repair work in order to efficiently plan and execute projects. The utility internally coordinates a) its evaluation of a given asset with surrounding asset conditions and its future planned work, and b) capital work on the distribution system, outlined in in the Stations

[1] EB-2018-0165, Toronto Hydro-Electric System Limited Application, Exhibit 2B, Section E8.2.

Renewal (Exhibit 2B, Section E6.6), to align planned facilities projects with distribution projects. For example, if a building requires basement and foundation work, the Program evaluates if other scopes of work can be included at the same time, such as introducing a leak detection system, a sump pump system, or other plumbing refurbishment when the concrete is being removed and trenching can readily take place. Grouping projects together minimizes disruption to stations operations, reduces the potential impacts of the work on customers, and helps the utility manage costs more effectively.

Figure 1 below outlines some examples of stations and work centres. Table 1 outlines some high-level statistics of Toronto Hydro-owned properties.

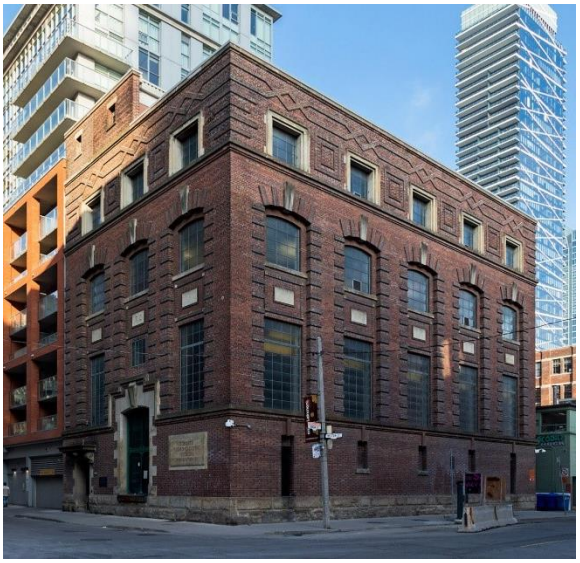


Figure 1: Examples of Toronto Hydro infrastructure; a downtown substation and work centre.

Table 1: Toronto Hydro Stations Properties Statistics

Category	Quantity
Average Station Property Area	6,200 sq. ft.
Stations Properties above 50,000 sq. ft.	12
Heritage Stations Properties	8
Stations Properties over 40 Years Old	165

E8.2.2. Program Outcomes

Table 2: Outcomes and Measures Summary

Operational Effectiveness - Safety	• Contributes to Toronto Hydro's safety objectives by: ○ Ensuring compliance with applicable legislative and regulatory requirements, such as the Occupational Health and Safety Act[2], Ontario Regulation 851: Industrial Establishments[3], the Ontario Building Code[4] and the Fire Code[5]; ○ Providing the utility's employees safe and functioning work centres by repairing deficiencies that may cause hazards; ○ Addressing stations related deficiencies such as the absence of secondary exits, non-compliant stairs, and inaccessible doors along pathways; and ○ Improving internal lighting conditions and repairing external damaged lighting in work areas. ○ Installing enhanced safety systems to deter theft, vandalism and violence towards employees, and reduce the risk of unauthorized access into work centres and stations.
Operational Effectiveness - Reliability	• Contributes to Toronto Hydro's network reliability objectives and ensures compliance with applicable legislative and regulatory requirements such as the Ontario Energy Board's Cyber Security Framework[6] by: ○ Implementing, maintaining and managing modern commercial security systems and technology in partnership with security subject matter experts; ○ Applying security management policies and procedures across all Toronto Hydro sites; ○ Investing in building-related improvements at stations and work centres that are critical to the operation of Toronto Hydro's distribution system; ○ Mitigating the risk of damage to critical distribution equipment housed within the stations; and ○ Prioritizing preventative maintenance of assets that are end of life or in poor condition to mitigate against costly reactive repairs.

[2] Occupational Health and Safety Act, R.S.O. 1990, Ch O.1.
[3] Occupational Health and Safety Act, R.R.O. 1990, Reg. 851: Industrial Establishments.
[4] Building Code Act, 1992, S.O. 1992, c. 23, O. Reg 332/12.
[5] Fire Protection and Prevention Act, 1997, S.O. 1997, c. 4, O. reg 213/07.
[6] Ontario Cyber Security Framework, 2017.

Financial Performance	• Contributes to Toronto Hydro's financial objectives as measured by the total cost and efficiency measures by: ○ Using the AM Strategy (filed at Exhibit 2B, Section D6) to optimize assets' capital and operational costs in line with the condition assessment
Environment	• Contributes to Toronto Hydro's environmental objectives and enables the goals outlined in utility's Net Zero 2040 Strategy (filed in Exhibit 2B, Section D7) by reducing greenhouse gas ("GHG") emissions through: ○ Electrification of building operation systems such as replacing natural gas heaters with air-source heat pumps

E8.2.3. Program Drivers and Need

Table 3. Program Drivers

Trigger Driver	System Maintenance and Capital Investment Support
Secondary Driver(s)	Safety and Failure Risk

The Program prioritizes investments that address assets at end of life and in poor condition, in line with the AM Strategy and Toronto Hydro's objectives to operate and maintain a safe and reliable distribution system. The utility evaluates the condition of building assets pursuant to the AM Strategy.[7]

Figure 2 below illustrates the relationship between the probability and impact of failure for the various building systems according to the Uniformat II framework, as discussed in the AM Strategy. The probability and impact measures are an output of periodic building condition assessments. Understanding the relative risk associated with each of the building systems allows Toronto Hydro to efficiently allocate capital funding to the areas that provide the best value and address the greatest risk.

[7] Exhibit 2B, Section D6, Pg. 3-4.

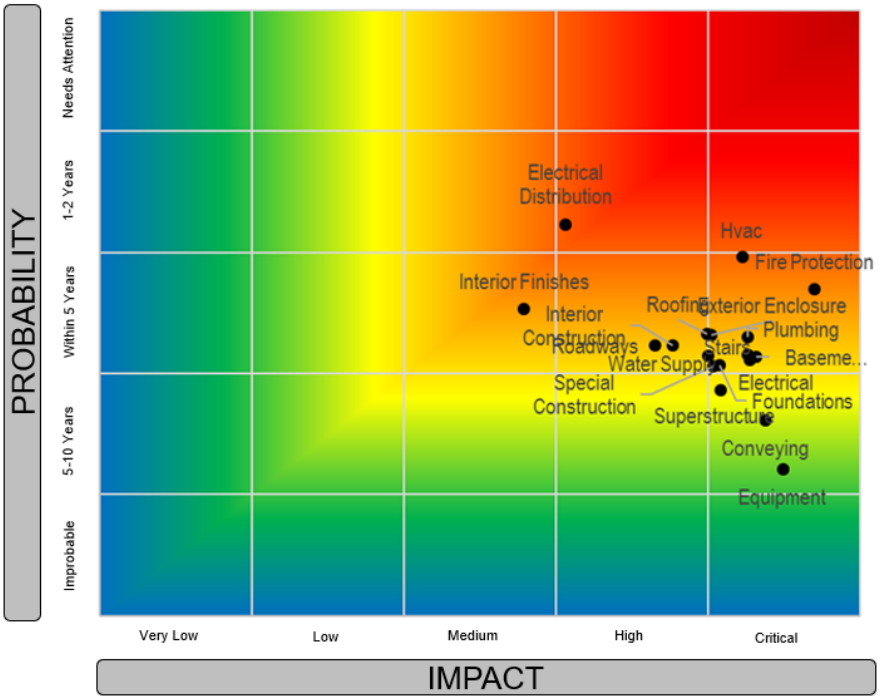


Figure 2: Likelihood-impact matrix for UNIFORMAT II building elements as of 2023

E8.2.3.1 Categories of Facilities Work

Table 4. Types of Program Projects Planned for the 2025-2029 Rate Period

Project Category	Rationale	Risk of Failure
Structural & Envelope (e.g. repairs to the building envelope and façade, windows, foundation and structural elements, beams, joists, columns, etc.)	Addresses safety issues and prevents structural damage of critical supporting functions and deteriorated building performance.	If a structural element were to fail and damage distribution equipment, significant and prolonged outages could occur.
Architectural & Interiors (e.g. roofs, doors, building finishes, office work areas, etc.)	Addresses safety issues and building water-tightness, and promotes optimal building performance.	If a building asset or system failure were to expose interiors to the elements (e.g. water infiltration), distribution equipment could be

		permanently damaged, costly business interruptions could ensue and hazards may exist to workers and the public.
Fire & Life Safety (e.g. stations fire alarm system upgrades, signage and emergency lighting, etc.)	Replaces obsolete fire alarm systems and addresses safety and compliance issues.	Deficient or lacking fire and life safety systems and assets may endanger employees due to hazards from fire and harmful gases, and also put equipment at risk of damage or destruction, thereby increasing the risk of outage.
Mechanical, Electrical & Plumbing (e.g. HVAC system replacements, supplementing cooling systems, upgrading and replacement of lighting, sump pump replacements, plumbing fixtures, hot water tanks, etc.)	Addresses assets in poor condition, equipment overloading and capacity issues, safety concerns, and achieves compliance with mandated requirements.	Failures of these types of assets and systems may cause damage to equipment (e.g. in the event of flood in basements) or cause operational disruptions and a loss of productivity (e.g. in the event of loss of power).
Civil & Sitework (e.g. exterior access ways and walkways, including pavement, driveways, and parking spaces, etc.)	Addresses safety and security-related concerns.	Deficiencies in assets could cause safety risks (e.g. trip and fall hazards) for employees and the public. Furthermore, deficient or lacking features (e.g. doors that do not properly lock) could result in security risks such as theft, vandalism, or unauthorized access.

1. Structural & Envelope

Structural features are those supporting a building. Envelope features are those that separate a building's interior from its exterior. The integrity and operating condition of a building's structural and envelope features are critical to keeping Toronto Hydro's distribution system reliably operational

and ensuring the safety of employees and the public. Structural and building envelope components cannot run-to-fail because one beam or column failure can result in a full building failure, leading to potentially catastrophic safety and reliability risks and significant operational disruptions.

The sections below outline some planned structural and envelope repairs and refurbishments for assets in a deteriorating state. These sections provide the categories of planned work on station assets and the rationale for each type of investment.

a. Structural

Toronto Hydro plans to address issues related to the foundation and supporting structural elements (e.g. beams, joists, and columns) within work centres and stations, including two downtown station structural refurbishments.

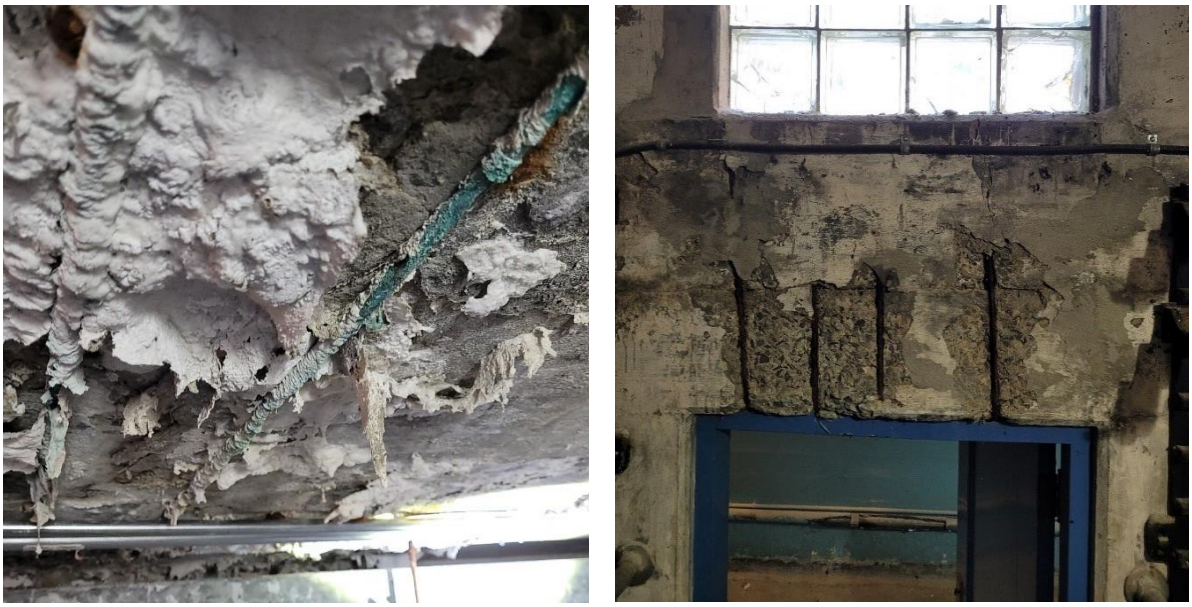


Figure 3: Examples of structural deterioration at stations, from left to right: Wiltshire Station exposed and corroded rebar with significant water infiltration, Wiltshire Station exposed rebar in concrete wall.

Figure 4: Examples of structural deterioration at stations, from left to right: Windsor Station cracked concrete floor slab, Windsor Station corroded rebar columns.

Figure 5 provides examples of aging structural assets where deterioration can occur more rapidly and in a greater number of locations when water infiltration is present.

Figure 5: Examples of structural deterioration at work centres, from left to right: 500 Commissioners Building C – spalling concrete wall with preventative netting; 500 Commissioners Building C – exposed deteriorated waterproofing; 500 Commissioners Building C – rusted steel staircase.

b. Envelope

Toronto Hydro plans to address issues related to end of life building envelope elements such as exterior cladding, windows, and roofing systems to protect critical equipment from weather. The

utility's envelope investments in stations' window upgrades and increased façade insulation will advance the utility's objective to reduce its facilities' GHG emissions by increasing energy efficiency

Figure 6: Examples of envelope deterioration at stations, from left to right: Glengrove Station concrete block wall cracking, Duncan Station brick wall cracking, Junction Station brick wall cracking.

Figure 7: Examples of envelope deterioration at work centres, from left to right: 500 Commissioners Building A – cracking of precast panels; 14 Carlton – deteriorated windows, sealant, and frame.

2. Architectural & Interiors

The architectural system and interiors of a building comprise a building's core systems, including the roof, doors, floor plans and wall partitions, and interior finishes and furnishings.

a. Architectural

Toronto Hydro must proactively and preventatively invest in architectural repairs to maintain the integrity of its stations portfolio. When structural damage is unearthed once damaged waterproofing is removed from a station, the utility typically pairs architectural repairs to waterproofing systems with structural repairs of the underlying building assembly and structure. Other architectural items that require repair or maintenance to ensure worker safety are fire rated enclosures, egress systems, and exits.

Figure 8: Examples of architectural deterioration at stations, from left to right: George and Duke Station deteriorated concrete stairs, Centre Drive Station water infiltration from roof.

Figure 9: Example of Terauley Station, replacing non-code-compliant stairs and railings with functional ones, and improved dock access.

b. Finishes

Within the utility's stations portfolio, Toronto Hydro plans to address issues related to buildings' interior finishes that directly impact user safety. As examples, certain lighting standards are required to keep buildings at an acceptable level of brightness. Furthermore, deteriorated flooring and stair treads can cause tripping hazards. Maintaining, repairing, and replacing these finishes provides a safe and accessible workplace for the employees who interact with the utility's stations.

Within the utility's work centres, Toronto Hydro plans to address issues related to the building interior finishes (e.g. coatings, carpets, workstations and office furniture) where existing materials are end of life or in poor condition and where assets no longer meet the needs of the utility's workforce. As examples, improving the working condition of some finishes will promote employee safety, such as lighting standards to keep buildings at an acceptable level of visibility, and mending deteriorated carpet and flooring will help reduce the risk of tripping hazards. Furthermore, maintaining finishes at a reasonable standard prevents the need for significant renovations to address cumulative deterioration.

3. Fire & Life Safety

Fire and life safety systems, including fire suppression, alarms, and preventative equipment, protect workers in the event of fire or environmental hazards and are essential to building, staff, and public safety.

Stations without functioning life safety or fire alarm systems are a high priority investment. The Program will continue work that the utility commenced in the 2020-2024 rate period work to replace outdated fire alarm panels. As of 2023, Toronto Hydro upgraded five (5) panels to a current and compliant fire panel system during the current rate period.

It is safer and less expensive to proactively repair and replace fire and life safety systems. If a fire alarm device is in a state of disrepair, the utility must hire fire watch personnel for patrol until the fire alarm system is back online. The cost of hiring a 24/7 fire watch for a device is prohibitive if the fire watch must be in place for days or weeks until a part is shipped for the alarm repair or replacement. This type of reactive response incurs significantly higher costs than a proactive repair and replacement program.

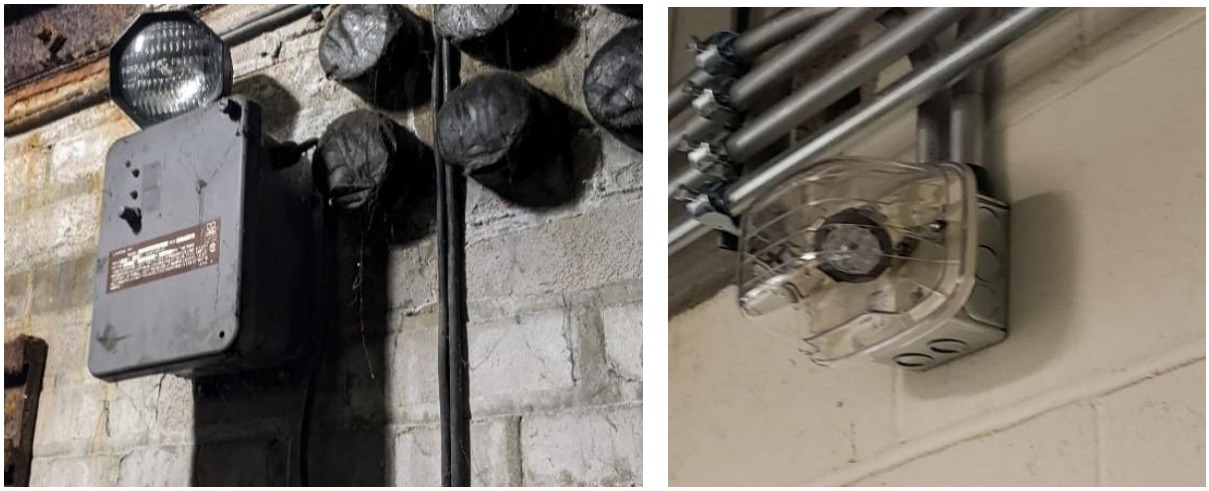


Figure 10: Example of Terauley Station, replacing non-compliant emergency lighting (left) with functional and compliant lights (right).

Within work centres, the 500 Commissioners work centre has aging dry sprinkler systems and faulty water systems that require maintenance and repair. A side benefit of modernizing and improving the condition of these systems would be to reduce nuisance alarms that disrupt work at work centres.

[redacted] Reducing the incidence of false alarms triggered by faulty systems would alleviate this risk. Furthermore, by implementing modern systems like two-stage alarms, fire alarms and evacuations can target localized building zones and minimize the disruption to critical control operations.

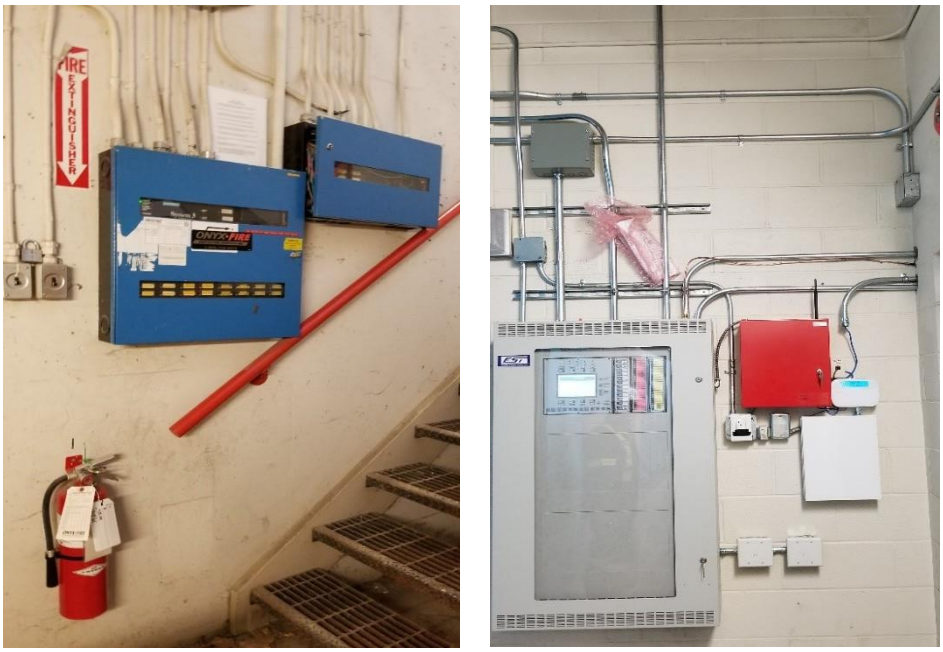


Figure 11: Example of Esplanade Station outdated fire alarm panel (left) with a new, functional panel (right).

4. Mechanical, Electrical & Plumbing

Mechanical and electrical assets include plumbing, heating, ventilation and air conditioning ("HVAC") systems, site lighting, electrical panels, electrical wiring, building automation systems, and power distribution systems in Toronto Hydro's buildings.

These systems are critical to reliable operation of the utility's work centres and stations buildings. Toronto Hydro plans to replace end of life infrastructure and equipment, including cooling systems

for critical equipment in stations, to improve reliability on high temperature days and prevent disruptions or outages due to overheating equipment. The utility also plans to make investments in plumbing and emergency sump systems and other infrastructure to reduce the risk of asset failures and damage to equipment, which may disrupt grid operations.

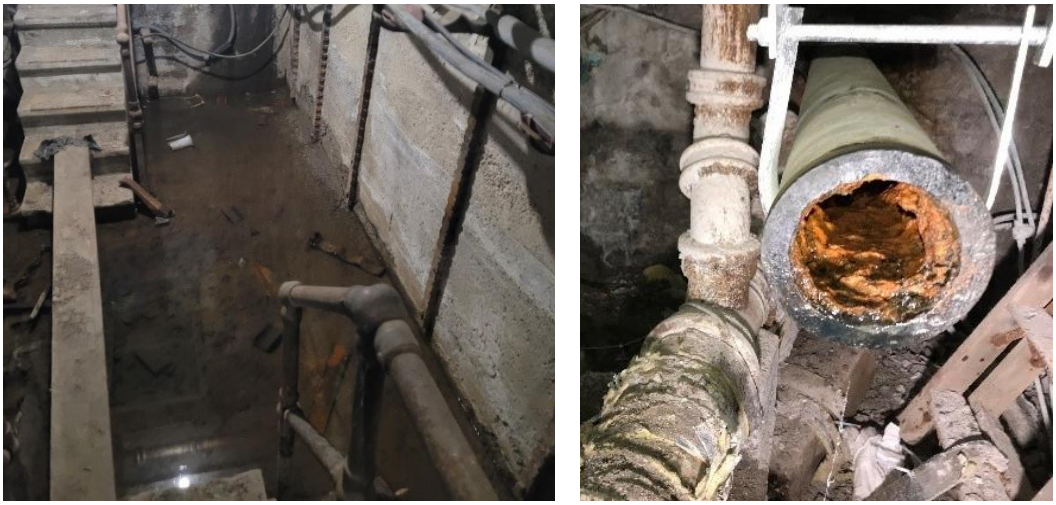


Figure 12: Examples of mechanical and plumbing deterioration at Stations: Terauley Station with a flooded basement and Terauley Station water service line clogged and full of debris.

Figure 13: Examples of HVAC additions at Stations: Strachan Station without additional air conditioning (left) and after with two new condensing units installed for keeping air temperature and equipment cool (right).

