EB-2017-0049

IN THE MATTER OF the *Ontario Energy Board Act 1998*, S.O. 1998, c.15, (Schedule B);

AND IN THE MATTER OF an application by Hydro One Networks Inc. for an order approving just and reasonable rates and other charges for electricity distribution to effective January 1, 2018 to December 31, 2022.

CANADIAN MANUFACTURERS & EXPORTERS ("CME")
COMPENDIUM FOR
HYDRO ONE NETWORKS INC. ("HONI")
WITNESS PANEL 5

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(1)

hydro One

Distribution Business Plan 2017-2022

December 2, 2016

INTERNAL and CONFIDENTIAL

Strategy and Business Objectives

Corporate Vision, Values and Strategy

Hydro One is transforming to achieve its **vision** of becoming a best-in-class, customer-centric commercial entity, with a culture of continuous improvement and excellence in execution. To achieve this vision, Hydro One will execute on its **strategy** to distribute electricity safely and reliably in a manner that produces the greatest value for customers. Hydro One seeks to be excellent in every facet of its operations, to the benefit of customers, employees and shareholders.

Hydro One's **commercial** orientation means that the company will be focused on customers, demonstrate corporate accountability for performance outcomes, and drive company-wide efficiency and productivity. Understanding customers' needs and preferences and delivering distribution system outcomes that are valued by customers are critical to Hydro One's future success.

Hydro One's vision and strategy reflects **values** that are integral to the well-being of communities:

- Maintaining a safe workplace;
- Caring for customers;
- Operating as one company;
- Being people-powered; and
- Executing with excellence.

Hydro One's executive leadership and Board of Directors are committed to building a strong performance management culture and the ability to measure and track performance is essential to this vision.

Hydro One's vision, strategy and values inform everything the company does, as it works to align three competing but equally important factors: customer needs and preferences, responsible stewardship of its distribution system, and customer rates.

Hydro One's approach to the development of this six-year business plan has been shaped by: (i) the company's commitment to reduce costs and increase productivity and efficiency before asking customers to pay more; (ii) directing investment to address specific customer needs and preferences; (iii) reducing or deferring investment levels to where increases in reliability risk can reasonably be justified by lower rates; and (iv) the resulting rates profile for the 2018 to 2022 portion of the planning period, evaluated in the context of the results of Hydro One's distribution customer engagement process.

Hydro One has also taken into account previous direction by the Ontario Energy Board (OEB) acknowledging that the company's distribution system is in need of additional investment, and that the company should be finding cost effective ways to improve its performance.

As a result of this approach, the investment planning process that culminated in this Distribution Business Plan and the Distribution System Plan described herein was iterative; Hydro One created several different asset investment plans with different customer outcomes and rate impacts, and these plans were evaluated by the Executive Leadership Team and discussed with the company's Board of Directors. The Distribution Business Plan and the associated Distribution System Plan in this document represent an investment plan that appropriately aligns the needs and preferences of customers, customer rates and effective stewardship of the distribution system by Hydro One.

Circumstances & Challenges

Hydro One is the largest electricity distributor in Ontario. Hydro One serves more than 1.3 million customers in largely rural and suburban areas across Ontario, with approximately 123,000 circuit kilometers of lower-voltage power lines, 1.6 million poles and over 1,000 distribution and voltage regulating stations.

Geography

Hydro One's service area is one of the largest in North America. It is predominantly rural, with below average customer density by land area, higher than average tree density, and a higher than average number of storms, especially in winter, that damage the distribution system on a regular basis. Hydro One maintains over 100,000 kilometers of rights-of-way, and although the majority of the company's distribution power lines are along roadways, one-third of the lines are off-road, requiring the use of special equipment for access and maintenance.

Reliability

Reliability performance is affected by factors such as: vegetation, equipment performance, geography, and exposure to adverse weather, and as a result, the reliability of Hydro One's distribution system varies by location. In addition, much of Hydro One's distribution network uses a radial circuit design to cover large areas. A radial circuit design does not provide the redundant power supplies that are common in urban areas. These factors increase both the frequency and duration of power outages and also increase the time and cost of restoring power when outages occur.

Aging and Deteriorating Infrastructure

Much of Hydro One's distribution system was built in the 1950s and 1960s and as a result, many of the company's assets are approaching or beyond the end of their expected service life. While replacement decisions are based on actual asset condition, age is an indicator of additional asset replacements over the business planning period. For example, Hydro One currently has 240,000 wood poles (15% of fleet) that are beyond their expected service life of 60 years and 144 station transformers (12% of fleet) are beyond their expected life of 50 years. If no replacements are made in the next five years, the number of wood poles beyond their expected service life rises to 400,000 (25% of fleet) and the number of transformers beyond their

expected service life rises to 360 (30% of fleet). Assets that remain in use beyond their expected service life generally demonstrate higher failure rates. Significant investment is required to maintain the system in a reliable state.

Rising Cost of Power

Hydro One is very aware customers are experiencing increasing and, in many cases, unmanageable electricity bills. These increases have been driven by many factors, including investments in electricity generation, and material changes in generation fuel mix, from lower-cost coal to greater reliance on cleaner and more efficient natural gas, nuclear and renewable generation. In addition, conservation and demand management initiatives have increased costs, on a kWh basis, as predominately fixed system investment is recovered over lower total Ontario Demand. All of these factors, combined with the need for Hydro One to replace deteriorated assets and invest in the distribution system, have increased customer bills significantly. While Hydro One does not control external factors it is mindful of the overall impact these costs have had on customers and customers' willingness and ability to pay rates that support needed investment in Hydro One's distribution system.

Business Objectives

Hydro One Distribution's business objectives are directly aligned with the OEB's *Renewed Regulatory Framework for Electricity* (RRFE), as shown in the table below.

Hydro One's Values and Business Objectives

Customer Focus	**Customer Satisfaction**	• Improve current levels of customer satisfaction
	Customer Focus	• Engage with our customers consistently and proactively • Ensure our investment plan reflects our customers' needs and desired outcomes
Operational Effectiveness	**Cost Control**	• Actively control and lower costs through OM&A and capital efficiencies
	Safety	• Drive towards achieving an injury-free workplace for employees and the public
	Employee Engagement	• Achieve and maintain employee engagement
	System Reliability	• Provide reliability consistent with customer expectations
Public Policy Responsiveness	**Public Policy Responsiveness**	• Ensure compliance with all codes, standards, and regulations • Partner in the economic success of Ontario
	Environment	• Sustainably manage our environmental footprint
Financial Performance	**Financial Performance**	• Achieve the ROE allowed by the OEB • Manage planning and spending to mitigate customer impacts

Distribution Business Plan 2018-2023

December 8, 2017

INTERNAL and CONFIDENTIAL

Strategy and Business Objectives

Corporate Vision, Values and Strategy

Hydro One Limited is a purpose-led and values-driven company. Earlier in 2017, Hydro One launched the values that are integral to the company and to its communities. Those values include:

- Safety comes first;
- Stand for people;
- Empowered to act;
- Optimism charges us; and
- Win as one.

Hydro One Limited's strategic vision and business goals are consistent with and included in the business plans for Hydro One. This strategy will involve executing a number of strategic initiatives as follows:

- Optimization of the Core;
- Innovation in the Core; and
- Building Scale and Diversifying the Business through M&A.

Optimization and Innovation in the Core

For the Ontario-based, rate-regulated distribution business Hydro One Limited is transforming to achieve its vision of becoming a best-in-class, customer-centric commercial entity, with a culture of operational excellence and continuous improvement. To achieve this vision, Hydro One Limited will execute on its strategy to distribute electricity safely and reliably in a manner that produces the greatest value for customers. Hydro One Limited seeks to be excellent in every facet of its operations, to the benefit of customers, employees and shareholders.

Hydro One Limited's commercial orientation means that the company will be focused on customers, demonstrate corporate accountability for performance outcomes, and drive company-wide efficiency and productivity. Understanding customers' needs and preferences and delivering distribution system outcomes that are valued by customers are critical to Hydro One Limited's future success. Hydro One Limited will excel at managing relationships with key stakeholders including customers, Indigenous communities, employees, governments and regulators.

