

November 27, 2015

Board Secretary Ontario Energy Board 27th Floor/ P.O. Box 2319 2300 Yonge St. Toronto, ON M4P 1E4

Dear Board Secretary:

#### Re: 2016 Cost of Service Rate Application – Presentation Day Powerpoint Halton Hills Hydro Inc., OEB Proceeding: EB-2015-0074

Halton Hills Hydro Inc. ("HHHI") hereby submits a pdf version of the Powerpoint presentation shown on November 25, 2015 at the Presentation Day (detailed in Procedural Order 1, dated November 23, 2015). The purpose of the presentation is "to provide an overview of the application it has filed with the OEB and should focus on the business conditions HHHI anticipates over the next 5 years, the planning it has undertaken to address system needs and customer preferences, and its proposal regarding how the costs of distributing electricity ought to be recovered from customers through the rates they pay, taking into consideration the OEB's policies. The purpose of the presentation is not to provide an opportunity for cross-examination by the parties, but rather for HHHI to present its application and to respond to any questions of clarification"

Any questions or concerns can be directed to Tracy Rehberg-Rawlingson, Regulatory Affairs Officer, Halton Hills Hydro Inc., 519-853-3700 extension 257 or tracyr@haltonhillshydro.com.

Sincerely,

(Original signed)

Tracy Rehberg-Rawlingson Regulatory Affairs Officer

Cc: Arthur A. Skidmore, CPA, CMA, President & CEO David J. Smelsky, CPA, CMA, CFO Richard King, Counsel, HHHI Violet Binette, Project Advisor, OEB



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## Halton Hills Hydro 2016 Cost of Service Rate Application



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## Agenda

- About Halton Hills Hydro
- Rate Application Process
- Customer Engagement
- Distribution System Plan Overview
- Major Capital Projects
- Operations, Maintenance & Administration
- Changes since 2012
- Bill Impacts

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Halton Hills Hydro

#### **Mission Statement**

"To provide Halton Hills with electricity distribution excellence in a safe and reliable manner."

#### **Corporate Objectives**

- Safety
- Reliability
- Competitive Rates
- Financial Metrics

- Conservation
- Environmental
- Community Focused
- Smart Grid Implementation

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## About Halton Hills Hydro

- Total Customers: 22,000
- Service Area: 280 SQ KM
- Hydro Lines: 1,527 km
  - Overhead: 890 km
  - Underground: 637 km
- Hydro Poles: 8,780
- Transformers: 3,842
- Municipal Population: 59,100
- Employees: 52
- 4 Voltages:
  - 44kV, 27.6kV, 8.32kV, 4.16kV



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## History of Halton Hills Hydro Infrastructure

- Halton Hills Hydro-Electric Commission formed in 1980
  - Amalgamation of Georgetown Hydro Electric Commission and **Acton Hydro Electric Commission**
  - Purchase of Ontario Hydro owned assets serving Esquesing Township
- Aging Infrastructure
  - Many of the assets acquired by the new Halton Hills Hydro were already aging in 1980

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## Performance Excellence



2013 EDA LDC Performance Excellence Award

- Occupational Health & Safety
- Operational Excellence
- Financial Operations
- Retail Strategies for Conservation & Demand Management
- Contribution to Community

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#### **OEB Utility Benchmarking report**

- Measuring distributors cost efficiency & productivity
- Halton Hills Hydro continues to rank in the top grouping for cost efficiency
- One of only 6 LDCs in Group I
- Total costs 25% or more below predicted levels

		OEB 2015 E	Efficiency Rankings		
+		More Efficient	Less Efficien	it 🚽	
Group I	Group II	Gr	oup III	Group IV	Group V
E.L.K. Energy Inc.	Cooperative Hydro Embrun Inc.	Bluewater Power Distribution	Niagara Peninsula Energy Inc.	Atikokan Hydro Inc.	Algoma Power Inc.
Halton Hills Hydro Inc.	Enersource Hydro Mississauga Inc.	Brantford Power Inc.	Niagara-On-The-Lake Hydro Inc.	Canadian Niagara Power Inc.	Hydro One Networks Inc.
Hearst Power Distribution	Entegrus Powerlines	Brant County Power Inc.	Norfolk Power Distribution Inc.	Chapleau Public Utilities	Toronto Hydro-Electric System
Hydro Hawkesbury Inc.	Espanola Regional Hydro	Burlington Hydro Inc.	North Bay Hydro Distribution	Enwin Utilities Ltd.	West Coast Huron Energy Inc.
Northern Ontario Wires Inc.	Essex Powerlines Corporation	Cambridge And North Dumfries	Orangeville Hydro Limited	Festival Hydro Inc.	Woodstock Hydro Services Inc.
Wasaga Distribution Inc.	Grimsby Power Incorporated	Centre Wellington Hydro Ltd.	Orillia Power Distribution	Greater Sudbury Hydro Inc.	
	Haldimand County Hydro Inc.	Collus Power Corporation	Ottawa River Power Corporation	Midland Power Utility	
	Kitchener	Erie Thames Powerlines	Powerstream Inc.	Oakville Hydro Electricity	Source: Pacific
	Lakefront Utilities Inc.	Fort Frances Power Corporation	Rideau St. Lawrence Distribution	Peterborough Distribution	- ·
	London Hydro Inc.	Guelph Hydro Electric Systems	Sioux Lookout Hydro Inc.	PUC Distribution Inc.	Economics group
	Milton Hydro Distribution Inc.	Horizon Utilities Corporation	St. Thomas Energy Inc.	Renfrew Hydro Inc.	Research, LLC (PEG)
	Newmarket	Hydro 2000 Inc.	Thunder Bay Hydro Electricity	Tillsonburg Hydro Inc.	
	Oshawa PUC Networks Inc.	Hydro One Brampton Networks	Veridian Connections Inc.	Wellington North Power	
	Welland Hydro-Electric System	Hydro Ottawa Limited	Waterloo North Hydro Inc.		
		Innisfil Hydro Distribution	Westario Power Inc.		
		Kenora Hydro Electric Corporation	Whitby Hydro Electric Corporation		
		Kingston Hydro Corporation	Lakeland Power Distribution Ltd.		

