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Frank D'Andrea
Vice President, Chief Regulatory Officer,
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BY COURIER

June 15, 2018

Ms. Kirsten Walli
Board Secretary
Ontario Energy Board
Suite 2700, 2300 Yonge Street
P.O. Box 2319
Toronto, ON M4P 1E4

Dear Ms. Walli,

EB-2017-0049 – Oral Hearing Undertakings for Hydro One Networks Inc.'s 2018-2022 Distribution Custom IR Application (the "Application")

Please find enclosed responses to undertakings from the Oral Hearing held on June 11 and 12, 2018 in regards to the above noted proceeding.

We are here filing responses to undertakings J 1.2, J 1.3, J 1.8, J 1.10, J 1.11, J 2.2 and J 2.3.

This filing has been submitted electronically using the Board's Regulatory Electronic Submission System and two (2) hard copies will be sent via courier.

Sincerely,

ORIGINAL SIGNED BY FRANK D'ANDREA

Frank D'Andrea

Encls.
cc. EB-2017-0049 parties (electronic)

UNDERTAKING – J 1.2

Reference

N/A

Undertaking

To provide the revenue-requirement differential.

Response

The revenue requirement differential for Plan B (as presented in Exhibit I-3-SEC-4 Attachment 2 – November 11, 2016 Submission) relative to Plan A (as presented in Exhibit I-3-SEC-4 Attachment 1, page 2 – October 11, 2016 Submission), is provided below:

	Distribution (Revenue Requirement Differential)				
	2018	**2019**	**2020**	**2021**	**2022**
Rate Base	(140)	(235)	(312)	(369)	(427)
OM&A	(1)	(1)	(1)	(1)	(1)
Depreciation	(14)	(14)	(14)	(17)	(18)
Return on Debt	(8)	(10)	(13)	(14)	(16)
Return on Equity	(5)	(8)	(11)	(13)	(15)
Income Tax	(3)	(2)	(1)	(1)	(1)
Revenue Requirement	(30)	(35)	(38)	(46)	(51)
Acquired LDCs OM&A Adder	0	0	0	0	0
Rate Riders	0	0	0	0	0
Other revenue impacts	(5)	(5)	(6)	(5)	(5)
Rates Revenue Requirement	**(36)**	**(40)**	**(44)**	**(51)**	**(56)**
Rate Increase Required, excl Load	**-1.4%**	**-0.2%**	**-0.2%**	**-0.3%**	**-0.2%**
Estimated Load Impact	0.3%	0.0%	0.0%	0.0%	0.0%
Rate Increase Required	**-1.1%**	**-0.2%**	**-0.2%**	**-0.3%**	**-0.2%**
Estimated Total Bill Impact (R1 customer)	**-0.3%**	**-0.1%**	**0.0%**	**-0.1%**	**-0.1%**

Witness: D'ANDREA Frank

UNDERTAKING – J 1.3

Reference

I-03-SEC-004-02

Undertaking

To provide a breakdown of the $105 million of legacy rate base.

Response

Legacy Rate Base in Exhibit I-3-SEC-4 Attachment 2, Page 7 refers to 2015 additional work that Hydro One completed (approximated $105M above the prior revenue allowance). The full breakdown of the $104.6M in-service additions variance is discussed in Exhibit D1-1-2, table 1 for 2015. Exhibit I-33-VECC-28 provides further details of Joint Use and Relocations and Trouble Calls & Storm Damage.

UNDERTAKING – J 1.8

Reference

A-03-01
K1.7

Undertaking

To provide a version of the data to support tables 4 and 5, estimated input to SAIFI and forecasted SAIDI hours.

Response

This information was provided in the Technical Conference Undertaking, exhibits JT 3.10 as well as in interrogatory I-29-Staff-164.

UNDERTAKING – J 1.10

Reference

Q-01-01

Undertaking

To verify the '18 to '22 information and modify table 2 if required.

Response

VECC compendium (Exhibit K1.8) provided table 2 from Exhibit Q-1-1. The table below is an updated table to reflect the following changes:

- Fair Hydro Plan impact on OM&A and cash working capital as outlined in Exhibit I-33-Staff-179 submitted on February 12, 2018; and
- 2017 actuals impact on rate base as outlined in Exhibit I-33-SEC-67 submitted on May 4, 2018.