Innovation will become a focus for the company and Hydro One Limited plans to invest in innovation to modernize the distribution grid, improving reliability and efficiencies as well as building a platform for connecting distributed energy resources.

Circumstances & Challenges

Hydro One Networks (Hydro One or the Company) is the largest electricity distributor in Ontario. Hydro One serves more than 1.3 million customers in largely rural and suburban areas across Ontario, with approximately 123,000 circuit kilometers of lower-voltage power lines, 1.6 million poles and over 1,000 distribution and voltage regulating stations.

Geography

Hydro One's service area is one of the largest in North America. It is predominantly rural, with below average customer density by land area, higher than average tree density, and a higher than average number of storms, especially in winter, that damage the distribution system on a regular basis. Hydro One maintains over 104,000 kilometers of rights-of-way. The majority of the company's distribution power lines are located along roadways, and about one-quarter of the lines are off-road, requiring the use of special equipment for access and maintenance.

Reliability

Reliability performance is affected by vegetation, equipment performance, geography, and exposure to adverse weather, and as a result, the reliability of Hydro One's distribution system varies by location. In addition, much of Hydro One's distribution network uses a radial circuit design to cover large areas. A radial circuit design does not provide the redundant power supplies that are common in urban areas. These factors increase both the frequency and duration of power outages and also increase the time and cost of restoring power when outages occur.

Aging and Deteriorating Infrastructure

Many of Hydro One's assets are approaching or beyond the end of expected service life. While replacement decisions are based on actual asset condition, age is an indicator of an increasing requirement for asset replacements over the business planning period. For example, Hydro One currently has 280,000 wood poles (17% of fleet) that are beyond their expected service life of 60 years and 279 station transformers (23% of fleet) that are beyond their expected life of 50 years. If no replacements are made in the next five years, the number of wood poles beyond their expected service life rises to 400,000 (25% of fleet) and the number of transformers beyond their expected service life rises to 507 (41% of fleet). Assets that remain in use beyond their expected service life generally demonstrate higher failure rates. Significant investment is required to maintain the system in a reliable state.

Rising Cost of Power

Customers are experiencing increasing and, in many cases, unmanageable electricity bills. These increases have been driven by many factors, including investments in electricity generation, and material changes in generation fuel mix, from lower-cost coal to greater reliance on cleaner and more efficient natural gas, nuclear and renewable generation. In addition, conservation and demand management (CDM) initiatives have increased costs, on a kWh basis, as predominantly fixed system investment is recovered over lower total Ontario Demand. All of these factors,

Customer Focus

Customer Engagement for Developing the Distribution System Plan

Hydro One's objective is to engage with customers consistently and proactively. Hydro One has a three-pronged approach to engaging its distribution customers: formal customer engagement, stakeholder engagement and other on-going forums through which Hydro One interacts with its distribution customers. The company's full spectrum of customer initiatives is designed to: (i) increase the company's understanding of customers' needs and preferences; (ii) enhance Hydro One's ability to provide services that meet these needs; (iii) produce outcomes that are valued by customers; and (iv) result in an improvement of customers' overall satisfaction with the service they receive.

In the summer of 2016, Hydro One undertook a comprehensive customer engagement initiative to identify customer needs and preferences and incorporate findings in Hydro One's Rate Filings and Business Plans.

Hydro One engaged Ipsos, a global market research company, to assist in the design, execution, facilitation, and documentation of this customer engagement initiative.

Results of Customer Engagement

The customer engagement process produced the following key findings that are consistent with the Distribution System Plan and Distribution Business Plan set out in this document:

- Keeping costs as low as possible is customers' top priority. This preference is influenced by a desire to see Hydro One demonstrate greater fiscal management and operational efficiency before considering rate increases. Many customers believe that total electricity costs are approaching being unaffordable;
- Maintaining reliable electricity service is consistently second priority to cost. Power quality events and unplanned momentary power interruptions of less than one minute, rather than sustained interruptions of one minute or more, is the primary concern. Some customers have capacity challenges and want more access to power in order to grow their enterprises. Customer service improvements are not something for which customers are willing to pay higher rates;
- Large customers are more concerned with the reliability of service they currently receive than residential and small business customers. However, although this group of customers is more inclined to value better reliability, they are not willing to entertain the corresponding rate impact;
- All large customer segments prioritize the renewal program that focuses on replacing equipment that affects reliability ahead of other options for improving reliability. Other

options include: tree-trimming, using technology to reduce the chances of losing power, strengthening the grid to better withstand severe weather, better detection of outages and/or remotely responding to outages; and

- Willingness to accept a rate increase to maintain and improve service level is limited. The majority of residential and small business customers are unwilling to accept higher rate impacts for better reliability; large customers generally accept that investments are needed; however they expect Hydro One Networks Distribution Business to exhaust all operational efficiencies before raising rates. At present, there is limited acceptance of any of the illustrative rate impact scenarios, even to maintain the current levels of reliability and service.

How the Distribution System Plan reflects Customer Needs and Preferences

Hydro One's Distribution System Plan reflects its general assessment of customer needs and preferences. Customer needs and preferences have been incorporated into the Distribution System Plan in the following ways:

- Pacing of investments in order to minimize rate impacts and offset the effects of a reduced load forecast. This includes managing asset replacement rates and, where appropriate, accepting potentially increased reliability risk to reduce or defer capital spending requirements in order to minimize customer rates;
- Implementing a number of productivity and efficiency initiatives to reduce unit and operating costs;
- Improving power quality for Large Distribution Account (LDA) customers by creating an operations, maintenance and administration (OM&A) program to assist customers with power quality investigations, and a capital program to install power quality meters, surge arrestors, and improve grounding; Increasing funding for reliability enhancement projects specifically targeting LDA and mid-size industrial customers. These projects will be selected to improve system reliability where performance concerns have been raised. Investments may include installing lightning arrestors, new switches, automatic sectionalizing devices, or creating feeder ties to improve restoration time. The funding for these investments will increase by approximately $3 million annually starting in 2018 from the current level of approximately $1.5 million per year; and
- Focusing on improving reliability of the worst performing feeders in the Province by improving sectionalization and automation of these feeders. This will allow controllers to quickly isolate faults and restore power to the majority of effected customers soon after the issue is identified. This program will annually invest between $14 million in 2018 and $20 million in 2022.

Distribution System Plan

Hydro One's Distribution System Plan reflects the outcome of Hydro One's 2016 investment planning process. It prioritizes and paces its investment plans over the 2017 to 2022 planning period to align (i) identified customer needs and preferences; (ii) responsible stewardship of Hydro One's distribution system; and (iii) customer rates. This distribution system plan has been submitted to the OEB and is currently under regulatory litigation. While the Distribution System Plan and its associated outcomes have not materially changed since it was filed, Hydro One continues to develop innovative approaches that will improve reliability without increasing the cost of the work program.

Summary of Investment

A summary of 2018 to 2022 distribution capital expenditures is set out in the table below. The resultant rate changes are a 5.7% increase in 2018 and an average annual increase of 3.4% from 2019 to 2022.

Description	2018	2019	2020	2021	2022
Sustainment	300	369	386	400	481
Development	230	240	233	232	233
Operations	27	43	6	6	8
Common Projects and Programs	75	89	82	73	75
Total	**$ 632**	**$ 741**	**$ 707**	**$ 711**	**$ 797**

The breakdown of the budget according to the OEB's RRF is set out in the following table:

Description	2018	2019	2020	2021	2022
System Access	155	158	161	164	168
System Renewal	249	319	337	357	445
System Service	82	93	86	78	68
General Plant	146	171	123	112	116
Total	**$ 632**	**$ 741**	**$ 707**	**$ 711**	**$ 797**

An overview of the main conditions driving the investments in each of the OEB-compliant asset investment categories is set out below.

System Access

System access investments enable new connections, line relocations, and service upgrades. Activities in this category are stable over the first four years of the investment plan, leading to increases in line with inflation. There is a significant increase in projected spending in 2022, reflecting the anticipated commencement of an end-of-life smart meter replacement program.