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#### 2014 Performance Scorecard

Performance Outcomes	Performance Categories	Measures		2010	2011	2012	2014	Trend	Industry stributor
Customer Focus Services are provided in a manner that responds to identified customer	Service Quality	New Residential/Small Business Sen on Time Scheduled Appointments Met On Tim Telephone Calls Answered On Time	100.00%	tments	100.00% 100.00 87.70	100.00	* •	90.00%	
preferences.	Customer Satisfaction	First Contact Resolution Billing Accuracy Customer Satisfaction Survey Result	Met on Time	e			100.00	* 0	90.00% 65.00%
Operational Effectiveness Continuous improvement in productivity and cost	Safety	Level of Public awareness [measure Level of Compliance with Ontario Rej Serious Electrical Number of Incident Index Rate per 1	to be determined] gulation 22/04 General Publi 0, 100, 1000 k Custom	° ner Sat	ء isfactior		100 99.95 90	% % <b>()</b> %	98.00 C
performance is achieved; and distributors deliver on system reliability and quality objectives.	System Reliability	Average Number of Hours that Powe Interrupted Average Number of Times that Powe Interrupted	r to a Customer Is r to a Customer is	1.78	1.38	1.23 1.34	2.08 1.48	1.47	at least within 1.23 - 2.08 at least within 1.34 - 2.75
	Asset Management Cost Control	Distribution System Plan Implementa Efficiency Assessment Total Cost per Customer <sup>1</sup> Total Cost per Km of Line <sup>1</sup>	tion Progress	\$622 \$9,208	\$647 \$9,382	1 \$684 \$9,542	On-track 1 \$642 \$9,034	On-track 1 \$701 \$9,886	
Public Policy Responsiveness Distributors deliver on	Conservation & Demand Management	Net Annual Peak De Net Cumulative Ene	ent of CDM Ta	irget A	chieved	22.64%	35.12%	03.61%	6.15MW 22.48GWh
obligations mandated by government (e.g., in legislation and in regulatory requirements imposed further to Ministerial directives to the Board).	Connection of Renewable Generation	Renewable Generat Completed On Time New Micro-embedded Generation Fa	cilities Connected On Time		100.00%	100.00%	100.00%	100.00%	90.00%
Financial Performance Financial viability is maintained; and savings from	Financial Ratios	Liquidity: Current Ratio (Current Ass	1.15	1.69	1.25	1.06	1.09		
		Leverage: Total Debt (includes short Equity Ratio	-term and long-term debt) to	0.91	0.87	0.90	1.04	1.04	
operational effectiveness are sustainable.		Profitability: Regulatory Return on Equity	Deemed (included in rates) Achieved		8.57% 9.14%	9.12% 13.30%	9.12% 14.97%	8.82% 12.91%	
Notes: 1. These figures were generated by the Boa 2. The Conservation & Demand Manageme	rd based on the total cost benchmarkir nt net annual peak demand savings inc	ng analysis conducted by Pacific Economics clude any persisting peak demand savings fr	Group Research, LLC and based on the or the orevious years.	distributor's annual re	eported information.		Legend	l: nup	odown 🕤 flat

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# **Rate Application Process**

# 2016-2020 Strategic Plan

## **Key Success Factors**

- Best in Class
  - OEB Scorecard: Monitor & Measure performance in key areas
  - Finding efficiencies
- We are Community
  - Leaders in our community delivering distribution excellence for our employees and our customers
  - Building brand recognition that emphasizes our role in supporting the community, our customers and our employees.
- Enterprise Risk Management
  - Quarterly review following a comprehensive, disciplined and continuous process as identified in corporate Enterprise Risk Management Policy.
- Distribution System Planning
  - Implementation of DSP to ensure reliable supply to meet current customer's needs and accommodate growth
- Continuous Improvement
  - Engage all staff to find efficiencies and innovation through Creative and Critical Thinking

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### 2016-2020 Strategic Plan Overarching Strategic Goals

- Implementation of our Distribution System Plan
  - Comprehensive 5 year asset management and capital expenditure strategy
- Human Resources and Safety Strategy
  - Comprehensive human resource planning and safety policies will position us as one of the top employers in Halton Hills and Halton Region.
  - Succession Planning
  - **Customer Focus** 
    - Focus on our customers, listening to their feedback
    - providing exceptional customer service and distribution excellence
- Collaboration
  - Continue to seek new and innovative opportunities for collaboration

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## **Third Party Consultations**

- Robust third party consultation process as part of distribution system planning process:
  - Town of Halton Hills Public Utilities Coordinating Committee
    & Development Review Committee
  - Environmental Assessments & Technical Agency Committees.
  - Host and Embedded distributor consultations
  - Customer Engagement
  - Regional Planning (IESO NW GTA IRRP).
  - Telecommunications companies with pole attachments.

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# **Customer Engagement**

CAUTION

### **Customer Engagement in Rate Setting**

- Telephone Survey of 426 Customers
- Online Survey of 930 Customers
- In Person Residential and Commercial Focus Groups

"... are willing to pay more for increased tree trimming to improve reliability..."



"... of ALL respondents are willing to pay more per month to replace aging equipment to improve safety and reliability..."

"... about 2/3 of respondents believe LDCs should be proactively replacing equipment..."

two thirds <u>2</u> 3

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### **Community Outreach 2015**

- Participation in over 20 community events
- Glen Williams tree trimming public information session - January
- Community Open House June
- Halton Hills Hydro has over 4500 followers on Facebook and Twitter

## **2014 Customer Satisfaction Survey**

Halton Hills Hydro UtilityPULSE Report Card <sup>®</sup>		
Price and Value	В	
Customer Service	А	
Company Leadership	А	
Corporate Stewardship	А	
Operational Effectiveness	А	
Power Quality and Reliability	А	
OVERALL	А	

How you rated us in our 2014 Customer Satisfaction	Survey
Provides consistent, reliable electricity	89%
Quickly handles outages and restores power	82%
Makes electricity a top priority for employees and contractors	88%
Is a trusted and trustworthy company	86%
Overall the utility provides excellent quality services	85%

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### Customer Engagement – Social Media

- Halton Hills Hydro has over 4500 followers on Facebook and Twitter
  - 21.7% of customer base more than any other LDC in Ontario
- Tweets reach an average of 32,000 people per month
- Facebook posts reach an average of 38,000 people per month

"Your proactiveness is a reason to be a proud member of the community and support smaller utilities outfits. Thank you for keeping the lights on!" Customer Comment on Facebook, November 12, 2016



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THE NEW TANNER

# Halton Hills Hydro holds meeting to explain rate increases

#### By: Linda Hillman

Halton Hills Hydro Inc. (HHH) has submitted its 2016 Cost of Service Rate Application to the Ontario Energy Board requesting rates effective May 1, 2016 and over a dozen people from the area attended a meeting hosted by the OEB and Halton Hills Hydro (HHH) both of whom had information

booths, displays and several employees on hand to answer questions.

