July 8, 2015

Ian A. Mondrow
Direct: 416-369-4670
ian.mondrow@gowlings.com

Assistant: Cathy Galler
Direct: 416-369-4570
cathy.galler@gowlings.com

VIA RESS AND COURIER

Ms. Kirsten Walli
ONTARIO ENERGY BOARD
P.O. Box 2319, 27th Floor
2300 Yonge Street
Toronto, Ontario
M4P 1E4

Dear Ms. Walli:

Re: EB-2014-0101: Oshawa PUC Networks Inc. (OPUCN) 2015-2019 Rates

Transcript Undertaking Responses

Filed with this letter please find OPUCN's responses to the transcript undertakings provided during cross-examination. We are filing responses to all of the undertakings given, except as follows:

1. The responses to undertakings J1.2, J1.3 and J1.4, which have been previously filed.

2. The response to J2.11, which entails recalculation of rate impacts. The recalculation is underway and the response will be filed later today.

Later today we will also be filing an update to the response to undertaking J1.2 previously filed. As previously filed, the response to J1.2 provides rate impacts incorporating OPUCN's June, 2015 update (now Exhibit K1.2). Later today we will file an updated version of J1.2, which incorporates the further adjustments reflected in the undertaking responses filed herewith.

Yours truly,

Ian A. Mondrow

c. Phil Martin, OPUCN
Harold Thiessen, OEB STAFF
Jennifer Lea, OEB STAFF COUNSEL
Intervenors of Record

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OSHAWA PUC NETWORKS INC.

Undertaking J1.1

To recalculate the end result of the working capital allowance calculation, recognizing the correction discussed.

Response:

The following table is taken from OPUCN's June update (Exhibit K1.2), and adds a row to include in the working capital allowance for the lead associated with IESO payments; the weighted average days from the end of the month of 24.64, as requested. The impact of this change on the revenue requirement in each year of the rate plan term is indicated on the revised table.

Rate Application UPDATES - Revenue Requirement Impacts *08-Jul 2015*

	2015	2016	2017	2018	2019	Change	Cumulative Change
Revenue Requirement As Filed Jan 29, 2015	**21,565**	**23,548**	**24,391**	**25,605**	**26,194**		
Revenue Requirement As Filed May 13, 2015	**21,647**	**23,408**	**24,384**	**26,217**	**27,431**		**1,783**
Revenue Requirement As Filed June 23, 2015 (for Oral Hearing)	**21,293**	**22,926**	**23,823**	**25,747**	**26,969**		
Increase / (Decrease)	(354)	(482)	(561)	(470)	(462)	(2,328)	(545)
% Increase / (Decrease)	-1.7%	-2.1%	-2.4%	-1.8%	-1.7%		
Oral Hearing J2.12 : Correct 2015 weighted debt rate - to 4.11% from 4.24%	21,217	22,926	23,823	25,747	26,969		
Increase / (Decrease)	(76)	0	0	0	0	(76)	(621)
% Increase / (Decrease)	-0.4%	0.0%	0.0%	0.0%	0.0%	-0.1%	
Oral Hearing J3.2 : Correct Other Revenue for 2016-2019	21,217	22,912	23,795	25,703	26,909		
Increase / (Decrease)	0	(14)	(29)	(44)	(60)	(147)	(768)
% Increase / (Decrease)	0.0%	-0.1%	-0.1%	-0.2%	-0.2%	-0.1%	
Oral Hearing J1.1 : Adjust cost of power expense lead from 20.89 from 24.64	21,129	22,823	23,704	25,609	26,814		
Increase / (Decrease)	(88)	(88)	(91)	(93)	(95)	(455)	(1,223)
% Increase / (Decrease)	-0.4%	-0.4%	-0.4%	-0.4%	-0.4%	-0.4%	
Revenue Requirement July 9, 2015	**21,129**	**22,823**	**23,704**	**25,609**	**26,814**		

OPUCN also confirms, in response to a question posed by the Chair (Transcript Volume 1, page 135, lines 22 – 26) that the IESO payable balance is an accrual every month except December. OPUCN does not get confirmation of the IESO invoice amount until around the 14th of the following month, which is well after it has to prepare monthly financial statements. At year end OPUCN keeps the books open longer which allows it to book the actual invoice instead of an accrual.

OSHAWA PUC NETWORKS INC.

Undertaking J2.1

With reference to appendix 2AA of the June 23rd update, to indicate which line items Oshawa does not intend to change as part of the annual adjustment process, or is not covered by a variance account; in other words, what line items is Oshawa asking the Board to lock in now for the entire five-year period.

Response:

The following line items from Appendix 2AA of the June update (Exhibit K1.2) are not proposed to be adjusted or subject to variance account treatment during the plan term:

Line No.	Description
27	Remote Disconnect/Reconnect Metering
28	PrePaid Metering
29	OEB's MIST Metering
30	Long Term load transfers (LTLT)
31	MoE approved Micro Grid Project
36	O/H Rebuilds
37	U/G Rebuilds
38	Station Rebuilds
39	Station Rebuilds (MS14 Switchgear in WIP end 2014)
40	Reactive/emergency Plant Replacement
49	MS9 – 44kV/13.8kV Substation
50	MS9 Proposed OH distribution feeders
51	Neutral Reactors
52	Underground Distribution Automation Downtown UG Vaults, including Self Healing system – For Safety, Efficiency, Reliability & Power Quality Improvements
53	Overhead Automated Self healing Switching – Intellirupters switches (8 feeders 13 switches over 3 years)
54	Smart Fault Indicators
55	Volt-Var optimization & Reduction in Distribution Losses
56	Distribution System Supply Optimization
61	Fleet

62	Total Facilities Leasehold Improvements
63	Major Tools and Equipment
64	Outage Management System Implementation including interface with SCADA, GIS, CIS, AMI, IVR
65	Mobile Work force
66	ODS Replacement due to enhanced operational requirements not available with existing ODS
67	GIS Enhancements for operational needs including OMS
68	MAS Enhancements for operational needs
69	ODS/CIS Enhancements for operational needs
70	Office IT Capital Expenditure
74	Miscellaneous (2018 $'s are MS9 land)

OSHAWA PUC NETWORKS INC.

Undertaking J2.2

To review the details in the Horizon settlement agreement of the earnings sharing mechanism, the capital expenditure variance account, and the efficiency adjustment that Horizon agreed to, and provide some comment as to whether or not Oshawa thinks any of those mechanisms are appropriate for it, and if not, why not.

Response:

Please see response to J2.4.

OSHAWA PUC NETWORKS INC.

Undertaking J2.3

To advise the revised forecast for the controllable capital investment efficiency incentive mechanism.

To provide for each year in the plan how much is embedded in rates for two items, the Hydro One contributions for the transmission station and unbudgeted projects required by regional planning.

To provide the amount embedded in rates presently for distribution plant relocations due to third party requests.

Response:

OPUCN is responding to three distinct requests made in the course of discussion regarding this undertaking response, as follows:

- Volume 2, page 48: To confirm the current forecast for the capital investment subject to the Controllable Capital Investment Efficiency Incentive Mechanism (CCIEIM).
- Volume 2, page 65: For each year in the rate plan, how much is embedded in rates for the CCIEIM.
- Volume 2, page 67: For each year in the rate plan, how much is embedded in rates for plant relocations due to third party requests.

Table 1, following, responds to the first two of these requests, by providing a breakdown, by year of the rate plan, of the amounts embedded in rates for each of the two capital programs (System Renewal and MS9) subject to the proposed CCIEIM.

Table 1

Projects	2015	2016	2017	2018	2019	Total
System Renewal						
O/H Rebuilds	2,410	2,455	2,055	2,510	2,117	11,547
U/G Rebuilds	1,133	1,007	1,087	921	904	5,052
Station Rebuilds	510	640	500	500	1,000	3,150
Reactive/emergency Plant Replacement	830	830	830	830	830	4,150
System Renewal sub-total	4,883	4,932	4,472	4,761	4,851	23,899
System Services						
MS9 - 44kV/13.8kV Substation				7,000		7,000
MS9 Proposed OH distribution feeders				4,000	3,500	7,500
Neutral Reactors	450	1,050				1,500
System Services sub-total	450	1,050	0	11,000	3,500	16,000
Total CCIEIM Projects	5,333	5,982	4,472	15,761	8,351	39,899

Table 2, following, provides the amounts embedded in rates for each year of the rate plan for plant relocations due to third party requests.