System Renewal

System renewal investments primarily consist of storm damage restoration, pole replacements, and distribution station refurbishments. Storm damage restoration costs are expected to remain stable over the planning period. The pole replacement program is expected to increase until 2020 to address poles that have reached the end of their expected useful life. The station refurbishment program is expected to continue increasing to reflect the growing number of assets expected to reach the end of their useful life.

System Service

System service investments accommodate increases in load that would otherwise limit the ability of the system to provide consistent service. Additionally, the modernization of the worst performing feeders will improve system reliability for specific poorly performing supply feeders. While system service investments are projected to fall slightly over the planning period, Hydro One expects variability from year-to-year based on specific investment needs.

General Plant

General plant investments include spending on transport and work equipment and on facility improvements. There is a significant increase in the spending from 2017 to 2020 to accommodate the new Integrated System Operations Centre (ISOC), which will replace the existing backup power system control and telecommunications management centers and accommodate a new security operations center to meet business and regulatory requirements.

Continuous Improvement

As part of Hydro One's emphasis on improving the customer experience, investment effectiveness, and business outcomes, the following refinements have been made since this plan was approved in 2016. These refinements will not impact funding requirements.

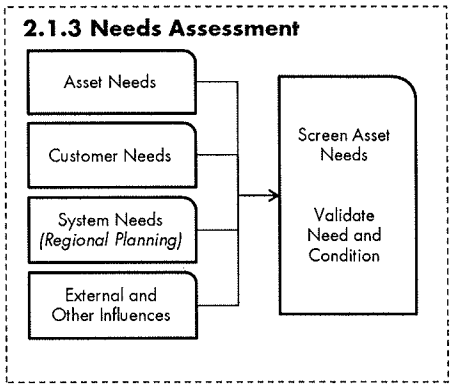
Adjusting Vegetation Management Approach

An accumulation of backlogged maintenance in Hydro One's vegetation management program has been identified as a large contributor to poor system reliability. As a result, Hydro One is implementing a new vegetation management strategy. This strategy places Hydro One on an industry-leading 3 year cycle that will reduce safety risks, improve reliability and improve customer satisfaction. The strategy will not require any increases to the existing funding requirements and is expected to realize significant benefits by 2021. This transformation will also improve unit cost in the long term.

Optimizing Sustainment Investments and Modernizing Worst Performing Feeders

Optimizing selected sustainment investments to focus on location-specific challenges will positively impact customer outcomes and lead to work bundling and greater operational efficiencies. For example, giving additional attention to the worst performing feeders is expected

2.1.3 (5.3.1 B) NEEDS ASSESSMENT



Hydro One performs a needs assessment in order to identify the needs that will drive the development of candidate investments. The needs assessment considers the asset needs, customer needs and preferences, system needs (including regional planning) and other external influences. The needs assessment also identified potential hazards, vulnerabilities, threats or other risk sources that could present risks to achieving Hydro One's Business Objectives

2.1.3.1 ASSET NEEDS

Individual asset needs are determined, in part, by performing an asset risk assessment ("ARA"), which relies on various information sources such as asset condition data, asset registry for demographics, system configuration, and system performance and utilization data. SAP is Hydro One's asset registry with some supplemental asset information being extracted from GIS, such as conductor length, secondary circuits, etc.

Each of these different information sources are used to assess risk by their corresponding asset risk category, as described below. This assessment is the same process that Hydro One applied in the previous Distribution Rate Application (EB-2013-0416) and is outlined in Figure 10 below.

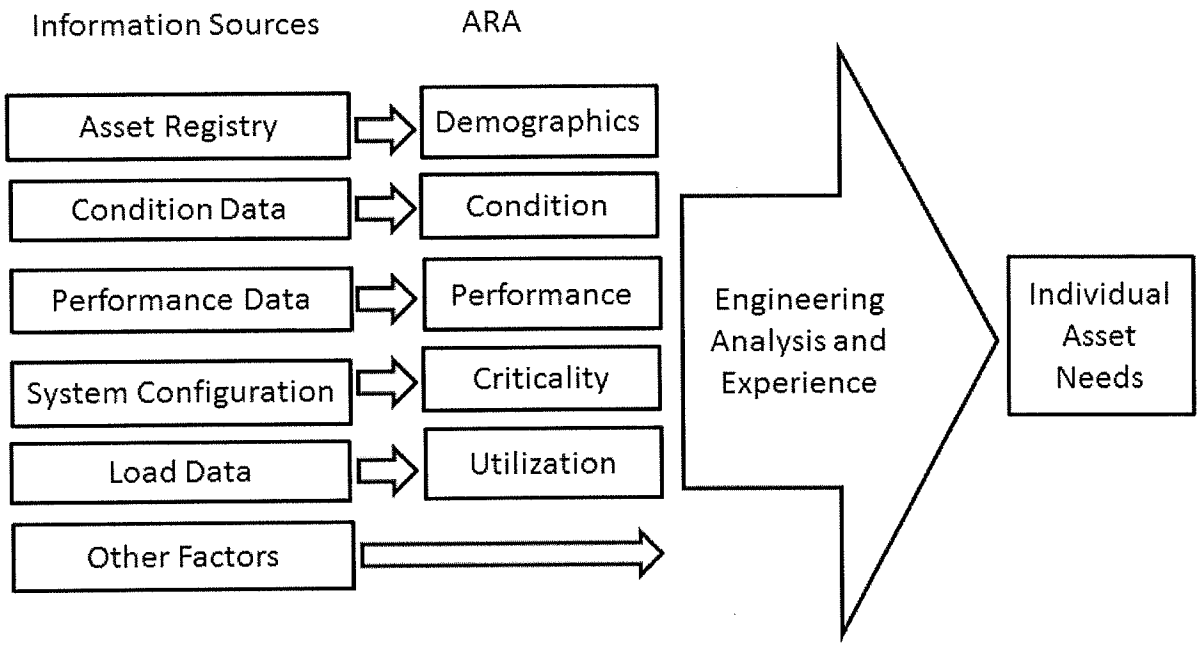


Figure 10 - Asset Need Development Process

Asset Demographic Risk

Asset demographic risk relates to the increased probability of failure exhibited by assets of a particular make, manufacturer, and/or vintage. Asset demographic data by make and manufacturer is contained within Hydro One's asset registry. Typically, the probability of asset failure increases with age. Thus, the asset demographic risk increases as an asset ages.

At times, specific asset makes or models are observed to deteriorate at a markedly different rate than other assets of the same type. For example, Hydro One has observed increased deterioration rates in Red Pine wood poles of specific vintages. Poles of this material and of these specific ages therefore carry a higher asset demographic risk than other wood poles of the same age.

Witness: Darlene Bradley

Assets with relatively high demographic risk are candidates for refurbishment or replacement.

Asset Condition Risk

Asset condition risk relates to the increased probability of failure that assets experience when their condition degrades over time. Asset condition is defined using different criteria depending on the asset. For example, the condition of a distribution station transformer is measured by visual inspection and analysis of the oil within the transformer. The condition of a wood pole is measured by a visual inspection, a sounding test and, if required, a boring test. While methods to evaluate condition vary from asset type to asset type, the condition of all assets of a given type is evaluated consistently.

Asset Performance Risk

Asset performance risk reflects the historical performance of an asset. Performance is defined by any power interruptions that have been caused by failure of the asset. Hydro One tracks the failure of an asset and customer power interruption data using its distribution Outage Response Management System. This risk factor considers the frequency and duration of these interruptions, as well as whether the interruptions are occurring more or less frequently over time. Past performance can be a good indicator of expected future performance.

Asset Criticality

Asset criticality represents the impact that the failure of a specific asset has on the distribution system. Primarily, it is defined by the number, type and size of customers impacted by the failure of a given asset. Assets whose failure would result in an

interruption to a higher number of customers or in a larger amount of load would have an asset criticality that is higher than assets whose failure would have a smaller customer impact.

Asset criticality does not directly drive a decision to refurbish or replace an asset. However, it is used to prioritize the refurbishment or replacement of assets whose other risk assessment factors has already resulted in the asset being considered a candidate for refurbishment or replacement.