If approved, the bottom line impact to residential customers will be a \$3.99 increase on their monthly bill, 10 cents of which is Ice Storm Cost Recovery that is expected to end October 31, 2016. Small Commercial customers who represent eight per cent of HHH's client base

Acton New Tanner Article Published on page 2, 11/12/2015

Active Living Centre

Halton Hills . Acton



can expect an increase of \$7.62, with 21 cents from the Ice Storm Recovery.

Explaining their own revenue, HHH displayed a sample invoice of \$260.47 outlining that HHH's receives a portion of the delivery line, amounting to approximately 22 per cent (57.20) of the total invoice. It is important to note that in order to remain efficient, the OEB only reviews base rate increases (typically every five years) and that the distributor may apply interim inflation increases annually.

Art Skidmore, President and CEO of Halton Hills Hydro explained the fiveyear investment strategy, which includes 2016 Capital Expenditures such as; pole transformer replacements, substation switchgear replacement, line extensions, voltage conversions and aging pole replacements. Other costs included building maintenance and a 12 year

vehicle replacement plan along with computer system upgrades.

Most of those in attendance were interested to learn where the remaining 78 per cent of their bill went. The answer goes something like this: 50 per cent usage/ consumption; with the balance going to transmission, operating costs, debt retirement and delivery from Ontario Hydro to the local distributor.

There was also discussion about a new program beginning in 2016 for low-income customers. The credit will be based on the level of household income and the number of people living in the home. The program is still in design, but information and registration applications are available on the OEB website.

For more information please visit www. ontarioenergyboard. ca/OEB and www. haltonhillshydro.com

We are **Community** Halton Hills Hydro –

#### Independent & Free Press Article Published on page 4, 11/12/15

#### Halton Hills Hydro applies for hydro rate increase

By Kathryn Boyle kboyle@theifp.ca

Residents living in Halton Hills may see a \$4 increase to their monthly hydro bills. The Ontario Energy Board (OEB)

sday, November 12, 2015 - The IFP - Halton Hills - www.theif

and Halton Hills Hydro Inc. hosted an information session in Acton Monday night regarding the possible increase of hydro rates starting in 2016.

"We've made a proposal to the Ontario Energy Board to increase rates effective May 1," Halton Hills Hydro president and CEO Art Skidmore said. "That doesn't necessarily mean what we've applied for has been approved."

Every five years, Halton Hills Hydro examines its cost of service and decides if the rate needs to be increased.

"That's where we look at our costs and our capital infrastructure and we put it all together and determine our revenue requirements," Skidmore explained. "Based on that revenue requirement that is then allocated to the various rate classes, it is determined if rates cover the revenue requirement or if rates need to increase to cover that revenue requirement."

Between operating costs, system improvements, line extensions and equipment replacements, as well as staffing costs and a shift to monthly billing, the increase for 2016 was determined at \$3.99 per household. But residents shouldn't be afraid of that number, Skidmore said.

"Although it's a staggered number, there are things coming off to lessen the impact," he said, pointing to the current charges for the Dec. 2013 ice storm recovery. "In essence, the rates won't change that much after Nov. 1, 2016 from where they are now."

By November of next year, residents will only see around a \$2.07 increase should the application be approved.

Before Halton Hills Hydro submitted their rate application to OEB on Aug. 28, the company held a number of focus group sessions and talked to local businesses to gather their input.

"We have done a lot of customer engagement prior to making this rate application," Skidmore said, noting a number of telephone and online surveys. "The surveys had a bunch of questions to shape what customers' expectations are of Halton Hills Hydro."

Residents with questions are encouraged to call Halton Hills Hydro with any concerns at 519-853-3701.

"We want customers to understand why we're putting up rates," Skidmore said. "We're not just putting up rates for the sake of putting up rates, there's sound decision points behind this."





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# **Distribution System Plan**

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#### **Guiding Principles for our Distribution System Plan**

- Safety for our crews and the public
- System reliability
- Customer feedback
- Value proposition
  - Finding efficiencies
  - Pacing and prioritization of expenditures
- Modernizing our electricity system
  - Smart grid, automation, outage management

## **Independent Plan Review**

Dear Reader:

#### Re: Consolidated Distribution System Plan



As part of the filing requirements set out by the Ontario Energy Board (OEB) for Distributor's, Halton Hills Hydro Inc. has prepared the attached Consolidated Distribution System Plan. The Plan was prepared in accordance with Good Asset Management Practice, Good Utility Practice and the current Chapter 5 Filing Requirements. Halton Hills Hydro Inc. prepared the data and furnished the information contained in the plan.

AESI critiqued this plan and confirms that it addresses the goals and achieves the purpose of the OEB *Chapter 5 Consolidated Distribution System Plan Filing Requirements* dated March 28, 2013.

Sincerely,

Acumen Engineered Solutions International Inc.

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# Load Growth in Halton Hills

#### Georgetown

- Vision Georgetown up to 7,000 residential lots, 7 schools, mixed commercial
- 300-400 homes
- 747 homes
- 273 homes
- Several other projects totalling 700+ homes



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#### NORTHWEST GREATER TORONTO AREA INTEGRATED REGIONAL RESOURCE PLAN

Part of the GTA West Planning Region | April 28, 2015

## **IESO Regional Planning Process**

- IESO Northwest GTA Integrated Regional Resource Plan
- Identifies need for Halton Hills Hydro to construct a Municipal Transformer Station to meet near term load requirements
- Many of the projects in this plan are required to enable supply from the new transformer station

#### From Integrated Regional Resource Plan:

Halton Hills Hydro should proceed to gain the necessary approvals to construct, own and operate a new step-down station at the Halton Hills Gas Generation facility. Based on technical and economic analysis, the Working Group believes that building this facility is the least-cost option for serving growth within Halton Hills. Currently analysis recommends a targeted in-service date of 2018.