Table 2

Projects	2015	2016	2017	2018	2019	Total
Hwy 407 Extension - Plant relocation	4,510	700				5,210
Hwy 407 contribution	(3,580)	(400)				(3,980)
Durham Region - Plant relocation	1,875	935	1,065	1,080	1,055	6,010
Durham Region Contribution	(506)	(235)	(265)	(280)	(255)	(1,541)
City of Oshawa - Plant relocation	680	595	470	460	470	2,675
City of Oshawa Contribution	(175)	(145)	(120)	(110)	(120)	(670)
Total Relocation projects driven by third parties	2,804	1,450	1,150	1,150	1,150	7,704

OSHAWA PUC NETWORKS INC.

Undertaking J2.4

To consider the merits of a mid-term review as opposed to the annual adjustments.

Response:

During the hearing 3 scenarios were put to OPUCN for consideration. These scenarios were:

Undertaking J2.2: To comment on the applicability of the mechanisms agreed to by the parties to, and approved by the Board, in the Horizon settlement agreement. Those mechanisms are: i) an earnings sharing mechanism; ii) a capital expenditure variance account; and iii) an efficiency adjustment mechanism.

Undertaking J2.4: To consider the merits of a mid-term rate review, as opposed to the annual rate adjustment review proposed by OPUCN.

Undertaking J2.7: To provide a load forecast proposed in the event that no annual adjustments to OPUCN's rates during the 5 year Custom IR term are permitted.

In considering these 3 scenarios, as requested, OPUCN has also considered some of the other concerns explicitly or implicitly raised during the interrogatory and oral hearings phases of this process regarding: i) the number of annual rate adjustments proposed; ii) the scope and requirements of the annual rate adjustment process proposed; and iii) the timing for updating rates for 2016, given that a decision on OPUCN's application is not reasonably expected prior to late August. These considerations have led OPUCN to develop an alternative approach to setting its rates for the 2015 through 2019 period, building on the proposition advanced by Staff of one, mid-term review. OPUCN discusses this alternative below, following its comment on the applicability of the Horizon settlement mechanisms to OPUCN's circumstances and the load forecast implications to OPUCN of departing from annual load forecast updates.

While OPUCN is not proposing to amend its "prayer for relief", OPUCN does believe that it would be able to implement an alternative approach along the lines suggested by Staff and developed below. OPUCN believes that such an alternative would, at this juncture, simplify the implementation of a 5 year rate plan for OPUCN, while preserving

the essential risk/reward balance and value for money/efficiency incentives that it believes are inherent in its as filed proposal.

Horizon Rate Plan Mechanisms

Earnings Sharing Mechanism (ESM)

Horizon's Custom IR approved settlement included an earnings sharing mechanism (ESM) with the following basic parameters:

1. It is asymmetrical (i.e. intended to protect ratepayers by requiring the LDC to share earnings above the Board approved ROE in the year, but not relieving the LDC from its revenue "cap" under approved rates for the year should costs be higher than forecast).

2. There is no "dead band", and all earnings above the Board approved ROE in the year are subject to sharing.

3. Sharing is 50:50 between ratepayers and the utility shareholder.

4. Calculation of the earnings in the year, and thus the earnings subject to sharing, is in accord with a detailed description embedded in the Horizon settlement agreement, which essentially requires calculation in accord with existing regulatory standards and without modification.

While OPUCN did not propose an ESM in its application as filed, OPUCN does believe that it could implement an ESM such as that accepted by the Board in the Horizon proceeding. OPUCN understands this sort of ESM to be intended to protect ratepayers from overly conservative revenue forecasts, or inflated cost forecasts, in that it mitigates "windfall" earnings opportunities for the LDC. OPUCN did not propose an ESM in its application as filed because:

1. OPUCN has proposed robust benchmarking evidence, including both statistical benchmarking analysis comparing its own cost forecasts to the costs of its LDC peers and external benchmarking of both its proposed capital costs and of its total factor productivity. OPUCN's forecast costs have been demonstrated by this benchmarking to be lower than predicted, and thus the Board need not be concerned with inflated cost forecasts.

2. The load forecast underpinning OPUCN's revenue forecast is conservative (from the ratepayer perspective), being driven by aggressive growth predictions from the City of Oshawa, Durham Region and local developers. This load forecast presents much greater risk to OPUCN that it does to ratepayers, and is clearly not overly conservative.

However, OPUCN does believe that an ESM such as that adopted by the Board for Horizon could play a role in the alternative approach to setting OPUCN's rates for 2015 through 2019 as outlined below. This is because in such an alternative, OPUCN would adjust its early year load forecasts in line with its 2015 to date experience, and an ESM such as that adopted for Horizon would mitigate the risk to ratepayers of higher than (adjusted) forecast growth.

OPUCN also believes that an ESM could work in tandem with a more focussed version of OPUCN's proposed Total Cost Efficiency Carryover Mechanism (TCECM) as outlined in the discussion of an alternative rate plan approach, below.

Capital Expenditure Variance Account

The capital expenditure variance account mechanism adopted in the Horizon settlement is intended to "ring fence" Horizon's capital expenditure for its approved system renewal program. Any funds collected by Horizon in rates to fund that program but which are not spent are returned to ratepayers at the end of the plan term.

While protecting ratepayers from paying more in rates than is ultimately required to fund Horizon's approved capital investment program, this mechanism does not provide any incentive for Horizon to spend less than the approved level.

OPUCN notes that in respect of its two main uncontrollable capital investment areas – unbudgeted regional planning costs and third party driven plant relocations – it has already proposed a variance account to capture the difference between budgeted activity/costs and actual activity/costs – to protect both ratepayers and the shareholder. This is analogous, in respect of these capital investment areas, to the Horizon capital expenditure variance account approach.

In respect of its controllable capital investment costs, OPUCN has benchmarked its capital investment plan, which investment plan was in turn developed following a comprehensive 3rd party asset condition assessment, in order to provide comfort to the Board up front that its proposed capital expenditures are efficient and prudent. OPUCN also expects to be held to its approved Capital Investment Program/Distribution System Plan (subject to variance in activity/expenditure levels driven by third parties, as noted above), and to have to demonstrate that it has carried out that program/plan (i.e. that it undertook the projects for which it was funded in rates).

In respect of the 2 large capital projects that are controllable – its new distribution station (MS9) and its system renewal program – OPUCN has proposed a mechanism (its Controllable Capital Investment Efficiency Incentive Mechanism – CCIEIM) that both incents OPUCN to spend less than approved, and returns a portion of capital investment thereby saved to ratepayers through a permanent reduction to rate base. OPUCN believes that the combination of robust capital expenditure benchmarking (including total factor productivity benchmarking) and its innovative and balanced

CCIEIM present a superior value proposition for ratepayers and a better risk/reward balance for OPUCN than would a "ring-fencing" approach. OPUCN believes that the Board, the utility, and its ratepayers would be well served by approving the proposed CCIEIM; a new form of incentive mechanism targeted specifically at encouraging efficient long term capital investment programs.

However, OPUCN does believe that a more focussed asymmetric (in favour of ratepayers) capital expenditure variance account, which would function to return to ratepayers amounts recovered on account of OPUCN's system renewal capital investment program elements not in fact implemented over the rate plan term, could provide useful protection to ratepayers and confidence to the Board. This more focussed approach could work in tandem with, and support, OPUCN's proposed CCIEIM.

Efficiency Adjustment Mechanism

The efficiency adjustment mechanism adopted for Horizon's Custom IR plan is essentially intended to increase the stretch factor component of the rate adjustment index adopted for Horizon, in the event that Horizon's productivity declines to the extent that its moves to a lower efficiency PEG cohort during any year in its plan term. This is accomplished by increasing the stretch factor embedded in the Horizon rate adjustment formula so that the stretch factor that is ultimately applied tracks the stretch factor of the cohort into which Horizon falls.