Asset Utilization Risk

Asset utilization risk represents the increased rate of deterioration (or increased risk of failure) exhibited by an asset that is highly utilized. While not all assets exhibit this increased rate, the deterioration of some assets is highly dependent on the loading placed upon them or the number of operations they experience. For example, transformers that are heavily loaded beyond their nameplate rating deteriorate more quickly than those that are lightly loaded. Therefore, the asset utilization risk for transformers attempts to consider their relative deterioration based on available loading history.

In assessing asset needs, planners also consider other factors such as environmental risk and requirements, compliance obligations, equipment defects, and health and safety considerations. The results of the ARA, in conjunction with the other factors, are analyzed to develop a list of asset needs by major asset type. The specific information and risks utilized to determine asset needs is dependent on the major asset.

Table 9: Summary of Distribution Capital and OM&A Expenditures ($ Millions)

	Historical (previous plan and actual)											Forecast (planned)				
	2013 [1]	2014 [1]	2015			2016			2017 Bridge [2]			2018	2019	2020	2021	2022
	Plan	Plan	Plan	Actual	Var	Plan	Actual	Var	Plan	Actual	Var	Test	Test	Test	Test	Test
CATEGORY	$M	$M	$M		%	$M		%	$M		%	$M	$M	$M	$M	$M
System Access	159.5	199.4	183.3	188.1	2.6	182.6	182.7	0.0	176.1	168.3	(4.4)	154.6	157.6	160.9	165.9	170.0
System Renewal	265.7	262.7	250.7	308.4	23.0	265.4	288.3	8.6	285.0	252.2	(11.5)	248.6	318.7	336.7	362.5	451.1
System Service	96.5	85.5	120.1	71.6	(40.4)	103.3	77.4	(25.1)	110.1	66.6	(39.5)	81.8	93.4	85.6	78.8	69.5
General Plant	115.3	99.9	94.8	110.1	16.2	103.3	145.9	41.2	90.1	146.3	62.3	149.0	187.1	135.8	133.4	136.6
Total	637.0	647.5	648.9	678.3	4.5	654.7	694.2	6.0	661.4	633.5	(4.2)	633.9	756.8	719.0	740.7	827.2
System OM&A [3]	610.6	674.5	543.1	572.5	5.4	589.1	562.6	(4.5)	593.0	572.8	(3.4)	584.8	593.3	601.9	621.4	630.4

1) 2013 and 2014 were IRM years and therefore do not have Board-approved capital expenditure figures.

2) Bridge year 2017 is a forecast as of end of 2016

3) System OM&A values include all Operations, Maintenance and Administration expenses.

Exhibit Reference: B1-1-1

Description	Historic					Bridge		Test
	2014 IRM	2015		2016		2017		2018
	Actual	Actual	Approved	Actual	Approved	Forecast	Approved	Forecast
Transformation Costs Reduction								(3.2)
OPEB OM&A Reduction								(1.9)
Total (December Update)	**674.5**	**572.5**	**543.1**	**562.6**	**589.1**	**572.8**	**593.0**	**579.6**

Exhibit Reference: C1-1-1

These cuts are in addition to the reduction of $7.1 million in pension expenses that Hydro One included in its Application update in June 2017 which reduced its OM&A expenses. Combined, the reductions for transformational costs ($3.2 million), pension costs ($7.1 million) and OPEB costs ($1.9 million) amount to a total reduction of $12.2 million to the compensation expenses originally proposed in this Application, ultimately reducing the OM&A expenses for 2018 and subsequently for 2019-2022.

As a result of these reductions, the OM&A requested for recovery in the test year is 2.3% lower than the 2017 OEB-approved amount. Compared to the 2017 forecast, it is an increase of 1.2%.

1.2 A REDUCTION IN THE CAPITAL FORECAST; UPDATED RATE BASE AND IN-SERVICE ADDITIONS FORECASTS

Since the Application was filed on March 31, 2017 and subsequently updated on June 7, 2017, Hydro One has now completed an annual investment planning cycle with its new management team. The outcome of this process has caused Hydro One to make adjustments to General Plant projects, productivity targets, and lower capital expenditures due to reduced pension and OPEB costs. The revised capital forecast over the five year period has been reduced by a total of $106.3 million. Revised annual capital forecasts for

each year is reflected in Table 4, together with the revised 2018 OM&A forecasts escalated by the OEB's approved 2018 inflation factor of 1.2%, (less the stretch factor of 0.45%) over the 2019-2022 period.

Table 4: Summary of Distribution Capital and OM&A Expenditures ($ Millions)

	Historical (previous plan and actual)											Forecast (planned)				
	2013 [1]	2014 [1]	2015			2016			2017 Bridge [2]			2018 Test	2019 Test	2020 Test	2021 Test	2022 Test
	Plan	Plan	Plan	Actual	Var	Plan	Actual	Var	Plan	Actual	Var					
CATEGORY	$M	$M	$M		%	$M		%	$M		%	$M	$M	$M	$M	$M
System Access	159.5	199.4	183.3	188.1	2.6	182.6	182.7	0.0	176.1	168.3	(4.4)	154.6	157.6	160.9	165.9	170.0
System Renewal	265.7	262.7	250.7	308.4	23.0	265.4	288.3	8.6	285.0	252.2	(11.5)	248.6	318.7	336.7	362.5	451.1
System Service	96.5	85.5	120.1	71.6	(40.4)	103.3	77.4	(25.1)	110.1	66.6	(39.5)	81.8	93.4	85.6	78.8	69.5
General Plant	115.3	99.9	94.8	110.1	16.2	103.3	145.9	41.2	90.1	146.3	62.3	143.1	166.7	116.2	103.7	105.9
Total	637.0	647.5	648.9	678.3	4.5	654.7	694.2	6.0	661.4	633.5	(4.2)	628.1	736.4	699.3	711.0	796.5
System OM&A [3]	610.6	674.5	543.1	572.5	5.4	589.1	562.6	(4.5)	593.0	572.8	(3.4)	579.6	584.0	588.3	603.5	608.0

1) 2013 and 2014 were IRM years and therefore do not have Board-approved capital expenditure figures.
2) Bridge year 2017 is a forecast as of end of 2016
3) System OM&A values include all Operations, Maintenance and Administration expenses.

Exhibit Reference: B1-1-1

The decreased capital forecast is the result of (a) reduced pension and OPEB expenses and (b) changes to General Plant (i.e Common Corporate Capital) investments driven by modified productivity targets and project-level changes, as indicated in Table 5 below.

Table 5: Changes to Capital Forecast

$Millions	**2018**	**2019**	**2020**	**2021**	**2022**
Original Forecast	**633.9**	**756.8**	**719.0**	**740.7**	**827.2**
Pension Capital Reduction	(8.2)	(8.9)	(10.6)	(11.9)	(12.5)
OPEB Capital Reduction	(1.8)	(1.9)	(2.0)	(2.1)	(2.0)
Common Corporate Capital Adjustments / Productivity	4.2	(9.5)	(7.0)	(15.7)	(16.2)
Total Capital December Update	**628.1**	**736.4**	**699.3**	**711.0**	**796.5**

Since Hydro One filed its Application in March 2017, in addition to the OPEB and pension forecast changes reflected in Table 5, the Common Corporate Capital forecasts have changed as follows.

- In 2018, the forecast increased by $4.2 million mostly due to scope refinement for the Integrated Operating Centre investment (ISD GP18). The increase was partially offset by lower spending on transportation and work equipment (ISD GP01) due to higher productivity savings through the telematics program, and lower spending on the work management and mobility investment (ISD GP10).
- In 2019, the forecast is $9.5 million lower due to higher productivity targets for the transportation and work equipment investment (ISD GP01) based on the telematics program and lower spending on the Integrated Operating Centre (ISD GP18) as a result of schedule adjustments and scope refinement. The reduction is partially offset by an acceleration of human resource and pay-related technology investments (ISD GP13) to align with Hydro One's outsourcing agreement.
- In 2020, the forecast is $7.0 million lower reflecting higher productivity targets for the transportation and work equipment investment (ISD GP01) based on the telematics program.
- In 2021, the forecast is $15.7 million lower primarily due to higher productivity targets for the transportation and work equipment investments (ISD GP01) (based on the telematics program), lower spending on work management and mobility (ISD GP10) and lower spending on real estate facilities capital investments (ISD GP02).
- In 2022, the forecast is lower by $16.2 million due to higher productivity targets for transportation and work equipment investment (ISD GP01) (based on the telematics program) and lower spending on the real estate facilities capital (ISD GP02).