Line		Reference	2018	2019	2020	2021	2022
1	Rate Base	D1-1-1	7,649.9	8,009.4	8,412.0	8,940.7	9,306.4
2	Return on Debt	E1-1-1	198.6	208.0	218.4	232.0	241.5
3	Return on Equity	E1-1-1	275.4	288.3	302.8	321.7	334.9
4	Depreciation	C1-6-2	398.2	419.3	434.1	453.1	466.8
5	Income Taxes	C1-7-2	65.2	68.7	71.3	78.6	79.2
6	Capital Related Revenue Requirement		937.4	984.3	1,026.6	1,085.4	1,122.4
7	Less Productivity Factor (0.45%)			(4.4)	(4.6)	(4.9)	(5.1)
8	**Total Capital Related Revenue Requirement**		**937.4**	**979.9**	**1,022.0**	**1,080.5**	**1,117.3**
9	OM&A	C1-1-1	576.7	581.1	585.4	589.8	605.1
10	Integration of Acquired Utilities	A-7-1				10.7	
11	**Total Revenue Requirement**		**1,514.2**	**1,561.0**	**1,607.4**	**1,681.0**	**1,722.4**
12	Increase in Capital Related Revenue Requirement			42.5	42.1	58.5	36.8
13	Increase in Capital Related Revenue Requirement as a percentage of Previous Year Total Revenue Requirement			2.80%	2.70%	3.64%	2.19%
14	Less Capital Related Revenue Requirement in I-X			0.46%	0.47%	0.48%	0.48%
15	**Capital Factor**			**2.34%**	**2.23%**	**3.16%**	**1.71%**

UNDERTAKING – J 1.11

Reference

I-20-CME-015
K1.7

Undertaking

To provide the evidence and produce the data if it exists to support the SAIFI trend and the SAIDI trend.

Response

The *Dx OEB Scorecard* found in Exhibit I-18-SEC-029 filed on May 4, 2018, replicated in Exhibit I-20-CME-015 and subsequently in the Anwaatin compendium K1.7 p.24, has been updated below. The update aligns the methodology for calculating the results and targets for Urban and Rural SAIDI and SAIFI measures with the methodology for calculating the results and targets for SAIDI and SAIFI measures in the *Electricity Distributor Scorecard* in Exhibit I-18-SEC-029, p.3.

The measures and targets in the *Electricity Distributor Scorecard* exclude both Loss of Supply (LoS) and Force Majeure (FM), as directed by the Ontario Energy Board (OEB) and as discussed in detail in Exhibit I-18-SEC-029, p.1. Prior to updated contained herein, the Urban and Rural SAIDI and SAIFI measures and targets in the *Dx OEB Scorecard* included LoS and excluded FM. The update restates both historical results and targets for Urban and Rural SAIDI and SAIFI to exclude both LoS and FM. These historical trends and forecast targets for SAIDI and SAIFI are based on the overall system reliability and the associated outage contribution trends and forecasts as shown in Figures 1 and 2, respectively.

Additionally, this update provides in-year targets for the Urban and Rural SAIDI and SAIFI measures and for the Cost Control measures, *OM&A dollars per customer* and *OM&A dollars per km of line*, along with revised 2018 targets for the Cost Control measures. The revision to the 2018 Cost Control targets was performed to align with the methodology used to develop the targets for the 2019 to 2022 period.

The trends for Urban and Rural SAIDI and SAIFI are explained through Figures 1 and 2 provided on page 3 of this Exhibit.

Dx OEB Scorecard

			Historical Results							Targets					
RRFE Outcomes		Measure	2011	2012	2013	2014	2015	2016	2017	2017	2018	2019	2020	2021	2022
Customer Focus	Customer Satisfaction	Customer Satisfaction - Perception Survey %	77%	78%	80%	67%	70%	66%	71%	72%	74%	75%	75%	76%	76%
		Handling of Unplanned Outages Satisfaction %	81%	79%	78%	75%	76%	75%	76%	76%	77%	78%	78%	79%	79%
		Call Centre Customer Satisfaction %	85%	84%	82%	81%	85%	86%	90%	86%	87%	88%	88%	89%	89%
		My Account Customer Satisfaction %	81%	84%	64%	75%	78%	79%	78%	81%	83%	84%	84%	85%	85%
Operational Effectiveness	Cost Control	Pole Replacement - Gross Cost Per Unit in $	8,541	8,441	7,824	8,928	8,392	8,350	8,431	8,640	8,733	8,908	9,080	9,256	9,437
		Vegetation Management - Gross Cyclical Cost per km $	New Program						7,888	New Program	3,600	3,643	3,687	2,400	2,428
		Station Refurbishments - Net Cost per MVA in $*	386,000	-	318,000	348,000	500,000	557,000	443,000	461,000	454,000	447,000	440,000	434,000	427,000
		OM&A dollars per customer	456	451	498	551	453	455	430	449	466	466	466	454	455
		OM&A dollars per km of line	4,723	4,676	5,109	5,654	4,719	4,773	4,605	4,712	4,797	4,813	4,829	4,823	4,839
	System Reliability	Number of Line Equipment Caused Interruptions	7,681	7,316	7,266	8,311	8,164	7,674	8,786	8,200	8,200	8,000	8,000	8,000	8,000
		Number of Vegetation Caused Interruptions	6,113	6,953	5,791	6,540	6,944	7,439	7,800	6,900	6,500	5,800	5,400	4,700	4,100
		Number of Substation Caused Interruptions	159	144	129	158	141	103	123	145	145	131	131	131	131
		SAIDI - Rural - duration in hours	7.6	7.7	7.7	8.3	8.6	9.0	9.1	9.1	8.0	7.6	7.2	6.8	6.5
		SAIFI - Rural - frequency of outages	2.8	2.8	2.7	2.9	2.9	2.7	2.5	3.4	2.6	2.5	2.4	2.2	2.1
		SAIDI - Urban - duration in hours	2.6	2.9	2.5	3.0	3.4	2.7	2.5	2.8	2.8	2.8	2.8	2.8	2.8
		SAIFI - Urban - frequency of outages	1.1	1.4	1.4	1.8	1.5	1.6	1.3	1.7	1.5	1.5	1.5	1.5	1.5
		Large Customer Interruption Frequency (LDAs) - frequency of outages**	New Measure		118	147	228	136	**	N/A**					
		Large Customer Interruption Frequency (LDAs) - Interruptions per LDA	New Measure						1.7	New Measure	1.6	1.6	1.6	1.6	1.6