OPUCN does not believe that this mechanism is appropriate or applicable to its proposed rate plan, for 3 reasons:

1. OPUCN has not proposed to adjust its rates by application of an index, and so adjustment of an index is not an applicable or appropriate mechanism for it to consider.

2. OPUCN has produced robust benchmarking of its proposed costs, to demonstrate that the rates which it has requested, and to which it would be limited over the plan term, already reflect superior efficiency. Thus no further efficiency adjustment is required, regardless of actual costs. (That is, under OPUCN's proposal, superior ratepayer value is already guaranteed, up front.)

3. PEG's benchmarking work has forecast that in the early years of OPUCN's plan period OPUCN will fall one efficiency cohort (though it will end its term more efficient than it currently is). In the result, adopting for OPUCN an efficiency adjustment mechanism such as that adopted for Horizon would embed a penalty for OPUCN up front, which OPUCN believes would be an inappropriate result.

Load Forecast Without Annual Adjustment

Board Staff asked OPUCN to consider what load forecast would be appropriate should the Board decline to approve any load forecast adjustments during the plan term.

OPUCN continues to believe that a 3% annual forecast growth rate is the "best" forecast for its expected circumstances, given: i) data from the City, the Region and local developers that indicates that hoped for growth in Oshawa during the rate plan term is greater than 3% (and closer to 4%); ii) an historical (including 2015 year to date) growth trend that is closer to 1.5%; and iii) the tremendous amount of infrastructure work and economic activity required in the next 4.5 years for the City, the Region and local developers to realize their growth aspirations.

However, the 3% "best" load forecast also presents considerable risk for OPUCN, given that load has historically grown at a slower rate and that the faster growth expected is very much dependant on the development activities of 3rd parties. This is precisely why OPUCN has proposed to update its load forecast annually, given the circumstances presented in its franchise territory. With mitigation of this risk of divergence of actual from forecast growth through annual prospective adjustments to the load forecast, OPUCN can, and is prepared to, accept the risk of in year load growth variance, as it has proposed.

However, if the Board were not to accept OPUCN's proposal to update its load forecast during the plan term, the risk posed by the "best", but nonetheless aggressive (on the part of the relevant 3rd parties), 3% growth forecast is more significant than OPUCN is able to accept.

Accordingly, if the Board were to determine that no load forecast adjustment would be permitted to OPUCN during the rate plan term, OPUCN would propose a load growth forecast as follows:

Year	Forecast Growth
2015	1.5%
2016	1.5%
2017	1.5%
2018	1.5%
2019	1.5%

This forecast is in line with historical (including 2015 YTD) growth.

OPUCN has also considered the impact of slower than initially forecast growth on its forecast net new connection costs. It would be appropriate, if the 1.5% load growth forecast were to be adopted, to adjust the forecast net new connection costs by reducing costs in this category as indicated in the following table:

Revenue requirement Impact of Reducing New Connection costs by $0.6m per year

Projects	2015	2016	2017	2018	2019	Total
Reduction in New Connection Costs	380	363	365	371	372	1,851
						0
Total	380	363	365	371	372	1,851
Revenue Requirement Impact	**17**	**48**	**80**	**113**	**146**	**403**

The revenue requirement impact of such a downward adjustment would total approximately $400,000 over the 5 year rate plan term.

Alternative OPUCN Rate Plan Approach – Merits of a Mid-term Review

Board Staff asked OPUCN to comment on the idea of replacing OPUCN's proposed annual rate adjustment process with one, mid-term rate review (Undertaking J2.4). In considering the undertakings responded to above, OPUCN has concluded that Staff's proposal has merit, and could be implemented by OPUCN with relatively few changes to the essential components of its application as filed.

Were the Board to adopt one, mid-term review in determining OPUCN's rates for the 2015 through 2019 rate plan period, OPUCN would suggest (and could implement) the following approach:

1. The Board would set rates for each of the plan term years now, but subject to review of rates for 2018 and 2019 and adjustment, as appropriate. The review would occur in the second half of 2017. OPUCN would file, in April 2017, an application for review and adjustment, if appropriate, of 2018 and 2019 rates.

2. To address, under this alternative approach, the annual adjustments and variance account treatments proposed by OPUCN in its application as filed, OPUCN would propose as follows:

Currently Proposed Adjustment/Variance	2015, 2016, 2017	2018, 2019
Load Forecast	1.5% annual growth, with an ESM as adopted for Horizon (and Enbridge) to protect ratepayers in the event that growth accelerates.	3% annual growth, subject to review and adjustment as appropriate. Maintain ESM.
Net New Connection Costs	Adjusted as indicated above, and if ESM adopted eliminate variance proposal.	Maintain forecast as filed, subject to review and adjustment as appropriate. Maintain ESM and eliminate variance proposal.
Cost of Capital	No change – annual update per November Board published parameters.	No change – annual update per November Board published parameters.
Cost of Power for the purposes of Working Capital	Adjust based on trend analysis provided at Exhibit 2, Tab A, pages 45 *et seq.*	Adjust based on trend analysis, subject to review.
Regional Planning Costs	Maintain current forecasts and variance account treatment (disposition at end of plan period) to protect both ratepayers and shareholder.	Maintain current forecasts and variance account treatment to (disposition at end of plan period) to protect both ratepayers and shareholder.
Third Party requested plant relocation costs	Maintain current forecasts and variance account treatment (disposition at end of plan period) to protect both ratepayers and shareholder.	Maintain current forecasts and variance account treatment (disposition at end of plan period) to protect both ratepayers and shareholder.

In addition to the foregoing modifications, OPUCN would:

1. Add an asymmetric capital expenditure variance account in respect of its system renewal capital investment program. As discussed above, OPUCN believes that a more focussed capital expenditure variance account, which would function to return to ratepayers amounts recovered on account of OPUCN's system renewal capital investment program elements not in fact implemented over the rate plan term, could provide useful protection to ratepayers and confidence to the Board. This more focussed approach could also work in tandem with, and support, OPUCN's proposed CCIEIM.

2. Maintain its proposed Total Cost Efficiency Carryover Mechanism (TCECM), but modify it to apply only to the last 2 years (2018 and 2019) of its rate plan period. While departing from the form of ECM recently approved in Alberta, which was the basis upon which OPUCN proposed its TCECM, focussing the TCECM on the last 2 years of the rate plan period would address concerns raised during the proceeding that the Alberta ECM model does not focus enough on incenting (or mitigating the natural disincentive for) end of plan term efficiencies and over-rewards efficiencies achieved early in the plan term and from which the utility benefits for longer during the plan term. (OPUCN notes that adoption of an ESM blunts this natural incentive, but is prepared to accept an ESM in fairness to its ratepayers and given the load forecast uncertainty inherent in Oshawa's particular circumstances, as evidenced in this proceeding.) OPUCN would continue to accept weather normalization of its TCECM calculations, and an onus to demonstrate sustainable efficiencies in years 2018 and 2019 in order to qualify for an incentive reward in 2020 and 2021, as reflected in OPUCN's June update (Exhibit K1.2).

3. Maintain its proposed CCIEIM capital investment incentive proposal in respect of its two large controllable capital programs (its system renewal program and MS9), for the reasons discussed above.

OSHAWA PUC NETWORKS INC.

Undertaking J2.5

To provide the percentage increase in net fixed assets per customer between 2013 and 2019, the increase of 2019 over the 2013 level.

Response:

The following table provides the percentage increase in net fixed assets per customer for OPUCN from 2013 (using data from the OEB's 2013 *Yearbook of Electricity Distributors*) through 2019:

Year	Application	
	Oshawa	% Change
2013	1,412	
2014	1,513	7.2%
2015	1,655	9.4%
2016	1,696	2.5%
2017	1,790	5.5%
2018	2,078	16.1%
2019	2,109	1.5%
Total		49.4%

OSHAWA PUC NETWORKS INC.