Table 6 provides the revised in-service additions forecast based on the capital forecast described above. An updated rate base forecast is provided in Table 7 below.

SR-14 Advanced Meter Infrastructure Hardware Refresh

Start Date:	Q1 2018	**Priority:**	Medium
In-Service Date:	Program	**Plan Period Cost ($M):**	79.9
Primary Trigger:	Mandated Service Obligation		
Secondary Trigger:	Failure Risk		

Investment Need:

Hydro One currently owns, operates, and maintains approximately 1.3 million retail revenue meters. There are several factors that can trigger the need to upgrade these meters; some of the key factors are listed below:

- Hydro One Distribution is accountable, based on the market rules, to upgrade wholesale meter installations to a retail revenue meter when customers decide to become a retail customer of Hydro One Distribution at seal expiry;
- Hydro One Distribution has acquired non-standard meter installations due to a boundary change or the outright acquisition of an LDC;
- Hydro One Distribution has a population of 600V self-contained meters that are being replaced with inherently safer 120V transformer rated meters;
- Hydro One Distribution is required by the Distribution System Code, to upgrade existing customer's demand meters to interval meters when the average annual monthly peak demand is equal to or greater than 50 kW. There is also a requirement to install interval meters for customers who exceed 150,000 kWh of energy consumption per year; and
- Hydro One Distribution will require to replace smart meters once these meters reach the end of expected service life.

Alternatives:

No alternatives are considered, since this program represents the minimum level of work to satisfy Hydro One Distribution's operational requirements. Replacement of meters is critical to maintaining a reliable source of billing settlement data.

Investment Description:

This investment provides planned upgrades to address meters that no longer meet current standards, are obsolete, have reached end of service life; and to address regulatory

requirements imposed by the Distribution System Code. The work includes, but is not limited to the following:

- Upgrade wholesale meter installations or acquired non-standard retail meter installations to Hydro One Distribution's current retail revenue meter standard;
- Upgrade 600V self-contained meters, with expired seals, with new 120V meters. Replacing these 600V meters with an inherently safer 120V unit increases employee and customer safety, allows Hydro One Distribution to meet expired seal obligations, eliminates a reliance on a single source supply as like-for-like replacements are not readily available on the market, and assists in standardizing inventory;
- Upgrade existing customer's meters to interval meters or demand meters when the energy consumption exceeds the thresholds set out in the Distribution System Code; and
- Replace smart meters which have reached the end of their expected service life. Smart meters have a manufacturer service life of 15 years, therefore, meter replacements will commence in 2021 with 3,621 replacements and another 206,119 replacements in 2022. A similar level of replacements will be required beyond the planning period.

The forecast of the number of meters requiring replacement and upgrade annually over the five year period is provided in the table below. The capital investment of each meter upgrade is below $1 million.

	2018	2019	2020	2021	2022
Number of Meter Upgrades/Replaced	341	341	341	4,134	206,632

Risk Mitigation:

The risks to completion of this investment as planned are the availability of the vendor to manufacture and deliver the meters in a timely manner, and the availability of qualified resources to perform the volume of replacements required. These risks are mitigated by providing procurement forecasts upfront to the vendor, maintaining ongoing discussions with vendor regarding future product supply, and managing resources with option to hire temporary staff as required.

Result:

This meter upgrade program will result in:

- Ensuring timely replacement of meters,
- Complying with regulatory requirements, and
- Ensuring a continue reliable source of billing settlement date for customers.

Outcome Summary:

Customer Focus	• Maintain billing accuracy and customer confidence by ensuring reliable meter performance.
Operational Effectiveness	• Maintain reliable operation of the meter and meter infrastructure network by proactively replacing equipment.
Public Policy Responsiveness	• Comply with the OEB Distribution System Code Section 2.10 "Estimated Billing" requirement for no more than 2 estimated meter reads per year and Section 7.11 "Billing Accuracy" requirements.
Financial Performance	• Avoid the cost of manual meter reading through timely replacement of meter and network equipment.

Costs:

The factors which affect the costs in this investment are the following:

- The cost of material and term of procurement contracts; and
- The accessibility conditions of the area in which the meters are being replaced. Accessing off road locations or replacing a meter on a lake cottage can be more costly due to the use of specialized equipment.

Controllable costs have been minimized through standardization of metering device purchasing specifications and issuance of vendor contract to secure unit pricing for procurement of materials.

($ Millions)	2018	2019	2020	2021	2022	Total
Capital* and Minor Fixed Assets	0.0	0.0	0.0	1.4	78.5	79.9
Less Removals	0.0	0.0	0.0	0.0	0.0	0.0
Gross Investment Cost	**0.0**	**0.0**	**0.0**	**1.4**	**78.5**	**79.9**
Less Capital Contributions	0.0	0.0	0.0	0.0	0.0	0.0
Net Investment Cost	**0.0**	**0.0**	**0.0**	**1.4**	**78.5**	**79.9**

**Includes Overhead at current rates.*

Building Owners and Managers Association Toronto Interrogatory # 25

Issue:

Issue 28: Has Hydro One appropriately incorporated Regional Planning in its Distribution System Plan?

Reference:

A-03-01 Page: 27

Interrogatory:

a) What does life cycle optimization in investments mean?

b) Please explain the amount of spending to replace smart meters that are at the end of life in 2021. When were the meters to be replaced in 2021 and 2022 installed? What is the effective life that expected life, compared to other distributors' experience? What were the total meter replacement costs (2017, over what period of time?) What percentage of outstanding smart meters will be replaced?

Response:

a) For an explanation of life cycle optimization investments please refer to ISD SR-13 in Exhibit B1, Tab 1, Schedule 1, DSP Section 3.8.

b) The spending to replace smart meters that are at the end of life is $1.4 million and $78.7 million for 2021 and 2022 respectively.

The meters to be replaced in 2021 and 2022 were installed in 2006 and 2007 respectively.

The expected service life is 15 years. Smart meters are a new technology and there is insufficient data to determine if the expected service life can be exceeded or to allow comparison with other distributors.

The total meter replacement costs in 2017 were $9 million.

The replacements planned for 2021 and 2022 represent 16.5% of the total smart meter population. Beyond this period, Hydro One is planning to replace the remaining smart meter population once their expected service life is reached.

Witness: GARZOUZI Lyla

Canadian Manufacturers & Exporters Interrogatory # 22

Issue:

Issue 29: Are the proposed capital expenditures resulting from the Distribution System Plan appropriate, and have they been adequately planned and paced?

Reference:

B1-01-01 Section 1.1 Page 13 Table 2 and Page 14 of 23

Interrogatory:

Hydro One states: "System Renewal investment costs are projected to increase by an average of 12.3% annually during the forecast period. Storm damage restoration and trouble calls, pole replacements, and distribution station refurbishments (ISD SR-07, ISD SR-09, and ISD SR-06, respectively) make up the bulk of activities in this category."

a) If storm damages restoration and trouble calls are expected to remain stable, the pole replacement program and station refurbishment increase until 2020 and then level off, and smart meter replacement spending doesn't begin until 2022, please explain why system renewal spending is approximately $25.8 million higher in 2021 than it is in 2020.

b) Regarding the significant increase in projected spending in 2022 for the replacement of smart meters, does Hydro One plan on replacing smart meters in areas where they are unable to consistently send a signal?

c) If the answer to b) is yes, are the replacement meters expected to be able to send a signal consistently?

d) If the answer to b) is no, please provide the anticipated cost savings of not replacing the malfunctioning or under-performing smart meters with non-smart alternatives.

e) What are the drivers that determine the useful life of smart meters?