### **Transformer Station**

- Will be a separate ICM filing once commissioned
- Need determined based on load forecasts primarily Vision Georgetown and Premier Gateway Corridor
  - Recommended by the IESO Integrated Regional Resource Plan as the least cost option to serve growth in Halton Hills
- Innovative connection via TransCanada Energy generation facility
- Planned in service date: 2018

### Planning & Prioritizing



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#### How we prioritize our projects



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## 5 Year Expenditure Plan

			Year			
OEB Category	2016	2017	2018	2019	2020	Total
System Access	\$2,472,588	\$886,314	\$3,330,938	\$967,143	\$1,038,920	\$8,695,904
System						
Renewal	\$3,790,671	\$4,226,861	\$2,818,292	\$4,220,233	\$5,464,607	\$20,520,664
System						
Service	\$2,302,791	\$1,854,882	\$3,535,241	\$4,567,366	\$1,856,986	\$14,761,866
General Plant	\$777,613	\$479,416	\$421,000	\$425,000	\$374,000	\$2,477,029
		_				
Subtotals	\$9,343,663	\$7,447,472	\$10,105,472	\$10,179,742	\$8,734,513	\$45,810,862
Contributed						
Capital	(\$1,132,703)	(\$595 <i>,</i> 554)	(\$1,740,960)	(\$711,103)	(\$782,510)	(\$4,962,830)
Annual Totals:	\$8,210,960	\$6,851,919	\$8,364,511	\$9,468,640	\$7,952,003	\$40,848,033

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#### What our Customers told us.

- Replace aging equipment to improve safety and reliability (71% of respondents)
  - 41% of our 2016 budget is for System Renewal projects
  - 50% of our 5 year budget is for System Renewal
- Adding automation and technology to reduce outage time (51% of respondents)
  - 26% of our 2016 budget is for System Service projects
  - 36% of our 5 year budget is for System Service

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#### 2016 Capital Projects - Total Budget: \$8,210,960



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## Capital Project Sheets – Every Capital Project

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- Priority and Risk
- Estimated Costs
- Project description
- Risks to complete
- Evaluation factors
- Outcomes
  - Customer Focus
  - Operational Effectiveness
  - Public Policy Responsiveness
  - Financial Performance
- Implications of Not implementing
- Alternatives Considered

	CHINE CON	CAP	PITAL PLAN	ENGINEERI	NG			2016
Ι.	AMEREN					System Type		SYSTEM RENEWAL
	alton Hills	Job R	equest / Number:					29
	AT D K O	Proje	ct Name:	Pole Replacements.				
		Proje	ct Category:					HHHI Directed
	Quadra Division:						CAP - HHHDIRECT	
	Job Request Number:							29
	Job Number:							
	Project Name:							Pole Replacements.
e o c	Project Category:							HHHI Directed
Le la	System Type:							SYSTEM RENEWAL
efe	Priority Ranking:		Investor E		Desk skiller	2	5	
~	Kisk Kanking:	ll and	Impact: 5		Probability:	3	15	
	Customer Attachments/	Load:		Man Canadaa				
	Project Designer/Ivianag	ger:		weg Gonzales				
	Start Date:							
_	in service Date:							
	Description	,	Estimated Cost	Notes			Ectimated Evner	diture Timing
	Labour:	s	30 139	Notes		01	S	-
	Materials:	ŝ	641 761			02	s	359 849
	Equipment:	ŝ	5 100			03	s	1 411 042
ť	Contract Labour:	ŝ	1.323.000			04	ŝ	229,110
3	Other:	ŝ	-				•	
pa						Carry-over:	s	-
a la							-	
ti	Non-construct capital							
	Total Estimated Cost	\$	2,000,000			Total:	\$	2,000,000
	Recoverable:	\$	-					
	HHHI Estimated Cost	\$	2,000,000			Control	S	-
							s	-

#### Project Summary/Description:

This project involves the replacement of utility poles that have been tested and have been found defective. It also involves replacing poles that have reached the end of their useful life as determined in Halton Hills Hydro Asset Management Plan. Projects will include mostly individual spot replacements of defective poles but may also include larger replacement project where risk ranking identifies area's of our distribution system containing a cluster of aged poles.

#### Comparative Information on Equivalent Historical Projects (if any):

Halton Hills Hydro has maintained a formal pole testing and replacement program since 2004. Following a testing schedule approximately 1200 poles are tested annually and those found to be defective are replaced. Based on previous years data (2004 to 2014) 32 poles on average fail testing. In more recent years Halton Hills Hydro has begun the process of replacing significantly old poles that are well beyond their useful life. Such end of useful life replacements can appear as a cluster in our system and are replaced as part of a larger scale project rather than spot replacement. Overall asset management principles are well served when it is feasible to renew a larger part of the distribution rather than spot replacements. Having over 10 years in experience Halton Hills Hydro staff can determine rough costs to replace poles and can monitor estimates and actuals effectively.

#### Risks to Completion and Risk Mitigation:

This project involves the replacement of defective utility poles. Risks to completion can involve coordinating contractors and materials. To mitigate these risks Halton Hills Hydro will coordinate contractors early in the process to ensure work can begin on schedule. Staff will also ensure materials are ordered in advance of the contractor starting the job to ensure materials arrive prior to when they are needed.

Total Capital and OM&A Costs for Renewable Energy Generation portion of project (if any):

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n/a.





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• 2016: \$3,790,671

• 5 Year total: \$20,520,664

Refurbishment or Replacement of end of life assets

# System Renewal

## Age of Poles

Expected Pole Lifespan: 50 years

#### 1400 poles older than 1960

 Another 1400 poles older than 1970



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#### **Pole Condition**

	Condition	Percent	Poles	
	Poor	4%	351	
	Fair-Poor	4%	351	
	Fair	26%	2283	
	Good	66%	5799	
	Total		8780	
4%				

Halton

#### **Pole Replacement Factors**



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26%

Providing Halton Hills with electricity distribution excellence in a safe and reliable manner.