Figure 14: Examples of HVAC additions at Stations: Cavanagh Station without additional air conditioning (left) and after with ducts and venting installed for keeping air temperature and equipment cool (right).

5. Civil & Sitework

Property civil work and sitework includes work related to exterior access ways and walkways, pavement, driveways, parking spaces, and exterior lighting. A variety of investment and maintenance needs are present in this area. Certain exterior surfaces at work centres and stations are in poor condition and need repair to prevent tripping hazards, pot holes, delamination, and water ponding. Exterior lighting at certain stations is currently inadequate for response crews' ability to work safely. Additional paving is required to accept multiple trucks on site at several stations as a need for operational efficiency.

Figure 15: Examples of driveway deficiencies at Stations: Hunting Ridge Station driveway in disrepair, Longfield Station with no available parking for response crews.

E8.2.3.2 Stations

Toronto Hydro's investments over the 2025-2029 rate period will focus on stations. Approximately 50 percent of the planned work will address stations assets and infrastructure. Figure 14 below highlights some examples of stations with poor quality structural assets. Deterioration at this level indicates that the structural system has operationally lost its serviceability for the actual service load that the structure is subjected to and presents a high risk to occupant and equipment safety. To mitigate the risk of partial or complete building collapse that may ensue from these conditions and prevent significant damage to distribution equipment or catastrophic safety risks to employees and the public, the utility must address these deficiencies in a timely and effective manner.

Figure 16: Examples of existing stations in critical condition, from left to right: George and Duke Station, beam with exposed rebar, Defoe Station cracked beam, Junction Station deteriorated foundation wall.

Toronto Hydro's portfolio includes large-footprint stations, stations on heritage sites, and stations integrated into residential neighborhoods. To address stations-related issues, the utility must tailor specialized design and investment plans to each station's features and condition. These investment plans consider asset age, site condition, priority, probability of failure, and impact to yield a system criticality rating.

E8.2.3.3 Work Centres

1. Overview

In addition to investments to maintain, repair, and replace assets as discussed above under subsection E8.2.3.1, Toronto Hydro plans to invest in work centres in accordance with its strategic outcomes and objectives. Work centres house Toronto Hydro employees and provide a physical space to operate the business. Employees have functional workplaces that enable them to provide quality service to customers. As the nature and needs of customers evolve and the utility invests in growing its distribution system and modernizing its business processes in response, it also must have adequately furnished work centres for employees to execute work and provide customer service. Approximately 35 percent of the planned work in the Program is related to work centres.

The volume of asset management work required at work centres over the 2025-2029 rate period is lower compared to the Stations segment, with three of the four work centres being relatively new (having been built or retrofitted within the last few decades) and in good operating condition.

Key work centre-specific initiatives include:

- **Work Centre Decarbonization:** targeted projects that will decrease GHG emissions from Toronto Hydro's work centres; and
- **Work Centre Modernization:** select improvements to office workspaces that support the future of collaborative and flexible work, and efficiently use office areas.

2. Work Centre Decarbonization

The Program includes investments to decarbonize work centres in alignment with the utility's Net Zero 2040 Strategy.[8] Toronto Hydro's Customer Engagement showed that a majority of the utility's

[8] Exhibit 2B, Section D6.

customers indicate general support for investments that reduce Toronto Hydro's environmental impact.[9]

Toronto Hydro will phase the timeline for decarbonization investments, starting in the 2020-2024 rate period and continuing through the 2025-2029 rate period and beyond, until Net Zero targets are achieved by 2040. The utility will execute these investments in a balanced manner to achieve decarbonization objectives while maintaining costs at a reasonable level and minimizing the risk of stranded assets and business interruptions.

Toronto Hydro's decarbonization investments in the 2025-2029 rate period will focus on assets that are at end of life to avoid stranding assets. The utility will engage in fuel switching by replacing selected fossil fuel-powered assets identified with electric assets to prudently deliver a high level of decarbonization proportionate to project costs. The utility will concurrently make investments in building efficiency, building automation systems ("BAS"), and other building envelope measures to improve the energy efficiency of its work centres, which will reduce overall energy use and require fewer electrified assets for heating and cooling work centres.

The three main investment streams targeting GHG emissions at work centres will consist of:

1. **Fuel Switching (Eliminate Scope 1 Emissions)**: replacing natural gas- or other fossil fuel-powered equipment with electric assets.[10]
    a. GHG emissions from natural gas heating accounted for majority of all of the utility's GHG building emissions in 2022.[11]
    b. Toronto Hydro will target aging and/or poor condition natural gas equipment minimize stranded assets.
2. **Improve Building Efficiency (Reduce Scope 2 Emissions)**: improving energy performance to reduce buildings' electrical loads.
    a. In conjunction with eliminating GHG emissions from fossil fuel-powered equipment, Toronto Hydro will reduce the electrical load of its buildings through efficiency

[9] Exhibit 1B, Tab 5, Schedule 1
[10] Scope 1 emissions are direct GHG emissions that occur from sources controlled or owned by an organization. Scope 2 emissions are emissions that an organization causes indirectly and that come from where the energy it purchases and uses is generated. Scope 3 emissions are emissions that are produced by an organization's value chain, and not as the result of an organization's assets or activities. This program does not address measures to reduce the organization's Scope 3 emissions.
[11] For more details on Toronto Hydro's performance results, please refer to Exhibit 1B, Tab 3, Section 2.

measures, which would further reduce GHG emissions associated with line losses from the utility's consumption of electricity delivered through transmission and distribution grids.

b. Building Automation Systems ("BAS"): BAS provide a centralized control system for a building's facilities systems, including electrical and mechanical (heating, ventilating, air conditioning) systems, which provides both visibility and control of the building's operations and performance, ensuring harmonious and efficient operations according to occupant requirements. Part of the investments will add legacy and new equipment to the BAS network.

c. Envelope Improvements: identifying areas with air leakage and implementing appropriate repairs reduces unnecessary heating and cooling, and lowers the demand on building operation. Intensive envelope improvements include façade retrofits and roof repairs. Although these retrofits and repairs are standard maintenance for aging buildings, Toronto Hydro's investments will enable increased insulation above minimum code requirements to retain heating and cooling more effectively, lowering energy consumption.

3. **Additional Improvements (Reduce Scope 1 & 2 Emissions):** other improvements to building operation efficiency.

   a. Adding two cooling setpoints to air conditioning units that allow high operation on hot days and low operation on more frequent mild days.

   b. Providing additional CO_2 sensors to act as occupancy monitoring, to automatically adjust ventilation for a space according to real-time occupancy.

   c. Air curtains at warehouse overhead doors to reduce outdoor air infiltration at warehouse and garage spaces when the overhead doors are open.

3. Work Centre Asset Management

As discussed in the AM Strategy,[12] Toronto Hydro applies a tailored investment approach to its head office located at 14 Carlton, in accordance with the age and deteriorated condition of the building. The utility must reactively repair and maintain assets to reduce the risk of infrastructure failure, while navigating rising costs and operational challenges due to the building's age, limitations from the original design, heritage status, location, and operational significance. One example that highlights

[12] Exhibit 2B, Section D6, subsection D6.3.

the challenge of maintaining the 14 Carlton work centre is ongoing façade repairs. The last major building masonry repair project was executed in 2016. Toronto Hydro plans to undertake the next repair project in the 2025-2029 rate period, as the risk of leaving the façade in disrepair could result in material falling from the building, causing hazards to employee or public safety. Since masonry repairs tend to be disruptive of building operations, involving significant vibrations, dust, loud noise, and scaffolding structures, the utility will plan these repairs in a manner that will minimize the risk to critical operations.

4. Work Centre Modernization

Toronto Hydro will selectively invest in its office workspaces to support an engaging environment that promotes productive and collaborative hybrid work, and to efficiently optimize office footprints. Investments in physical office spaces such as workstations, meeting rooms, leader offices, and shared spaces will enable employees to more efficiently engage in collaborative and inter-departmental group work. As Toronto Hydro's workforce grows and evolves,[13] the utility will also leverage these investments to improve the efficiency of office spaces by consolidating workstations with a large footprint and providing space for new employees without requiring expansions. Since the relevant assets typically consist of furniture and technology with relatively short lifecycles that are typically capitalized within ten years, the utility can plan investments in a flexible manner.

Investments to modernize work centres will support the growth of the utility's workforce and promote employee satisfaction, retention, and adaptation to flexible work practices, enabling personnel to efficiently and effectively perform business operations and serve customers.

c. Workstations

Toronto Hydro will install new workstations to replace bulky, space-inefficient, and aging or deteriorating workstations and increase employee density. These investments will reduce the cost of expanding the utility's workforce by providing a smaller physical footprint per employee.

d. Meeting and Training Rooms

Toronto Hydro will install audio and visual upgrades, including speakers, microphones, monitors, and TVs, in meeting and training rooms to support online web conferencing. The utility will also invest in

[13] See Exhibit 4, Tab 4, Schedule 4 for more information on Toronto Hydro's workforce over the 2025-2029 rate period.

modern furniture and design features to replace damaged and outdated furniture. These investments will support employee productivity and efficiency within the hybrid work environment.

e. Common Spaces

Toronto Hydro will make investments to update common spaces in its work centres to support hybrid office work by facilitating face-to-face communications. The purpose of these investments is to transform simplistic waiting areas and empty spaces in the utility's work centres into places for employees to work, gather around, charge devices, break up their day with a change of scenery, meet visitors or guests, share content, or take a phone call. Providing access to spaces for collaborative and in-person interactions to take place will contribute to employee satisfaction, and thereby productivity and retention.

E8.2.3.4 Security Improvements

Toronto Hydro will make investments to improve the utility's physical security infrastructure and support operations. Approximately 15 percent of the planned work under the Program is associated with security improvements. As the utility's properties are located in a broad range of neighbourhoods across the city of Toronto, stations and work centres are at risk of general theft, vandalism, and trespassing. Other threats include attempts by customers or members of the public to harass staff or threats to distribution operations and the distribution system by malicious organized actors, such as terrorism or cyber security breaches. Security measures that protect properties from physical threats also contribute to the safety of employees and critical equipment and assets, and to the overall reliability of the distribution system. The integrity of the utility's physical security systems is essential to ensure the distribution system's safe and reliable operation. Toronto Hydro will plan and make investments in a manner that is strategic, proactive, and responsive to identified risks as well as in alignment with the Ontario Energy Board's Cyber Security Framework.[14]

Electricity distributors are targets for security breaches because they play a critical role in providing an essential service and host a broad database of customer information, Similar to other public service providers and infrastructure operators such as hospitals, public transit operators, traffic management systems, emergency services, and financial hubs. The utility's planned security

[14] Ontario Cyber Security Framework (December 6, 2017), available at: < https://www.oeb.ca/sites/default/files/Ontario-Cyber-Security-Framework-20171206.pdf>.

improvements will address existing gaps in the physical safety systems and implement proactive measures to lower the risk of safety breaches.

Toronto Hydro will focus on improving security measures in two categories: physical access measures and technology and network measures. Within the physical access category, the utility will implement physical changes to site security to improve control over access to properties. Within the technology and network measures category, the utility will improve video monitoring to provide improved response abilities by its Physical Security Operating Centre ("PSOC") to address breaches of security.

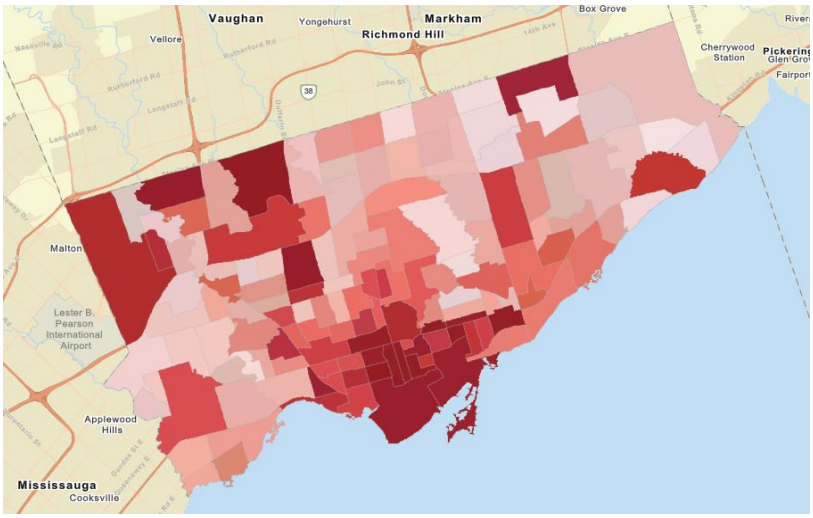


Figure 17: Major crime indicators; Toronto Police Service 2014-2021 statistics for breaking and entering and robbery.[15]

5. Network Security Improvements

The information technology and operating technology ("IT/OT") assets that enable Toronto Hydro to effectively and efficiently manage its distribution system, such as Supervisor Control and Data Acquisition ("SCADA"), also attracts heightened physical and cyber security risks. The utility must protect its IT/OT infrastructure and increase resilience against these diverse risks to ensure that critical grid distribution equipment and customer service functions remain reliably operational.

[15] Toronto Police Service Public Safety Data Portal https://data.torontopolice.on.ca/pages/major-crime-indicators

Within network security improvements, Toronto Hydro plans to replace analog security cameras with Internet Protocol ("IP") cameras [redacted]

The utility implemented IP-based cameras in three stations over the 2020-2024 rate period, including the [redacted] As of December 2022, [redacted] had analog cameras. Toronto Hydro will continue to expand the IP-based camera network to stations over the 2025-2029 period and will prioritize locations based on risk and strategic considerations.

These investments in IP-based cameras will also improve the PSOC's functionality and improve the effectiveness of its video management system ("VMS") [redacted] Upgrades to hardware, such as monitor and video displays will further improve PSOC and support these security initiatives.

6. Physical Security Improvements

Toronto Hydro will invest in physical security measures to prevent unauthorized access to stations while also keeping them accessible for authorized personnel. Examples include providing increased outdoor lighting, repairing fencing, having adequate fence heights, and installing additional barriers such as barbed wire where required. Other improvements relate to door and gate openings. The utility will make investments to ensure that card readers work reliably when staff need to access a location [redacted]

Figure 18: Examples of University Station entrance door in poor condition (left) and after being retrofitted via the station door program (right).

E8.2.4. Expenditure Plan

Toronto Hydro plans to spend approximately $145.5 million over the 2025-2029 rate period to respond to the previously discussed needs and to make the proposed investments. The historical and forecast costs for the Program are set out in Table 5 below. The utility will determine the full scope of work to be performed under the work centres and stations categories based on risk-based prioritization in line with the AM Strategy and workload balancing over the 2025-2029 rate period.

Approximately 50 percent of Program expenditures will be dedicated to stations work. As discussed in detail above, 87 percent of Toronto Hydro's stations are over 40 years old and require significant upgrades to architectural, fire and life safety, mechanical and electrical, and civil and plumbing infrastructure and to ensure building and fire codes compliance. These investments will also enable the utility's security measures to better align with the principles of the Ontario Energy Board Cyber Security Framework.

35 percent of Program expenditures will account for work centre-related projects to address aging and deteriorating assets and office space modernization initiatives that will increase the productivity

of Toronto Hydro's workforce. This work will also facilitate investments in decarbonization at the utility's work centres to reduce facilities-related GHG emissions in accordance with the Net Zero 2040 Strategy

The remaining 15 percent of the Program expenditures will focus on implementing security improvements at stations and work centres.[16]

In accordance with the AM Strategy, the Program will prioritize the proactive replacement of critical assets that are end of life and in poor condition for the 2025-2029 rate period. This approach will reduce the risk of emergency work, which can impact the safe and reliable distribution of electricity, and optimize the value the utility receives from assets in service.

Table 5. Historical & Forecast Program Costs ($ Millions)

	Actual			Bridge		Forecast				
	2020	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**
Stations	1.7	4	11.8	11.3	10.3	15.1	15.1	14.5	14.5	13.3
Work Centres	5.5	6.2	6.9	8.0	5.5	10.2	10.4	10.5	10.6	10.6
Security Improvements	3.4	5.4	2.7	1.5	1.0	4.3	4.3	4.1	4.2	3.8
Total	**10.6**	**15.6**	**21.4**	**20.8**	**16.8**	**29.6**	**29.8**	**29.1**	**29.3**	**27.7**

Toronto Hydro will prioritize planned work according to the impact of a given asset's failure on the utility. As described in the AM Strategy, the Program first prioritizes assets whose failure poses a safety risk to Toronto Hydro personnel or the general public. The program next prioritizes assets whose failure impacts business continuity and the protection of the distribution system. Finally, the program prioritizes assets whose failure would impact productivity gains and the achievement of other business objectives third.

E8.2.4.1 Stations

Toronto Hydro assesses stations building assets and assigns a condition rating of critical, poor, fair, good or excellent on a regular basis in line with the AM Strategy. Assets that received a poor condition rating will be addressed within the 2025-2029 plan period. Assets in fair condition will be closely monitored and maintained under a preventative maintenance program. Assets will be also

[16] *Supra* note 8

be evaluated to ensure that a net reduction in GHG emissions to support net zero targets will be prioritized upon repair or replacement.

Finally, repairs for assets in good condition are not planned for the 2025-2029 period. Toronto Hydro will only replace assets that are end of life and are in poor condition. Work on these identified assets will proceed in line with the prioritization identified in the AM Strategy and described above.

Refer to Table 6 below for the planned capital expenditure work for Stations.

Table 6. Stations Capital Projects Work

Project Category	Major Assets to be Replaced	Percentage of Estimated Segment Costs
Structural & Envelope	Foundation, beams, joists, columns	20 percent
Architectural & Interiors	Roofs, doors, window	15 percent
Fire & Life Safety	Fire alarm systems, emergency lighting, signage	25 percent
Mechanical, Electrical & Plumbing	Interior systems, power distribution, lighting, HVAC, sump pumps, plumbing fixtures, hot water tanks, drainage pipes, tanks, fittings, sanitation	30 percent
Civil & Sitework	Pavement, driveways, parking areas, walkaways	10 percent

E8.2.4.2 Work Centres

As mentioned in section E8.2.4.1 Stations, the AM Strategy and priority ratings are also used to classify work centre assets. Toronto Hydro will only replace assets that are end of life and in poor condition. This means deferring the replacement of assets that are end of life but are in fair or good condition or are “run-to-fail”.

Refer to Table 7 below for the planned capital expenditure work for Work Centres.

Table 7. Work Centre Capital Project Planned Work

Project Category	Major Assets to be Replaced	Percentage of Estimated Segment Costs
Structural & Envelope	Foundation, beams, joists, columns	20 percent
Architectural & Interiors	Roofs, doors, window	20 percent
Fire & Life Safety	Fire alarm systems, emergency lighting, signage	20 percent
Mechanical, Electrical & Plumbing	Interior systems, power distribution, lighting, HVAC, sump pumps, plumbing fixtures, hot water tanks, drainage pipes, tanks, fittings, sanitation	20 percent
Civil & Sitework	Pavement, driveways, parking areas, walkaways	15 percent
Office Workspace Transformation/ Modernization	Collaborative furniture, open spaces, hybrid work areas, audio visual enhancements	5 percent

E8.2.4.3 Security Improvements

The planned projects for the 2025-2029 rate period under the Security Improvements segment will support and expand integrated security features (e.g. video systems, keys, intercoms, access control measures, and duress stations). These security investments will both replace existing aging and deteriorated and also expand new assets to address any identified security gaps or risks [redacted]

Security improvements can be broken down into two areas: network security improvements and physical security improvements. Table 8 below shows a breakdown of the capital expenditures in each of these areas.

Table 8. Security Capital Projects Work

Project Category	Major Investments and Assets to be Replaced	Percentage of Estimated Segment Costs
Network Security Improvements	Access controls, video management system, IP-based cameras, Security Operations Centre, Security Access Control Software ("CCURE"), IP camera conversion and, modernization.	50 percent
Physical Security Improvements	Exterior lighting, fencing, card readers, automatic gates, exterior doors, exterior windows, and modernization.	50 percent

E8.2.5. Options Analysis / Business Case Evaluation ("BCE")

E8.2.5.1 Option 1: Run-to-Fail Approach

Under the run-to-fail approach, Toronto Hydro would delay necessary investments in work centres and stations and would perform replacements and repairs only on a reactive basis, when an asset fails. Since the majority of assets that are end of life and in poor condition are critical to the utility's operation, this approach would pose a significant risk to the business continuity of Toronto Hydro's operations. This approach would also run counter to the Ontario Energy Board's Cyber Security Framework, which stresses the importance of physical security to support utilities' cyber security objectives. This option would incur costs to reactively repair and replace assets, and significantly increase costs associated with reactive work, rentals, and labour to accommodate long lead times for specialty equipment.

Some of the effects of instituting a run-to-fail strategy would include:

- **Stations:** Maintenance and repairs to fire alarm panels, large HVAC units, and heritage station assets must be planned in advance to account for engineered design, analysis, material purchases with long lead times and/or custom-built materials (e.g. in support of heritage preservation). Applying a run-to-fail strategy to these types of assets would lead to business disruptions when the assets fail. Asset failure could also directly affect grid reliability if failing assets were to damage distribution equipment or expose them to damage and faster deterioration. The cost associated with unexpected failures and reactive repairs

often outweighs the cost of proactive repairs due to the fact that reactive repairs generally require additional scope and rapid response involving labour overtime. This approach would also increase the risk of safety hazards by deferring work to bring the utility's stations into compliance with the Ontario Building Code by addressing existing water infiltration, building integrity and exterior lighting issues.

- **Security:** Deferring investments in security improvements will increase the likelihood of unauthorized access to physical facilities or the IT/OT network and consequently increase the risk of cyber security threats. Deferring these investments will also increase the risk of criminal activity at stations and work centres, jeopardizing the safety of Toronto Hydro's employees and causing property damage.
- **Work Centres**: Deferring efforts to decarbonize facilities assets at the utility's work centres would cause the utility's emissions to remain at current levels, compromising the utility's Net Zero by 2040 objective and leaving more decarbonization work for future rate periods.

E8.2.5.2 Option 2 (Selected Option): Maintenance and Replacement of End of Life and Poor Condition Assets and Investment in Security Improvements at Certain Toronto Hydro Facilities

Under this approach, Toronto Hydro would focus on asset lifecycles and condition assessments to selectively determine assets that require maintenance and replacement. Ongoing preventive maintenance reduces the risk of unexpected asset failures that could disrupt the utility's operations. Furthermore, this option allows the utility to optimize its capital expenditures by replacing assets in poor condition and retaining assets that are at end of life but in good condition.

Some of the effects of implementing this option would include:

- **Stations:** Assets that are end of life, but are either in good or fair condition or are run-to-fail by nature will remain in service, allowing the utility to focus expenditures and efforts on stations assets that require more immediate attention. By addressing hazards and asset deficiencies (e.g. those relating to lighting, HVAC, flooring, and stairs), Toronto Hydro can achieve and maintain compliance with legislative and regulatory requirements and minimize the safety hazards posed by current issues. This approach also allows the utility to use a competitive bids process to obtain more favourable acquisition costs for goods and services while maintaining the quality of work and process integrity.

- **Security:** By taking a proactive approach to improving security systems, Toronto Hydro can minimize physical threats to its assets by enabling a real-time response to threats. The security improvements planned under this option would also increase the efficiency of onboarding and offboarding procedures for employees and contractors. For example, automating the granting, modification, and revocation of card access privileges as employees are hired or when their role changes (e.g. through promotions or terminations) would enable the utility to complete these steps more quickly and less manual intervention.
- **Work Centres:** Decarbonization, electrification, and energy efficiency investments under this option would enable Toronto Hydro to meet its emissions reduction outcomes over the 2025-2029 rate period and enable healthy progress to the utility's target to reach Net Zero by 2040, while pacing investments to contain costs for optimum benefits and avoid stranded assets.[17]

E8.2.5.3 Option 3: Preventative Maintenance and Replacements of All End of Life Assets and Investing in Security Improvements at All Toronto Hydro Facilities

Under this option, Toronto Hydro would replace all assets that are end of life, irrespective of specific asset condition, and would implement security improvements (such as upgrading video management system hardware and software) at a greater number of stations. This approach would also include preventative maintenance on all assets, without regard for asset condition, function, or criticality. This approach would require significantly higher capital expenditures, and would increase the risk of stranding assets.