Undertaking J2.6

To comment on the proposal for carryover.

Response:

OPUCN is not sure that it fully understands how Board Staff's proposal for a productivity metric based ECM would work. Conceptually, OPUCN understands that Staff's proposal would be based on costs which could be affected by a number of factors unrelated to efficiency or productivity. In this respect, it may suffer from the same weaknesses as an ROE based ECM. (OPUCN has attempted to address these weaknesses by accepting the responsibility to demonstrate the sustainability of the amount of efficiencies to be carried over for sharing beyond the plan period.) At the same time, adjustments for cost changes required by the Board, including cost updates, could affect the 5 year plan term calculations in ways that OPUCN has not been able to fully consider (as discussed by Staff Counsel at Transcript Volume 2, page 86).

OPUCN has two primary concerns with the proposal, as OPUCN understands it:

1. Staff's proposal would not require any demonstration of sustainability of cost reductions, which is a concern which the Board and interested parties have expressed in the past.

2. Staff's proposal would be symmetrical, which appears to OPUCN to be inappropriate (and potentially penal) given that OPUCN has already committed to rates which are demonstrated, through external benchmarking, to reflect a high level of cost efficiency.

OPUCN acknowledges that Staff's proposal merits further consideration in future, but given the cursory way in which it was advanced in this proceeding and OPUCN's resulting limited understanding of it, OPUCN is not able to provide further comment or endorse its application at this time.

OSHAWA PUC NETWORKS INC.

Undertaking J2.7

To provide a load forecast update, presuming no adjustments, no annual adjustments for all classes.

Response:

Please see response to J2.4 for the revised proposed load forecast under the scenario where there are no annual load forecast adjustments permitted during the rate plan term.

OSHAWA PUC NETWORKS INC.

Undertaking J2.8

To recalculate the ROE shortfall in all years in light of the change in investment timing reflected in the updates.

Response:

The shortfall in ROE resulting from applying an IRM Price Cap to OPUCN's proposed 2015 rebased rates, and incorporating the change in capital investment timing reflected in the June, 2015 update (now Exhibit K1.2), is summarized in the following table. The calculations use an IRM index of 1.45% for the years 2016 through 2019.

Year	ROE Shortfall	Cumulative Income Shortfall (before PILs)
2015	Rebase	Rebase
2016	2.7%	$1,281
2017	2.6%	$2,666
2018	3.6%	$5,146
2019	3.7%	$7,976

OSHAWA PUC NETWORKS INC.

Undertaking J2.9

To explain the derivation of the 13.6 million dollar figure.

Response:

The $13.6 million represents the expected OM&A costs in 2019 using the 2012 Board Approved OM&A costs indexed at IRM rates to 2019, plus an uplift of 0.44% for every 1% change in number of customers. The assumption of a cost increase of 0.44% for every 1% increase in number of customers is taken from the PEG Report for the OEB (2013 Update), Page 11, para 1. The summary below outlines how the $13.6 million is calculated:

2012 Board Approved OM&A costs, Indexed to 2019 at IRM rates (see Exhibit 4, Page 8, Table 4-3)		12,726
Customer number increase 2012 Board Approved to 2019	16.4% (a)	
PEG cost increase % for every 1% of customer number growth	0.44% (b)	
Factor to use in uplifting IRM indexed costs	7.22% (a) ● (b)	
Expected OM&A cost increase from customer number increase	(12,726 ● 7.22%)	918
Expected 2019 OM&A costs		13,644

OSHAWA PUC NETWORKS INC.

Undertaking J2.12

To go back and review the calculation and correct it so that the 4.24 percent will be replaced by the corrected weighted average.

Response:

The calculation has been reviewed, resulting in a corrected weighted debt rate of 4.11% for 2015. This adjustment results in a reduction of $88 thousand in 2015 revenue requirement and has been incorporated in the updated rate impacts provided in response to Undertaking J2.11.

Year 2015

Row	Description	Lender	Affiliated or Third-Party Debt?	Fixed or Variable-Rate?	Start Date	Term (years)	Principal ($)	Rate (%) (Note 2)	Interest ($) (Note 1)	Additional Comments, if any
1	Debenture	OPUC	Affiliated	Fixed Rate	Dec-2005		$ 23,064,000	4.77%	$1,100,153	Deemed Rate
2	Term Loan 2012	TD Bank	Third-Party	Fixed Rate	Dec-2012	7	$ 7,000,000	3.57%	$ 249,550	Actual
3	Term Loan 2015	TD Bank	Third-Party	Fixed Rate	Jun-2015	7	$ 15,000,000	2.71%	$ 219,399	Actual
Total							$ 38,159,890	4.11%	$1,569,101	

*** $15m weighted for year at $8.1m ***

OSHAWA PUC NETWORKS INC.

Undertaking J3.1

To provide the amounts forecast for each consultant and the amounts billed to date.

Response:

The discussion which gave rise to this undertaking was in reference to IRR 4.0-Staff-32. That IRR (in response to part b.) noted budgeted consultants costs for this rate application of $434,500. The amount included in the Chapter 2 Appendix 2-M, Regulatory Cost Schedule update filed in June, 2015 (now part of Exhibit K1.2) reduced this budgeted amount to $364,258.

Amounts billed to date against this forecast total $261,009. Further invoices from a number of the consultants who have continued to work on the matter (including PEG, E&Y, and others) are anticipated.

OSHAWA PUC NETWORKS INC.

Undertaking J3.2

To correct the other revenue forecast for 2016 through 2019.

Response:

The calculations for the years 2016 through 2019 have been corrected, resulting in reductions of $14 thousand, $29 thousand, $44 thousand and $60 thousand in revenue requirement for the years 2016 to 2019 respectively. These updates have been incorporated in the updated rate impacts provided in response to Undertaking J2.11.

Appendix 2-H
Other Operating Revenue

USoA	USoA Description	Test Year	Test Year	Test Year	Test Year	Test Year
		2015	2016	2017	2018	2019
	Reporting Basis	MIFRS	MIFRS	MIFRS	MIFRS	MIFRS
4235	Specific Service Charges	800,370	822,625	845,597	869,309	893,783
4225	Late Payment Charges	285,909	295,041	304,466	314,194	324,236
4080	SSS Admin Fees	155,053	161,427	168,895	176,055	183,008
4084	Service Trans. Requests	1,326	1,327	1,328	1,330	1,331
4210	Rent from Electric Property	176,388	176,388	176,388	176,388	176,388
4325	Revenues from Merchandise, Jobbing, Etc.	1,388,670	1,388,670	1,388,670	1,388,670	1,388,670
4330	Expenses of Merchandising, Jobbing, Etc	(1,375,610)	(1,375,610)	(1,375,610)	(1,375,610)	(1,375,610)
4355	Gain on Disposition of Utility/Other Property	0	0	0	0	0
4360	Loss on Disposition of Utility/Other Property	(396,446)	(265,096)	(182,214)	(403,265)	(381,240)
4375	Revenues from Non-Utility Operations	2,376,719	2,376,719	2,376,719	2,376,719	2,376,719
4380	Expenses of Non-Utility Operations	(2,369,144)	(2,369,144)	(2,369,144)	(2,369,144)	(2,369,144)
4390	Miscellaneous Non-Operating Income	146,629	146,629	146,629	146,629	146,629
4405	Interest and Dividend Income	128,000	128,000	128,000	128,000	128,000
Specific Service Charges		800,370	822,625	845,597	869,309	893,783
Late Payment Charges		285,909	295,041	304,466	314,194	324,236
Other Distribution Revenues		332,767	339,142	346,611	353,773	360,727
Other Income and Expenses		(101,184)	30,166	113,049	(108,002)	(85,977)
Total		1,317,863	1,486,974	1,609,723	1,429,274	1,492,768

OSHAWA PUC NETWORKS INC.

Undertaking J3.3

To provide a written presentation of the briefing to city council.

Response:

Attached are two reports provided by OPUCN to Oshawa City Council in connection with the briefing referred to in testimony.