66%

Budget: \$2,000,000 per year Key Driver: Technology

### Pole Replacement Project

Project: 275 – 280 poles replaced per year

 Replacement of aged and deteriorating utility poles

2016-2020

- Proactive replacement strategy: planned, paced, and controlled expenditure
- Leaving these poles in place can:
  - Pose a risk to public safety
  - Can lead to a cascading effect where a falling pole takes down adjacent poles
  - Increase unplanned outages and restoration times



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Budget: 2016-2019: \$530,000/year 2020: \$300,000

Key Driver: Technology

### **Poletrans Transformer Replacements**

- Proactive approach reduces risk of unplanned outages resulting from equipment failure
- Costs are controlled through competitive bidding processes for materials
- Risks of not Implementing:
  - Obsolete equipment can only be replaced with padmounted transformers
  - If a unit fails, power restoration could be lengthy
  - Equipment is difficult to work with and can pose a safety concern for crews
  - Needs to be a proactive replacement re safety risk and obsolete equipment



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2016-2020

Budget: \$714,000 Key Driver: Technology

### **Cross Substation Switchgear Replacement**

- Replacement of 40 year old switchgear at Cross Substation
- Obsolete equipment cannot be readily replaced in an unplanned outage
- Lengthy manufacturer lead times
- Replacement will increase operating efficiencies



2016



### Silvercreek MS Transformer Replacement

- Replacement of end of life power transformer – 42 years old with high maintenance history
- Critical element on the 8.32kV system
- Obsolete equipment cannot be readily replaced in an unplanned outage
- Lengthy manufacturer lead times
- Replacement will increase operating efficiencies



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Budget: \$736,000 Key Driver: Technology

## Willow MS Transformer Replacement & Egress Rebuild

 Replace end of life power transformer – 46 years old

2019

- Proactive replacement rather than run to failure
- Replacement with a spare could take days depending on system loading
- Replace three feeder egresses riser switches and cable
- Cable terminations are overheating and no longer repairable
- Cables are difficult to de-energize due to obsolete framing at poles.



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Budget: \$1,045,000 Key Driver: Technology

## Queen MS Switchgear Replacement & Egress Rebuild

- Replacement of end of life 4.16 kV switchgear – 36 years old
- Obsolete equipment cannot be readily replaced in an unplanned outage
- Difficult to operate during planned maintenance
- Lengthy manufacturer lead times
- Replacement will increase operating efficiencies



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2020





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2016: \$2,302,791
5 year total: \$14,761,866
Line upgrades or extensions

Automation

Safety, reliability & efficiency improvements

**System Service** 

### **Distribution Voltages**

- Three-phase three-wire 44 kV sub-transmission (Green)
  - Stepped down to:
  - Three-phase four-wire 4.8/8.32Y kV distribution (Rural)
  - Three-phase four-wire 2.4/4.16Y kV distribution (Urban)
  - Three-phase four-wire 16/27.6Y kV distribution (Blue)
- Blue shaded area:
  - Planned 27.6kV conversions
  - High density load growth areas



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### System Voltage Strategy

- Halton Hills Hydro is in a transition zone between two IESO planning regions:
  - Transmission connected: NWGTA 27.6kV Supply
  - Embedded to Hydro One: KWCG 44kV Supply
- Southern area is higher density with significant growth
  - Expanding 27.6kV in this area accommodates higher growth and higher loads
  - Improved loss factor compared to lower voltages
- Economically prudent to replace end of life 8.32kV infrastructure in south with new 27.6kV

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Key Driver: Technology

### Trafalgar Rd 27.6 kV Extension 15 Sdrd-Maple

- Extending 27.6kV system to support growth
- Over 170 townhomes planned in the expansion area, plus additional development anticipated
- Construction needs to begin at least 1 year in advance of developer needing site power
- Risk of not implementing:
  - Unprepared for load growth
  - Non-Compliance with Distribution System Code



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2016

Budget: \$410,000 per year Key Driver: Technology

### Voltage Conversions – 5 SideRoad

- Converting 8.32kV system to 27.6kV to accommodate greater demand for capacity
- Improve system reliability

2016 - 2019

- Prepare for future growth Ontario's Places to Grow (Vision Georgetown)
- Finding efficiencies replacing aging equipment acquired in 1980 while preparing for future growth
- Risk of not implementing:
  - Unprepared for load growth
  - 8.32kV system will not support high density load growth



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Budget: \$412,000

Key Driver: Technology

## 8<sup>th</sup> Line 27.6 kV 2<sup>nd</sup> Circuit

- Expand 27.6 kV system to support supply from new Transformer Station
- Support Vision Georgetown and other growth
- Improve reliability
- Long term planning:
  - Circuit installed on existing infrastructure
  - Designed to accommodate additional circuit to minimize costs.



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2017

Budget: 2018: \$1,111,000 2019: \$744,000

Key Driver: Technology

### Trafalgar MS Build

2018 - 2019

- Construction of a new 8.32 kV Municipal Substation (MS)
- Relieve capacity on Silver Creek MS and Glen Williams MS
  - Support load growth on the 8.32 kV system
    - Supply Lindsay Crt Development 141 homes as well as other developments.
  - Pacing of expenditures:
    - Station build in 2018
    - Power Transformer purchase in 2019
- Improve 8.32kV system reliability



We are **Community** 

Budget: 2019: \$835,000 Key Driver: Technology

### Trafalgar Rd 27.6 kV Conversion Steeles to 10 Sdrd

- Extending 27.6kV system to support growth
- Support for Vision Georgetown
- Improved switching capabilities
- Risk of not implementing:
  - Unprepared for load growth
  - Non-Compliance with Distribution System Code



We are **Community** 

2019

Budget: 2019: \$1,576,000 2020: \$730,000

Key Driver: Technology

### Voltage Conversions – 6<sup>th</sup> Line

 Converting 8.32kV system to 27.6kV

2019 - 2020

- Improve system reliability by creating distribution loops.
- Prepare for future growth Ontario's Places to Grow (Vision Georgetown)
- Pacing of expenditures:
  - Project spread over two years
- Finding efficiencies replacing aging equipment acquired in 1980 while preparing for future growth





### 27.6kV Extension & Loop on Maple Ave

- Establish 27.6 kV loop between Trafalgar & 8<sup>th</sup> Line
- Allow HHH to re-direct power flow to reduce outage times
- Improved reliability for customers on 15 Side Road, 8<sup>th</sup> Line, and in-fill development
- Support load growth in southern Georgetown



### 2016 : \$346,000 2017 - 2018 : \$500,000 per year

Budget:

Key Driver: Technology

### Feeder Reinforcement – Delrex Blvd

- Existing system is over 50 years old
  - Built when homes had smaller service sizes
- Replacing end of life poles and installing larger diameter conductor will support load growth and increased demand
- Proactive replacement strategy: planned, paced, and controlled expenditure
- Risk of not implementing:
  - Increased risk of unplanned outages
  - Ability to accommodate future load growth may be affected.