In addition to the points listed under Option 2, the benefits of this option would include:

- **Stations**: Toronto Hydro would replace all assets at end of life, which would improve their reliability and provide operational savings by reducing the financial burden of reactive maintenance. These benefits would be offset by a significant increase in proactive capital investments under this option.
- **Security:** Security enhancements would be completed at a greater number of Toronto Hydro locations, increasing the utility's physical security as well as protection against unauthorized entry, vandalism, and trespass.

[17] Exhibit 1B, Tab 2, Schedule 1

- **Work Centres:** This option would enable advanced lighting systems across all sites, HVAC retrofits, and renovations for refined BAS and building operation and offer greater employee work optimization. Under this option, Toronto Hydro would also significantly accelerate decarbonization, electrification, and energy efficiency investments, which would reduce GHG emissions faster and set the stage for the utility to reach Net Zero earlier than 2040.

E8.2.5.4 Evaluation of Options

Toronto Hydro has selected Option 2 as the Program's preferred approach for the 2025-2029 rate period since it ensures the optimal outcomes in terms of employee and public safety, grid reliability, cyber security, and GHG emissions while optimizing overall asset lifecycle costs and prudently pacing capital investments. In addition, the proactive approach to asset management in accordance with the AM Strategy under Option 2 would yield several productivity and efficiency benefits. This option provides the best safety, reliability, security and GHG emissions outcomes for ratepayers while controlling costs more effectively than Option 3.

Option 1 offers lower planned maintenance costs but potentially higher reactive maintenance costs. The implementation of this option would compromise the utility's grid reliability and would create the risk of business disruption. It would further compromise public and employee safety, and would lead to a less efficient allocation of capital expenditures, as the utility incurs cost and time benefits from the proactive procurement and replacement of facilities assets.

Option 3 offers additional asset reliability and would decrease the utility's operational costs but does not optimize the utility's asset management process and would represent a significant cost escalation for ratepayers.

E8.2.6. Execution Risks & Mitigation

The Program is vulnerable to several risks that could affect the planning and timing of proposed investments, including:

- Delays in obtaining the necessary approvals and permits may delay the start or completion of projects. To mitigate against this risk, Toronto Hydro will utilize subject matter experts to work with the necessary stakeholders in order to obtain approvals and permits in a timely manner. In addition, the utility will initiate the relevant processes as early as possible to ensure permits are issued for the project's scheduled execution timing and mitigate delays.

- The rising costs of material and labour are an ongoing issue in the post-COVID market. Supply chain disruptions have become an ongoing issue across many industries as well, and have continued to pose a risk throughout 2023.
- Legacy environmental conditions (e.g. asbestos or PCBs) might require further testing and analysis, which may affect project budget and execution schedule. To mitigate against this risk, Toronto Hydro will seek subject matter expertise for a thorough review of actual field conditions in high-risk locations prior to developing a project plan and incorporate these findings during the procurement process to limit the cost escalation of abatement work.

OPERATIONS, MAINTENANCE & ADMINISTRATION ("OM&A") OVERVIEW

Toronto Hydro's 2025-2029 Custom Incentive Rate Framework set out in Exhibit 1B, Tab 2, Schedule 1 includes a mechanism to enable multi-year rate funding for operational investments as well as capital expenditure needs. The proposed 2025-2029 Operations, Maintenance & Administration ("OM&A") plan represents the minimum investments necessary to deliver the Distribution System Plan ("DSP") outlined in Exhibit 2B and achieve key outcomes valued by customers and the OEB under the Renewed Regulatory Framework ("RRF").

In addition to enabling Toronto Hydro to attract and retain the necessary resources to carry out its DSP and deliver customer outcomes in next rate period and beyond, the OM&A plan addresses other key operational requirements, including:

- integrating cloud computing and non-wires solutions into operations;
- responding to evolving policy and customer expectations to connect behind-the-meter technologies such as electric vehicles, solar panels, and energy storage;
- protecting customers' data and the grid against intensifying cyber security threats driven by rapid technology advancements and changing geopolitical dynamics;
- complying with new or expanded legal and regulatory requirements, including customer service, safety, and environmental obligations;
- maintaining safe, reliable, and effective operations across a multitude of key utility functions including Emergency Response, Supply Chain, Fleet, Facilities, and Information Technology ("IT");
- addressing a variety of externally-driven costs, including insurance premiums, bad debt expenses, and regulatory costs; and

- keeping up with asset maintenance requirements to ensure the grid remains safe and reliable for customers.

This schedule provides an overview of Toronto Hydro's current 2020-2024 and future 2025-2029 OM&A plan. The drivers underpinning Toronto Hydro's OM&A plan are specific, tangible, and urgent, with the most pressing needs highlighted in section 5 of this schedule, and detailed evidence supporting the entire plan provided in Exhibit 4, Tab 2. Tables 1 and 2 below provide breakdowns of Toronto Hydro's OM&A expenditures by program for the historical and bridge years (2020-2024), and forecast years (2025-2029), respectively.

Table 1: Historical and Bridge Year OM&A Expenditures by Program ($ Millions)[1]

Programs	Actual			Bridge	
	2020	2021	2022	2023	2024
Preventative and Predictive Overhead Line Maintenance	5.8	6.2	5.7	7.2	7.9
Preventative and Predictive Underground Line Maintenance	5.1	4.4	5.7	6.3	6.1
Preventative and Predictive Station Maintenance	5.9	6.4	5.5	6.5	7.0
Corrective Maintenance	23.1	26.5	23.5	24.9	25.6
Emergency Response	22.1	23.0	22.0	20.4	23.1
Disaster Preparedness Management Program	6.0	5.5	4.9	1.3	1.8
Control Centre Operations	7.6	6.0	6.5	7.4	7.9
Customer Operations	9.3	7.5	9.0	12.6	12.8
Asset and Program Management	13.4	11.9	13.1	13.5	14.0
Work Program Execution	11.0	14.2	17.3	14.3	15.2
Fleet and Equipment Services	9.3	8.5	7.8	8.7	9.1
Supply Chain Services	15.8	12.9	13.8	16.7	18.8
Facilities Management	24.3	26.0	25.0	26.0	27.9

[1] Numbers may not sum due to rounding.

Programs	Actual			Bridge	
	2020	2021	2022	2023	2024
Customer Care	55.7	39.3	39.3	44.9	48.4
Human Resources, Environment and Safety	15.5	17.6	16.7	18.9	21.3
Finance	16.4	17.9	18.4	20.9	22.9
Information Technology	48.0	50.6	53.5	57.5	61.1
Legal and Regulatory	18.5	19.0	19.2	24.7	28.0
Charitable Donations and LEAP	1.0	1.0	1.0	1.3	1.4
Common Costs and Adjustments	(0.2)	(0.3)	(1.0)	(1.1)	(0.9)
Allocations and Recoveries	(25.5)	(26.6)	(26.5)	(31.4)	(33.9)
Total OM&A	**288.1**	**277.5**	**280.4**	**301.5**	**325.5**

Table 2: Forecast Year OM&A Expenditures by Program ($ Millions)[2]

Programs	Forecast				
	2025	2026	2027	2028	2029
Preventative and Predictive Overhead Line Maintenance	9.1	9.2	9.6	9.5	9.4
Preventative and Predictive Underground Line Maintenance	6.8	7.0	6.7	7.1	7.0
Preventative and Predictive Station Maintenance	8.0	7.6	7.7	8.6	8.8
Corrective Maintenance	29.5	30.7	31.0	32.0	33.6
Emergency Response	25.9	26.4	27.2	27.9	28.6
Disaster Preparedness Management Program	1.9	1.9	2.0	2.1	2.2
Control Centre Operations	8.3	9.0	9.5	10.0	10.5
Customer Operations	12.7	13.1	13.7	14.1	14.6
Asset and Program Management	14.2	15.8	16.6	17.9	18.7
Work Program Execution	16.0	16.8	17.9	18.5	19.4
Fleet and Equipment Services	9.3	9.6	9.8	10.0	10.3
Supply Chain Services	21.5	23.5	24.9	25.5	27.1
Facilities Management	27.9	28.4	28.9	29.6	30.3
Customer Care	48.6	51.6	52.5	54.4	56.1

[2] Numbers may not sum due to rounding.

Programs	Forecast				
	2025	2026	2027	2028	2029
Human Resources, Environment and Safety	22.6	23.2	24.2	25.3	26.3
Finance	24.4	26.2	27.6	29.4	31.1
Information Technology	63.3	65.8	68.7	71.7	75.1
Legal and Regulatory	29.9	30.9	32.0	33.2	34.2
Charitable Donations and LEAP	1.5	1.6	1.7	1.8	1.9
Common Costs and Adjustments	(0.9)	(0.9)	(0.8)	(0.8)	(0.8)
Allocations and Recoveries	(37.5)	(39.4)	(41.2)	(42.3)	(44.8)
Total OM&A	**343.0**	**358.0**	**370.2**	**385.5**	**399.6**

The programs that constitute Toronto Hydro's plan are largely a continuation of its 2020-2024 OM&A programs, which are critical to the safe and reliable operation of the distribution system, delivering timely and effective customer-facing services, and fulfilling critical corporate functions that allow the utility to operate in a financially responsible and legally-compliant manner. However, the utility is not operating in a stable state as detailed in the discussion of the funding need in the Rate Framework in Exhibit 1B, Tab 2, Schedule 1, and discussed in brief below. Instead, these operational programs must be delivered in an environment of increased volume and increased complexity of work driven by evolving customer needs, requirements, and expectations.

The information presented in this OM&A overview schedule is organized as follows:

- Section 1 contextualizes Toronto Hydro's OM&A investment plan;
- Section 2 outlines historical productivity and benchmarked efficiency trends;
- Section 3 presents the workforce needs and challenge underpinning the plan;
- Section 4 describes Toronto Hydro's business planning process;
- Section 5 identifies key drivers necessitating forecast OM&A expenditures; and

- Section 6 sums up the preceding information with a macro level causal track analysis showing the variance drivers from the 2020 OEB-approved OM&A budget to the 2025 test year and 2029 forecast year.

1. THE OM&A PLAN IN CONTEXT

In the current rate period, Toronto Hydro's operating parameters shifted from a relatively linear and stable environment to a more dynamic, growth-oriented context, predicated on significant increases in future customer demand driven by an unprecedented energy transition that is creating new and expanded roles for electricity within the economy. The DSP in Exhibit 2B outlines in detail the capital investments required to address these new imperatives, while also sustaining existing infrastructure in accordance with good utility practices. However, asset readiness is only part of the solution required to meet the needs of customers and the system in an electrified future state. Toronto Hydro must also invest in human capital and other operational priorities to deliver the increasing and evolving capital plan and ensure that customers are not underserved in the next decade as the pace of the energy transition intensifies.

As the utility takes least-regrets actions to expand and modernize the grid to be ready and equipped for a once-in-a century transformation of the energy system, it similarly needs to invest in resources with new and enhanced skill sets to get the work done safely and cost-effectively. However, not all of these resources can be capitalized under existing accounting standards and practices, nor do all the solutions to expand and modernize the grid entail capital investments. Technological advancements offer new digital tools and smart grid solutions to address system needs and deliver cost-effective customer services. Taking advantage of these opportunities requires investment in both capital assets (i.e. hard infrastructure like sensors, switches, and reclosers, and intangibles like software

systems) and in operational programs where approximately 50 percent of the costs related to human capital typically reside.

Since 2015, Toronto Hydro has served the needs of a growing city, evolving customer and policy demands, and an aging and deteriorating system, while addressing intensifying challenges—brought on by factors such as urban development and densification, more frequent instances of extreme weather, and evolving cyber security threats—with a staffing complement that is essentially flat from 2015 to 2024. After nearly a decade of realizing sustained efficiencies and managing complex operations with a flat headcount, Toronto Hydro requires incremental funding to hire and retain necessary resources without compromising the utility's financial viability.

Entering the next rate term, it is no longer possible nor prudent for Toronto Hydro to meet its obligations without additional resources. From 2024 through to 2029, Toronto Hydro's workforce is expected to grow by roughly 25 percent to sustain the foundations of a safe and reliable grid while also meeting the imperatives of an urban city and customers who are increasingly relying on electricity to expand, digitize, and decarbonize their footprint. Relative to the increase in the capital plan that the utility must deliver to get the grid ready and achieve outcomes for customers during this transformational time, the pace of workforce growth and related OM&A increases demonstrates Toronto Hydro's ongoing commitment to be efficient and productive. Specifically, the linear trends in Figure 1 below shows that from 2015-2029 (a 14-year period spanning three custom incentive rate cycles) Toronto Hydro has delivered, and intends to continue delivering, a larger capital program with an increase in resourcing and related OM&A costs that is comparatively much lower than the rate of growth in the capital program.

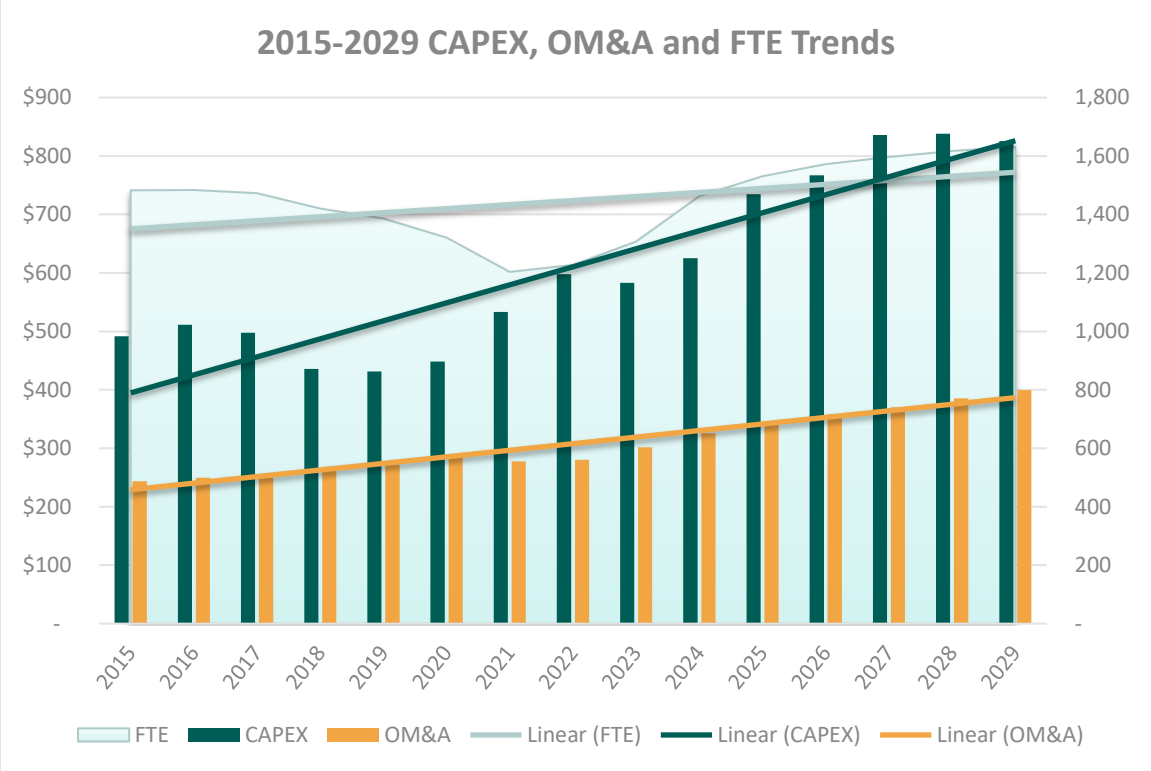


Figure 1: Comparing 2014-2029 Linear Trends in CAPEX, OM&A and FTEs

The full-time employee ("FTE") and OM&A trends identified in Figure 1 above reflect the continuation of a productivity journey in the last decade that has produced a demonstrably lean staffing complement. Notably, benchmarking shows that relative to other large and mid-sized distributors in Ontario, Toronto Hydro's workforce is well below the average when compared using various key ratios such as of net fixed assets ("NFA") per FTE, FTEs by system load (MWh), and FTEs per km of line. This benchmarking data is presented and further detailed in section 2 below.

1.1 Key Themes and Trends

Toronto Hydro's 2025-2029 OM&A plan is forecasted at approximately $1,856 million, representing a 26 percent increase over the current 2020-2024 period, compared to a 44

percent proposed increase in capital investment, as outlined in the DSP in Exhibit 2B. Efficient deployment of operational funding and staffing costs over the last decade, as further discussed below, has enabled Toronto Hydro to bring forward in this application an operational plan that (i) supports the execution of a larger capital program necessary to expand and modernize the grid for the future, while (ii) continuing to deliver high performance on service quality metrics, with (iii) an increase in operational budgets that is comparatively lower than the capital program.

In 2025, the first year of the next rate period, Toronto Hydro's forecasted OM&A budget is approximately $343 million, representing a compound annual growth rate of 5.16 percent from the utility's approved OM&A in the 2020 rebasing application (EB-2018-0165). On a per customer basis, the compound annual growth rate ("CAGR") from the 2020 approved to the 2025 proposed budget is approximately 4.66 percent. Over the same period (2020 to 2025), Toronto Hydro's OM&A costs per FTE (a measure of workforce productivity per OEB Appendix 2-L),[3] are increasing at a CAGR of 2.1 percent, which is less than the average rate of inflation over this period, per the OEB's parameters for 2021-2024,[4] and assuming a return to stable pre-pandemic inflation levels of 2 percent in 2025, consistent with the Bank of Canada's economic outlook.[5] Inflation is a measure that reflects the increasing cost of input prices, including labour. The fact that operational expenses per FTE are growing at a rate less than inflation shows that input prices related to labour are being managed efficiently through the utility's compensation and staffing

[3] OEB Filing Requirements for Electricity Distribution Rate Applications Chapter 2 – Cost of Service (December 15, 2022), s. 2.4.2 "OM&A Summary and Cost Driver Tables".
[4] OEB Letter Re: *2021 Inflation Parameters* (November 9, 2020); EB-2021-0212, OEB Decision and Order, *2022 Input Price Index Generic Proceeding* (November 18, 2021); OEB Letter re*: 2023 Inflation Parameters* (October 20, 2022); OEB Letter re: *2024 Inflation Parameters* (June 29, 2023).
[5] Bank of Canada, *Monetary Policy Report* (October 2023), online: <https://www.bankofcanada.ca/wp-content/uploads/2023/10/mpr-2023-10-25.pdf> at page 1.

strategy. Table 3 below details the facts and trends outlined above, which are also presented in OEB Appendix 2-L at Exhibit 4, Tab 1, Schedule 5.

Table 3: 2020-2025 OM&A Trends

	2020 Test	2021 Actuals	2022 Actuals	2023 Bridge	2024 Bridge	2025 Test	2020-24 CAGR
OM&A ($M)	266.7[6]	277.5	280.4	301.5	325.5	343.0	**5.16%**
OM&A per Customer ($)	341.3	352.9	354.6	379.7	408.2	428.5	**4.66%**
OM&A per FTE ($)	201,892	230,673	228,524	230,680	222,488	224,036	**2.10%**

Over the next rate period, from 2025 to 2029, Toronto Hydro forecasts OM&A costs to increase at a CAGR of 3.89 percent with a corresponding growth in OM&A per customer of 3.54 percent and OM&A per FTE of 2.26 percent, as shown below in Table 4.

Table 4: 2025-2029 OM&A Trends

	2025 Forecast	2026 Forecast	2027 Forecast	2028 Forecast	2029 Forecast	2025-29 CAGR
OM&A ($M)	343.0	358.0	370.2	385.5	399.6	**3.89%**
OM&A per Customer ($)	428.5	445.6	459.3	476.7	492.6	**3.54%**
OM&A per FTE ($)	224,036	227,735	231,954	238,404	245,003	**2.26%**

The growth trends observed in Tables 3 and 4 above are subject to important considerations regarding workforce-related and customer-correlated costs.

[6] In EB-2018-0165, the OEB approved a 2020 OM&A budget of $272.2 million and directed Toronto Hydro to amend the presentation of shared services within Other Revenue, under USoA Accounts 4375 and 4380 for revenues and expenses of non-rate regulated utility operations. Normalized for this change, the 2020 OEB-approved OM&A budget was $266.7 million.

1.1.1 Workforce Related Costs

Despite workforce being a key driver of the OM&A plan, staffing-related costs (as measured by OM&A per FTE metrics) are growing at a lower rate than the overall plan. Over both rate periods, from 2020 through to 2029, the OM&A CAGR is 4.6 percent whereas OM&A per FTE CAGR is roughly 2.17 percent. Additionally, the OM&A per FTE growth rate over this period is lower than the rate of inflation, which averages at 3.5 percent using OEB parameters for 2021-2024 and a 2 percent outlook for 2025-2029, assuming a return to stable pre-pandemic inflation levels of 2 percent, consistent with the Bank of Canada's economic outlook.[7]

Toronto Hydro requires a custom rate funding solution to secure the human capital necessary to deliver the 2025-2029 investment plan safely and efficiently, maintain the high-service quality performance improvements achieved in the last decade,[8] and achieve other important outcomes that customers need and value such as improving the resilience of the grid.[9] Neither cutting compensation costs nor cutting headcount are viable strategies to manage these key objectives within a standard IRM funding framework. Managing workforce-related costs downwards to live within a standard IRM funding paradigm would entail a reduction to Toronto Hydro's overall staffing complement of up to 200 resources by the end of the rate period, putting total FTEs below 2015 levels. Since Toronto Hydro already has a demonstrably lean workforce compared to other distributors in the province, as evidenced by the benchmarking results in section 2, such a reduction to its staffing complement is not possible or prudent because it would put resourcing at precariously low levels and compromise the utility's performance with

[7] *Supra* note 5.
[8] Exhibit 1B, Tab 3, Schedule 2.
[9] Exhibit 1B, Tab 3, Schedule 1.

respect to a multitude of outcomes and risks that pose significant consequences for customers, as further detailed in sections 3 and 5.1 below.

Similarly, reducing compensation costs per employee is not a viable strategy to live within standard IRM funding for OM&A. The Mercer Compensation Benchmarking study at Exhibit 4, Tab 4, Schedule 5 and similar benchmarking studies filed in past rate applications show that Toronto Hydro's compensation strategy consistently yields costs (i.e. salary and wages) that are market-competitive at the 50th percentile within both the energy sector and general industry. A material reduction to compensation costs per employee, which would have to be implemented by effectively freezing salaries and wages over the 2025-2029 period, would put Toronto Hydro out of compliance with its collective agreement obligations and place the utility's compensation below market levels, compromising its ability to attract and retain the talent it needs to serve customers.

1.1.2 Customer-Correlated Costs

The other key observation to point out with respect to the cost per customer trends observed in Tables 3 and 4 above is that operating in Canada's densest and fastest (vertically) growing city, Toronto Hydro serves far more end-use customers through bulk-metering and competitive sub-metering arrangements than its actual customer count would otherwise indicate. Based on self-declarations submitted by multi-unit residential buildings for the purposes of Regulated Price Plan elections and the Ontario Electricity Rebate ("OER") program, Toronto Hydro estimates that it serves approximately 340,000 end-consumers or more behind bulk meters. As the sub-metering market has become more mature in Toronto over the last decade, a greater share of new multi-unit buildings

opt for bulk-metering service connections.[10] The practical effect of operating in this urban environment with a deregulated sub-metering market is a slower rate of formally reported customer growth from 2015 to 2029, which is putting artificial upward pressure on cost performance metrics like OM&A per customer, as shown in Figure 2 below.