OPUCN was requested through a notice of motion dated March 17, 2014 to appear at City council to review Oshawa's system reliability over the 2013 period. OPUCN submitted a 2013 Reliability Report in support of that appearance, a copy of which report (Oshawa 2013 Reliability Report Council Motion (2)) is attached. This report highlights system performance issues related to two main causes – animal contacts and porcelain insulator failures.

Subsequent to the initial City Council meeting, OPUCN was requested to come back before Council to provide additional outage detail information. A more detailed report dated in September, 2014, a copy of which is also attached, was provided to Council at that time. This second report provides details of each outage in addition to ice storm impact and effects on system performance.

Oshawa
PUC Networks Inc.
100 Simcoe Street South, Oshawa, Ontario L1H 7M7 • Tel. (905) 723-4626 • Fax (905) 723-7947 • E-mail contactus@opuc.on.ca

Oshawa's Reliability - 2013

As requested by Council in the Notice of Motion (175) dated March 17, 2014, attached to this report is the list of outage occurrences greater than 5 minutes, detailed by feeder including the cause of interruption, for the year 2013.

Reliability is measured in terms of *System Average Interruption Duration Index (SAIDI),* and this is defined as the average interruption time that customers experience in a year. The unit of measure is expressed either as an index or in minutes.

Index of Reliability or Service Reliability Index (IOR) is another metric of expressing reliability and it is a percentage of time that the distribution system or service is available over a given period of time, normally annually.

- Overall, Oshawa's reliability performance in 2013 was very high. Prior to the storm on December 21, 2013, our IOR reliability statistics were 99.991%, compared to Veridian's 99.958% and Whitby's 99.989%.

- The following Table shows reliability comparison with other utilities in the Region, including a few of the larger utilities. These statistics are from the Canadian Electricity Association (CEA), and includes the impact of the ice storm in December 2013:

Utility	2013 SAIDI (Including ice storm)	Index of Reliability (%)
Oshawa PUC Networks	6.86 (411.60 mins)	99.922
Whitby Hydro	4.95 (297.00 mins)	99.943
Veridian Connections	20.97 (1,258.20 mins)	99.760
PowerStream Inc.	10.68 (640.80 mins)	99.878
Toronto Hydro	21.19 (1,271.40 mins)	99.758
Hydro One	27.42 (1,645.20 mins)	99.687

Note: Whitby does not participate in the CEA reporting and their information was obtained directly from the Utility.

- In reviewing 2013 Reliability details (attached), the areas in Oshawa that experienced most outages were North West, North East, followed by South East.

- In 2013 we had a total of 148 outages, a reduction of 31% compared to 2012.

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PUC Networks Inc.
100 Simcoe Street South, Oshawa, Ontario L1H 7M7 • Tel. (905) 723-4626 • Fax (905) 723-7947 • E-mail contactus@opuc.on.ca

- Out of the 148 total number of outages in 2013:

  - ✓ 40% was due to animal (squirrel) contact. This is a reduction of 21% compared to 2012.
  - ✓ 32% was due to defective equipment. This is a reduction of 21% compared to 2012.
  - ✓ The remaining 28% was a combination of scheduled/planned outages, tree contact, or other not classified as per OEB categories.

- OPUCN has completed and continues to make significant capital investments towards reliability improvements. Some key projects are:

  - ✓ Animal guard installation on all transformers – completed in Q1 of 2013
  - ✓ Porcelain insulator and switch replacements – Phase 1 completed in 2013, with Phase 2 continuing in 2014, to be completed Dec 2014
  - ✓ Installing higher voltage (27kV) insulators as opposed to 15 kV insulators on any new, rebuilds or replacement work. This will provide greater clearance from the lines to the pole and minimize/eliminate the probability of having the squirrel cause a "short" and hence a system outage. – Started a 5 year program in 2013 with an anticipated completion in 2017.

  - ✓ Specific to South Oshawa, some major Capital overhead rebuilds include:
    - Town Line South of Bloor to Grandview– completed 2012
    - King St West, Gibbons to Oshawa Creek – completed 2012
    - Bloor St, Ritson Rd to Simcoe – completed 2012
    - Phillip Murray Park Rd S to Cedar, Oxford – completed 2013
    - Diane Dr, Susan Crt, Brenda Crt – completed 2013
    - Keewatin St South, Denise, Karen Crt – completed 2013
    - Olive Ave , Florell to Grandview – completed 2013
    - Ronlea Ave, Carolyn Ave – completed 2013
    - *Wilson Wentworth to Bloor – 2014*
    - *Gibb St Stevenson Rd to MS 14 – 2014*

OPUCN will continue to make improvements on its system to improve reliability by implementing new technology, including intelligent and automated devices and equipment to mitigate customer interruptions and reduce overall restoration time.

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Feeder	Unknown/ Other	Scheduled Outage	Loss of Supply	Tree Contact	Lightning	Defective Equipment	Adverse Weather	Adverse Environment	Human Element	Foreign Interference	TOTAL NUMBER OF OUTAGES	AREA
Cause Code	**0**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**		
5F3	2	0	0	0	0	5	0	0	0	2	9	NW
2F2	2	0	0	0	0	2	1	0	0	3	8	NE
13F1	1	0	0	0	0	5	0	0	0	2	8	SE
14F4	2	0	0	0	0	1	1	0	0	4	8	SE
7F4	2	0	0	4	0	0	1	0	0	0	7	Rural
14F2	1	0	0	0	0	3	0	0	0	3	7	SE
2F1	0	0	0	1	0	1	0	0	0	4	6	NE
2F3	0	0	0	0	0	0	0	0	0	6	6	NE
15F2	0	0	0	1	0	4	1	0	0	0	6	Rural
11F1	1	0	0	0	0	2	0	0	0	2	5	SW
13F6	1	0	0	0	0	1	0	0	0	3	5	SE
5F6	0	0	0	2	0	1	0	0	1	0	4	NW
7F1	0	0	0	2	0	0	0	0	0	2	4	NW
11F6	0	1	0	0	0	0	0	0	0	3	4	SW
15F4	1	0	0	0	0	3	0	0	0	0	4	NE
2F6	1	0	0	0	0	1	0	0	0	1	3	NE
10F5	0	0	0	0	0	0	0	0	0	3	3	NE
11F4	0	0	0	0	0	2	0	1	0	0	3	SW
11F5	0	0	0	0	0	1	0	0	0	2	3	SW
13F2	0	0	0	0	0	0	0	0	0	3	3	SE
13F5	1	0	0	0	0	1	0	0	0	1	3	SE
2F4	1	0	0	0	0	1	0	0	0	0	2	NE
5F1	0	0	0	0	0	1	0	0	0	1	2	SW
5F2	0	0	0	1	0	0	0	0	0	1	2	SW

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Feeder	Unknown/ Other	Scheduled Outage	Loss of Supply	Tree Contact	Lightning	Defective Equipment	Adverse Weather	Adverse Environment	Human Element	Foreign Interference	TOTAL NUMBER OF OUTAGES	AREA
Cause Code	**0**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**		
5F4	0	0	0	0	0	1	0	0	0	1	2	Downtown
10F4	0	0	0	0	0	2	0	0	0	0	2	NE
13F4	0	0	0	0	0	0	0	0	0	2	2	SE
15F1	0	0	0	0	0	1	0	0	0	1	2	NE
15F5	0	0	0	0	0	2	0	0	0	0	2	NE
2F5	0	0	0	0	0	0	0	0	0	1	1	NE
5F5	0	0	0	0	0	1	0	0	0	0	1	NW
7F3	0	0	0	0	0	1	0	0	0	0	1	NW
7F5	0	0	0	0	0	0	0	0	1	0	1	NE
10F1	0	0	0	0	0	1	0	0	0	0	1	NE
10F3	0	0	0	0	0	1	0	0	0	0	1	SE
10F6	0	0	0	0	0	0	0	0	0	1	1	SE
13F3	1	0	0	0	0	0	0	0	0	0	1	SE
14F1	0	0	0	0	0	0	0	0	0	1	1	SE
14F5	0	1	0	0	0	0	0	0	0	0	1	Downtown
7F2	0	0	0	0	0	0	0	0	0	0	0	NE
7F6	0	0	0	0	0	0	0	0	0	0	0	NE
10F2	0	0	0	0	0	0	0	0	0	0	0	SE
11F2	0	0	0	0	0	0	0	0	0	0	0	SW
14F3	0	0	0	0	0	0	0	0	0	0	0	Downtown
14F6	0	0	0	0	0	0	0	0	0	0	0	Downtown
15F3	0	0	0	0	0	0	0	0	0	0	0	NE
15F6	0	0	0	0	0	0	0	0	0	0	0	NE

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Oshawa's 2013 Reliability Report– September 12, 2014

At the June 23, 2014 Council meeting, Council received for information, Oshawa PUC Networks Inc. (OPUCN) 2013 Reliability Report, which included the number of power outages greater than 5 minutes, by feeder, along with the cause of outage as defined by the Ontario Energy Board (OEB). Council then requested OPUCN to provide an additional report of all 2013 outage occurrences for all of Oshawa including duration of outages and maps of where the feeders are located.