### **SCADA Remote Operated Switch Integration**

Project involves installing SCADA radios and antennas on existing compatible switches to:

- Improved operational efficiencies
- Reduced outage durations
- Improved system reliability
- Leverage Control Room
- 51% of customers surveyed asked for added automation and technology to reduce outage time
- Risks of not implementing:
  - Higher operating costs to operate manually
  - Lower reliability

We are **Community** 







We are **Community** 

2016: \$1,339,885
 5 year total: \$3,733,074
 Renewable Generation Connections
 Municipally driven projects
 New Subdivisions

System Access

Budget: \$831,000 Key Driver: Customer Preference

### 9<sup>th</sup> Line – Steeles to 10 Sideroad

Project: Region road improvement project

- Required by Public Service Works on Highways Act to accommodate
- Dependent upon Region acquiring land, easements.
- Project could be delayed by months or years – dependent upon Region timing



2016

Budget: \$1,334,000

Key Driver: **Customer Preference** 

### Winston Churchill Blvd

Project: Region road improvement project

2018

- **Required by Public Service Works on** Highways Act to accommodate
- Part of this project will be coordinated with Hydro One Brampton and will eliminate load transfers
- Costs of project are shared by Halton Hills Hydro, Hydro One Brampton, and Peel and Halton Regions
- Dependent upon Region acquiring land and easements



We are **Community** Halton Hills Hydro



### Subdivisions

- Annual effort increasing from \$200,000 in 2016 to \$400,000 by 2020
  - 100% Costs recovered through contributed capital
- Design, inspection and connection of subdivisions
- Obligation to connect under Electricity Act and DSC
- Halton Hills experiencing considerable growth over next 15 years
- Customer driven and customer timeline dependent
- Includes new growth in southern region of Georgetown and in-fill development



We are **Community** 

Budget: \$80,000 per year Key Driver: Customer Preference

### **Technical Service Layouts**

- Annual effort @ \$400,000 per year,
  - \$80,000 after capital contributions
- Connection of new or upgraded residential, commercial or temporary services in Halton Hills
- May require distribution system expansions and economic evaluations
- Obligation to connect under Distribution System Code
- Coordination with municipality and other third parties where applicable
- Customer driven and customer timeline dependent

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<u>20</u>16-2020





We are **Community** 



2016: \$777,613
5 year total: \$2,477,029
Land and building maintenance

Computer Systems

Vehicles, equipment & tools

General Plant

Budget: \$200,000 Key Driver: Technology

### **Building & Property Upgrades**

**Resurfacing of Garage Roof** 

- Current roof last resurfaced in 1990
- Pacing of expenditures:
  - Office roof resurfaced in 2015
  - Garage area to be resurfaced in 2016
- Risk of non completion: Damage to equipment and materials stored in garage if roof leaks
  - Office roof was beginning to leak prior to resurfacing

#### Current surface has extensive frost heaving, pooling of water in heavy rain

 Safety for employees and customers

**Parking Lot Paving** 

2016



### Computer System Upgrades: \$175,000

- Interactive Voice Response
  - Improved customer experience
  - Expanded ways to meet customers needs
  - Improved customer self-service options to 24/7

- Server hardware upgrades
  - Reduce risk of hardware failure
  - Reduce risk of Customer
     Information System downtime which may directly impact our ability to bill customers on a timely basis
  - Reduce maintenance costs

#### 2016-2020

Budget: 2016: \$145,000 2017-2020: \$265,000 per year

Key Driver: Technology

### Vehicles

- 12 year replacement strategy for line trucks
- 10 year strategy for smaller vehicles
- Pacing of expenditures:
  - For large trucks, expenditures spread over two years:
  - Year 1 chassis, year 2 body
- Affects safety for crew
- Affects reliability for customers



We are **Community** 

Budget: \$56,5000 Key Driver: Technology

### **Mountainview Brick Restoration**

- Restoration of substation building
- Exterior brick wall of substation building is deteriorating and needs refurbishment to prevent further damage to building
- Improve building integrity



2017



### Electronic Document Management \$100,000

- Implement a full electronic document management system
- Reliable document backup
- Implementation of electronic workflow
- More efficient document retrieval
- Risk of not implementing:
  - Loss of archived paper documents in a disaster



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### 5 Year Capital Investment Plan



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# Operations, Maintenance & Administration

## Creative and Critical Thinking – Becoming Best in Class

- All staff involved in Creative and Critical thinking process
  - Reviews at department and corporate level began in 2012
  - Ongoing process
- Find ways to work more efficiently
- Process improvement
- Innovation
- Finding Efficiencies throughout the organization

#### **INITIATIVE HIGHLIGHTS**

- New Enterprise Reporting System
- Utilizing ESRI to improve efficiencies
- Tablets for line crews and locating
- Enhanced interdepartmental collaboration
- Re-designed website
- Cross training and succession planning
- Leadership development
- Employee Survey
- Crew Scheduling for efficiency

### In House Industry Expertise

STAFF PARTICIPATION IN INDUSTRY COUNCILS AND WORKING GROUPS:

- EDA Board
- EDA Upper Canada Board
- EDA Upper Canada Technical Conference Committee
- EDA Regulatory Council
- EDA Operations Council
- EDA Communicators Council
- EDA Finance Council Chair
- MDMR Technical Panel
- SouthWest CDM group
- ESA Working Groups
- IESO Foundations Working Group

- OEB System Reliability Working Group
- Provide teaching support for Mearie
   Trades Training Programs
- Conestoga College Local Advisory Committee
- EDA CMST alternate (Crisis Management Support Team)
- OEL Halton Chapter
- Town of Halton Hills Sustainability Committee
- EDIST organizing committee
- Vision Georgetown committee
- Halton Hills Chamber of Commerce Board

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### **Grid Smart City**







CAMBRIDGE AND NORTH DUMFRIES HYDRO INC.

