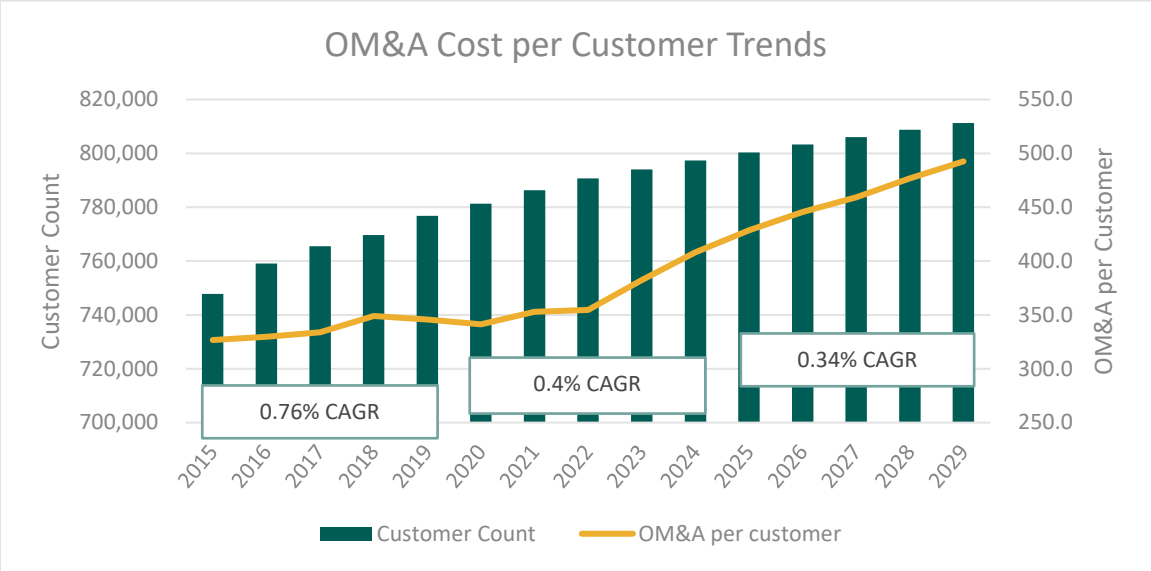


Figure 2: 2015-2029 OM&A Cost per Customer Trends

1.2 Service Quality and Performance Outcomes

Toronto Hydro's OM&A expenditures contribute to the achievement of the Renewed Regulatory Framework ("RRF") outcomes,[11] as measured by the Electricity Distributor Scorecard ("EDS") and Electricity Service Quality Requirements ("ESQRs") outlined in Exhibit 1B, Tab 3, Schedule 2. Each OM&A program enables outcomes that Toronto Hydro

[10] Toronto Hydro estimates that its market share for suite metering new multi-unit buildings is now approximately 30 percent, compared to approximately 70 percent in 2013.
[11] Renewed Regulatory Framework for Electricity Distributors: A Performance-Based Approach, (October 18, 2012), at page 57.

expects to be attained as a result of the proposed investment and are categorized into the four outcome categories under the RRF; namely, Customer Focus, Operational Effectiveness, Public Policy Responsiveness, and Financial Performance.[12] This approach underscores the customer value generated by the proposed OM&A programs.

Over the last decade, Toronto Hydro managed operational funding efficiently, as further discussed below, while delivering notable improvements in service quality and other performance metrics for its customers. For example, Toronto Hydro improved its performance on first contact resolution, a key measures of customer experience and satisfaction, from 77 percent in 2013 to 92 percent in 2022. Similarly, the utility improved connections-related performance, as measured by the metric New Residential and Small Business Services Connected on Time, from 94 percent in 2013 to 99 percent in 2022.[13]

Over the 2025-2029 rate period, Toronto Hydro intends to maintain these performance improvements and make targeted improvements in other areas such as: (i) strengthening protection against physical and digital security threats, (ii) improving efficiency outcomes through the use of non-wires solutions to avoid or defer the need for traditional capital investments, and (iii) strengthening resilience through proactive investments in modern grid technology as outlined in the Grid Modernization Strategy in Exhibit 2B, Section D5. These and other key performance objectives are outlined in Toronto Hydro's 2025-2029 Custom Scorecard in Exhibit 1B, Tab 3, Schedule 1.

[12] The outcomes listed in each program are directly connected to, and dependent on, the forecasted funding needs for the program. Any change in overall rates funding for the term of the plan would require Toronto Hydro to reforecast cost allocation to each program and re-examine the corresponding outcomes.
[13] Please refer to Exhibit 1B, Tab 3, Schedule 2 for more information about the utility's historical performance.

The OM&A programs detailed in Exhibit 4, Tab 2 work together with the capital programs outlined in Exhibit 2B, Section E to enable the achievement of the key performance commitments across four areas of performance in the 2025-2029 Custom Scorecard: (1) System Reliability and Resilience; (2) Customer Experience and Service; (3) Environment, Safety, and Governance; and (3) Efficiency and Financial Performance. Investments in operational programs as detailed herein and importantly, the resources that underpin these programs, are essential to meeting the performance targets outlined in Exhibit 1B, Tab 3, Schedule 1.

2. Productivity & Benchmarking

Using publicly available data,[14] the historical benchmarking analysis presented in this section demonstrates that Toronto Hydro (i) has a lean workforce compared to its Ontario peers and (ii) is a strong OM&A cost performer compared to other large and mid-sized distributors in the province.[15] Toronto Hydro's efficient OM&A and staffing cost management to date positions the utility well to address a growing need for investments in operations and resourcing without creating undue cost burdens and rate increases for customers in the next rate term.

2.1 OM&A Metrics

Figures 3 and 4 below compare OM&A expenditures against capital expenditures and system load (MWh), respectively, over the 2016 to 2022 period for Toronto Hydro and the identified distributor peer group. When comparing OM&A expenditures to capital

[14] Using publicly available data that utilities including Toronto Hydro reported to the OEB under the Electricity Reporting and Record Keeping Requirements ("RRR").

[15] The peer group consists of the large and mid-sized Ontario distributors: Hydro One, Hydro Ottawa, Alectra Utilities, Elexicon Energy, London Hydro, EnWin Utilities, and Enova Power. With the exception of Elexicon and Hydro One, these distributors serve the top 10 cities in Ontario (by population size). Hydro One was included in the peer group because it serves approximately 90 percent of the service territory in the province, and Elexicon Energy was included because it is the fourth largest municipally owned electricity distributor in the province.

expenditures (Figure 3), Toronto Hydro spends considerably less OM&A relative to capital in comparison to the peer group, in many years showing an OM&A-to-CAPEX ratio of less than half that of the peer group. Toronto Hydro's OM&A per MWh of load (Figure 4) is more comparable to that of other large distributors, but remains lower than that of the peer group for all years analyzed.

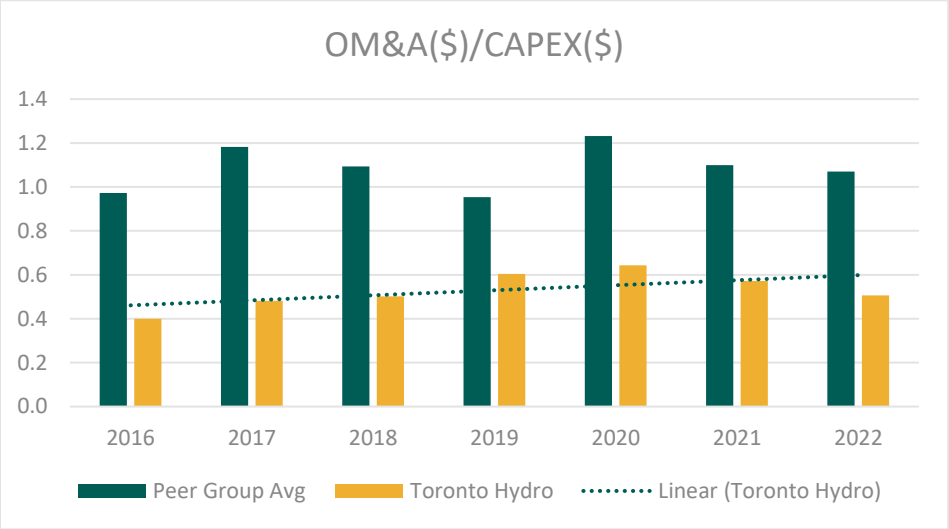


Figure 3: OM&A relative to Capital Expenditures

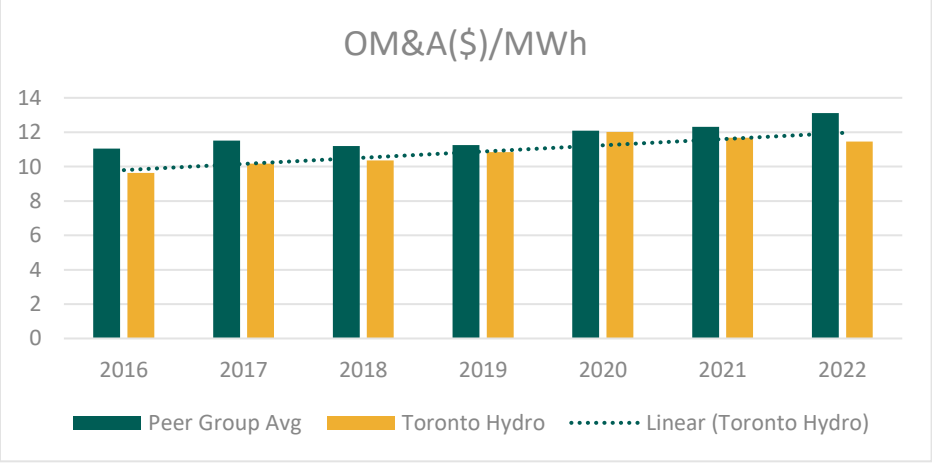


Figure 4: OM&A Expenditure per MWh of Load

2.2 FTE Metrics

Figures 5, 6, and 7 below compare total FTEs against capital expenditures, load (GWh), and circuit-km over the 2016 to 2022 period for Toronto Hydro and the identified distributor peer group. Toronto Hydro has a considerably lower FTE per $1 million in capital expenditures relative to the peer group, staffing an average of 2.86 FTE per $1 million in capital expenditure, compared to an average of 7.5 FTE for the peer group. Similarly, there is a noticeable gap between Toronto Hydro and the peer group with respect to the number of FTEs per GWh of load and per circuit-km.

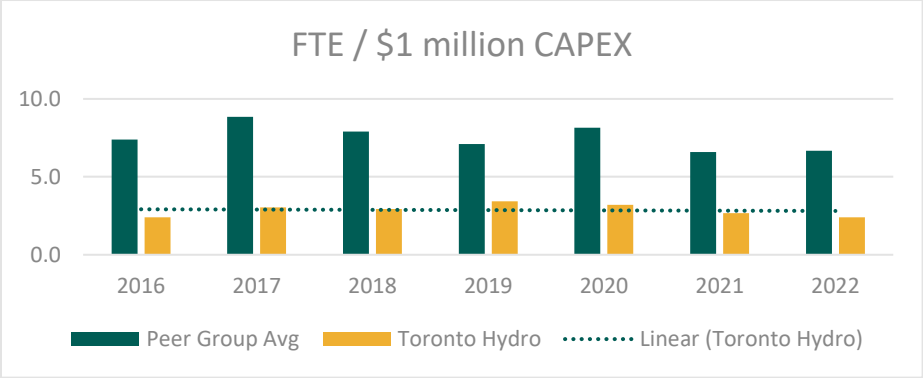


Figure 5: FTE per $1 million Capital Expenditures

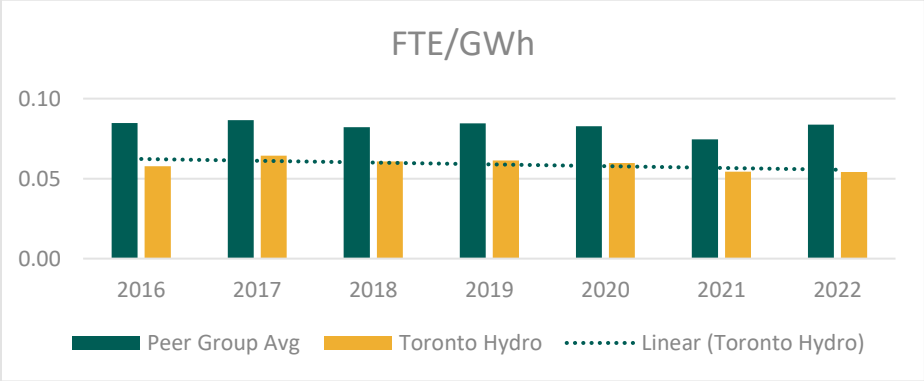


Figure 6: FTE per GWh of Load

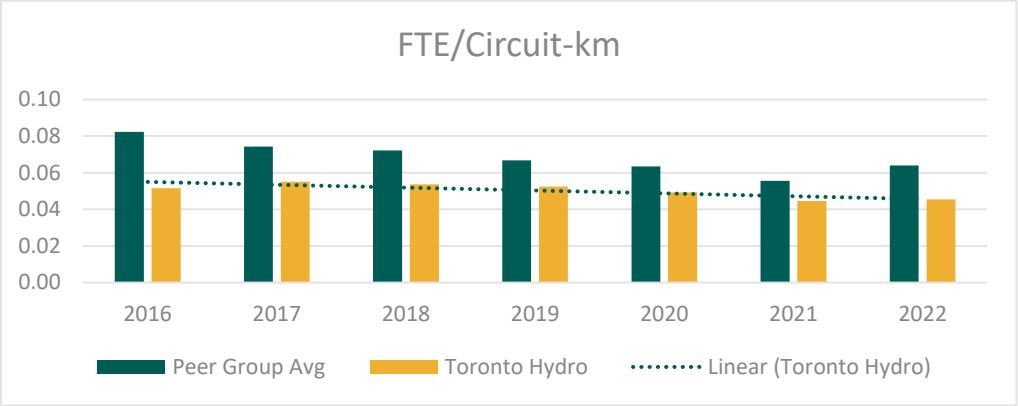


Figure 7: FTE per Circuit-Km

2.3 Customer Metrics

Figures 8, 9, and 10 below compare FTEs, OM&A expenditures, and MWh of load relative to customer count over the 2016 to 2022 period for Toronto Hydro and the identified distributor peer group. Subject to the practical caution articulated above in subsection 1.1.2, customer metrics provide another tool for assessing Toronto Hydro's performance against its peers. With respect to FTE per customer, Toronto Hydro's staffing is consistent with or better than the peer group. At first glance, Toronto Hydro appears slightly "behind" the average of other large Ontario distributors when examining OM&A per customer, but closer examination shows that Toronto Hydro requires more system capacity, more assets and hence more resources per customer than other large or mid-size distributors in Ontario. In part, this is driven by Toronto Hydro customers serviced behind bulk meters, which skews the evaluation of performance against customer count. Examination of MWh of load relative to customer count demonstrates this reality, with Toronto Hydro providing an average of 31.8 MWh per customer, approximately 35 percent more load per customer relative to the peer group multi-year average of 23.6 MWh.

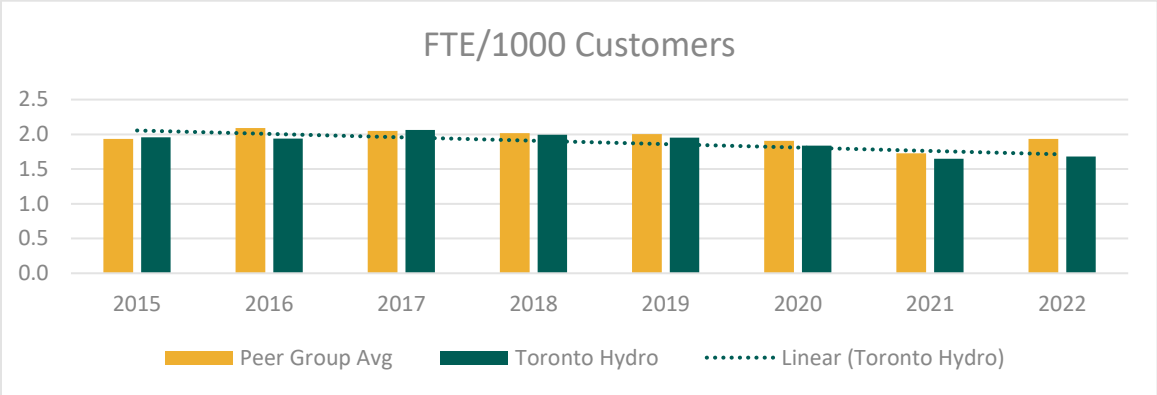


Figure 8: FTE per 1,000 Customers

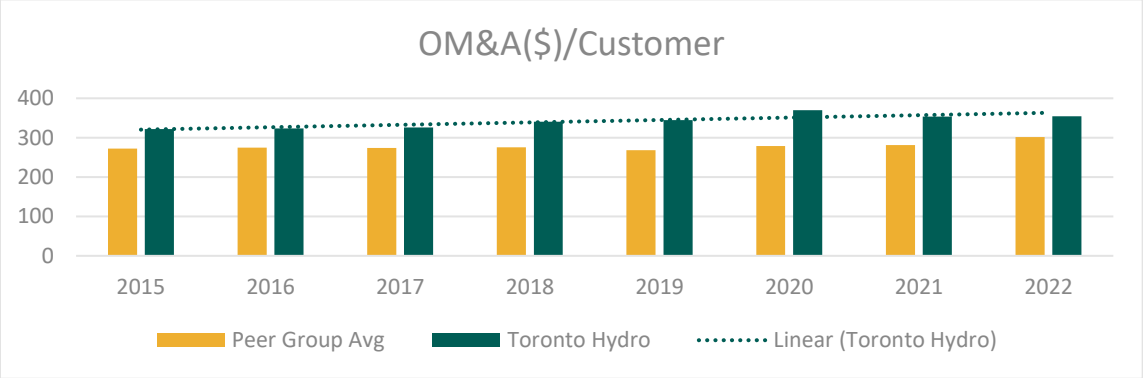


Figure 9: OM&A Expenditure per Customer

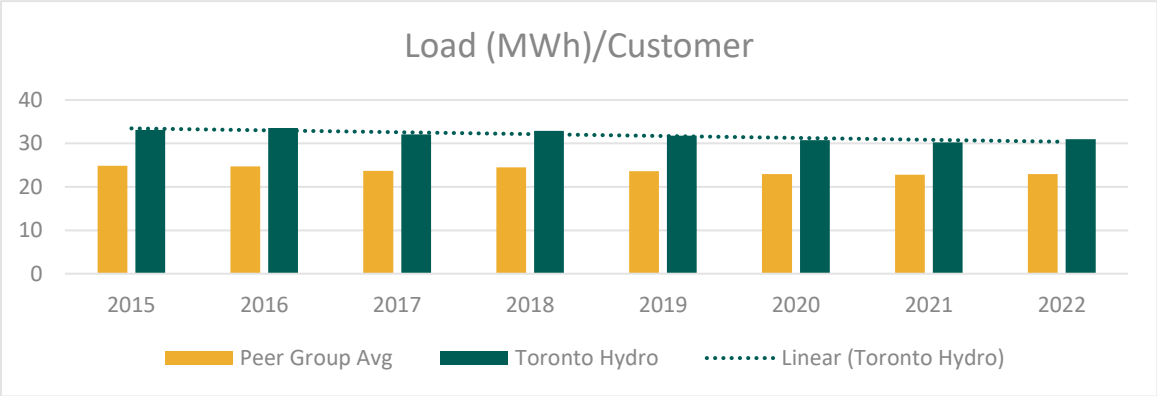


Figure 10: MWh of Load per Customer

3. WORKFORCE NEEDS AND CHALLENGES

With compensation costs representing a large portion of the utility's 2025-2029 OM&A budget, the need for resources and the ability to fund prudent costs to attract and retain those resources is the biggest driver of the multi-year OM&A need.

Figure 11 below shows the overall profile of Toronto Hydro's FTEs from 2015 to 2029, consistent with data provided in the current and previously filed iterations of Appendix 2-K, which excludes students as they are temporary resources.

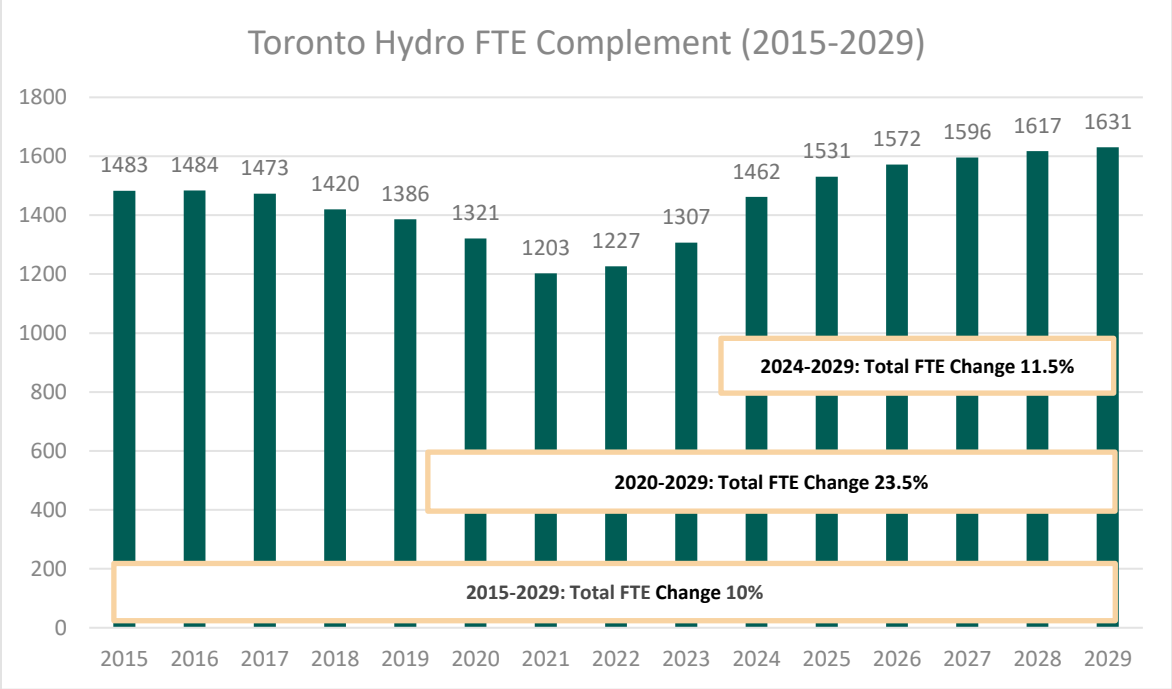


Figure 11: 2015-2029 FTE Complement (Appendix 2-K)

From 2015 to 2029 Toronto Hydro expects total FTEs to increase by 10 percent. This FTE count overlays a period of time in which Toronto Hydro's annual capital expenditure plan is growing by roughly 70 percent, while the customer count is expected to grow by approximately 8.5 percent, including the addition of larger and more complex customers

such as data centres and transit systems. A growing customer base and expanding capital program both place constraints on staff resources, with distinct tasks increasing in volume as the utility serves more (and larger) customers and executes more individual capital projects.

In the 2020-2024 rate application (EB-2018-0165), Toronto Hydro brought forth a workforce plan that was responsive to the circumstances of the day, being a more stable and linear operating environment. Despite significant disruption caused by the COVID-19 pandemic, the utility expects to successfully implement its resource plan over the current rate period. However, fundamental shifts have taken place since EB-2018-0165 which have material implications for Ontario's energy sector and Toronto Hydro's business, and require responsive action over the 2025-2029 rate period.