OPUCN hereby submits the requested report with the following attachments:

The map will be part of the verbal presentation and is not included here.

1. Single line feeder Map (36" x 24") of where the 13.8kV primary feeders are located *(submitted under confidentiality for security reasons).*
   Please note that OPUCN operates a "loop distribution" system whereby primary feeders, through required switching, service different areas at any given time during plant construction, upgrades or replacements. For the outage report, OPUCN has identified the feeders that normally service an area bounded by main streets (shown below) but which under certain situations, may not be the service area of that particular feeder.

2. Details of all outage occurrences in 2013, by each primary feeder indicated on the enclosed map, including the cause and duration of each outage (including and excluding the impact of the December 2013 Ice Storm). Ninety Four (94) pages enclosed under Appendix titled "Outage Details"

The areas referenced above are generally described below:

- *North East*: Conlin Rd E, Simcoe St N, King St E, and Townline Rd N (east city limits)
- *North West*: Conlin Rd W, Simcoe St N, King St W and Thornton Rd N (west city limits)
- *South East*: King St E, Simcoe St S, Lake Ontario, and Townline Rd S (east city limits)
- *South West*: King St W, Simcoe St S, Lake Ontario, and Thornton Rd S (west city limits)
- *Downtown* : William St, Mary St, John St, Centre St
- *Rural*: Area North of Conlin Rd E and W, between east and west city limits

Due to the significant volume of data provided, a summary sheet is also attached as Appendix titled "Outage Summary", indicating all feeders in each area described above, summarizing the total number of outages and average duration in minutes for each feeder (including and excluding the impact of the December 2013 Ice Storm).

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PUC Networks Inc.

100 Simcoe Street South, Oshawa, Ontario L1H 7M7 • Tel. (905) 723-4626 • Fax (905) 723-7947 • E-mail contactus@opuc.on.ca

Furthermore, to facilitate ease of reference and comparison amongst the areas described above, we have summarized the information in the Table below for your convenience.

General Area of Oshawa	Excluding Ice Storm		Including Ice Storm	
	Number of Outages	Average Duration (mins)	Number of Outages	Average Duration (mins)
North East	44	135	63	157
North West	24	95	27	116
South East	26	109	39	192
South West	38	115	51	120
Downtown	3	315	8	289
Rural	16	143	16	143
Total	**151**	**123**	**204**	**153**

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APPENDIX - OUTAGE SUMMARY

SUMMARY SHEET OF PRIMARY FEEDERS BY AREAS

	Excluding Ice Storm		Including Ice Storm	
	Number of Outages	Average Duration (mins)	Number of Outages	Average Duration (mins)
North East Oshawa (generally bounded by Conlin Rd E, Simcoe St N, King St E and Townline Rd N (east city limits)				
2F1	6	85	6	85
2F2	9	68	12	52
2F3	6	73	7	146
2F4	2	85	3	118
2F5	1	40	4	223
2F6	3	108	4	81
7F2	0	0	2	322
7F5	1	42	1	42
7F6	0	0	4	139
10F1	1	558	3	480
10F4	2	373	2	373
10F5	3	97	4	135
15F1	2	29	2	29
15F3	2	41	2	41
15F4	4	262	4	262
15F5	2	508	3	347
15F6	0	0	0	0
Total NE	**44**	**135**	**63**	**157**
North West Oshawa (generally bounded by Conlin Rd W, Simcoe St N, King St W and Thornton Rd N (west city limits)				
5F2	3	73	5	212
5F3	10	108	10	108
5F5	1	75	1	75
5F6	4	119	5	99
7F1	4	80	4	80
7F3	2	50	2	50
Total NW	**24**	**95**	**27**	**116**
South East Oshawa (generally bounded by King St E, Simcoe St S, Lake Ontario and Townline Rd S (east city limits)				
10F2	1	2	2	342
10F3	3	79	7	143
10F6	2	23	3	231
13F3	1	87	1	87
13F4	2	93	2	93
13F5	3	59	3	59
13F6	5	178	5	178
14F1	1	60	4	415
14F4	8	143	12	175
Total SE	**26**	**109**	**39**	**192**
South West Oshawa (generally bounded by King St W, Simcoe St S, Lake Ontario and Thornton Rd S (west city limits)				
5F1	2	194	2	194
11F1	5	89	11	157
11F2	1	1	1	1
11F4	3	102	5	71
11F5	4	111	6	77
11F6	5	80	6	108
13F1	8	131	8	131
13F2	3	68	3	68
14F2	7	162	9	144
Total SW	**38**	**115**	**51**	**120**
Downtown Oshawa (generally bounded by William St, Mary St, John St, Centre St)				
5F4	2	263	4	346
14F3	0	0	1	158
14F5	1	420	2	298
14F6	0	0	1	175
Total Downtown	**3**	**315**	**8**	**289**
Rural Oshawa (generally North of Conlin Rd W and E bounded by the east and west city limits)				
7F4	9	108	9	108
15F2	7	188	7	188
Total Rural	**16**	**143**	**16**	**143**

APPENDIX – OUTAGE DETAILS

(94 PAGES)

2013 Outage Information (Excluding Ice Storm)

Station: MS2
Feeder: 2F1

Date	Time of Event	Feeder	Cause of Interruption as per OEB	Description and Location	Outage Duration (mins)
28-Jan	12:42	2F1	Tree Contacts	tree limb on primary 48 Hillcroft	17
13-Feb	12:55	2F1	Foreign Interference	squirrel contact on Grierson	35
22-Jun	07:57	2F1	Foreign Interference	squirrel contact - 602 Minto	168
18-Jul	08:21	2F1	Foreign Interference	squirrel contact Masson	54
18-Jul	08:21	2F1	Defective Equipment	blown transformer 642 Grierson	161
20-Aug	08:52	2F1	Foreign Interference	squirrel contact Masson St	73
				Average Outage Duration	85

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2013 Outage Information (Including Ice Storm)

Station: MS2
Feeder: 2F1

Date	Time of Event	Feeder	Cause of Interruption as per OEB	Description and Location	Outage Duration (mins)
28-Jan	12:42	2F1	Tree Contacts	tree limb on primary 48 Hillcroft	17
13-Feb	12:55	2F1	Foreign Interference	squirrel contact on Grierson	35
22-Jun	07:57	2F1	Foreign Interference	squirrel contact - 602 Minto	168
18-Jul	08:21	2F1	Foreign Interference	squirrel contact Masson	54
18-Jul	08:21	2F1	Defective Equipment	blown transformer 642 Grierson	161
20-Aug	08:52	2F1	Foreign Interference	squirrel contact Masson St	73
				Average Outage Duration	85