Response:

a) System Renewal expenditures are $25.8 million higher in 2021 versus 2020. This increase in expenditure is primarily due to increases in the following investments:

- $6.4 million increase in Distribution Lines PCB Equipment Replacement Program,

- $2.9 million increase in the Distribution Lines Sustainment Initiatives, and
- $6.4 million increase in Life Cycle Optimization and Operational Efficiency Projects.

The remainder of the increase can be attributed to the remaining System Renewal investments as shown on page 2 in Exhibit B1, Tab 1, Schedule 1, DSP Section 3.7.

b) Hydro One is planning to replace all meters that reach their expected end of life.

c) The advanced meter infrastructure ("AMI") technology has evolved over the past 12 years so it is expected that the next generation of AMI will have a greater reach improving overall communication. However reliability of communication will still be largely dependent on location of the meter and availability of cellular coverage.

d) Response to part (b) is yes.

e) Drivers that determine useful life of smart meter are accuracy, consistency, display legibility, telecom technology obsolescence, and regulatory requirements (i.e. demand to interval).

SA-02 Metering Infrastructure Sustainment Program

Start Date:	Q1 2018	**Priority:**	Demand
In-Service Date:	Program	**Plan Period Cost ($M):**	75.9
Primary Trigger:	Mandated Service Obligation		
Secondary Trigger:	Failure Risk		

Investment Need:

Hydro One currently owns, operates, and maintains approximately 1.3 million retail revenue meters. With an asset base of this magnitude, it is reasonable to expect that there will be a number of meters and network devices that will fail to operate as intended and must be replaced in a timely fashion.

With the introduction of smart meters in 2006, customer meters have the capability to provide billing settlement data electronically. However, any disruptions in the electronic communication due to the failure of a meter or network device (i.e., collector or repeater), results in an estimated bill being generated to which customers have routinely indicated their displeasure.

Furthermore, replacement of failed components is critical to maintain a reliable meter infrastructure network and resultant source of billing settlement data to satisfy the OEB Distribution System Code Section 7.11 "Billing Accuracy" requirement to have 98% billing accuracy.

Alternatives:

This investment is non-discretionary. No alternatives were considered, since failure to perform the work to repair and/or replace the meters and associate network would be in violation of the OEB Distribution System Code Section 5.1 "Provision of Meters and Metering Services" and has the potential to negatively impact the reliable source of billing settlement data.

Investment Description:

This investment addresses the like for like replacement of failed metering devices and the maintenance of an adequate level of inventory of metering devices to ensure timely replacement.

The meter inventory consists of meters, repeaters, collectors and other electronic components used in the meter infrastructure network. The required inventory levels are determined based on the population size of particular meter or equipment model, and historical failure rates. The annual inventory purchases are dependent on which categories of equipment were deployed to replace failed equipment each year.

Based on recent operational experience, Hydro One estimates the approximate number of devices, consisting of meters and various network devices, that are required to be removed and replaced each year are as outlined below. The forecasted number of meter devices procured are lower than the number replaced since a portion of failed metering devices may be repairable.

	2018	2019	2020	2021	2022
Number of Metering Devices Procured	27,000	25,000	25,000	25,000	27,000
Number of Metering Devices Replaced	29,880	27,000	27,000	27,000	29,000

Risk Mitigation:

The risk to completion of this investment as planned is the potential unavailability of resources in certain locations. This risk is mitigated by managing program resources and hiring temporary staff as required.

Result:

The meter infrastructure sustainment program will result in:

- Ensuring timely availability of meters and network devices;
- Complying with regulatory requirements; and
- Ensuring a reliable source of billing settlement data that increases customer confidence and satisfaction that bills are accurate.

Outcome Summary:

Customer Focus	• Reduce unwanted estimated customer bills. • Reduce customer interruption time by maintaining an adequate level of components to ensure timely replacement of failures.
Operational Effectiveness	• Increase efficiency by reducing number of manual reads. • Maintain meter network reliability to ensure a reliable source of billing settlement data.
Public Policy Responsiveness	• Comply with OEB Distribution System Code requirements to provide accurate and timely billing. • Comply with the *Electricity and Gas Inspection Act* to ensure meter accuracy.
Financial Performance	

Costs:

The costs for this program are projected based on these historic labour costs, material unit costs, and future anticipated needs. The factors which affect the costs in this investment are the following:

- The cost of material and term of procurement contracts;
- The volume and types of meters and network devices requiring replacement; and
- The accessibility conditions of the area in which devices are being replaced. Accessing off road locations to replace network devices can be more costly due to the use of specialized equipment.

Controllable costs have been optimized through standardization of metering device purchasing specifications and issuance of vendor contract to secure unit pricing for procurement of materials.

($ Millions)	2018	2019	2020	2021	2022	Total
Capital* and Minor Fixed Assets	14.9	15.4	15.7	16.3	16.7	79.0
Less Removals	0.6	0.6	0.6	0.6	0.6	3.1
Gross Investment Cost	**14.3**	**14.8**	**15.1**	**15.6**	**16.1**	**75.9**
Less Capital Contributions	0.0	0.0	0.0	0.0	0.0	0.0
Net Investment Cost	**14.3**	**14.8**	**15.1**	**15.6**	**16.1**	**75.9**

**Includes Overhead at current rates.*

DISTRIBUTION CUSTOMER ENGAGEMENT REPORT

DEVELOPMENT OF DISTRIBUTION INVESTMENT PLAN

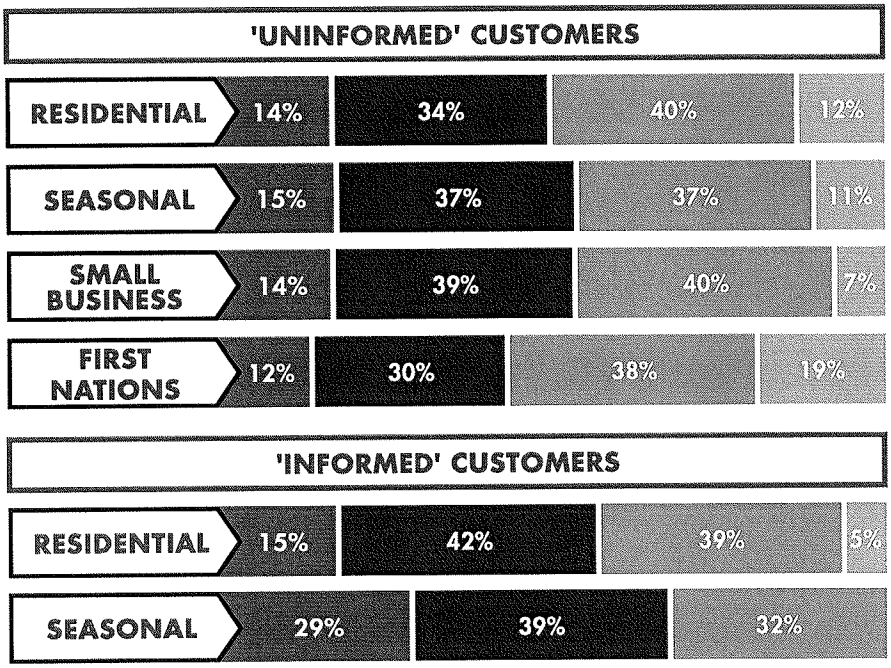
AUGUST 2016

Prepared for:
Hydro One Networks Inc.
483 Bay Street
Toronto, ON
M5G 2P5

When posed with a roughly 1% rate increase on the total monthly bill, per year for five years, acceptance varies from 53% to 57% among 'uninformed' customers who had an opinion (i.e., excluding don't know/refused) and from 60% to 68% among 'informed' customers.