As the worst of the COVID-19 pandemic subsided, customers, governments, and markets began to coalesce around a need to accelerate the energy transition to mitigate the existential and economic impacts of climate change. Fueled by technology trends including the declining cost of solar photovoltaic and battery technologies, government policies encouraging climate action, and financial markets driving a greater focus on ESG imperatives, customer needs and expectation for electricity are rapidly evolving. As customers electrify previously non-electric energy uses (e.g. transportation, heating) and increase participation in clean energy production and management, these actions will have fundamental long-term implications for Toronto Hydro and its system, including—but not limited to—being ready to serve a future demand for electricity that is expected to roughly double over the next two decades.[16]

[16] As shown in the Future Energy Scenarios report filed at Exhibit 2B, Section D4, Appendices A and B.

Given its fundamental obligation to connect customers who want to access the distribution grid, Toronto Hydro cannot enter this period of significant change unprepared to handle increased demand and consumption, bi-directional power flows, increased societal reliance on electricity, and enhanced customer expectations that naturally flow from these evolutions. Due to the long lead time required for investment in both grid and human capital, to meet these needs Toronto Hydro must begin work today to be prepared for an accelerated energy transition in the next decade.

Toronto Hydro's response to changing circumstances began in earnest in 2022 after COVID-19 related disruptions in 2020 and 2021 brought its staffing contingent to a low point of 1,203 FTEs in 2021. As seen in the Employee Costs and Compensation Table (Appendix 2-K) filed in Exhibit 4, Tab 4, Schedule 2, from 2022 through 2023 Toronto Hydro has been primarily "catching up" to the staffing levels projected in the 2020-2024 rate application. Yet, because the external environment has changed, these catch-up efforts are also a foundational step towards a future-ready plan that includes investments in resourcing capacity (headcount) and capabilities (enhanced skills) that are necessary to deliver the 2025-2029 DSP and key outcomes outlined in Exhibit 1B, Tab 3, Schedule 1.

As Toronto Hydro prepares to enter its next rate period, staffing levels are forecasted to grow by 25 percent over the 2024 through 2029 period. Due to the necessity of long lead time investments in human capital (see below), this growth is higher in the beginning years and more gradual over the rest of the period, focused on scaling teams that require additional resources and expanded skills to plan, design and execute capital and operations work programs.

Just as it takes years to build new transformer station or convert an area of the city served by legacy infrastructure to modern standards, human capital investments require long lead times, with the average employee undergoing two years training and development before becoming a fully competent contributor due to the specialized nature of the skills and experience required to work in this sector. For certain trades, it takes anywhere from four and a half to six and a half years to train a new certified and skilled tradesperson, plus a minimum additional one to two years to develop a new frontline leader post-apprenticeship.

Toronto Hydro often hires capable, but relatively inexperienced employees, with the intention to develop them in-house through on-the-job training and mentoring by tenured staff who can ensure effective knowledge and skill transfer to the next generation of employees. Combining this practice with continued pace of baby-boomer retirements, Toronto Hydro's workforce has an average age of 40, having declined by 14 percent over the last decade.

A key part of Toronto Hydro's talent strategy is a trade school for field trades such as Power Line Technicians and Distribution System Technologists to develop them from apprentices to journeypersons. This talent strategy is fuelled by partnerships with colleges and universities for direct recruiting and collaborative curriculum building. The relationships with academic institutions extend to other areas of technical expertise, including engineers, engineering technologists and technicians, computer systems developers and programmers, software developers and programmers, cyber security specialists, database analysts, data administrators, accountants, lawyers, and human resources ("HR") professionals. The utility's development program ensures it has both a strong workforce today and a healthy pipeline of talent for the future.

An expanded workforce means that compensation costs must also increase to keep pace. From 2024 to 2029, as the utility's workforce grows by approximately 11.5 percent, total compensation expenses are expected to increase by compound annual growth rate of 6.9 percent. Total cash compensation per FTE is forecast to increase at rate of 3.7 percent over the 2020 to 2029 period, consistent with economic assumptions in section 4.2.6 and in the Compensation evidence.[17] The Mercer compensation benchmarking study filed at Exhibit 4, Tab 4, Schedule 5 and similar benchmarking studies filed in past rate applications affirm that Toronto Hydro's compensation philosophy continues to deliver good value for the utility and its customers, concluding that Toronto Hydro's total compensation is positioned within a market competitive median.

4. Business Planning

This section describes Toronto Hydro's business planning process to arrive at the operational plan summarized in this schedule and detailed throughout Exhibit 4.

4.1 Planning Process

Toronto Hydro leveraged its established integrated business planning process to produce a 2023-2029 operational plan that enables the delivery and complements the priorities and outcomes of the capital plan, while maintaining the safety and reliability of the distribution system, enabling non-wires solutions, enhancing customer experience in accordance with broader societal trends, keeping the utility abreast of all applicable policy, legislative, and regulatory developments, and equipping support functions with the tools and resources required to enable these outcomes.

[17] For more information about Compensation costs please refer to Exhibit 4, Tab 4, Schedule 4.

As discussed in Exhibit 2B, Section E2, Toronto Hydro began its business planning process in 2022 by obtaining feedback about customers' needs and priorities with respect to the 2025-2029 planning period (Phase 1 Customer Engagement).[18] Customers expressed that price, reliability, and investing in new technology are their top priorities, with reliability increasing in relative importance compared to previous engagements. Customers also expressed that they expect Toronto Hydro to invest in system capacity to ensure that growth does not decrease reliability and to support their electrification objectives. This feedback enabled Toronto Hydro to develop a capital plan organized around four investment priorities: 1) Sustainment and Stewardship; 2) Modernization; 3) Growth; and 4) General Plant.

The utility used customer feedback, along with other business and technical inputs such as asset health demographics, system constraints, safety and environmental risk assessments, business conditions and risks, legislative and regulatory requirements, cost inputs for materials, and labour and external services, to produce the capital and system maintenance plans through the Investment Planning and Portfolio Reporting ("IPPR") process described in Exhibit 2B, Sections D1 and D3.

Following the development of the capital and maintenance plan, the utility determined the workforce complement, external services, equipment, materials, and other operational resources that it will need to execute the capital plan and keep up with growing customer requirements, changing technologies, and evolving policy expectations. Through a series of iterative engagements between operational leaders, system planners, and specialists from support services such as Finance and Human

[18] For more detailed information about the Customer Engagement process that Toronto Hydro followed, please refer to Exhibit 1B, Tab 5, Schedule 1.

Resources, Toronto Hydro produced an operational plan (inclusive of workforce requirements) that was integrated with the capital and maintenance plans.

As further detailed in Exhibit 2B, Section E2, to guide the development of the plan in a way that balances price and service quality outcomes, Toronto Hydro set a strategic planning direction which included a price limit of 7 percent per year on the average annual distribution rate increase for residential customers. This price limit translated into an upper budget limit of $1.9 billion for the operational plan over the 2025-2029 rate period.

Various iterations and refinements took place over the course of planning process, as leaders across the organization worked cross-functionally to align, optimize, and stress-test capital and operational expenditure levels to ensure compatibility between objectives and strike balance between price and service quality outcomes. These engagements produced a multi-year workforce plan which aims to ensure that Toronto Hydro has the necessary capacity (headcount) and capabilities (skillsets) to execute the investment plan.

Once a draft plan was produced that aligned with the strategic planning direction, Toronto Hydro took the draft plan back to customers for feedback via a comprehensive customer engagement process (Phase 2), whereby customers provided input on seven key investment options, by indicating their preferences on whether to increase, maintain, or reduce the pace of investment, and the specific trade-offs between price and other outcomes for each area. The utility used the results of the Phase 2 Customer Engagement, as well as other salient information such as 2022 year-end actual data, to finalize the capital and operational plans. The assumptions underpinning the operational plan,

including the headcount plan, were refined alongside the capital plan, resulting in the $1,856 million OM&A plan summarized in this schedule and detailed in Exhibit 4, Tab 2.

4.2 Planning Inputs

Toronto Hydro relied on a broad variety of inputs to ensure that its operational plan aligns and supports the priorities of the capital plan, and delivers customer-valued outcomes, while prudently controlling costs. In producing the operational plan, the utility applied an inflationary increase approach to existing budgets and then layered on incremental requirements and priorities derived from the planning inputs summarized below.

4.2.1 Customer Needs and Priorities

Toronto Hydro's operational plan for the 2025-2029 rate period was informed by extensive application-specific, as well as ongoing customer engagement activities undertaken in the normal course of business. As discussed briefly in section 4.1 above and in greater detail in Exhibit 1B, Tab 5, Schedule 1, the utility undertook a two-phase application-specific customer engagement to learn about customers' needs and priorities to build a draft plan that is responsive to those needs and priorities, and obtain customer feedback on the draft plan across key investment areas. The plan is also informed by extensive ongoing customer and stakeholder engagement activities undertaken in the normal course of business as part of the utility's robust and sophisticated customer research and response model, as described below in section 3 of Exhibit 1B, Tab 5, Schedule 1.

Ongoing and application-specific research reveals that customer behaviour and attitudes are evolving, and there is a shift in terms of customers needs and priorities. These include:

- Reliability and investment in new technology have become increasingly important to customers, and are almost on par with price.
- Customers are looking for information to improve their understanding of climate change, decarbonization and electrification, as well as an understanding of Toronto Hydro's role in these initiatives, while at the same time looking for opportunities to reduce their overall energy costs.
- Many customers have strong expectations for Toronto Hydro to commit to environmental initiatives and lessen environmental impact.
- Customers have evolving communication preferences – email is the preferred method of contact for all communications and younger Torontonians, in particular, have above-average preference for SMS communications.
- Customers have shown more concern for the future of the electricity system and the grid than in past years.

As key sectors of the economy shift towards electrification, the volume and complexity of customer needs and inquiries are expected to increase. Toronto Hydro's customer response model is becoming more efficient at understanding and responding to customer requirements quickly, and improving customers' self-service experience through the introduction of various self-service tools (such as an improved online self-service portal and a new mobile application). Yet, the utility needs more resources with the necessary knowledge and skills to maintain an agile and robust customer research and response model as the energy transition unfolds. The 2025-2029 operational plan reflects Toronto Hydro's drive to meet these needs in the next rate period and beyond.

4.2.2 Asset Maintenance Requirements

Toronto Hydro determines asset maintenance requirements, including system response and customer-driven work activities, through its annual Investment Planning and Portfolio Reporting ("IPPR") process, detailed in Exhibit 2B, Sections D1 and D3 whereby the utility: (i) establishes asset management policies, goals, and objectives, as informed by corporate strategies and customer needs, expectations, and feedback; (ii) assesses the current state of assets based on asset demographics and condition; (iii) identifies the required expenditure levels to manage risk and achieve intended outcomes; and (iv) tracks execution status and expenditures to inform future projects.

Toronto Hydro also considers asset management and maintenance considerations for general plant infrastructure, namely vehicle fleet, facilities, and IT assets and systems, which serve as the backbone for all capital and operational programs. The safe, reliable, and efficient operation of these assets is crucial to Toronto Hydro's successful and cost-effective delivery of the outcomes expected by customers and mandated by the OEB, and the protection of the distribution grid from physical and digital threats.

4.2.3 Workforce Requirements

Toronto Hydro's leaders identified the workforce needs to execute work in their programs in terms of both capacity (i.e. headcount) and capabilities (i.e. skillsets). This included consideration of Toronto Hydro's hiring plans that were already in place but had been delayed in implementation due to the COVID-19 pandemic. In this regard the utility prioritized resourcing in a number of key areas of the plan, which are discussed in further detail in section 5.1. These areas include:

- Resources to support modernization objectives across a number of portfolios, including System Planning, Control Centre, and Information Technology.

- Staff in customer-interfacing functions such as Customer Connections, Key Accounts, Customer Care, and Community and Public Relations to align with growing volumes of work and increasing service expectations in these portfolios.
- Skilled trades, and technical and other resources in work program execution-related functions to enable the delivery of a larger capital program, including back-end support functions such as Supply Chain, Finance, and Legal Services.

4.2.4 Legislative and Regulatory Obligations

The 2020-2024 rate period saw a significant increase in the volume of legislative and regulatory requirements and policy engagements emanating from the Government of Ontario, the OEB, and the IESO. Examples include major infrastructure policy initiatives embodied in legislation such as the *Building Transit Faster Act, 2020*, the *Building Broadband Faster Act, 2021*, and the revised *Ontario Underground Infrastructure Notification System Act, 2012*, consumer-oriented initiatives such as the Ultra Low Overnight TOU rate[19] or Green Button,[20] and 10 rounds of amendments to OEB codes and 28 OEB Staff Bulletins to give effect to these and other requirements. Examples of policy engagements include the Framework for Energy Innovation, the Reliability and Power Quality Review, Electric Vehicle Integration, and Distribution Sector Resilience, Responsiveness & Cost Efficiency.[21] These requirements and engagements have added to volumes of work for both Toronto Hydro's legal and regulatory professionals and operational business units implementing the relevant outcomes, generating additional business processes that will last into the 2025-2029 rate period.

[19] Ontario Regulation 633/21 under the *Electricity Act, 1998* SO 1998 c. 15, Sched A.
[20] Ontario Regulation. 95/05 under the *Ontario Energy Board Act, 1998* SO 1998 c. 15, Sched B.
[21] EB-2021-0118, EB-2021-0307, EB-2023-0071, and EB-2023-0003, respectively.

4.2.5 Internal and External Benchmarking

Toronto Hydro also relied on comparative analyses, as detailed in section 2 above, and expert benchmarking studies to situate the utility's historical performance and future expenditure plans with comparable peers across various jurisdiction and operational areas. These studies are summarized in Exhibit 1B, Tab 3, Schedule 3.

4.2.6 Economic Assumptions

Toronto Hydro used both general and specific cost and economic assumptions in its forecast of 2025-2029 OM&A costs. In preparing its 2023 to 2029 forecasts, Toronto Hydro considered, and the forecasts reflect, the following inputs: (i) Toronto Hydro's obligations under collective agreements, (ii) relevant labour market data (where available),[22] and (iii) the utility's projections of outcomes of future rounds of collective bargaining that will take place throughout the forecast period. More specifically, in the absence of objective market indicators to forecast compensation increases over the 2025-2029 forecast period, the utility (in consultation with its compensation expert Mercer Canada and based on experience) relied on a historical rolling-average (in addition to the factors noted above) as the best information available to predict reasonable future compensation levels. For more information on compensation costs, see Exhibit 4, Tab 4, Schedules 2 and 4. Otherwise, a general inflation factor of 2.0 percent was applied, consistent with the Bank of Canada's economic outlook to return the economy to stable inflation by 2025.[23]

[22] For example, the results of Mercer Canada's *August 2023 QuickPulse™ Canada Compensation Planning Survey* show total salary increases of 3.7 percent, online: <https://www.imercer.com/ca/ARTICLEDETAIL/annual-increase-budget-canada>

[23] *Supra* note 5.

5. KEY DRIVERS

5.1 Staffing

As further described below, the execution of increased volumes of work is a key driver of the workforce requirements across a number of functions and roles within the utility's operations, which are summarized herein and further detailed in the underlying programmatic evidence. The challenge of increasing volumes of work is further compounded by more complex workloads. Priorities such as grid modernization, increased receipt and use of data, pursuit of non-wires solutions to defer or displace the need for traditional infrastructure, intensifying cyber security threats, and increased connection and management of distributed energy resources, all add to the complexity of work completed by Toronto Hydro staff. Some of these developments have created situations of incremental workload for Toronto Hydro staff relative to historical status quo, while others have increased the complexity of existing tasks. These workloads ultimately produce better outcomes for customers through provision of safe and reliable service, while relying on a more intelligent grid with enhanced capabilities to manage outages and handle two-way power flows.

Figure 12 below highlights material areas of growth in Toronto Hydro's workforce plan, with implications for OM&A funding required over the 2025 to 2029 rate period. The sections that follow address each of these areas, articulating the specific workload requirements that drive the need for incremental staffing.

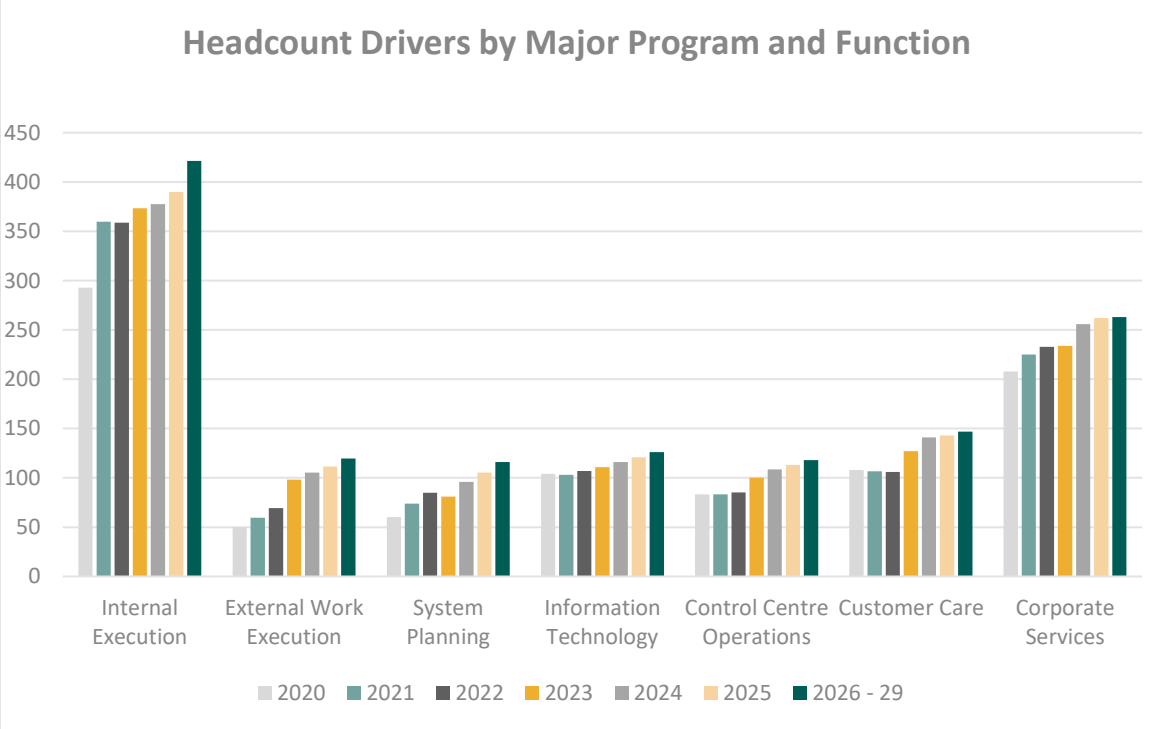


Figure 12: 2020-2029 Headcount Drivers by Major Program and Functions[24]

The key areas of investment in incremental resources are summarized as follows:

- **Internal Work Execution**: Increases to the complement of Certified and Skilled Trades critical to the execution of Toronto Hydro's capital and operations programs, including the utility's Grid Modernization Strategy, at a pace that allows for the extended lead-time required to safely train new workforce entrants.
- **External Work Execution**: Increases to the number of contract managers and project management staff to ensure the utility is able to effectively manage external contractors as the capital program grows.

[24] Figure 12 is aligned with Appendix 2-K (Exhibit 3, Tab 4, Schedule 2) in that it excludes students, which are temporary resources.

- **System Planning:** This segment is driven by the amount of capital (system access, renewal, and service) and maintenance work, and associated scopes of work that must be developed. Additional resources are required to analyze distribution system performance and needs, develop the utility's asset management strategy, develop the utility's grid modernization plan, manage record keeping and develop the DSP and scopes of work for executing the DSP.
- **Control Centre Operations:** As more distribution assets and DERs are connected to Toronto Hydro's grid and the utility modernizes system operation through the implementation of advanced grid management systems and more sophisticated data analysis and automation, this program will require more staff, both to handle increasing volumes of work and acquire specialized skills and knowledge made necessary by the evolution of Control Centre operations to support the Grid Modernization Strategy and Non-Wires Solutions program.
- **Information Technology**: The utility will need a robust staffing complement to effectively manage core business IT processes, as well as cyber security enhancements, cloud implementation, and major IT projects.
- **Customer Care:** Additional workers skilled in data analytics are required to enable the utility to respond to more complex customer inquiries, implement and optimize automated call centre quality management, powered by artificial intelligence and machine learning technologies, as well as gain insights on customer behaviour in interacting with the increasing number of communication channels (e.g. live chat and mobile application).
- **Corporate Services:** Financial professionals administering the utility's financial and accounting records and process will need to keep pace with the increasing volume of work; Higher work volumes (such as offers to connect), evolving legal, regulatory and policy requirements and changing business conditions necessitate

highly-skilled and experienced staff to address legal, regulatory and public affairs matters; and the utility's talent acquisition, management, and retention services, compensation, and performance management frameworks will need to oversee the human resources needed to execute Toronto Hydro's investment plan.

5.1.1 External Work Execution

As further described in Exhibit 4, Tab 2, Schedule 10, the External Work Execution segment administers and oversees capital and maintenance work performed by external contractors and is the primary point of contact between Toronto Hydro and external contractors. The tasks completed by this group include evaluating and administering competitive tenders for contractor services, providing oversight of the resulting contracts, and administering support of the specific projects assigned to external contractor crews, such as: job package development and issuance; liaising with system planners to address specific design matters; field issues management; liaising with customers directly and through the community relations team; ordering materials; facilitating changing of project scopes; monitoring contractor safety practices; invoicing and receipting; and inspection of newly constructed assets.

Given the nature of the workload completed by the External Work Execution segment, Toronto Hydro must increase the number of contract managers and project management staff to ensure the utility is able to effectively manage external contractors as the capital program grows. From the end of 2022 to 2029, Toronto Hydro intends to increase resourcing in this area by 74 percent from 69 to 120 staff. In Toronto Hydro's experience, an appropriate resource level has each manager, with a supporting analyst, executing approximately $11 to 13 million in capital projects annually. As shown in Figure 12, Toronto Hydro's plan ensures sufficient resources to support these execution levels.

If Toronto Hydro were forced to deliver this segment with a reduced level of funding over the 2025-2029 rate period, the utility would face execution risks due to a smaller contingent of frontline managers, analysts, and other staff being required to manage a larger capital portfolio per employee; allowing staff significantly less capacity to tend to the needs of each individual project relative to best practice and historical norms. These execution risks include a slower pace of work, compromises from quality and less time for internal coordination across projects.

A decrease in External Work Execution resources would slow the pace of execution, jeopardizing the completion of required and planned capital projects. Reduction in the number of projects being executed in a given year would put renewal of assets and upgrade or expansion of the distribution system at risk. This would introduce the risk of reduced reliability due to aged assets or the inability for customers (residential and business) to expand as needed to accommodate growth and/or energy conversion for climate action purposes. A decrease in resources may also result in less time available per project. This could lead to less capacity to ensure best practices are followed, and may compromise customer experience in terms of reliability. As well, strained resources and time per projects can lead to reduced time for internal coordination across projects, with less consideration for efficiencies in terms of optimal construction window or calendarization which can lead to lost opportunities for project cost reduction. For example, field manager understaffing may result in inadequate field quality assurance/control during pre-construction. Field managers assist project execution managers with field “walk-downs” prior to construction. Not being able to undertake these may lead to unnecessary delays during construction that could have been identified earlier by a field manager that has years of “hands-on” experience.