2013 Outage Information (Excluding Ice Storm)

Station: MS2
Feeder: 2F2

Date	Time of Event	Feeder	Cause of Interruption as per OEB	Description and Location	Outage Duration (mins)
10-Feb	13:00	2F2	Defective Equipment	damaged switch Loc2345 @ 406 Masson	150
23-Jun	21:06	2F2	Foreign Interference	squirrel contact 270 Simcoe N	90
27-Jun	09:46	2F2	Defective Equipment	blown transformer loc2544 - Connaught	114
15-Aug	06:50	2F2	Foreign Interference	squirrel contact Colbourne St	34
02-Sep	13:27	2F2	Adverse Weather	lightning storm - Sutherland Ave	73
06-Sep	08:51	2F2	Unknown/Other	feeder tripped- hold off in effect closed and held OK	6
12-Sep	09:16	2F2	Foreign Interference	squirrel contact - Gladstone	34
22-Nov	20:41	2F2	Unknown/Other	feeder patrolled nothing found	106
02-Dec	09:39	2F2	Defective Equipment	breaker opened manually due to broken insulator on Simcoe St	2
				Average Outage Duration	68

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2013 Outage Information (Including Ice Storm)

Station: MS2
Feeder: 2F2

Date	Time of Event	Feeder	Cause of Interruption as per OEB	Description and Location	Outage Duration (mins)
10-Feb	13:00	2F2	Defective Equipment	damaged switch Loc2345 @ 406 Masson	150
23-Jun	21:06	2F2	Foreign Interference	squirrel contact 270 Simcoe N	90
27-Jun	09:46	2F2	Defective Equipment	blown transformer loc2544 - Connaught	114
15-Aug	06:50	2F2	Foreign Interference	squirrel contact Colbourne St	34
02-Sep	13:27	2F2	Adverse Weather	lightning storm - Sutherland Ave	73
06-Sep	08:51	2F2	Unknown/Other	feeder tripped- hold off in effect closed and held OK	6
12-Sep	09:16	2F2	Foreign Interference	squirrel contact - Gladstone	34
22-Nov	20:41	2F2	Unknown/Other	feeder patrolled nothing found	106
02-Dec	09:39	2F2	Defective Equipment	breaker opened manually due to broken insulator on Simcoe St	2
22-Dec	03:46	2F2	Adverse Weather	Ice Storm	1
22-Dec	04:24	2F2	Adverse Weather	Ice Storm	13
26-Dec	19:58	2F2	Adverse Weather	Ice Storm	1
				Average Outage Duration	52

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2013 Outage Information (Excluding Ice Storm)

Station: MS2
Feeder: 2F3

Date	Time of Event	Feeder	Cause of Interruption as per OEB (refer to Note below)	Description and Location	Outage Duration (mins)
04-Jun	06:02	2F3	Foreign Interference	squirrel contact - Colbourne St	89
21-Jun	17:39	2F3	Foreign Interference	squirrel contact 547 Masson	76
03-Jul	06:17	2F3	Foreign Interference	squirrel contact 199 Hillcroft	101
09-Jul	20:00	2F3	Foreign Interference	squirrel contact Colbourne St	45
29-Aug	06:37	2F3	Foreign Interference	bird contact 111 Simcoe St N	61
01-Sep	17:22	2F3	Foreign Interference	squirrel contact Colbourne St	68
				Average Outage Duration	73

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2013 Outage Information (Including Ice Storm)

Station: MS2
Feeder: 2F3

Date	Time of Event	Feeder	Cause of Interruption as per OEB (refer to Note below)	Description and Location	Outage Duration (mins)
04-Jun	06:02	2F3	Foreign Interference	squirrel contact - Colbourne St	89
21-Jun	17:39	2F3	Foreign Interference	squirrel contact 547 Masson	76
03-Jul	06:17	2F3	Foreign Interference	squirrel contact 199 Hillcroft	101
09-Jul	20:00	2F3	Foreign Interference	squirrel contact Colbourne St	45
29-Aug	06:37	2F3	Foreign Interference	bird contact 111 Simcoe St N	61
01-Sep	17:22	2F3	Foreign Interference	squirrel contact Colbourne St	68
23-Dec	02:51	2F3	Adverse Weather	Ice Storm	585
				Average Outage Duration	146

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2013 Outage Information (Excluding Ice Storm)

Station: MS2
Feeder: 2F4

Date	Time of Event	Feeder	Cause of Interruption as per OEB (refer to Note below)	Description and Location	Outage Duration (mins)
12-Jan	05:00	2F4	Unknown/Other	blown fuse loc 3335 - Hortop	60
10-Mar	15:00	2F4	Defective Equipment	blown arrestor Masson St @ loc 1936	110
				Average Outage Duration	85

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2013 Outage Information (Including Ice Storm)

Station: MS2
Feeder: 2F4

Date	Time of Event	Feeder	Cause of Interruption as per OEB (refer to Note below)	Description and Location	Outage Duration (mins)
12-Jan	05:00	2F4	Unknown/Other	blown fuse loc 3335 - Hortop	60
10-Mar	15:00	2F4	Defective Equipment	blown arrestor Masson St @ loc 1936	110
22-Dec	03:22	2F4	Adverse Weather	Ice Storm	183
				Average Outage Duration	118

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2013 Outage Information (Excluding Ice Storm)

Station: MS2
Feeder: 2F5

Date	Time of Event	Feeder	Cause of Interruption as per OEB (refer to Note below)	Description and Location	Outage Duration (mins)
7-Mar	10:13	2F5	Foreign Interference	squirrel contact Oshawa Blvd N	40
				Average Outage Duration	40

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2013 Outage Information (Including Ice Storm)

Station: MS2
Feeder: 2F5

Date	Time of Event	Feeder	Cause of Interruption as per OEB (refer to Note below)	Description and Location	Outage Duration (mins)
7-Mar	10:13	2F5	Foreign Interference	squirrel contact Oshawa Blvd N	40
22-Dec	09:10	2F5	Adverse Weather	Ice Storm	201
23-Dec	01:28	2F5	Adverse Weather	Ice Storm	648
23-Dec	21:20	2F5	Adverse Weather	Ice Storm	2
				Average Outage Duration	223

2013 Outage Information (Excluding Ice Storm)

Station: MS2
Feeder: 2F6

Date	Time of Event	Feeder	Cause of Interruption as per OEB (refer to Note below)	Description and Location	Outage Duration (mins)
13-Jun	11:06	2F6	Unknown/Other	blown fuse Colbourne and Patricia	31
14-Sep	16:55	2F6	Foreign Interference	squirrel contact 393 Elgin	65
07-Nov	03:08	2F6	Defective Equipment	pole fire Wilson and Bond	228
				Average Outage Duration	108

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2013 Outage Information (Including Ice Storm)

Station: MS2
Feeder: 2F6

Date	Time of Event	Feeder	Cause of Interruption as per OEB (refer to Note below)	Description and Location	Outage Duration (mins)
13-Jun	11:06	2F6	Unknown/Other	blown fuse Colbourne and Patricia	31
14-Sep	16:55	2F6	Foreign Interference	squirrel contact 393 Elgin	65
07-Nov	03:08	2F6	Defective Equipment	pole fire Wilson and Bond	228
22-Dec	04:05	2F6	Adverse Weather	Ice Storm	1
				Average Outage Duration	81

2013 Outage Information (Excluding Ice Storm)

Station: MS5
Feeder: 5F1

Date	Time of Event	Feeder	Cause of Interruption as per OEB (refer to Note below)	Description and Location	Outage Duration (mins)
20-Jan	03:33	5F1	Defective Equipment	Broken Ground Wire @ 702 King St W	317
25-Aug	20:59	5F1	Foreign Interference	raccoon contact Stevenson Rd N	71
				Average Outage Duration	194

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2013 Outage Information (Including Ice Storm)

Station: MS5
Feeder: 5F1

Date	Time of Event	Feeder	Cause of Interruption as per OEB (refer to Note below)	Description and Location	Outage Duration (mins)
20-Jan	03:33	5F1	Defective Equipment	Broken Ground Wire @ 702 King St W	317
25-Aug	20:59	5F1	Foreign Interference	raccoon contact Stevenson Rd N	71
				Average Outage Duration	194