TELEPHONE SURVEY + ONLINE WORKBOOK REPRESENTATIVE SAMPLE

ACCEPTABILITY OF RATE INCREASE TO MAINTAIN LEVELS



	% increase reasonable/ necessary*	% increase unreasonable*
RESIDENTIAL	55%	45%
SEASONAL	57%	41%
SMALL BUSINESS	57%	43%
FIRST NATIONS	53%	47%
RESIDENTIAL	60%	40%
SEASONAL	68%	32%

* re-based to exclude don't know/refused

- The increase is reasonable and I would support it
- I don't like it, but I think the increase is necessary
- The increase is unreasonable and I would oppose it
- Don't know/Refused

Q17. Hydro One has determined that in order to at least maintain the level of reliability and customer service it currently provides, a typical [residential or seasonal / small business] customer's total monthly bill will need to increase by [IF residential or seasonal 1.1% or the equivalent of $2.00 / IF small business 1% of the equivalent of $5.20]. The increase will be applied each year for the next 5 years. By the fifth year, a typical monthly bill will be roughly [IF residential or seasonal $10.00 / IF small business $26.00] higher than it is now. Please note that this increase reflects the cost to maintain the current level of reliability and service to customers. The monthly bill could still increase for other reasons which are outside the control of Hydro One. Would you be willing to accept this increase to maintain the current level reliability and customer service across the electricity system? Note that for the Telephone Survey, this question was posed as Which of the following is closest to your point of view? Base: Uniformed -Residential (n=400), Seasonal (n=100), Small Business (n=200), First Nations (n=300). Informed - Residential (n=1502), Seasonal (n=102)

CUSTOMER REACTION TO ILLUSTRATIVE INVESTMENT SCENARIOS

Large Customers were presented with the following illustrative investment scenarios and asked for their feedback. The three scenarios reflect the estimated rate impacts for declining reliability, maintaining the current level of reliability and improving reliability. The slide below was shown to Large Customers prior to introducing the three illustrative scenarios.

Introduction to investment scenarios

hydro one

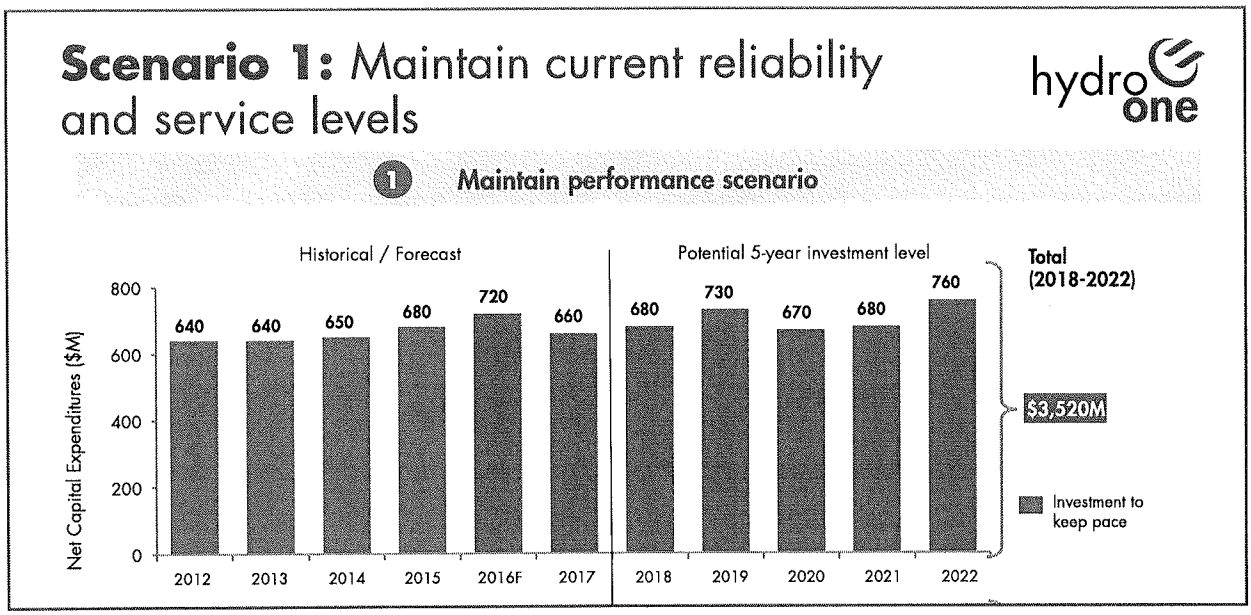
Illustrative scenarios have been developed for various levels of capital investment.

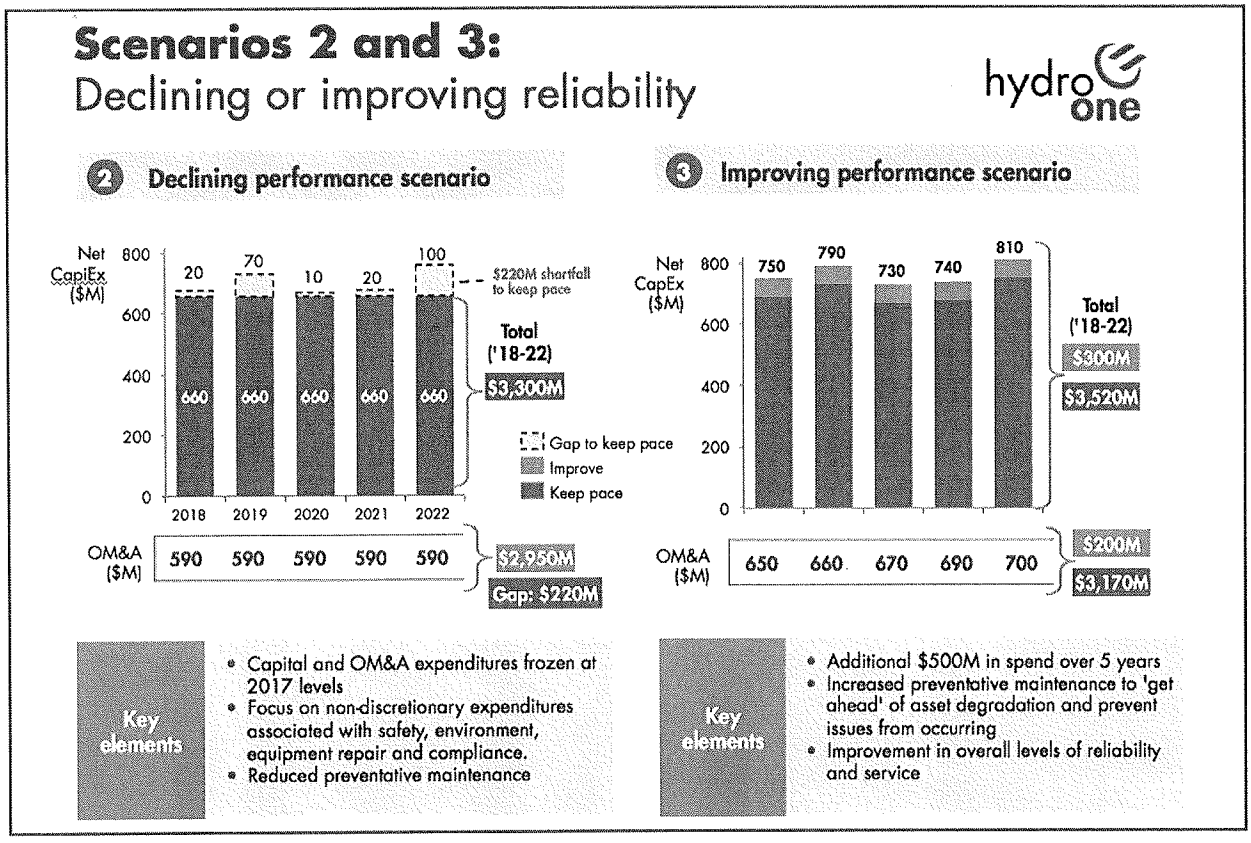
These in turn, result in different impacts on rates, reliability, and service levels.

These scenarios are meant to represent a spectrum of potential investment levels.

We do not have a recommended scenario, nor are we asking you to choose from the scenarios presented.

Through this conversation, we would like to better understand your business needs and preferences to inform our 5-year Distribution Investment Plan.





Overall, the majority of Large Customers are not willing to accept any of the rate impacts proposed in the illustrative examples (ranging from 2.5% - 4.0% on the distribution delivery rate). As shown in the chart, the vast majority of customers will not accept a rate increase (2.5% on the distribution rate delivery) where reliability declines. Customers are more likely to accept the larger rate impacts of 3.4% or 4.0% on the distribution delivery rate where reliability is at least maintained or improved. As shown in the qualitative section that follows, customers take issue with the idea that they would be asked to pay more for worse service.