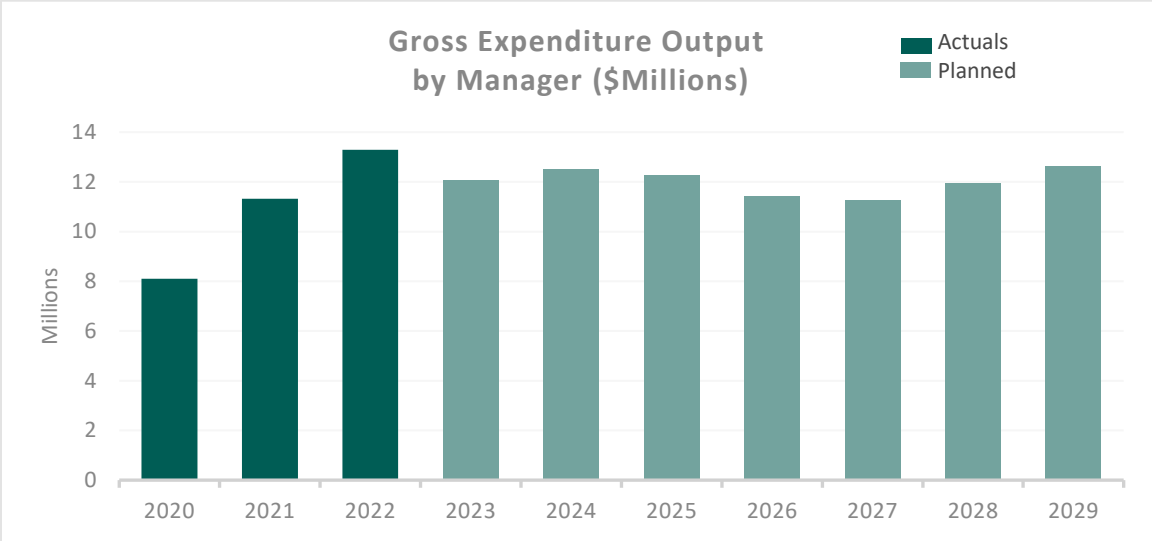


Figure 13: Gross Expenditure Output by Manager ($ Millions)

5.1.2 Internal Work Execution

The Internal Work Execution segment, as described in Exhibit 4, Tab 2, Schedule 10, captures the non-capitalized expenditures associated with work performed by Toronto Hydro's skilled trades' apprentices, including the training costs associated with the utility's trade school which is further described in Exhibit 4, Tab 4, Schedule X. Certified and skilled trades are critical resources in the execution of Toronto Hydro's capital and maintenance programs. Over time, Toronto Hydro has strengthened the workforce to prepare for retirements and unplanned exits as necessary, and allow for the extended lead-time required to safely train new workforce entrants, considering that apprentice programs run from four and a half to six and half years in length. From the end of 2022 to 2029, Toronto Hydro intends to increase resourcing in this area by 17 percent from 360 to 421 staff.

A steady complement of certified and skilled trades is critical to the execution of Toronto Hydro's capital and operations programs. One of the key areas that certified and skilled

Trades will support is Toronto Hydro's Grid Modernization Strategy (Exhibit 2B, Section D5). This strategy addresses emerging challenges and opportunities arising from electrification, distributed energy resource proliferation, and worsening climate change in a manner that leans first and foremost into the deployment of proven technologies (e.g. reclosers, switches, smart meters, analytics), which will deliver benefits to customers in the near-term (e.g. improved reliability), while laying the foundation for more advanced use cases that will be required in 2030 and beyond. Distribution System Technologists—who operate, install, commission, construct, repair, maintain, and decommission all types of, protective relay and control systems, distribution automation equipment, and SCADA systems—are key to implementing the Grid Modernization Strategy as the equipment and systems installed and maintained by these resources are key components and enablers of the Intelligent Grid that lies at the heart of this strategy.

If Toronto Hydro were forced to scale back this program to manage within a reduced level of funding over the 2025-2029 rate period, the utility would face a decreased ability to meet legislated training targets, thereby becoming exposed to unnecessary safety and legal risks. Furthermore, reduced investment in the certified and skilled trades enabled by this program would results in notable execution risks with respect to the capital and maintenance plans detailed in this application and beyond, due to lack of support and decrease in recruitment of skilled tradespeople.

5.1.3 System Planning

The System Planning segment (Exhibit 4, Tab 2, Schedule 9) enables Toronto Hydro to analyze distribution system performance and needs, develop the utility's asset management strategy, develop the utility's grid modernization plan, develop the DSP and scopes of work for executing the DSP, and manage record keeping. Toronto Hydro

intends to increase resources in this area to by 37 percent from 85 to 116 staff between the end of 2022 and 2029. The System Planning segment is driven by the volumes of distribution system capital and maintenance work that the utility needs to plan and design, and associated scopes of work that must be developed. Growth and electrification, system studies and development planning need, and distributed energy resource ("DER") connections will require incremental studies, forecasts, and planning, and the deployment of Intelligent Grid, Energy Storage technologies, and Non-Wires Solutions.

The work done through the System Planning segment is divided into four functional areas:

- **The Investment Planning function** undertakes analytical work related to reliability, asset condition assessments, and risk assessment (e.g. environment, safety, customer, and legal claims). This work forms the basis of the development of Toronto Hydro's DSP presented in Exhibit 2B.
- **The Capacity Planning and Grid Innovation function** is responsible for planning the distribution system's future load requirements driven by customer growth and the requisite connection capacity to accommodate current and forecasted levels of DERs, as well as identifying opportunities for adopting non-wires solutions.
- **The Integrated Planning and Grid Modernization function** is responsible for facilitating the development, integration, and strategic oversight of Toronto Hydro's long-term Grid Modernization Strategy, in addition to providing market intelligence and strategic forecasting of future electricity system needs and opportunities, and change management support capacity to help accelerate innovation initiatives.

- **The Records Management function** involves the maintenance and upkeep of digital records of Toronto Hydro's distribution system. The utility must maintain up-to-date records to enable efficient and effective system planning and operations.

If Toronto Hydro were forced to deliver the System Planning segment with a reduced level of funding over the 2025-2029 rate period, the utility could face compliance risks and inefficiencies, including ineffective system planning, inability to manage risks around growth and electrification, failing to maximize benefits of new technologies connected to modernization initiatives, and significant safety and reliability risks if records and data updates are not synchronized with equipment or system configuration changes.

5.1.4 Control Centre Operations

The Control Centre Operations program (Exhibit 4, Tab 2, Schedule 7) facilitates the safe and reliable operation of the utility's distribution grid through real-time system control and monitoring activities and coordinates system switching and restoration work through the utility's Control Centre to mitigate the effects of outages on customers and enable safe load transfers for capital and maintenance work. The program also plays a critical role in the integration of both customer-owned and utility-owned DERs into Toronto Hydro's distribution system, the significance of which will only increase over the 2025-2029 period, as the energy transition takes hold and the utility's Non-Wires Solutions program expands.[25] The Control Centre is also one of the key executors and enablers of Toronto Hydro's Grid Modernization Strategy[26]—as the utility adds more distribution assets and modernizes its system operations through more sophisticated data analysis

[25] Exhibit 2B, Section E7.2.
[26] Exhibit 2B, Section D5.

and automation, this program will require more staff both to handle increasing volumes of work and acquire specialized skills and knowledge, made necessary by technologies the utility plans to implement in the 2025-2029 rate period such as Network Condition Monitoring & Control,[27] Advanced Metering Infrastructure 2.0,[28] Fault Location, Isolation, and Service Restoration,[29] and the Advanced Distribution Management System.[30]

Toronto Hydro intends to increase resources in this area to by 39 percent from 85 to 118 staff between the end of 2022 and 2029. The Control Centre program's staffing needs is driven by a variety of tasks and business processes such as the volumes of new distribution system operation assets installed in the grid, growth in the volume of DER connections, incremental and more complex system data modelling requirements, and support for the implementation of IT/OT infrastructure projects and internal and external planning and policy engagements.

For example, as shown in Table 5 below, the number of assets connected to Toronto Hydro's Supervisory Control and Data Acquisition ("SCADA") system is going to increase significantly—by over tenfold in some cases—over the 2025-2029 rate period as part of the investments under the Contingency Enhancement segment of the System Enhancements program.[31]

Table 5: SCADA-connected Assets

Asset Type	2020-2024	2025-2029
Switches	33	299
Reclosers	49	220

[27] Exhibit 2B, Section E7.3.
[28] Exhibit 2B, Section E5.4.
[29] Exhibit 2B, Section D5.
[30] Exhibit 2B, Section E8.4, Appendix A.
[31] Exhibit 2B, Section E7.1.

Asset Type	2020-2024	2025-2029
Feeders for Distribution Automation	15	63

Similarly, growth in the volume of DERs driven by both Toronto Hydro and its customers more broadly will increase the workload of the Control Centre Operations program. By 2029, the expansion of the Non-Wires Solutions program will require the Energy Centre function of the Control Centre to support the procurement of up to 30 MW of capacity under the Flexibility Services initiative (compared to 10 MW in the 2020-2024 period) and manage the operation of nine Toronto Hydro-owned battery energy storage systems ("BESS") (compared to only one in the 2020-2024 period).[32]

In addition, the utility forecasts total DERs installed on the grid to increase by approximately 67 percent from 2023 to 2029,[33] which is driving investments in the Generation Protection, Monitoring and Control program.[34] Each additional device installed in the system pursuant to these programs requires oversight from Control Centre Operations personnel for: 1) commissioning and testing in the field to reliably communicate with the SCADA system, and 2) daily operations and troubleshooting (e.g. responding to alarms or asset management tasks). Headcount increases in this area are essential to enabling the utility to safely and reliably accommodate these utility- and customer-driven changes to its grid.

Technological advancements and the modernization of system operation tools is another area that will require the Control Centre Operations program to upskill and enhance its workforce. For example, the advanced applications that Toronto Hydro will adopt as part

[32] Exhibit 2B, Section E7.2.
[33] Exhibit 2B, Section E3 at page 3.
[34] Exhibit 2B, Section E5.5.

of the Advanced Distribution Management System ("ADMS") Upgrade will require the utility to significantly improve data modelling in the Network Management System ("NMS") to enable the self-healing grid and other automation functions through modernization projects such as Fault Location, Isolation, and Service Restoration ("FLISR").[35] This is because the operation of FLISR will depend on not only traditional types of data relating to connectivity attributes of distribution equipment, but also engineering attributes, such as device limits, impedances, and power transformer data, representing an increase in data point types from 13 to 36. Adequate staffing for the Control Centre Operations program to gather these additional types of data and input them into modelling systems will be essential for the successful and timely implementation and daily operation of modernization initiatives such as FLISR.

Finally, Control Centre Operations staff act as subject matter experts for a number of internal and external activities. Internally, program staff support investments in cellular SCADA upgrades under the Communication Infrastructure segment of the Information Technology and Operational Technology ("IT/OT") Systems program, where the expertise of Control Centre operators is crucial to the timely and reliable completion of critical infrastructure upgrades.[36] Externally, Control Centre Operations staff support Toronto Hydro's participation in industry forums and working groups such as the Electric Power Research Institute ("EPRI") Distribution Operations & Planning Group,[37] and the IESO's Transmission-Distribution Coordination Working Group.[38] The operational expertise that Control Centre operators bring to these engagements benefits both Toronto Hydro, by enabling the utility to expand its knowledge of the industry through connections with

[35] Exhibit 2B, Section E8.4, Appendix A.
[36] Exhibit 2B, Section E8.4.
[37] EPRI, *Distribution Operations and Planning,* online: <https://www.epri.com/portfolio/programs/108271> .
[38] IESO, *Transmission-Distribution Coordination Working Group* online: <https://www.ieso.ca/en/Sector-Participants/Engagement-Initiatives/Engagements/Transmission-Distribution-Coordination-Working-Group> .

stakeholders, and the industry, by contributing to policy design and development with Toronto Hydro's unique experience as a large urban distributor.

If Toronto Hydro were forced to deliver work under the Control Centre Operations program with a reduced level of funding over the 2025-2029 rate period, the utility would be unable to resource the critical functions discussed above, resulting in a number of risks relating to the successful execution of capital plans relating to the distribution system and IT/OT projects; the efficient and effective modernization of Toronto Hydro's operations in accordance with customer and stakeholder expectations and the continued transition to new and diverse energy resources; and the productive development of industry policies.

5.1.5 Information Technology ("IT")

The IT OM&A program (Exhibit 4, Tab 2, Schedule 17) supports all aspects of Toronto Hydro's business. The IT infrastructure, cyber security controls, business applications and services supported and delivered by this Program enable efficient operations of the utility and play a critical role in achieving Toronto Hydro's objective to provide safe, secure and reliable electricity. Adequate resourcing for this area is key to supporting the execution of the 2025-2029 investment plan. Toronto Hydro intends to increase resources in this area by 18 percent from 107 to 126 staff between the end of 2022 and 2029.

As discussed in Exhibit 2B, Section E8.4, Toronto Hydro needs to invest in IT/OT hardware, software, and communications infrastructure over the 2025-2029 rate period to maintain relevant assets and systems in reliable operating condition, renew assets at end-of-life or vendor support, implement and maintain robust controls against increasing and more sophisticated cyber security threats, and contribute to the utility's capacity to

accommodate growth and modernization journey in the context of the broader energy transition. The IT program requires a larger staff complement and the appropriate mix of skillsets to execute and support these initiatives, as each project requires subject matter experts, technical staff, and project managers to effectively and efficiently achieve the planned outcomes. The increasing prominence of cloud solutions intensifies these demands, as IT solutions that were traditionally on-premises and may have required a particular skillset and/or complement of resources may now require a significantly different skillset and resource mix where the utility relies on a cloud-based application.

Cyber security controls must be periodically refreshed and enhanced to maintain the reliability and availability of systems to support core operations, mitigate against potential vulnerabilities and threats, and minimize the risks of system failure. Investments in this area constitute a significant part of Toronto Hydro's IT plan for the 2025-2029 rate period,[39] and to execute this work and keep up with the shifting cyber security landscape and controls, Toronto Hydro needs additional IT staff with enhanced skillsets.

In addition, Toronto Hydro has observed the following workload trends driving the program's resourcing needs:

- From 2020-2024 to 2025-2029, an increase of 6 percent in the number of endpoint devices supported by the program;
- From 2020-2024 to 2025-2029, an increase of 18 percent in the number of complex systems operated and maintained by the program;
- From 2020 to 2023, an increase of 22 percent in IT service requests handled by the program; and
- From 2020-2024 to 2025-2029, an increase of 9 percent in cyber security systems and controls overseen by the program.

[39] Exhibit 2B, Section E8.4 and Exhibit 4, Tab 2, Schedule 17.

If Toronto Hydro were forced to deliver this program with a reduced level of funding or staffing over the 2025-2029 rate period, the utility could face various cyber security risks and suffer from a significant loss in business efficiency due to a decline in the quality and availability of IT solutions and tech support.

5.1.6 Customer Care

As the electricity industry evolves, Toronto Hydro's customer service functions must keep up with broad changes in customer needs and preferences driven by the energy transition and adapt to handle evolving customer behaviour and more complex information. As discussed in Exhibit 4, Tab 2, Schedule 14, the utility is already observing these trends even with respect to traditional customer interactions. For example, a high bill inquiry now often requires a frontline representative to consider more factors than before, such as the customer's choice of available pricing plans (e.g. tiered, Time of Use, Ultra-Low Overnight Time of Use) or the customer's usage of electricity-intensive devices such as electric vehicle chargers or heat pumps. These trends are even more pronounced with respect to services that have been historically niche areas, but are gradually becoming more commonplace, such as DERs. For example, the billing of net metered accounts is an order of magnitude more complex than regular load accounts, due to the calculation of generation credits and the treatment of Harmonized Sales Tax.

In this environment, customers' expectations are also continually reshaped by all service providers they interact with, not just utilities. As online services and electronic transactions are gradually becoming the norm for the majority of small and large businesses, customers are coming to expect the same standard of service from their electricity distributor as table stakes.

Toronto Hydro's customer-interfacing operations are adapting to these trends by increasing the variety of communication channels available to customers, with a focus on self-service. In 2022, the number of such channels increased from seven to nine, with the addition of live chat and Toronto Hydro's mobile application.[40] As a result, customers are currently able to perform a broad variety of online transactions, such as registering for electronic bills ("eBills"), requesting move-ins or move-outs, downloading consumption information for their rental property,[41] registering for pre-authorized debits, or reporting streetlight outages. While each channel adds to customer convenience, managing interactions through different channels requires different staff skills to operate and perform analytics for gaining insights on customer behaviour and each channel's effectiveness and efficiency.

From the end of 2022 to 2029, Toronto Hydro intends to increase resourcing in this area by 39 percent from 106 to 147 staff. Against the trends discussed above, Toronto Hydro plans to transfer certain customer-interfacing functions from its external contact centre vendor to internal staff, in order to build, preserve, and diversify in-house knowledge and expertise of core functions, and leverage the same for modernization initiatives and projects or business processes borne out of regulatory compliance requirements.

Parallel to the insourcing effort, the utility plans to hire new staff to replace retiring staff and/or fill vacant positions. The addition of new and relatively inexperienced staff drives the need for more training time and quality assurance ("QA") work. In order to increase the effectiveness of QA processes, Toronto Hydro plans to increase its reliance on technology and data analytics—for example, deploying speech analytics tools to transcribe and analyze customer interactions, assess indicators of customer sentiment

[40] The previously existing seven channels are telephone, email, fax, Toronto Hydro's website, interactive voice response ("IVR") through the Contact Centre function, and the online customer self-service portal.
[41] Pursuant to Ontario Regulation 389/10, under the *Energy Consumer Protection Act, 2010*, SO 2010, c 8.

and intent, and identify call drivers. The application of such techniques and strategies to quality management, powered by artificial intelligence and machine learning technologies, enables evaluation of customer service performance based on more robust empirical data. In order to leverage and unlock the full potential of these capabilities, Toronto Hydro must invest in human capital with the necessary data analytics skillsets.

Knowledge management is another area driving resourcing needs in Customer Care. As the complexity of service offerings and customer interactions grows, either through new legislative and regulatory requirements or evolving customer needs and technologies, it is becoming more important to keep knowledge management databases current. The utility needs dedicated staff for maintaining consistent and current information and making it accessible to customers and staff across all engagement channels.

5.1.7 Corporate Services

Corporate services provide organization-wide support in the areas of Finance, Public, Legal, and Regulatory Affairs ("PLRA"), and Human Resources, Environment and Safety ("HRES"). From the end of 2022 to 2029, resources in corporate services are forecasted to increase by 13 percent from 233 to 263 staff. As the volume and complexity of Toronto Hydro's capital investments and operations increase in the 2025-2029 period, corporate services require a highly skilled and dedicated workforce to perform all of these functions in a timely and effective manner.

The Finance program (Exhibit 4, Tab 2, Schedule 16) supports Toronto Hydro's operations through financial planning, management reporting, capital planning and reporting, payroll and disbursements, corporate tax, treasury, insurance, and internal audits, as well as external reporting and financial regulatory and revenue management. Toronto Hydro

needs an adequate complement of finance professionals to administer the utility's complex financial and accounting processes and records in the face of increasing volumes of work (i.e. projects and transactions) borne out of the capital program.

The PLRA program (Exhibit 4, Tab 2, Schedule 18) provides specialized legal, regulatory, government and public relations professional services to the utility and its affiliates. Higher work capital volumes (such as offers to connect), evolving legal, regulatory, and policy requirements (as noted above in section 4.2.4) and changing business conditions necessitate highly-skilled and experienced staff to address complex and consequential legal, regulatory, and public affairs matters. These needs are most cost-effectively addressed by internal resources with the necessary skills and experience to provide the required services in a holistic manner that is integrated with other business functions. Attracting and retaining talent in this area of corporate services is a particular challenge because the utility competes with law firms and large sophisticated organizations such as banks that often offer more attractive compensation packages.

The HRES program (Exhibit 4, Tab 2, Schedule 15) provides comprehensive human resource management services ranging from employee lifecycle, labour relations, employee communications and engagement, governance of health and safety and environmental management systems, and human resources technology management. All of these activities are carried out within a culture of ensuring employees' health and safety, and environmental sustainability. Looking ahead to 2025-2029, the utility's talent acquisition, management, and retention services, compensation, and performance management frameworks must be equipped to serve the human resource needs of a growing organization that is challenging itself (through its greatest asset—people) to

maintain a record of high-performance and deliver incremental outcomes to customers during a time of unprecedented change and transformation.

Without sufficient funding to maintain its Corporate Services functions, the utility could be exposed to a number of risks, including legal, compliance, and customer-related risks and drawbacks, all of which would compromise its ability to deliver outcomes that customers value and expect. These consequences include: reduced governance and oversight of financial planning and management activities, leading to a greater risk of errors and omissions; ineffective or unfavourable negotiation of contract terms, resulting in substandard performance by contracted parties or foregone recourse to appropriate remedies, reducing the value and increasing costs to ratepayers; non-compliance or inadequate implementation of new requirements resulting in increased customer complaints and barriers to achieving public policy objectives; a reduced ability to successfully recruit and develop the skilled and specialized resources that Toronto Hydro requires to execute its investment plan; and increased likelihood of safety-related incidents or incidents with an adverse environmental impact.

5.2 Other Key Drivers

Expenditures in OM&A are also driven by factors in addition to staffing levels. Below is an overview of the key, non-staffing related drivers.

5.2.1 Asset Maintenance Requirements

Toronto Hydro's distribution system consists of approximately 61,000 distribution transformers, 17,000 primary switches, 15,600 kilometres of overhead conductors, and 13,800 kilometres. Toronto Hydro leverages its reliability centred maintenance

framework, in combination with the OEB's minimum inspection requirements,[42] and continuous monitoring and assessment of asset performance to maintain equipment in good working order throughout its expected serviceable life, and where possible, to increase the useful life for enhanced value. This includes conducting inspections and maintenance tasks on a fixed (or variable) cycle as necessary, as well as completing corrective work to address asset deficiencies and risks that jeopardize system safety and reliability. The Corrective Maintenance program, in particular requires significant investments to address a number of incremental drivers: [43]

- **Corrective Work Requests:** Toronto Hydro uses a prioritization framework that classifies asset deficiencies into four categories, depending upon the urgency/severity of the deficiency. Since 2019, the utility observed a rise in the volume of corrective work in the "P3" category requiring resolution within 180 days due to the proportion of assets exhibiting deteriorating conditions and exceeding their expected lives. These asset deficiencies elevate the risk of failure and must be managed to keep the system safe and reliable for customers.
- **Electrical Safety Authority ("ESA") Requirements:** Toronto Hydro plans its maintenance programs with a view to achieving and maintaining compliance with electrical distribution safety requirements under Ontario Regulation 22/04,[44] in accordance with directives and guidelines issued by the ESA from time to time. This includes work such as the disconnection and grounding of unused lines, and responding to ESA directives and flash notices identifying hazards and risks that must be addressed. A recent example of such ESA-directed work is "Delta to Wye" conversions based on a 2018 flash notice to distributors and which is expected to continue driving work volumes into the 2025-2029 rate period.

[42] OEB, *Distribution System Code*, Appendix C, (August 2, 2023).
[43] Exhibit 4, Tab 2, Schedule 4.
[44] Ontario Regulation 22/04, under the *Electricity Act, 1998* SO 1998, c 15, Sched A.

- **Emergency Response:** Corrective work may also be required as a result of emergencies or unplanned system events, including asset failures and deficiencies identified outside of Toronto Hydro's daily (planned) operations (including ESA field inspections) but requiring follow-up remediation in order to permanently restore power or eliminate safety or environmental risks. The emergence of such issues and the extent of the work (and costs) required to address them are unpredictable. As the distribution system becomes more heavily utilized due to electrification, the emergence of such compliance issues is expected to grow.

Toronto Hydro must address asset maintenance requirements in a timely manner in order to: (i) remain compliant with the Distribution System Code, (ii) satisfy electrical distribution safety requirements under Ontario Regulation 22/04, and (iii) maintain a safe and reliable system for customers in alignment with good utility practice. Without sufficient funding for asset maintenance, all of these critical outcomes are placed at risk.