GridSmartCity<sup>.</sup>

#### Cooperative

- Ten LDCs working together to achieve greater economies of scale, efficiency and effectiveness.
  - Collaboration to improve service, lower cost, ensure supply, increase reliability and excel at safety for our employees, customers, and the general public.
  - Common Transformer and Cable purchasing specifications.
  - Employee benefits and property insurance reviews
  - Other common purchase arrangements planned
- Focused on providing the best services to the electricity customers with reduced operating costs
- Aligning with the government's desire for Ontario's LDCs to find ways to achieve greater efficiencies of scale and scope

We are Community

### Collaboration

#### Customer Information System

Cost sharing with other LDCs using same vendor on shared changes

Smart Metering

**OESP** implementation

- CDM collaborations
  - Joint CDM Plan with Milton
  - GTA CDM Collaboration
- Ongoing efforts to collaboration with other LDCs where opportunities exist.

### What our Customers Told Us

#### Which Operational Items are you willing to pay more for?

	Surveys & Focus Groups Summary	Business Focus Group	Residential Focus Group
Increased tree-trimming to improve reliability	53%	86%	40%
Proactive outage management communication system	44%	86%	40%
Educating customers about energy conservation	26%	43%	20%
Educating customers about electricity safety	18%	43%	20%
Increased website self-service options	24%	29%	30%
Extended office hours	6%	0%	0%
Source: UtilityPulse 2015 Halton Hills Hydro Customer Engagement Survey			

We are **Community** 

### **Tree Trimming**

- Safety
- We are mandated by the Canadian Electrical Code to maintain minimum clearances from our power lines
- Minimum clearance of 3m from primary lines and 1m from secondary lines
- Reliability
- Remove tree branches that could contact lines and cause outages
- 3 year tree trimming cycle for Halton Hills service area

Annual public meetings in tree trimming zone


#### **Succession Planning**

- Our current staff complement is 52 employees
- 3 new staff members in 2016
  - New Apprentice for Journeyman Lineman – 8 year commitment
  - New IT Business Analyst to support financial reporting requirements
  - New Billing Representative to support monthly billing
  - Cross training of core functions throughout utility
  - Leverage existing staff to accomplish work more efficiently



### **Monthly Billing**

- Mandated by Ontario Energy Board for 2016 for all Local Distribution Companies in Ontario
  - Will double our postage costs
- Will double our printing and paper costs
- Will require an additional billing representative to handle increased workload

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We are **Community** 

#### Regional Health & Safety Partnership

- Innovative safety program partnership with safety partner and neighbouring utilities: Milton Hydro, Oakville Hydro and Springboard Management
- Enhanced safety awareness and compliance
- Expertise of a team of health & safety experts
- Contractor Compliance
- Elimination of duplication of resources across LDCs
- Avoided cost: 0.5 FTE

"Starting with a commitment to excellence from the leadership of all three utility partners, a new strategy was developed to bring best-in-class health and safety programs to all three utilities by sharing a common approach." The Distributor Magazine Fall 2015



We are Community

#### **Control Room**

- Partnership with Oakville Hydro
- 24/7 system monitoring
- Leveraging SCADA infrastructure
- Improved response to outages
- Improved worker safety
- Improved processes and procedures
- Improved reporting & record keeping
- Avoided cost:
  - 6 FTEs
  - \$500,000 in Capital costs



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# Changes since 2012

#### **Revenue Requirement**

Service Revenue Requirement	2012 Approved	2016 Proposed	2016 vs 2012 Approved
OM&A Expenses	\$5,793,400	\$6,754,806	\$ 961,406
Amortization/Depreciation	\$1,319,049	\$2,356,442	\$1,037,393
Property Taxes	\$ 106,000	\$ 104,440	\$ (2,160)
Capital Taxes	-	-	-
Income Taxes (Grossed Up)	\$ 28,979	\$ (220,666)	\$ (249,645)
Other Expenses	-	-	-
Deemed Interest Expense	\$1,035,607	\$1,165,806	\$ 130,199
Return on Deemed Equity	\$1,496,895	\$2,311,908	\$ 815,013
Service Revenue Requirement	\$9,780,530	\$12,472,736	\$2,692,206
Rate Base	\$42,429,005	\$62,148,062	\$19,719,057

We are **Community** 

### Asymmetrical Account: Summary of Costs for Steeles Ave Projects

Description	Amount as per Partial Settlement Agreement	2012 Actual	2013 Actual	2014 Actual	Total Actual	Variance
Steeles Avenue – Trafalgar Rd to 5th Line South (Phase 2 – Stage 2)	\$496,638	\$1,507	\$4,401	\$435,955	\$441,863	\$(54,775)
Pole Relocations on Steeles Avenue between Winston Churchill Boulevard and Trafalgar Road	\$1,047,701	\$765,414	\$935,311	\$0	\$1,700,725	\$653,024
Total	\$1,544,339	\$766,921	\$939,712	\$435,955	\$2,142,588	\$598,249

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#### **Gross Asset Additions**

	2012 Board	2012	2013	2014	2015 Bridge	2016 Test
Description	Approved	Actual	Actual	Actual	Year	Year
System Access	1,870,141	1,590,699	1,867,987	2,680,732	1,578,189	1,339,885
System Renewal	1,706,206	2,560,260	1,584,398	2,362,906	1,870,124	3,790,671
System Service	2,497,183	1,192,256	1,777,792	1,975,057	3,485,366	2,302,791
General Plant	826,470	1,009,774	420,040	1,272,141	784,136	777,613
Total Capital Expenditure	6,900,000	6,352,990	5,650,217	8,290,836	7,717,815	8,210,960
System Access -Smart Meter						
Cost transfer to Capital from						
DVA 1555	3,660,492	3,660,492	-	-	-	-
General Plant - Smart Meter						
Cost transfer to Capital from						
DVA 1555	200,278	200,278	-	-	-	-
Totals:	10,760,770	10,213,760	5,650,217	8,290,836	7,717,815	8,210,960
Approved Capital Expend	diture: \$6,900,0	000	Average An	nual Expen	diture: \$7,00	0,000

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#### Historical and Forecast Load