THE TYPES OF RELIABILITY IMPROVEMENTS THAT CUSTOMERS VALUE

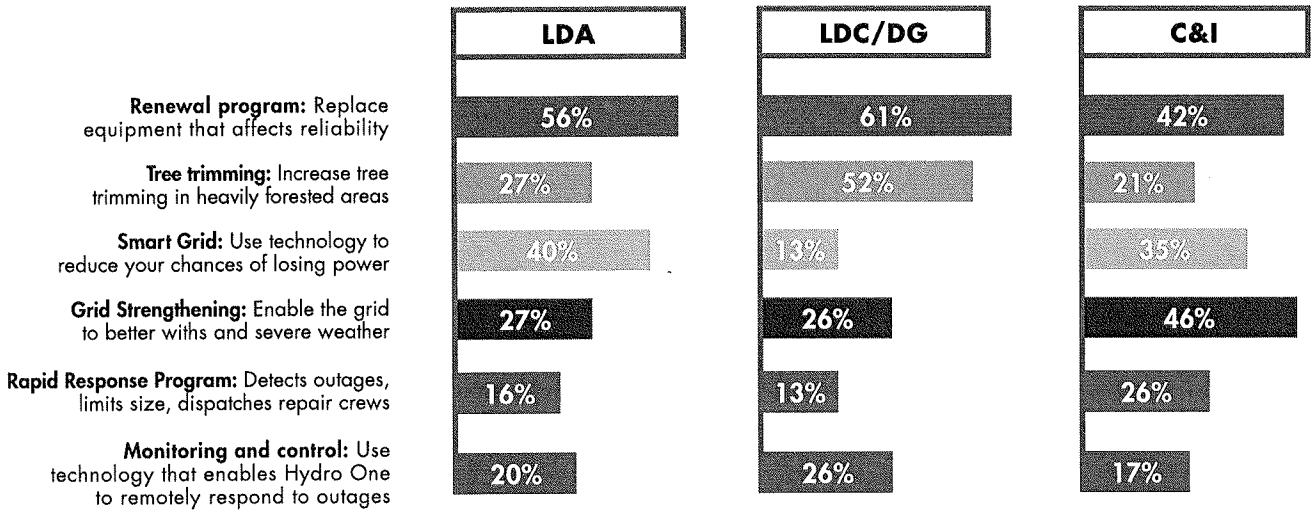
Large Customers were provided with various reliability investment options that Hydro One could prioritize and were asked to rank them in order from one to six, where one represents the item that would have the greatest positive impact on their organization and where six represents the item that would have the least positive impact. All Large Customer segments (LDA, LDC/DG and to a lesser extent C&I) prioritize the Renewal Program that focuses on replacing equipment that affects reliability ahead of others.

Views on the second and tertiary priorities vary somewhat. LDA customers place the second greatest priority on the Smart Grid, that is, using technology to reduce their chances of losing power. They place this slightly ahead of increased tree-trimming and Grid Strengthening. LDC/DG customers place tree-trimming in the second position – in fact nearly as many customers feel this would have the greatest positive impact on them as the Renewal program. C&I customers actually place as much of a priority on Grid Strengthening as the Renewal Program and then place Smart Grid as their tertiary choice.

ONLINE WORKBOOK/ WORKSHOP SURVEY BOOKLET

CUSTOMER PREFERENCES FOR WAYS TO IMPROVE RELIABILITY

Percentages shown represent % who ranked the item in the first or second position.



Q11. Please rank the RELIABILITY items below in the order in which they would have the greatest positive impact on your organization, where 1 represents the item that would have the most positive impact and 6 represents the least positive impact. Base: LDA (n=45), LDC/DG (n=23), C&I (n=133).

OEB Staff Interrogatory # 121

Issue:

Issue 24: Does Hydro One's investment planning process consider appropriate planning criteria? Does it adequately address the condition of distribution assets, service quality and system reliability?

Reference:

Office of Auditor General of Ontario – Annual Report 2015 (Rec. 17)

The Auditor General's report recommended the following:

"To ensure that management can better manage and monitor capital projects that use its own workforce, as well as lower project costs, Hydro One should:

- *use industry benchmarks to assess the reasonableness of capital construction project costs, and whether using internal services and work crews is more economical that contracting out capital projects*

- *use and adhere to contingency and escalation allowances that are more in line with industry norms for capital construction projects*

- *improve its management reporting and oversight of project costs by regularly producing reports that show actual project costs and actual completion dates compared to original project cost estimates, cost allowances used, original approved costs, subsequent approvals for cost increases, and planned completion dates; and*

- *regularly analyze its success in preparing project estimates by comparing them with final project costs."*

Interrogatory:

a) Please provide the 5 year historical percentage used as project contingency and compare that to the current.

b) In Excel format, please provide a list of capital project that triggered a change control process in the last five years (eg. Project costs that exceeded approved capital, and change in project

scope/timeline). For each project in this list please provide the documentation provided to management in the form of change control log.

c) Does Hydro One have a unit costing database for the purpose of preparing estimates? If not, how does Hydro One ensure each project estimate is accurate? If yes, please provide the database, Also if yes are the unit costs based on historical actuals and how often are the unit rates updated?

d) How does Hydro One incent efficient completion of capital projects to mimic a competitive market?

Response:

a) Currently, the Company allocates a standard 10% contingency to its Distribution investments, although major projects (greater than $5M) will have a refined risk based contingency allocation that may vary slightly from the 10%. Since 2012, Hydro One has refined its estimating and field execution such that it has significantly reduced contingency usage over the past 6 years, reducing our contingency usage from 75% to less than 20% last year.

Year	Percentage of contingency used
2012	68%
2013	76%
2014	74%
2015	55%
2016	44%
2017	19%

b) Please refer to Exhibit I-24-Staff-121, Attachment 1.

c) No, Hydro One does not have a costing database for the purpose of preparing estimates.

For smaller investments (less than $5 million) - Hydro One estimates are built utilizing compatible units which are stored in SAP. The compatible units are made up of either a labour and/or material component which are based on historical actual labour hours, and material requirements. This is then combined with current rates to determine the dollar

values for labour and material costs. To ensure each project estimate is accurate, the compatible unit historical hours and material requirements are being reviewed in 2018.

For Larger investments (greater than $5 million) – Hydro One estimates are prepared using a bottom up approach with defined engineering deliverables. The estimates are built based on common construction tasks and their corresponding benchmarks which are continuously refined. This process results in a detailed class A (±10%) estimate being produced with a detailed risk registry and associated contingency allocation. Upon the project energization we complete a lessons learned and project closeout process in which we review the execution and incorporate any lessons into the upfront planning and engineering for future projects.

d) Hydro One drives efficient completion of capital projects through the following areas:
- Detailed review and critique of all variances.
- Aggressive yearly performance targets to ensure the capital work program is delivered on budget
- Performance comparison of our regional work centers to illustrate improvement opportunities and drive a healthy competitive environment
- Benchmarking with other North American utilities

School Energy Coalition Interrogatory # 47

Issue:

Issue 24: Does Hydro One's investment planning process consider appropriate planning criteria? Does it adequately address the condition of distribution assets, service quality and system reliability?

Reference:

B1-02-01 Page: 12

Interrogatory:

For each year between 2014 and 2022, please provide the percentage of capital spending that is undertaken by third-parties. Please also breakdown which activities they undertaken and which category of spending they fall under.

Response:

Hydro One uses specialized service providers to complement its field forces (vac trucks, rock drilling, etc.) but does not currently contract out entire capital work packages/projects to be undertaken by third parties. Hydro One has had one exception in 2017 where it entered into a service agreement with the Power Workers Union to facilitate contracting out a small number of CDMA meter replacements to an appropriate third party.

Actuals 2014-2022

2014 = 0%
2015 = 0%
2016 = 0%
2017 = Less Than 1%

Forecast 2018– 2022

2018 = Less Than 1%
2019 = Less Than 1%
2020 = Less Than 1%
2021 = Less Than 1%
2022 = Less Than 1%

Witness: BOWNESS Brad