5.2.2 Cloud Computing

Cloud solutions equip the utility with dynamic and cost-effective software tools to support the automation and modernization of business processes and protect the system against increasing cyber security threats. Toronto Hydro invests cloud computing solutions in accordance with the utility's IT Investment Strategy outlined in Exhibit 2B, Section D8. Costs to implement cloud-based solutions typically include project initiation, planning, execution (e.g. configuration, development, testing, customization, etc.), monitoring and control, and deployment. Recent drivers of cloud computing expenses include:[45]

- The implementation of new applications such as Oracle Field Services Cloud ("OFSC"), an upgrade to the mobile workforce management system for Grid

[45] Exhibit 4, Tab 2, Schedule 17.

Emergency Management, which replaced the legacy on-premises in-house solution. OFSC allows dispatchers and grid response crews to collaboratively manage outage events with respect to assembling crews, managing priorities, and communicating across different groups to respond to an unplanned outage events in a timely and effective manner.

- Cyber security maintenance and subscription fees as a result of new investments into cloud-based, artificial intelligence-enabled threat prevention, detection, and response solutions to ensure that cyber security processes and controls are capable of adequately responding to the evolving threat landscape.

Cloud-based solutions increase the range of IT solutions available to Toronto Hydro and provide the utility more flexibility in designing and implementing IT systems and controls. However, the shift from the traditional perpetual software licensing model to cloud subscription and maintenance fees is driving incremental OM&A expenditures as more IT vendors move towards a subscription model for both cloud-based and on-premises systems. In fact, many vendors are adopting "cloud only" solutions that rely solely on cloud technologies instead of providing an option to host a solution on-premises.

Toronto Hydro requires sufficient funding for cloud solutions to: (i) serve growing technology requirements across the business driven by modernization imperatives and innovation opportunities; (ii) adequately protect its grid and systems against cyber security threats; and (iii) retain flexibility in a more dynamic technology environment.

5.2.3 Non-Wires Solutions (Local Demand Response)

Toronto Hydro's Non-Wires Solutions ("NWS") program was established in the 2015-2019 Distribution System Plan to address capacity constraints through local demand response

("LDR").[46] Building on its existing LDR experience, Toronto Hydro identified further opportunities to use LDR in the 2025-2029 rate term to avoid and defer capital investments in load transfers, and set an ambitious goal to expand the reach of the LDR program in the next rate term. Toronto Hydro intends to procure 30 MW of flexible system capacity to displace and defer the need for load transfers in the Horseshoe North area during the 2025-2029 period. Load transfers in this area are currently necessary to alleviate capacity constraints at a number of stations, including Finch TS and Bathurst TS. The goal is to use LDR to defer or displace certain load transfers by procuring flexible system capacity from third-party or customer-owned DERs.

5.2.4 Insurance Premiums

Insurance premium costs are included in the Finance program.[47] The utility anticipates an upward trend in insurance costs through to 2029 that is attributable to higher rates on the existing insurance program policies for property, liability, cyber, directors and officers ("D&O"), and crime. In particular, cyber security insurance premiums are increasing in correlation with growing and more acute cyber security threats that affect large organizations such as Toronto Hydro each year. In addition, Toronto Hydro's rate base is expected to increase from $4.9 billion in 2022 to $7.6 billion in 2029 which has a direct impact on the future property and liability insurance premiums. Without sufficient funding for insurance costs, Toronto Hydro may face challenges securing financing for its work programs, risk contravention of covenants contained in existing debt issuances, and be exposed to compliance risks vis-à-vis relevant tax laws, rules, and regulations.

[46] Exhibit 2B, Section E7.2.
[47] Exhibit 4, Tab 2, Schedule 16.

6. Variance Analysis

In the last rebasing application (EB-2018-0165), the OEB approved a 2020 OM&A budget envelope of $272.2 million,[48] and directed Toronto Hydro to amend the presentation of costs attributable to shared services.[49] In accordance with that directive, Toronto Hydro reclassified $5.5 million of shared services costs from 2020 OM&A to other revenues and expenses,[50] resulting in an OEB-approved 2020 OM&A budget of $266.7 million.[51]

Toronto Hydro's actual OM&A expense for 2020 was $288.1 million. However, this amount includes approximately $21.1 million in one-time expenses related to the COVID-19 pandemic; specifically bad debt expense,[52] and non-routine emergency costs such as additional personal protective equipment and increased health services resources.[53] Adjusted for these one-time COVID-19 related expenses, Toronto Hydro's actual OM&A expense for 2020 is $267.0 million, which is aligned with the OEB-approved 2020 OM&A test year of $266.7 million.

Figures 14 and 15 below respectively show the major drivers of OM&A cost increases from the adjusted 2020 actual to the 2025 test year and from the 2025 test year to the 2029 forecast year. Consistent with applicable OEB guidance,[54] detailed year-over-year variance analyses by OM&A program and segment can be found OEB Appendix 2-JB (Recoverable OM&A Cost Driver Table) and in Exhibit 4, Tab 2, Schedules 1 to 21.

[48] EB-2018-0165, Decision and Order (December 19, 2019) at page 140.
[49] EB-2018-0165, Decision and Order (December 19, 2019) at page 131.
[50] Exhibit 3, Tab 2, Schedule 2 (OEB Appendix 2-H).
[51] Exhibit 4, Tab 1, Schedule 3 (OEB Appendix 2-JB).
[52] Exhibit 4, Tab 2, Schedule 14 at page 29.
[53] Exhibit 4, Tab 2, Schedule 6 at pages 17-18.
[54] Including, for example, OEB Filing Requirements for Electricity Distribution Rate Applications, Chapter 2 (December 15, 2022), s. 2.4; and the Handbook for Utility Rate Applications (October 13, 2016) at page 19.

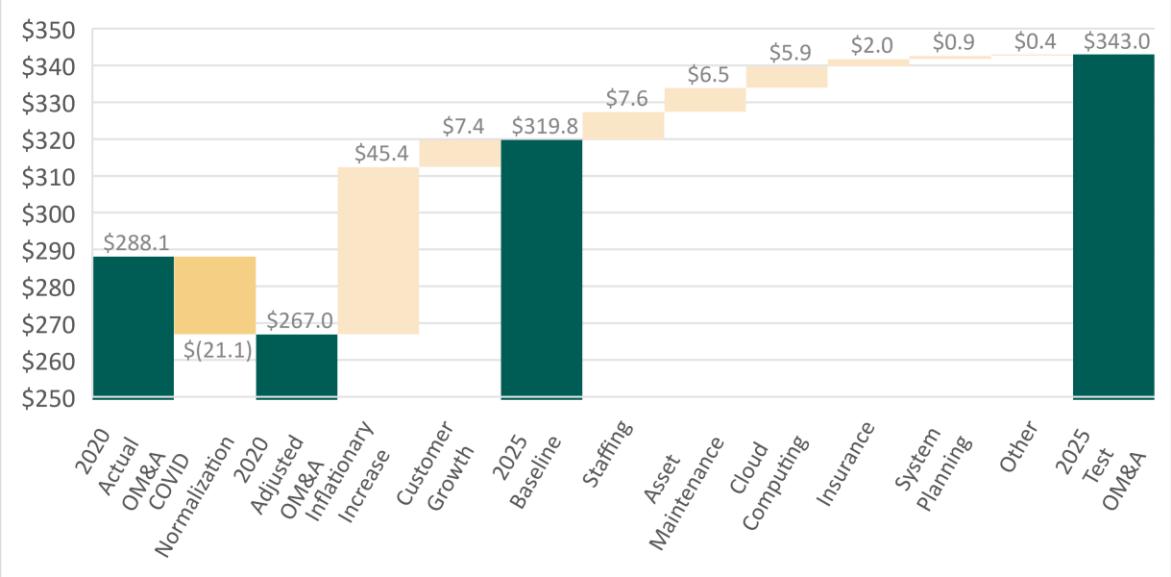


Figure 14: OM&A Causal Track Analysis 2020 Test versus 2025 Test ($ Millions)

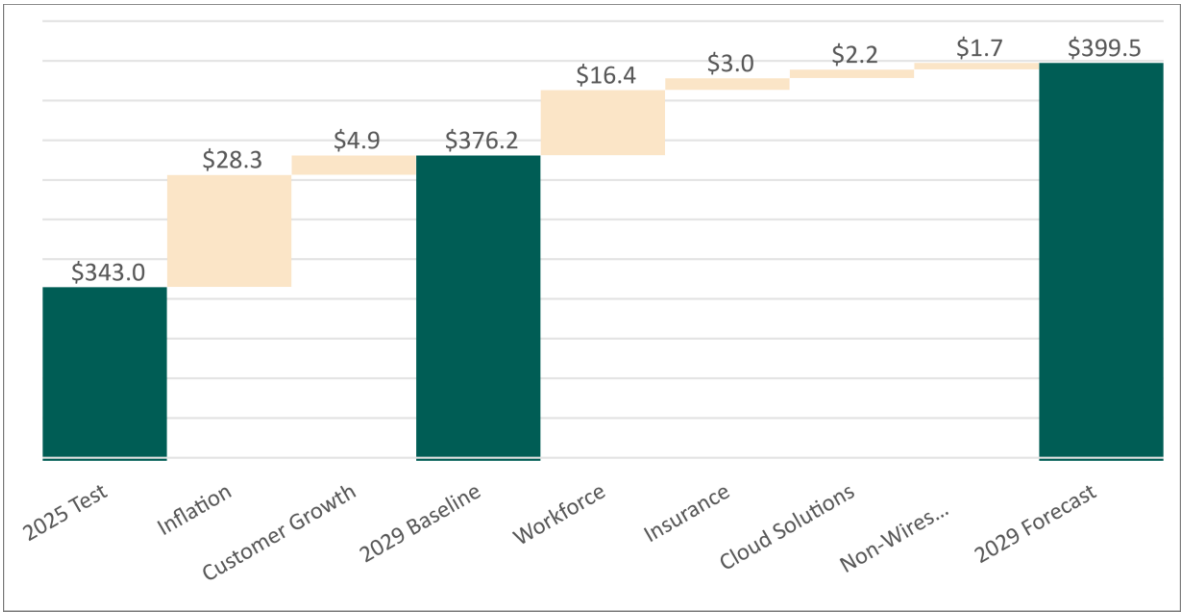


Figure 15: OM&A Causal Track Analysis 2025 Test versus 2025 Forecast ($ Millions)

WORKFORCE STAFFING AND COMPENSATION OVERVIEW

Investments in human capital are a key component of the 2025-2029 investment plan, as Toronto Hydro relies on having a highly-skilled and dedicated workforce to deliver the 38 capital and operations work programs in Exhibit 2B and Exhibit 4, Tab 2, respectively. Without a sufficiently skilled and capable workforce, Toronto Hydro would face significant risks in executing its plan and achieving performance outcomes that customers need and value.[1] To prevent these consequences, the utility needs to increase its workforce capacity by approximately 214 resources starting in 2024 through 2029.[2] On a Full Time Employee ("FTE") basis as outlined in Appendix 2-K, this increase amounts to roughly 25 percent of the overall FTE complement.

In addition to the accelerated pace of investment that is required to sustain, modernize and expand the grid for an electrified future, changes in technology, policy and customer expectations are putting pressure on the workforce to be future-ready and capable with enhanced skills to perform work in an increasingly fast-paced, complex and data-intensive operating environment. Toronto Hydro's workforce plan includes critical investments in building advanced skills and capabilities needed to rise up to the challenge.

The evidence in this Exhibit 4, Tab 4 presents Toronto Hydro's workforce needs, plans and its compensation strategies and costs for the 2025-2029 rate period as follows:

- Schedule 1 – Overview
- Schedule 2 – OEB Appendix 2-K (Employee Cost)
- Schedule 3 – Staffing Strategy

[1] Please see Exhibit 1B, Tab 3, Schedule 2 for an overview of Toronto Hydro's historical performance.
[2] The staffing plan is based on headcount needs and requirements over the filed period. Appendix 2-K presents the translation of the staffing plan to budgeted full time equivalents (FTEs).

- Schedule 4 – Compensation
- Schedule 5 – Mercer Benchmarking Report

1. STAFFING PLAN AND CHALLENGES

Toronto Hydro has a robust and engaged workforce that delivers valuable outcomes to the company and its customers. The key tenets of Toronto Hydro's workforce philosophy are:

a) **Talent Acquisition & Development**: Attract and recruit talent for the organization to fill critical roles and achieve business objectives. Provide training and development opportunities to help employees grow and acquire new skills, create career paths and implement succession plans.

b) **Workforce Culture, Diversity and Inclusion**: Create a diverse and inclusive workplace where everyone feels valued, supported and respected. Foster a growth mindset and positive culture that promotes employee engagement, wellness and work-life balance to maintain an engaged, innovative and high-performing workforce.

c) **Performance and Productivity**: Achieve objectives by setting clear expectations, providing regular feedback, and recognizing and rewarding employees who meet or exceed expectations. Embrace new technology and invest in tools and systems that can improve efficiency, automate repetitive tasks, enhance the quality of work, and promote collaboration across teams.

d) **Agility & Innovation**: Adapt to evolving business needs, emerging technologies, and changing market conditions by leveraging data and analytics to monitor market trends, measure performance, and make data-driven decisions.

1.1 Needs and Challenges

Over the last decade and throughout the current rate period, Toronto Hydro focused on rebuilding and replenishing its workforce in the face of both familiar challenges (i.e.

retirements and attracting and retaining talent) and emerging challenges brought on COVID-19 and other external factors affecting Toronto Hydro's business. During the pandemic, Toronto Hydro's workforce numbers reached a historic low in 2021. Retirements that were expected to be paced fairly evenly over the 2020-2025 rate period were instead concentrated in years 2020 and 2021. At the same time, the pandemic temporarily suspended talent acquisition, training, and development for critical areas and skill sets established during the previous rate period. As a result, Toronto Hydro's plans to increase its staffing levels over the 2020-2024 period were delayed.

Toronto Hydro proved its aptitude in addressing these challenges, with notable achievements including:

- Over 100 trades and technical positions filled as of 2022;
- Average age of employees in 2022 was 40 – a 14% decrease over the last decade;
- 76% talent retention rate;
- 25% of roles filled by new graduates from colleges and universities;
- Continued focus on job harmonization with the Power Line Technician trade, augmenting total harmonization from 51 non-management unionized jobs to 12; and
- 40% of roles filled from within to support career development, talent retention and succession planning.
- Total recordable injury frequency improved by 43% from 2018 to 2022 leading to a safer and more productive workforce;
- Consistently ranked as one of the Best Corporate Citizens in Canada by Corporate Knights since 2018 (in 2022 placing 2nd overall and 1st in the category of Electricity Transmission and Distribution) in recognition of responsible investments to achieve social and environmental benefits for the customers of Toronto Hydro; and

- Received multiple awards, including: (i) recognition by Electricity Canada for Leadership in External Collaboration and Partnerships, and the President's Award of Excellence for Employee Safety – Distribution, (ii) sustainability leader by Canada's 2024 Clean50, in addition to earning a spot on Canada's Clean16 list as a top contributor in the category of Traditional Energy and (iii) Most Effective Recovery Award from the Business Continuity Institute Americas recognizing Toronto Hydro's response to COVID-19 and its efforts to mobilize immediately to protect its workforce and the public, while continuing to provide safe and reliable delivery of electricity throughout the city of Toronto.

In addition to these achievements, the utility also expects to successfully implement its resource plan over the current rate period by catching-up to the overall levels that were forecasted in the 2020-2024 rate application.[3] Yet fundamental shifts have taken place since the last application that have material implications, and require responsive action over the 2025-2029 rate period. Customers, governments, and markets have started coalescing around a need to accelerate the energy transition to mitigate the existential and economic impacts of climate change. As customers electrify previously non-electric energy uses (e.g. transportation and heating) and increase participation in clean energy production and management, these actions will have fundamental long-term implications for Toronto Hydro and its system. Because the external environment has changed, Toronto Hydro's resource catch-up efforts are also a foundational step towards a future-ready plan that includes investments in resourcing capacity (headcount) and capabilities (enhanced skills) that are necessary to meet the challenge ahead.

[3] EB-2018-0165.

Toronto Hydro needs to expand its workforce by approximately 214 resources starting in 2024 through 2029 to meet the imperatives and objectives of its 2025-2029 investment plan. These investments are necessary to both ensure adequate resourcing to support the safe and efficient execution of planned work programs, and develop advanced capabilities to advance outcomes that matter to customers and stakeholders, including a building a more resilient and efficient grid for the future and enabling the city's economic growth and electrification.[4] Technological advancements and evolving customer expectations require Toronto Hydro to accelerate digital transformation to keep up with the pace of change. Attracting and developing employees with the skills and competencies to meet the technical challenges and achieve the objectives of modernizing and expanding the grid is a critical component of the utility's workforce strategy.

1.2 Talent Development Strategy

A strong talent attraction and engagement strategy is critical to: (i) continue to position Toronto Hydro as an employer of choice; (ii) build staff competence to address requirements, deliver plans, and integrate more technology and innovation into their work; and (iii) advance leadership skills and competence to support diversity, equity and inclusion, lead in a hybrid work environment and role model culture change.

Toronto Hydro takes a comprehensive, forward-looking approach to maximizing the value of its existing employee resources by providing timely upskilling and training opportunities, applying productivity strategies, supporting innovation, promoting from within the organization, and using management tools to maximize employee performance. Toronto Hydro relies on a combination of all these approaches to achieve organizational success and meet its human resource requirements.

[4] See Exhibits 2B, Section E and Exhibit 4, Tab 2.

While Toronto Hydro maximizes the value of its existing workforce, the utility is unable to meet the needs and drivers of its staffing plan exclusively from hiring internally. To meet its staffing needs through external recruits, Toronto Hydro employs a combination approach that includes acquiring additional talent from the market, hiring new graduates, leveraging its relationships with colleges and universities, and outsourcing work to third-party service providers where appropriate.

2. COMPENSATION STRATEGY

Toronto Hydro's workforce is the means by which the utility delivers service and value to its customers, carries out its objectives, and complies with its mandatory obligations. The utility strives to secure and maintain a workforce that is highly skilled, agile, innovative, productive and engaged. To achieve these key outcomes in a cost-effective manner, Toronto Hydro's compensation strategy is to: (i) provide wages and benefits that are competitive in the markets where Toronto Hydro competes for talent, and (ii) use a pay-for-performance model to align the workforce with the utility's core objectives, set and manage high performance expectations, foster productivity, and reward employees for their contributions to the utility's performance. The effect of external pressures and shifting preferences of candidates in a large and diverse urban city requires a strong market-competitive compensation program to attract, retain and engage employees.

According to Mercer's Compensation Benchmarking study (the "Mercer Study") which can be found at Exhibit 4, Tab 4, Schedule 5, Toronto Hydro's total compensation is positioned within a market competitive range relative to the 50th percentile of the energy market. With respect to the general industry peer group, total compensation is slightly above market due to pensions and benefits, while the total cash component of compensation is within market

range. The Mercer Study affirms that Toronto Hydro's compensation strategy continues to yield good value for the utility and its customers.

The forecasted total compensation cost for 2029 is $375.5 million, which represents a compound annual growth rate of 6.6 percent over the total compensation costs of $211.1 million in 2020. For total cash compensation costs (i.e. base salary wages, overtime and incentive payments) the average cost per full-time employee ("FTE") is increasing by a compound annual growth rate of 3.7 percent from 2020 to 2029.[5] In preparing 2024 to 2029 total cash compensation forecasts and the various components of them, Toronto Hydro considered, and the forecasts reflect, the following inputs: (i) Toronto Hydro's obligations under collective agreements, (ii) relevant labour market data (where available),[6] and (iii) the utility's projections of outcomes of future rounds of collective bargaining that will take place throughout the forecast period. More specifically, in the absence of objective market indicators to forecast compensation increases over the 2025-2029 forecast period, the utility (in consultation with its compensation expert Mercer Canada and based on experience) relied on a using a historical rolling-average (in addition to the factors noted above) as the best information available to predict reasonable future compensation levels.

2.1 Compensation Philosophy for Non-Union Employees

Toronto Hydro provides non-unionized employees with a total cash compensation package comprised of two elements: base salary and variable performance pay. Base salary compensates an employee for meeting the expectations related to their responsibilities, accountabilities, and technical skills. Variable performance pay rewards employees for their

[5] The average cost per employee is mathematically derived from the data in OEB Appendix 2-K; namely total compensation divided by total FTEs per year.
[6] For example, the results of Mercer Canada's August 2023 QuickPulse™ Canada Compensation Planning Survey show total salary increases of 3.7 percent: https://www.imercer.com/ca/ARTICLEDETAIL/annual-increase-budget-canada

contribution to achieving goals and objectives tied to the utility's strategic pillars, in combination with their successful demonstration of corporate competencies.

Each non-union position at Toronto Hydro has a salary grade with a corresponding salary range. To maintain alignment with the competitive labour market, the utility adjusts salary ranges based on annual market reviews.

Because Toronto Hydro operates in niche areas of expertise, both as part of the electricity system and as a regulated entity, the utility hires capable workers but at a less experienced level, and trains and develops them on the job. From 2019 to 2023 year-to-date, newly hired employees were brought into their roles at an average of 87 percent of the salary grade. To keep the workers that Toronto Hydro invests in training and developing on the job, the utility progresses them through the salary ranges more quickly to reflect their upskilling and acquired experience levels.

2.2 Compensation Philosophy for Bargaining Unit Employees

Over half of Toronto Hydro's employees belong to collective bargaining units represented by the Power Workers' Union ("PWU"), the Society of United Professionals - Engineers ("Society Engineers"), or the Society of United Professionals - IT ("Society IT"). Toronto Hydro's compensation costs with respect to these employees are negotiated through periodic collective bargaining in accordance with the legal duty to bargain in good faith. The utility has both contractual and statutory obligations to honour the terms of its collective bargaining agreements. [7]

[7] *Ontario Labour Relations Act,* 1995, S.O. 1995, c. 1, Sched. A, section 56.

The current collective agreement with PWU was effective as of February 1, 2022 and is valid until January 31, 2027. The utility's current collective agreement with the Society Engineers came into effect January 1, 2020 and is valid until December 31, 2023. The utility's current collective agreement with Society IT came into effect January 1, 2021 and is valid until December 31, 2025.

2.3 Benefits and Pensions

In order to remain competitive for talent, full-time employees are entitled to medical and dental benefits, short- and long-term disability income protection, life insurance, and accidental death and dismemberment insurance. Employees are also eligible to participate in the Ontario Municipal Employees Retirement System pension plan and receive post-retirement benefits. The cost of employee benefits is expected to increase from $74.5 million in 2025 to $104.6 million in 2029.

To manage benefits costs, Toronto Hydro regularly negotiates with benefit providers and conducts comprehensive vendor market reviews on a periodic basis. In 2021 Toronto Hydro conducted a vendor market review for the Employee and Family Assistance Program which resulted in the utility securing a new provider for employee mental health and overall wellness at a reduced per member rate of approximately 30 percent.

COMPENSATION STRATEGY AND WORKFORCE GOVERNANCE

This schedule discusses Toronto Hydro's compensation strategy and workforce governance practices. Further to the information outlined in OEB Appendix 2-K (Employee Costs/Compensation Table) at Exhibit 4, Tab 4, Schedule 2, this schedule provides an overview of: 1) Compensation Costs Overview; 2) Compensation Strategy and Workforce Governance; 3) Compensation Practices for Non-Union Employees; 4) Compensation Practices for Bargaining Unit Employees; and 5) Benefits and Pensions.

1. COMPENSATION COSTS OVERVIEW

Tables 1 and 2 below summarize Toronto Hydro's total compensation costs for the current 2020-2024 and the future 2025-2029 rate periods, respectively.