Therefore 1	OEB Approved 2012				2015 Weather	2016 Weather
	Weather Normal	2012 Actual	2013 Actual	2014 Actual	Normal	Normal
Actual kWh Purchases		516,901,724	523,389,827	534,246,649		
Predicted kWh		VIES DO DE			1575,258 (1944)	
Purchases	525,135,554	521,750,386	524,000,928	533,323,766	537,406,627	541,102,061
% Difference	1.6%	0.9%	0.1%	-0.2%		
1 NEL-					I REAL TO A	and star
Billed kWh	494,026,421	493,078,700	500,125,975	506,282,929	507,058,035	509,866,419
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classes	630,837	610,899	626,034	679,228	689,685	712,364
<b>Customer/Connections</b>	26,236	25,837	26,241	26,330	26,544	26,761

We are **Community** 

#### Rebalancing Revenue-to-Cost Ratios

	Previously Approved Ratios	Status Quo Ratios	Proposed Ratios	Policy Range
Class	Most Recent Year: 2012	(7C + 7E) / (7A)	(7D + 7E) / (7A)	
	%	%	%	%
Residential - Time of Use	96.00%	90.02%	92.48%	85 - 115
General Service less than 50 kW	110.00%	120.81%	120.00%	80 - 120
General Service 50 to 999 kW	96.00%	110.55%	110.55%	80 - 120
General Service 1,000 to 4,999 kW	120.00%	124.64%	120.00%	80 - 120
Street Lighting	120.00%	231.39%	120.00%	80 - 120
Sentinel Lighting	96.00%	89.51%	92.48%	80 - 120
Unmetered Scattered Load (USL)	120.00%	102.99%	102.99%	80 - 120

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We are **Community** 



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## **Bill Impacts**

#### Bill Impacts – Residential (91% of Customers)

Dased on a typical residential customer bill of ood kwil per mon	Based on a typica	I residential custome	r bill of 800	kWh	per mon
--	-------------------	-----------------------	---------------	-----	---------

	Current Charges	Proposed Charges	\$Change
Halton Hills Hydro Charges			
Distribution Charges	\$24.76	\$28.65	\$3.89
Z-Factor Ice Storm Recovery (ends 10/31/16)	\$2.23	\$2.33	\$0.10
	\$26.99	\$30.98	\$3.99
Other Delivery Charges	\$19.92	\$17.77	-\$2.15
Regulatory Charges	\$5.08	\$5.07	-\$0.01
Time of Use Charges	\$81.71	\$81.71	\$0
нѕт	\$17.38	\$17.62	\$0.24
Total Bill Impact May 1 – Oct 31	\$151.08	\$153.15	\$2.07
Z-Factor Ice Storm Recovery (ends 10/31/16)	After Oct 31, 2016	\$0.00	-\$2.33
Total Bill Impact After Oct 31, 2016	\$151.08	\$150.82	-\$0.26

We are **Community** 

#### Bill Impacts – Small Commercial (8% of Customers)

Based on a typical sma	I commercial custome	er bill of 2000 kWh per mont
------------------------	----------------------	------------------------------

	Current Charges	Proposed Charges	\$Change
Halton Hills Hydro Charges			
Distribution Charges	\$47.35	\$54.76	\$7.41
Z-Factor Ice Storm Recovery (ends 10/31/16)	\$4.87	\$5.08	\$0.21
	\$52.22	\$59.84	\$7.62
Other Delivery Charges	\$45.86	\$40.66	-\$5.20
Regulatory Charges	\$26.34	\$26.29	-\$0.05
Time of Use Charges	\$204.28	\$204.28	\$0
нѕт	\$42.73	\$43.04	\$0.31
Total Bill Impact May 1 – Oct 31	\$371.43	\$374.11	\$2.68
Z-Factor Ice Storm Recovery (ends 10/31/16)	After Oct 31, 2016:	\$0.00	-\$5.08
Total Bill Impact After Oct 31, 2016	\$371.43	\$369.24	-\$2.19

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#### Bill Impacts – Large Commercial (1% of Customers)

Based on an average large commerci	al customer bill of 3	328,500 kWh and 50	0 kW per i	month
	Current Charges	Proposed Charges	\$Change	%Change
Halton Hills Hydro Charges				
Distribution Charges	\$1,805.50	\$2,218.27	\$412.77	22.86%
Z-Factor Ice Storm Recovery (ends 10/31/16)	\$51.28	\$53.52	\$2.24	\$4.37
	\$1,856.78	\$2,271.79	\$415.01	22.35%
Other Distribution Charges	\$815.14	\$785.89	-\$29.25	-3.59%
Transmission Network Charges	\$1,432.35	\$1321.3	-\$111.05	-7.75%
Transmission Connection Charges	\$1,028.70	\$1053.5	\$24.80	2.41%
Regulatory Charges	\$4,284.92	\$4,277.06	-\$7.86	-0.18%
Average Wholesale Market Price	\$31,553.78	\$31,428.78	-\$125.00	-0.40%
нѕт	\$5,326.32	\$5,347.98	\$21.66	0.41%
Total Bill Impact May 1 – Oct 31	\$46,297.99	\$46,486.30	\$188.31	0.41%
Z-Factor Ice Storm Recovery (ends 10/31/16)	After Oct 31, 2016:	\$0.00	-\$51.28	-100\$
Total Bill Impact After Nov 1, 2016	\$46,297.99	\$46,435.02	\$137.03	0.3%

We are **Community** 

#### Summary of Plan

- Robust capital & operating expenditure plan
- Based on prudent business planning
- Projects are paced to meet our needs any change would only defer costs and could impact system reliability

23% of Customers

believe that 0 outages

High customer expectations

are acceptable per year

- Demonstrated performance: PEG report, Scorecard, Industry Award
- Transparent planning process engaging our customers and responding to their preferences
- Provides our customers with a great value proposition: distribution excellence in a safe and reliable manner
- Continuing to meet or exceed customers' evolving expectations



- Halton Hills Hydro has a comprehensive 5 year investment strategy
  Halton Hills Hydro listens to our customers
- Halton Hills Hydro continues to find efficiencies in achieving performance
  excellence



Providing Halton Hills with electricity distribution excellence in a safe and reliable manner.

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We are **Community** 





We are **Community** 



Providing Halton Hills with electricity distribution excellence in a safe and reliable manner.

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**Questions?** 

Thank You