*There were no station refurbishment units matching the criteria completed in 2012.

**Replaced by Large Customer Interruption Frequency (LDAs) - Interruptions per LDA. For 2018 onwards, only the normalized measure will be reported and managed.

Figure 1:

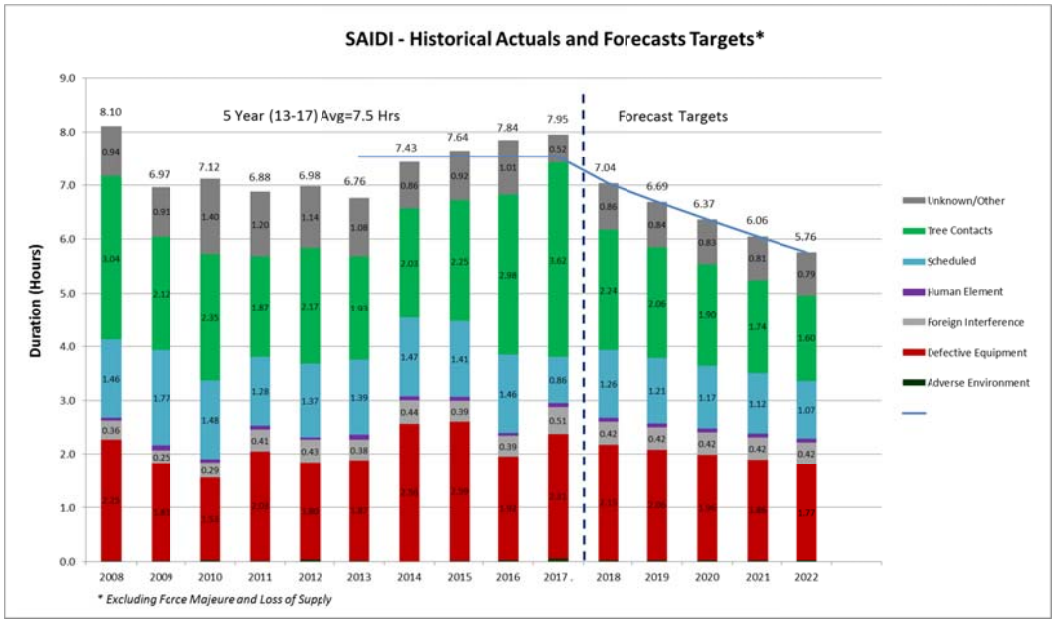


Figure 2:

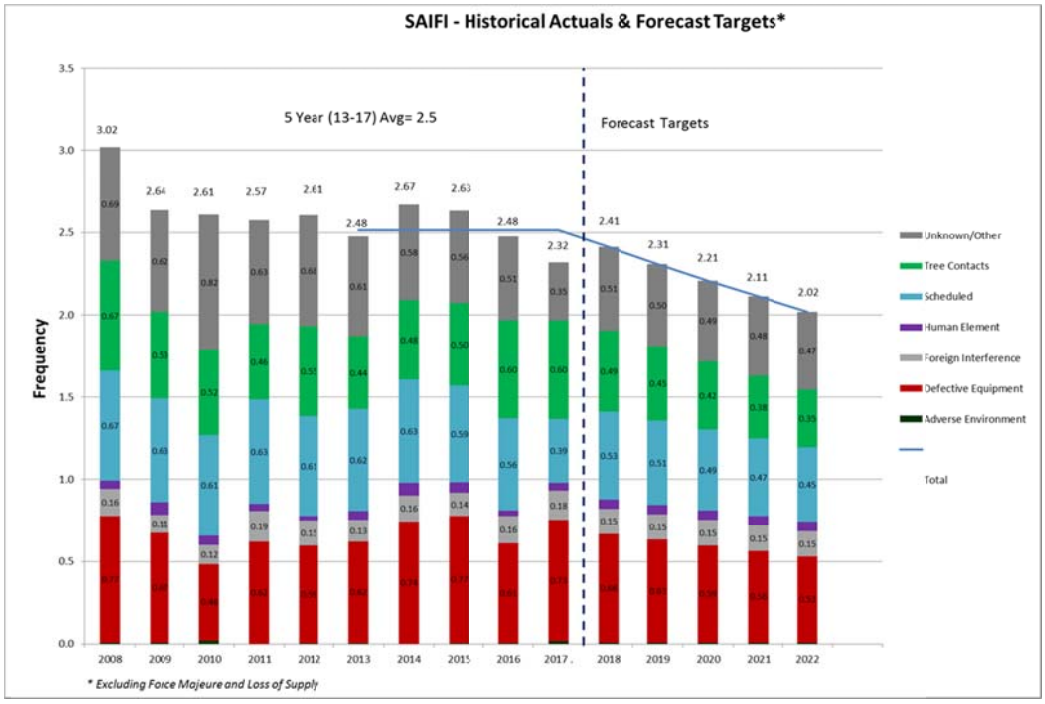


Figure 3:

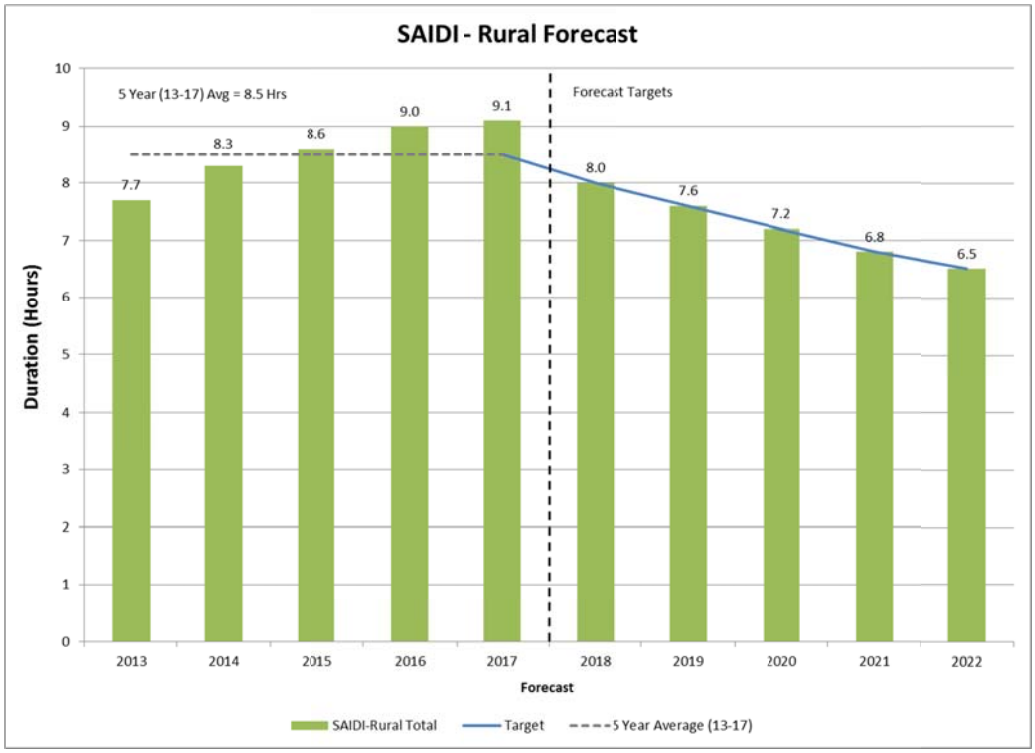


Figure 4:

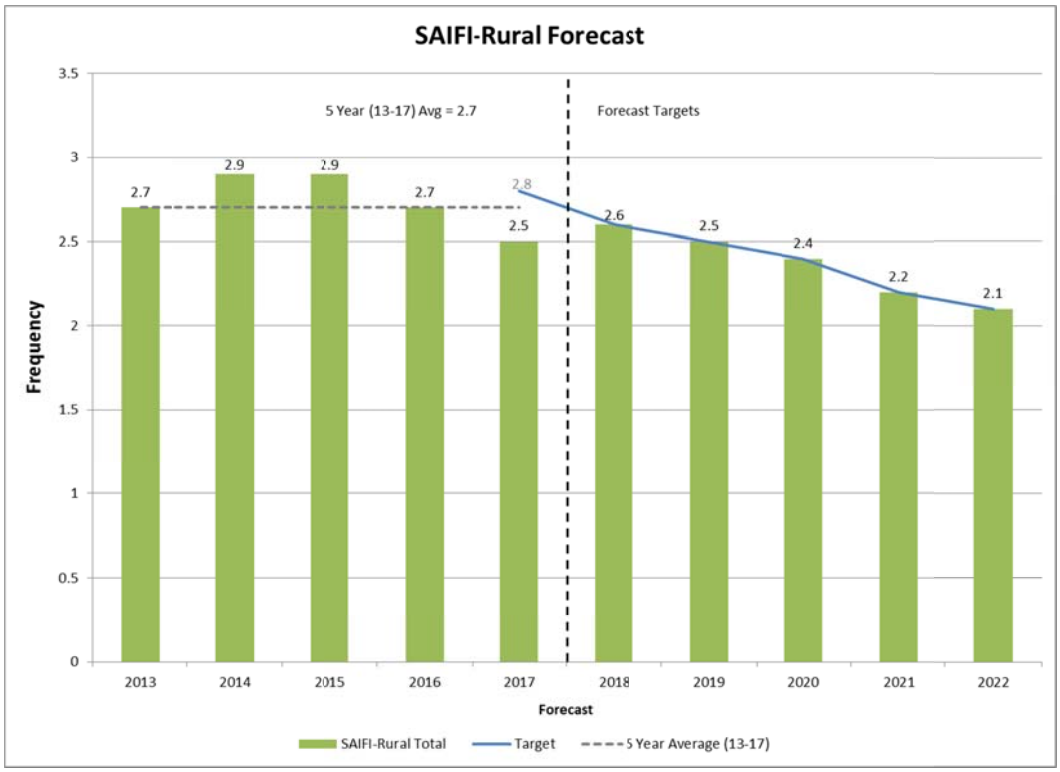


Figure 5:

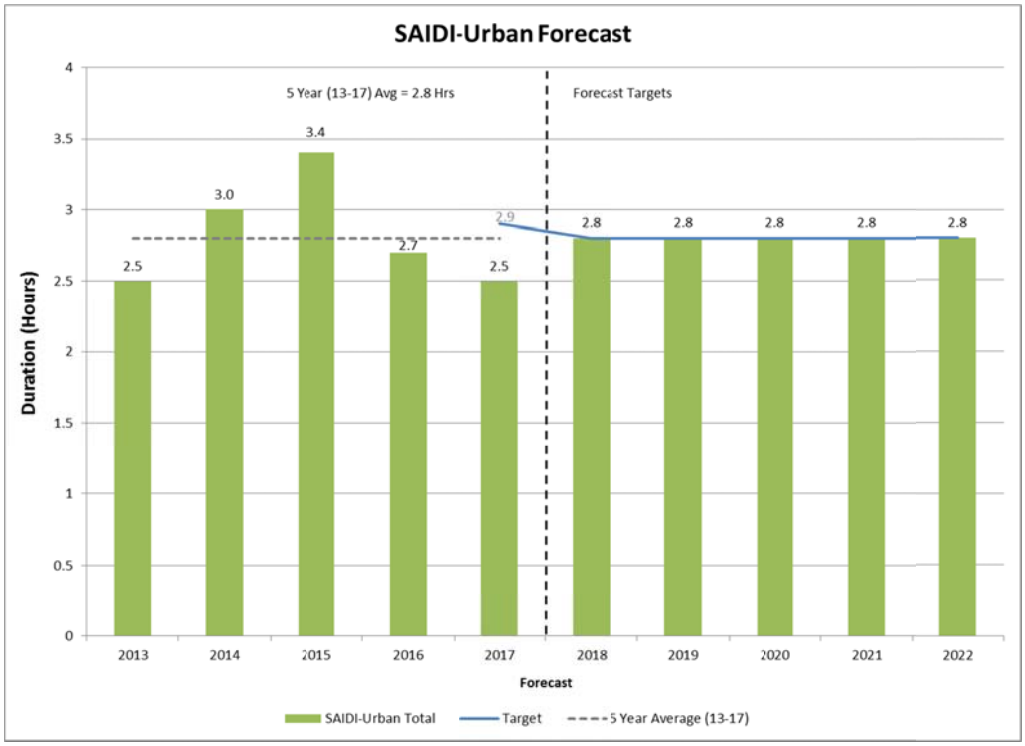
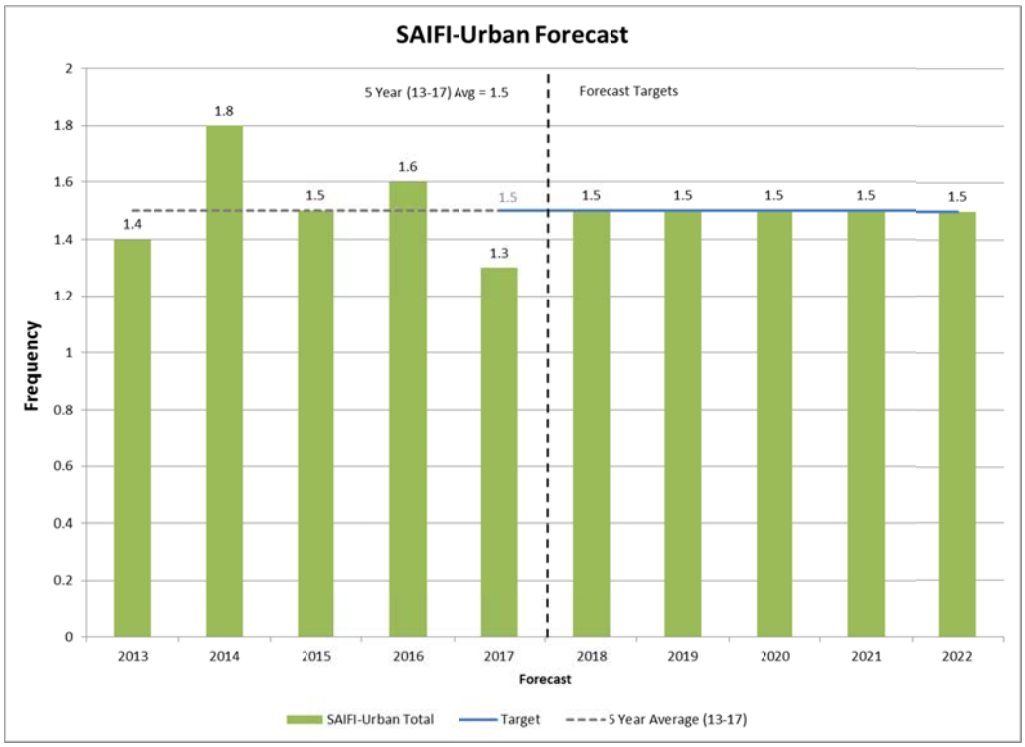


Figure 6:



UNDERTAKING – J 2.2

Reference

I-25-Staff-123
K 2.1 – Page 2

Undertaking

To provide the impact of the three acquireds on revenue requirement.

Response

The incremental impact on Hydro One's 2021 revenue requirement of incorporating the three acquired utilities in 2021 is detailed in the response to interrogatory Exhibit I, Tab 56, Schedule SEC-96 part d). For convenience the information is summarized in the table below:

	Contribution to Hydro One's 2021 Revenue Requirement ($M)
OM&A	$10.7
Depreciation	$4.3
Return on Debt	$4.3
Return on Equity	$5.9
Income Tax	$0.5
Total Revenue Requirement	**$25.6**

UNDERTAKING – J 2.3

Reference

I-25-Staff-123
K2.1

Undertaking

To provide the detail behind the numbers for the three initiatives move to mobile, procurement, and telematics, as well as the methodology for determining these calculations; and to provide a narrative as to whether or not what we are seeing is the same approach used in other initiatives.

Response

1. Move to Mobile – OM&A and Capital – Background

The Move to Mobile (M2M) solution was initiated to enhance Distribution workflow, with technology (SAP Work Manager with GIS Technology), upgrading our scheduling/dispatch tool (PCAD) and best in class process improvements. It was launched in Zone 3B in February 2017 and after a three-week period (to identify gaps/issues) was deployed across the province. The M2M project went live in the final Distribution Zone on April 24, 2017 and transitioned to sustainment on July 4, 2017.

M2M has two productivity savings components: Field Force Productivity (Capital) and Clerical Staff savings (OM&A).

Clerical Staff

M2M has automated the following:

- Automate creation of some work orders/notifications
- Auto scheduling of work types using improved scheduling technology

Some of this work was previously performed manually. This automation represents a reduction/ elimination of manual data entry.

Field force productivity

M2M has allowed for:

- Improved tools to support work planning, scheduling and dispatching.
- Improved data quality and timeliness
- Reduce re-work (truck rolls) when information is missing or incorrect
- Provide electronic access to documents, design standards and maps
- Allow field to create new asset notifications and clear erroneous system recorded defects

Target Setting Methodology

M2M Benefit Card Summary ($K)

Benefits were estimated and submitted as part of business case.
Benefit Card values were used to set the budget.