Table 1: 2020-2024 Total Compensation ($ Millions)

	2020 Actual	2021 Actual	2022 Actual	2023 Bridge	2024 Bridge
Management (including executive)	22.0	21.5	22.5	27.0	31.1
Non-Management (union and non-union)	189.1	177.8	184.9	205.9	238.1
Total Compensation	**211.1**	**199.3**	**207.5**	**232.8**	**269.2**

Please note the numbers may not sum due to rounding.

Table 2: 2025-2029 Total Compensation ($ Millions)

Year	2025 Forecast	2026 Forecast	2027 Forecast	2028 Forecast	2029 Forecast
Management (including executive)	32.2	33.7	35.7	37.7	39.4
Non-Management (union and non-union)	261.1	281.3	299.2	317.7	336.2
Total Compensation	**293.3**	**314.9**	**334.9**	**355.4**	**375.5**

Please note the numbers may not sum due to rounding.

Underpinning the utility's compensation costs is a compensation strategy that balances cost-effectiveness with the need to attract and retain the talent required to provide service in an increasingly complex and dynamic operating environment. According to Mercer's Compensation Benchmarking study (the "Mercer Study") which can be found at Exhibit 4, Tab 4, Schedule 5, Toronto Hydro's total compensation is positioned within a market competitive range relative to the 50th percentile of the energy market. With respect to the general industry peer group, total compensation is slightly above market due to pensions and benefits, while the total cash component of compensation is within market range. The Mercer Study affirms that Toronto Hydro's compensation strategy continues to yield good value for the utility and its customers.

Over the 2024-2029 period, Toronto Hydro expects to increase its workforce capacity by approximately 25 percent compared to 2023 levels in order to address the challenges and requirements of sustaining the grid, modernizing the utility and preparing the system for the unprecedented energy transition that is set to take place in the next decade and beyond. In addition to increasing resourcing capacity to support the execution of its capital and operations work programs, the utility is investing in attracting and upskilling employees. This includes developing advanced capabilities to integrate more technology and data analytics into the grid and operations to drive continuous improvement in

system performance and optimize planning and decision-making. Toronto Hydro's ability to recruit, attract and retain talent in key areas of its operations has led to improvements in safety, customer service, reliability, and productivity over the last 10 years as detailed in Exhibit 1B, Tab 3, Schedules 2 and 3.

To implement Toronto Hydro's workforce plan as summarized in Exhibit 4, Tab 1, Schedule 1 and detailed in Exhibit 4, Tab 4, Schedule 3 as well as the programmatic evidence in Exhibit 4, Tab 2, the forecast total compensation cost for 2029 is $375.5 million, which represents a compound annual growth rate of 6.6 percent over the total compensation costs of $211.1 million in 2020. These figures include total cash compensation costs (i.e. base salary wages, overtime and incentive payments) which are increasing by a compound annual growth rate of 3.7 percent from 2020 to 2029 on the basis of average cost per full-time employee ("FTE").[1] In preparing 2024 to 2029 total cash compensation forecasts and the various components of them, Toronto Hydro considered, and the forecasts reflect, the following inputs: (i) Toronto Hydro's obligations under collective agreements, (ii) relevant labour market data (where available),[2] and (iii) the utility's projections of outcomes of future rounds of collective bargaining that will take place throughout the forecast period. More specifically, in the absence of objective market indicators to forecast compensation increases over the 2025-2029 forecast period, the utility (in consultation with its compensation expert Mercer Canada and based on experience) relied on a historical rolling-average (in addition to the factors noted above) as the best information available to predict reasonable future compensation levels.

[1] The average cost per employee is mathematically derived from the data in OEB Appendix 2-K; namely total compensation divided by total FTEs per year.
[2] For example, the results of Mercer Canada's August 2023 QuickPulse™ Canada Compensation Planning Survey show total salary increases of 3.7 percent: <https://www.imercer.com/ca/ARTICLEDETAIL/annual-increase-budget-canada>.

2. COMPENSATION STRATEGY AND WORKFORCE GOVERNACE

Toronto Hydro's workforce is the means by which the utility delivers service and value to its customers, carries out its objectives, and complies with its mandatory obligations. The utility strives to secure and maintain a workforce that is highly skilled, agile, innovative, productive and engaged. To achieve these key outcomes in a cost-effective manner, Toronto Hydro's compensation strategy is to: (i) provide wages and benefits that are competitive in the markets where Toronto Hydro competes for talent and (ii) use a pay-for-performance model to align the workforce with the utility's core objectives, set and manage high performance expectations, foster productivity, and reward employees for their contributions to the utility's performance.

2.1 Market-Competitiveness

The utility must maintain the ability to attract, motivate, and retain employees who have the knowledge, skills, and abilities that are critical to the utility's success in meeting customer expectations and delivering customer outcomes. Toronto Hydro's compensation strategy aims to strike an appropriate balance between controlling costs and providing market-competitive compensation. In doing so, the utility examines the reasonableness and effectiveness of its compensation program in alignment with industry peers and relevant labour markets.

The effect of external pressures and shifting candidate preferences regarding work arrangements (i.e. remote vs. in-office) in a large and diverse urban city requires a strong market-competitive compensation program to attract, retain and engage employees. Toronto is the largest city in Canada and continues to be a competitive labour market. Emerging skill sets are in high demand with low supply across many other industries and

utilities.[3] Due to the uniqueness, complexity and dynamic operating conditions of Toronto Hydro's distribution plant, and competition in the labour market, it is challenging for Toronto Hydro to attract and retain skilled employees.

Moreover, the COVID-19 pandemic significantly impacted traditional approaches to talent management. According to the 2022 Canada Flexible Working Policies and Practices Survey conducted by Mercer, 53 percent of employees want hybrid work arrangements and 53 percent of employers offer a hybrid model.[4] To remain market competitive, Toronto Hydro introduced a hybrid work model.

Toronto Hydro reviews the market-competitiveness of its compensation packages for non-union employees as part of its annual business planning and budgeting process. This can include participating in compensation salary surveys offered through independent consulting firms that specialize in the compilation of aggregate compensation data. The data from these surveys gives Toronto Hydro an ability to compare its jobs relative to other comparable jobs in both the energy and general industry in order to calibrate compensation.

In addition to annual reviews in the normal course of business, the utility periodically conducts external benchmarking studies to ensure that the level, form, and mix of compensation offered by Toronto Hydro is competitive with those provided for comparable jobs in the markets where the utility competes for talent. In 2022, Toronto Hydro engaged industry-expert Mercer Canada to undertake a detailed compensation

[3] Mahboubi, Parisa. 2022. The Knowledge Gap: Canada Faces a Shortage in Digital and STEM Skills. Commentary 626. Toronto: C.D. Howe Institute: <https://www.cdhowe.org/sites/default/files/2022-08/Commentary_626_0.pdf>.
[4] Mahboubi, P. (n.d.). (rep.). *Canada Flexible Working Policies and Practices Survey*. Mercer: <https://www.imercer.com/ca/products/flexible-working-policies-practices-survey-ca>.

and benefits benchmarking study which can be found at Exhibit 4, Tab 4, Schedule 5 (the "Mercer Study").

The Mercer Study indicates that Toronto Hydro's total compensation is positioned within a market competitive range relative to the 50th percentile of the energy market. With respect to the general industry peer group, total compensation is slightly above market due to pensions and benefits, while the total cash component of compensation is market-competitive. Mercer defines "market-competitive" as "within 10 percent of the target market positioning on a position-by-position basis."[5]

2.2 Performance-Based Compensation

Toronto Hydro compensates employees based on performance, which is assessed by the competencies demonstrated and outcomes achieved in the course of employment. This performance-based compensation strategy plays a central role in delivering the utility's core objectives under the five corporate pillars described below in Table 3.

Table 3: Toronto Hydro's Corporate Pillars

Corporate Pillar	Core Objectives
 **CUSTOMER**	• Make it easy for customers to interact and transact with us • Provide value added and efficient services through various channels • Proactive and data-driven response to all customer segments • Utilize technology and analytics to meet customer's information needs

[5] Exhibit 4, Tab 4, Schedule 5 – Mercer Benchmarking Report at page 5.

Corporate Pillar	Core Objectives
 PEOPLE	• Ensure a healthy and safe work environment • Enhance diversity, equity and inclusion in the workplace • Optimize processes and invest in employee capabilities • Engage employees through purposeful work
 ENVIRONMENT	• Advance as a Sustainable Electricity Company • Reduce our environmental footprint • Enable our customers as a sustainability partner • Leverage environmental management system to achieve net zero by 2040
 OPERATIONS	• Keep the lights on • Keep our system safe • Build a grid that supports a modern city • Provide value to customers
 FINANCIAL	• Provide a fair return to our Shareholder • Continue to increase Shareholder value • Strive for strong and stable credit rating

As further detailed in Exhibit 1B, Tab 3, Schedules 1 and 2, over the last decade, Toronto Hydro's pay-for-performance model enabled the utility to achieve improvements in service quality and other performance outcomes such as:

- 60 percent improvement in employee safety record,
- 29 percent improvement in outages due defective equipment,
- 14 percent improvement in first contact resolution performance,
- 9 percent improvement to new services connected on time.

In addition to assessing employee performance based on the workforce competencies outlined in Table 4 below, Toronto Hydro's performance-based compensation strategy includes individual, divisional, and corporate performance expectations that align with the utility's core objectives. Performance expectations are set, assessed and reviewed through Toronto Hydro's performance management system.

Table 4: Toronto Hydro's Workforce Competencies and Descriptors

Workforce Competencies	Descriptors
Drives Results & Accountability	Has a clear sense of corporate direction and expectations, and holds self and others accountable to achieve objectives.
Demonstrates Customer-Focus	Models a customer-focussed approach in all decisions and actions.
Builds Strong Relationships	Builds valuable relationships across the organization and externally to support the future of Toronto Hydro.
Develops People and a Diverse & Inclusive Culture	Recognizes personal development and a strong organizational culture as integral components of an effective organization supporting diversity, equity and inclusion.
Champions Change, Productivity & Innovation	Prioritizes in innovation, continuous improvement, and productivity as essential drivers of long-term sustainability.
Demonstrates Commitment to Environment, Health & Safety	Manages risks to protect the health and safety of employees and the public, and shows a commitment to sustainability.

Toronto Hydro's corporate competencies guide the following aspects of human resources management:

- **Recruitment and Selection**: Toronto Hydro uses its corporate competencies to develop the recruitment process for a particular position and takes the competencies into consideration as part of its selection criteria.
- **Training and Development:** The corporate competencies underpin the utility's training initiatives. For example, if Toronto Hydro uses its performance management process to determine that an individual or team lacks customer

focus competencies, the utility would perform an assessment of training needs. Based on the results, the utility would implement an appropriate customer awareness training program to assist in closing this gap.

- **Performance Management and Compensation**: The corporate competencies are integrated with Toronto Hydro's compensation practices. For non-union employees, this occurs through the assignment of performance ratings, which evaluate employees' performance in relation to the corporate competencies. The performance rating is one of the components that determine base salary increases. For unionized employees, Toronto Hydro uses performance assessments tied to corporate competencies to determine base step increases for employees with a solid performance rating who are not at the top of the defined salary range.
- **Succession Planning and Promotion**: Decisions on succession planning and promotion focus on developing employees who consistently meet the corporate competencies, as indicated by their annual performance ratings.

3. COMPENSATION PRACTICES FOR NON-UNION EMPLOYEES

Toronto Hydro provides non-unionized employees with a total cash compensation package comprised of two elements: base salary and variable performance pay. Base salary compensates an employee for meeting the expectations related to their responsibilities, accountabilities, and technical skills. Variable performance pay rewards employees for their contribution to achieving goals and objectives tied to the utility's strategic pillars, in combination with their successful demonstration of corporate competencies.

Each non-union position at Toronto Hydro has a salary grade with a corresponding salary range. To maintain alignment with the competitive labour market, the utility adjusts salary ranges based on annual market reviews. Because Toronto Hydro operates in niche areas of expertise, both as part of the electricity system and in the general industry, the utility hires capable workers but at a less experienced level, and trains and develops them on the job. From 2019 to 2023 year to date, newly hired non-union employees were brought into their roles at an average of 88 percent of the salary grade. To keep the workers that Toronto Hydro invests in training and developing on the job, the utility progresses them through the salary ranges more quickly to reflect their upskilling and acquired experience levels. This progression is based on merit increases.

The variable performance pay program is an incentive performance-based compensation tool designed to retain, motivate, and reward employees for achieving performance objectives, which are established at the beginning of each calendar year and documented in an annual performance contract. Each employee's variable performance pay is based on a weighting of performance objectives, which are measured by key metrics and by individual goals set out in the employee's annual performance contract.

4. COMPENSATION PRACTICES FOR BARGAINING UNIT EMPLOYEES

Over half of Toronto Hydro's employees belong to collective bargaining units represented by the Power Workers' Union ("PWU"), the Society of United Professionals - Engineers ("Society Engineers"), or the Society of United Professionals - IT ("Society IT"). Toronto Hydro's compensation costs with respect to these employees are negotiated through periodic collective bargaining in accordance with the legal duty to bargain in good faith.

The utility has both contractual and statutory obligations to honour the terms of its collective bargaining agreements.[6]

Toronto Hydro's bargaining interests are focused on supporting the organization's ability to safely execute capital and operational programs in an efficient and cost-effective manner while preserving management's rights to manage and direct the workforce. To achieve negotiated settlements that are fair and reasonable for its employees, while continuing to provide efficient service to its customers, the utility monitors and considers external compensation data, bargaining trends and past settlements.

4.1 PWU Collective Agreement

Table 5 below summarizes the year-over-year general wage increases for PWU under the previous and current collective agreement. The current collective agreement with PWU effective as of February 1, 2022 and until January 31, 2027, resulted in a 2.6 percent average general wage increase, in line with the multi-year average general wage increases under similar collective agreements for the peer group of Ontario distributors identified in the benchmarking evidence at Exhibit 4, Tab 1, Schedule 1.[7]

Table 5: PWU General Wage Increases (2020-2026)

2020	2021	2022*	2023	2024	2025	2026
2.3%	2.3%	2.5%	2.5%	2.5%	2.5%	3.0%

New collective agreement effective February 1, 2022 until January 31, 2027.

[6] *Ontario Labour Relations Act,* 1995, S.O. 1995, c. 1, Sched. A, section 56.

[7] The peer group consists of the large and mid-sized Ontario distributors: Hydro One, Hydro Ottawa, Alectra Utilities, Elexicon Energy, London Hydro, EnWin Utilities, and Enova Power. With the exception of Elexicon and Hydro One, these distributors serve the top 10 cities in Ontario (by population size). Hydro One was included in the peer group because it serves approximately 90 percent of the service territory in the province, and Elexicon Energy was included because it is the fourth largest municipality-owned electricity distributor in the province.

In addition to general wage increases, PWU employees not already paid at the top of the wage scale are eligible, based on performance, for step increases as a result of progression on the wage scale from one step to the next.

4.2 Society Engineers Collective Agreement

The utility's current collective agreement with the Society Engineers came into effect January 1, 2020 and is valid until December 31, 2023. Table 6 below summarizes the year-over-year general wage increases for Society Engineers employees.

Table 6: Society Engineers General Wage Increases (2020-2023)

2020	2021	2022	2023
1.20%	1.50%	1.60%	2.00%

In addition to general wage increases, Society Engineers employees are also eligible, based on performance, for: (i) step increases as a result of progression on the wage scale from one step to the next if not already paid at the top of the wage scale, and (ii) variable performance pay based on achievement of the deliverables outlined in annual performance contracts, as well as the achievement of the utility's performance measures.

4.3 Society IT Collective Agreement

The Society of United Professionals was certified as the bargaining agent for applicable Information Technology employees at Toronto Hydro on November 21, 2018. On November 9, 2020, the Society of United Professionals First Collective Agreement with Society IT employees was awarded beginning January 1, 2019 and expiring December 31, 2020. The utility's current collective agreement with Society IT employees came into

effect January 1, 2021 and is valid until December 31, 2025. Table 7 below summarizes the year-over-year general wage increases for Society IT employees.

Table 7: Society IT General Wage Increases (2020-2025)

2020	2021	2022	2023	2024	2025
2.30%	1.50%	2.50%	2.50%	2.75%	3.00%

In addition to general wage increases, Society IT employees are also eligible, based on performance, for: (i) step increases as a result of progression on the wage scale from one step to the next if not already paid at the top of the wage scale, and (ii) variable performance pay based on achievement of the deliverables outlined in annual performance contracts, as well as the achievement of the utility's performance measures.

5. BENEFITS AND PENSIONS

Toronto Hydro provides a pension for fulltime employees through its membership in Ontario Municipal Employees Retirement System ("OMERS"), a multi-employer defined benefit pension plan. In addition to OMERS, Toronto Hydro provides other employment benefits to employees, including: medical insurance, including vision care, prescription drugs, and paramedical services; dental insurance, including major dental and orthodontic services; short-term disability ("STD") and long-term disability ("LTD") income protection; and life insurance and accidental death and dismemberment ("AD&D") insurance. Other benefits costs paid by Toronto Hydro include employer contributions for the following:[8]

- Workplace Safety and Insurance Board ("WSIB") premiums;

[8] Aside from pensions, all contributions are required under Canadian law.

- Pension contributions;
- Canadian Pension Plan contributions;
- Employment insurance contributions; and
- Employer health tax contributions.

Tables 8 and 9 below outline the cost of employee benefits for the current 2020-2024 and the future 2025-2029 rate periods, respectively.

Table 8: 2020-2024 Employee Benefit Costs ($ Millions)

	2020 Actual	2021 Actual	2022 Actual	2023 Bridge	2024 Bridge
Employee Benefits Cost	52.4	49.0	50.1	55.9	66.6

Table 9: 2025-2029 Employee Benefit Costs ($ Millions)

	2025 Forecast	2026 Forecast	2027 Forecast	2028 Forecast	2029 Forecast
Employee Benefits Cost	74.5	81.8	88.9	96.6	104.6

Toronto Hydro periodically reviews the trends and costs associated with its benefit programs to help ensure that the program is aligned with the labour markets within which Toronto Hydro competes for talent.

As part of the study filed at Exhibit 4, Tab 4, Schedule 5, Mercer Canada reviewed Toronto Hydro's market position for employer paid benefits in respect of two components: active benefits (e.g. life insurance, accidental death & dismemberment insurance, short-term disability, long-term disability, health and dental, health care spending account) and employer pension contributions.

For active benefits, Mercer found that Toronto Hydro provides a top quartile active benefits plan when compared to the energy and general industry peer groups. For pensions, relative to the overall market (which includes both defined benefit and defined contribution plans),[9] Toronto Hydro's pension arrangements through OMERS are above the 50th percentile among both the energy and general industry peer group companies. However, when considering only comparators that provide Defined Benefit pensions to new hires, Toronto Hydro's pension arrangements through OMERS are aligned to the 50th percentile relative to both the energy and general industry peer group companies.

Toronto Hydro conducts regular reviews to support effective program governance and prudent cost management while providing a comprehensive and market-competitive benefits program that supports the utility's ability to attract and retain talent in a highly competitive labour market. For example, in 2022, Toronto Hydro complete a comprehensive dependent eligibility review for all active employees with family coverage.

To manage benefits costs, Toronto Hydro also regularly negotiates with benefit providers and conducts comprehensive vendor market reviews on a periodic basis. In 2021 Toronto Hydro conducted a vendor market review for the Employee and Family Assistance Program which resulted in the utility securing a new provider for employee mental health and overall wellness at a reduced per member rate of approximately 30 percent.

Toronto Hydro offers its employees a number of health and wellness initiatives, including the aforementioned Employee and Family Assistance Program that provides employees and their dependents access to work-life/wellness resources such as support for mental

[9] Determining the benefit that a pension plan member will receive in retirement depends on the type of plan. In a defined benefit plan, members can expect a predicable monthly income in retirement. In a defined contribution plan, the future benefit can vary because it is impacted by the returns earned by the investment pool. What is defined in this type of plan is the amount of contributions put into the plan.

health and relationship counselling. In 2020, Toronto Hydro introduced a virtual healthcare program that offers 24/7 online access to healthcare professionals. The program was introduced early during the pandemic to help mitigate the risk and spread of COVID-19 by reducing the need for in-person medical walk-in clinic visits while still ensuring employees had access to medical professionals. In 2022, Toronto Hydro enhanced its coverage for mental health services (e.g. psychologists and social workers) in recognition of the rising importance of mental health wellness.

Both participating employers and their employees are required to make contributions to the OMERS pension plan. The required contribution rates are based on the employee's earnings, and are periodically reviewed by the OMERS Sponsors Corporation relative to the assets and obligations of the plan. Participating employees and employers currently contribute to OMERS 9 percent of earnings up to the Yearly Maximum Pensionable Earnings ("YMPE") and 14.6 percent on earnings above the YMPE. The YMPE is the Canada Pension Plan ("CPP") earnings limit (i.e. contributions to the CPP are made on earnings up to this limit). The OMERS contribution rate is lower up to the YMPE because OMERS is designed to work together with CPP to provide combined pension benefits.

Tables 10 and 11 below summarize Toronto Hydro's pension costs, including capitalized and expensed amounts each year, for the current 2020-2024 and the future 2025-2029 rate periods, respectively. Toronto Hydro's pension costs are recovered using a default accrual basis.

Table 10: 2020-2024 Pension Costs ($ Millions)

	2020 Actual	2021 Actual	2022 Actual	2023 Bridge	2024 Bridge
Pension Contributions	17.1	15.8	16.3	20.0	22.8
Less: Amount Capitalized	8.2	7.5	8.3	10.1	11.5
Amount Expensed	9.0	8.4	8.1	10.0	11.3

Please note that the numbers in the table may not sum due to rounding.

Table 11: 2025-2029 Pension Costs ($ Millions)

	2025 Forecast	2026 Forecast	2027 Forecast	2028 Forecast	2029 Forecast
Pension Contributions	24.8	26.4	28.0	29.6	31.0
Less: Amount Capitalized	12.4	13.3	14.2	15.0	15.8
Amount Expensed	12.4	13.2	13.8	14.5	15.2

Please note that the numbers in the table may not sum due to rounding.

In addition to pension benefits, Toronto Hydro pays certain medical, dental, and life insurance benefits on behalf of its retired employees. An actuarial analysis using the projected unit credit method determines the cost of these benefits. This method incorporates Toronto Hydro's best estimate of future salary levels, retirement ages of employees, health care costs, and other actuarial factors. The latest actuarial valuation was performed by Willis Towers Watson based on information current as of January 1, 2022, and forecasts of post-employment benefit costs are based on extrapolations of those results (see Exhibit 4, Tab 4, Schedule 4, Appendix A).

Tables 12 and 13 below presents Toronto Hydro's post-employment benefit costs, including capitalized and expensed amounts, for the current 2020-2024 and the future

2025-2029 rate periods, respectively. Toronto Hydro's post-employment benefit costs are recovered using a default accrual basis.

Table 12: 2020-2024 Post-employment Benefit Costs ($ Millions)

	2020 Actual	2021 Actual	2022 Actual	2023 Bridge	2024 Bridge
Benefit Costs	15.7	14.6	13.9	11.5	13.0
Capitalized Amounts	7.4	6.9	7.0	5.8	6.5
Expensed Amounts	8.2	7.7	6.9	5.7	6.5

Please note that the numbers in the table may not sum due to rounding.

Table 13: 2025-2029 Post-employment Benefit Costs ($ Millions)

	2025 Forecast	2026 Forecast	2027 Forecast	2028 Forecast	2029 Forecast
Benefit Costs	14.1	15.0	15.8	16.6	17.4
Capitalized Amounts	7.0	7.5	8.0	8.4	8.9
Expensed Amounts	7.1	7.4	7.8	8.2	8.5

Please note that the numbers in the table may not sum due to rounding.