Category	Description	2018	2019	2020	2021	2022	Calculation Assumptions
OM&A	BASC Reduced Data Capture	2,121	2,164	2,207	2,207	2,207	reduction of 21 clerical FTE @ labour rate of $96, 492 PWU 57
OM&A/ Capital	FBC - Optimized Process	858	875	893	893	893	reduction of 8 clerical FTE @ labour rate of $102,456 PWU 58
Capital	Scheduling Optimization	8,196	8,359	8,527	8,527	8,527	5% of 900 FTE @ labour rate $157,844 PWU 01
Capital	Trouble / Outage Updates	765	780	796	796	796	4 calls x 47,504 trouble calls x 2 min@ labour rate $157,844 PWU 01
Capital	Maps & Standards Updates	838	855	872	872	872	map binder updates 90 hrs/ops/year + map issues 48 hrs/ops/year @ labour rate $157,844 PWU 01
Capital	Field - Data Capture	55	56	57	57	57	253 jobs reverified/yr @ 1 hr + 4 material issues/ops per year @ 1 hr @ labour rate $157,844 PWU 01
Capital	Courier and Printing	169	225	225	225	225	25 pages per job folder x 100,000 job folders + 75% of courier costs
Total Savings ($K)		**13,001**	**13,314**	**13,576**	**13,576**	**13,576**	

Calculation Methodology

Clerical Staff (OM&A) - Productivity savings are realized through reduced headcount. Baseline headcount is compared to actual headcount on a monthly basis. The change in headcount is quantified using actual labour rates.

Field Force Productivity (Capital) - A baseline of Labour Hours per unit has been quantified using SAP system data. Productivity Savings are calculated using Labor hours saved across the work program and compared to the established baseline. A unit based calculation compares historical labour hours per unit to actual.

2. Procurement Savings – OM&A and Capital – Background

In 2016, Supply Chain performed a comprehensive spend analysis to bundle procurement spend from across the company into natural sourcing categories for all goods and services. An opportunity analysis was conducted on these categories to identify and prioritize key initiatives and go-to-market strategies.

These strategies utilize industry best practices and streamlined processes. Examples of these strategies include; multiple feedback rounds in competitive sourcing events, enhanced direct negotiations for contract extensions and a redesigned sourcing process to make it faster and easier to do business with Hydro One. The opportunity analysis and category strategy developed were used to create a targeted savings percentage for each category.

During the investment planning process, Hydro One applied the targeted savings percentage to its work program by embedding the savings into the category related investment drivers.

Hydro One is unable to release the planned savings targets for categories that have not yet been executed as this would negatively impact Hydro One's ability to effectively negotiate with its suppliers. Below are examples of the target savings for completed sourcing events, including the weighted average savings target that was used to plan the procurement savings from 2018 to 2022.

Category	Target Savings %	Methodology	CAP	OM&A	CCC	2018	2019	2020	2021	2022
Equipment Rentals	7%	Hourly Rate	100%			2.9	3.3	3.5	3.7	3.9
General Contractors	4%	Hourly Rate	100%			1.0	1.1	1.2	1.3	1.3
Electrical Hardware	5%	Unit Cost	100%			3.2	3.8	3.8	4.0	4.1
General Hardware	10%	Unit Cost	70%	30%		0.1	0.1	0.1	0.1	0.1
Volume Rebates*	N/A	Total Rebates			100%	0.7	0.7	0.7	0.7	0.7
Other Categories						7.9	8.2	12.7	11.8	13.4
Total						**15.9**	**17.2**	**21.9**	**21.6**	**23.5**

*Note: volume rebate Savings are based on total dollar rebates received on all procurement spend and is not a percentage based target.

Target and Actual Calculation Methodologies

Categories that are services based and charged out on an hourly basis, such as Equipment Rentals and General Contractors, have savings estimates calculated based on the target hourly rate reduction. The target savings are based on all services provided within the category proportionately represented by estimated volume. To track actual savings, the negotiated savings rate (old hourly rate vs. new hourly rate) is multiplied by the actual volume purchased.

Categories for materials and equipment that have unit counts, such as Electrical Hardware and General Hardware, have savings estimates calculated based on the target unit cost reduction. The target savings are calculated by considering all units within the category proportionately represented by estimated volume. To track actual savings, the negotiated savings rate (old unit cost v.s new unit cost) is multiplied by the actual volume purchased.

An example of our corporate common cost savings are the Volume Rebates that Hydro One receives from suppliers from negotiated contracts. Not all contracts have volume rebates built into them and the target savings is based on a total dollar figure and not a percentage. Savings are tracked throughout the year based on actual credit notes or cash received.

3. Telematics – OM&A - Background

As a further safety initiative, Fleet Services has implemented Telematics Technology across the transport and work equipment in Hydro One. Telematics is an integrated use of telecommunications, including Global Positioning Systems (GPS) and informatics systems, which provide location of vehicles and live data. The benefits of telematics include:

- Provides insight to driving behaviours which allows us to reinforce road safety
- Allows for real-time management of corporate assets
- Provides solutions that allow operators to become more efficient and allows management to exercise better control of equipment
- Provides solutions to allow for driver behavior modification

The telematics initiative is one of the most significant initiatives underway in Fleet Services. The project was completed at the end of 2016 with a total of ~4,800 telematics units installed across various T&WE (Transport and Work Equipment) asset categories. The technology provides data that allows us to realize efficiencies in T&WE use, resulting in optimal usage of the assets. Some of the key metrics being tracked are fleet utilization, speeding, harsh driving, idling, PTO (power take-off) usage and fuel efficiency.

Target Setting Calculation

Reduction in Net Fleet Complement	2018	2019	2020	2021	2022
Light duty vehicles	*32*	*32*	*64*	*64*	*129*
Misc. (Chippers, Manlifts, Forklifts, etc)	*14*	*14*	*16*	*28*	*72*
Total	***46***	***46***	***80***	***92***	***201***

Reduction of 10% of Light duty and 5% of other specialized equipment as per the Telematics Business Case

Reduction in Fleet OM&A Requirement	2018	2019	2020	2021	2022
Fuel Savings Estimate Preliminary Estimate	*$0.5*	*$0.5*	*$0.5*	*$0.5*	*$0.0*
Maint. Savings $16k per unit estimate	*$0.7*	*$0.7*	*$1.3*	*$1.5*	*$3.2*
Extending life of parts replacement	*$0.0*	*$0.0*	*$0.3*	*$0.0*	*$0.0*
Total	***$1.2***	***$1.2***	***$2.1***	***$2.0***	***$3.2***
Allocation to Distribution (67%)	***0.8***	***0.8***	***1.4***	***1.3***	***2.2***

Assumptions
OM&A Savings: Blended avg. maintenance cost per unit for Light and Misc. vehicles (Annual) = $16,000
Savings anticipated from Fuel Savings in Speeding & Harsh event reduction - $500K/year (Based on 2017 estimate), due to Driver behavior modification
Additional one-time saving of $300K for maintenance through optimizing asset maintenance efficiency/extending life of parts replacement

Notes:

The table above represents the original savings targets.
In 2017 all committed savings were allocated to 'Fuel Savings Estimate' to correspond with approved tracking methodology.

Calculation Methodology - 2018

Encompassing all of Hydro One's vehicles across the province, savings are achieved through rationalization and improvement in driver behavior via the use of telematics to determine areas of consolidation and reduction of overall footprint. Savings are calculated as:

$$Savings = \left[\left(\frac{B}{A}\right) - C\right] \times D$$

Where:

A: Average kilometers per litre of fuel for 2016 (used as baseline year)
B: Total kilometers in 2018
C: Total litres of fuel in 2018
D: Average 2018 fuel cost per liter from ARI Reports[1]

Telematics - Capital - Background

The Fleet Right-Sizing Initiative leverages telematics data to identify all underutilized vehicles and remove all excess vehicles from service. The equipment complement has been reduced by 10% in 2017 and will be maintained at the new optimal level going forward. The goal is to have the right equipment and the right number of equipment to successfully execute the work programs and satisfy all customer staffing requirements.

[1] Data provided by ARI Global Feet Management Services, ARI Fleet Management System and Fuel Reports

Target Setting Methodology

	2018	2019	2020	2021	2022
Baseline	59.70	59.70	59.70	59.70	59.70
Updated Business Plan	39.72	44.59	45.10	45.41	45.76
Savings	**19.98**	**15.11**	**14.60**	**14.29**	**13.94**
Savings allocated to Distribution (67%)	**13.4**	**10.1**	**9.8**	**9.6**	**9.3**
Baseline Replacement Units	805	805	805	805	805
New Plan Units	503	473	473	473	473
New Plan Cost/unit	0.079	0.094	0.095	0.096	0.097
Baseline Cost/Unit	0.074	0.074	0.074	0.074	0.074

Calculation Methodology

Baseline capital replacement plan (monthly) is compared to actual Capital replacement. The variance to baseline in actual units and actual cost per unit is quantified to determine savings.

Other Initiatives

A similar framework is used when setting the anticipated targets and determining a calculation methodology for quantifying the benefits of the other initiatives.