2013 Outage Information (Excluding Ice Storm)

Station: MS5
Feeder: 5F2

Date	Time of Event	Feeder	Cause of Interruption as per OEB (refer to Note below)	Description and Location	Outage Duration (mins)
12-Apr	08:21	5F2	Tree Contacts	sw 805 opened to remove tree from primary on Annapolis	12
6-Oct	08:01	5F2	Foreign Interference	Bird Contact - 815 King St W	60
18-Nov	14:42	5F2	Foreign Interference	contractor hit primary cable on Shamrock	147
				Average Outage Duration	73

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2013 Outage Information (Including Ice Storm)

Station: MS5
Feeder: 5F2

Date	Time of Event	Feeder	Cause of Interruption as per OEB (refer to Note below)	Description and Location	Outage Duration (mins)
12-Apr	08:21	5F2	Tree Contacts	sw 805 opened to remove tree from primary on Annapolis	12
6-Oct	08:01	5F2	Foreign Interference	Bird Contact - 815 King St W	60
18-Nov	14:42	5F2	Foreign Interference	contractor hit primary cable on Shamrock	147
22-Dec	03:01	5F2	Adverse Weather	Ice Storm	421
22-Dec	08:20	5F2	Adverse Weather	Ice Storm	421
				Average Outage Duration	212

2013 Outage Information (Excluding Ice Storm)

Station: MS5
Feeder: 5F3

Date	Time of Event	Feeder	Cause of Interruption as per OEB (refer to Note below)	Description and Location	Outage Duration (mins)
12-Jan	06:00	5F3	Unknown/Other	blown fuse loc 977 - Fairlawn	55
24-Apr	19:30	5F3	Defective Equipment	cracked switch caused pole fire on Admiral Rd	22
25-Apr	01:30	5F3	Defective Equipment	cracked switch caused pole fire on Admiral Rd	90
10-May	17:08	5F3	Defective Equipment	pole fire 265 Gibbons	115
12-May	14:09	5F3	Defective Equipment	pole and transformer at 363 Annapolis replaced	458
15-Jun	08:10	5F3	Unknown/Other	Gladstone area patrolled no cause found	68
14-Jul	07:53	5F3	Defective Equipment	broken switch Anderson and Park	62
01-Aug	10:12	5F3	Foreign Interference	Squirell Contact Colborne St	35
24-Oct	11:40	5F3	Foreign Interference	squirrel contact Alexandra	46
09-Nov	07:16	5F3	Foreign Interference	squirrel contact Anderson	129
				Average Outage Duration	108

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2013 Outage Information (Including Ice Storm)

Station: MS5
Feeder: 5F3

Date	Time of Event	Feeder	Cause of Interruption as per OEB (refer to Note below)	Description and Location	Outage Duration (mins)
12-Jan	06:00	5F3	Unknown/Other	blown fuse loc 977 - Fairlawn	55
24-Apr	19:30	5F3	Defective Equipment	cracked switch caused pole fire on Admiral Rd	22
25-Apr	01:30	5F3	Defective Equipment	cracked switch caused pole fire on Admiral Rd	90
10-May	17:08	5F3	Defective Equipment	pole fire 265 Gibbons	115
12-May	14:09	5F3	Defective Equipment	pole and transformer at 363 Annapolis replaced	458
15-Jun	08:10	5F3	Unknown/Other	Gladstone area patrolled no cause found	68
14-Jul	07:53	5F3	Defective Equipment	broken switch Anderson and Park	62
01-Aug	10:12	5F3	Foreign Interference	Squirell Contact Colborne St	35
24-Oct	11:40	5F3	Foreign Interference	squirrel contact Alexandra	46
09-Nov	07:16	5F3	Foreign Interference	squirrel contact Anderson	129
				Average Outage Duration	108

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2013 Outage Information (Excluding Ice Storm)

Station: MS5
Feeder: 5F4

Date	Time of Event	Feeder	Cause of Interruption as per OEB (refer to Note below)	Description and Location	Outage Duration (mins)
8-Apr	22:00	5F4	Defective Equipment	pole fire 95 Gibbons St	493
05-Dec	08:18	5F4	Foreign Interference	squirrel contact Harris St local 1893	33
				Average Outage Duration	263

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2013 Outage Information (Including Ice Storm)

Station: MS5
Feeder: 5F4

Date	Time of Event	Feeder	Cause of Interruption as per OEB (refer to Note below)	Description and Location	Outage Duration (mins)
8-Apr	22:00	5F4	Defective Equipment	pole fire 95 Gibbons St	493
05-Dec	08:18	5F4	Foreign Interference	squirrel contact Harris St local 1893	33
22-Dec	20:30	5F4	Adverse Weather	Ice Storm	760
26-Dec	11:47	5F4	Adverse Weather	Ice Storm	98
				Average Outage Duration	346

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2013 Outage Information (Excluding Ice Storm)

Station: MS5
Feeder: 5F5

Date	Time of Event	Feeder	Cause of Interruption as per OEB (refer to Note below)	Description and Location	Outage Duration (mins)
8-Oct	15:25	5F5	Defective Equipment	Tired Fuse Loc 659 - 676 Gibbons	75
				Average Outage Duration	75

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2013 Outage Information (Including Ice Storm)

Station: MS5
Feeder: 5F5

Date	Time of Event	Feeder	Cause of Interruption as per OEB (refer to Note below)	Description and Location	Outage Duration (mins)
8-Oct	15:25	5F5	Defective Equipment	Tired Fuse Loc 659 - 676 Gibbons	75
				Average Outage Duration	75

2013 Outage Information (Excluding Ice Storm)

Station: MS5
Feeder: 5F6

Date	Time of Event	Feeder	Cause of Interruption as per OEB (refer to Note below)	Description and Location	Outage Duration (mins)
6-Jan	04:17	5F6	Defective Equipment	primary cable fault on Waverly St	237
11-Jun	02:10	5F6	Tree Contacts	tree limb in primary Thornton Rd north of Roundelay	143
06-Nov	16:22	5F6	Human Element	contractor dropped a phase stringing on Rossland Rd	24
10-Nov	12:49	5F6	Tree Contacts	tree limb on primary Stevenson Rd N	71
				Average Outage Duration	119

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2013 Outage Information (Including Ice Storm)

Station: MS5
Feeder: 5F6

Date	Time of Event	Feeder	Cause of Interruption as per OEB (refer to Note below)	Description and Location	Outage Duration (mins)
6-Jan	04:17	5F6	Defective Equipment	primary cable fault on Waverly St	237
11-Jun	02:10	5F6	Tree Contacts	tree limb in primary Thornton Rd north of Roundelay	143
06-Nov	16:22	5F6	Human Element	contractor dropped a phase stringing on Rossland Rd	24
10-Nov	12:49	5F6	Tree Contacts	tree limb on primary Stevenson Rd N	71
28-Dec	14:01	5F6	Adverse Weather	Ice Storm	22
				Average Outage Duration	99

2013 Outage Information (Excluding Ice Storm)

Station: MS7
Feeder: 7F1

Date	Time of Event	Feeder	Cause of Interruption as per OEB (refer to Note below)	Description and Location	Outage Duration (mins)
21-Apr	11:05	7F1	Foreign Interference	squirrel contact Bing Ave	70
09-Jun	08:39	7F1	Foreign Interference	squirrel contact 41 Russett	116
18-Jun	06:11	7F1	Tree Contacts	tree limbs on primary Orchardview Blvd	84
21-Oct	10:24	7F1	Tree Contacts	tree limb on primary Byng Ave	50
				Average Outage Duration	80

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2013 Outage Information (Including Ice Storm)

Station: MS7
Feeder: 7F1

Date	Time of Event	Feeder	Cause of Interruption as per OEB (refer to Note below)	Description and Location	Outage Duration (mins)
21-Apr	11:05	7F1	Foreign Interference	squirrel contact Bing Ave	70
09-Jun	08:39	7F1	Foreign Interference	squirrel contact 41 Russett	116
18-Jun	06:11	7F1	Tree Contacts	tree limbs on primary Orchardview Blvd	84
21-Oct	10:24	7F1	Tree Contacts	tree limb on primary Byng Ave	50
				Average Outage Duration	80

2013 Outage Information (Excluding Ice Storm)

Station: MS7
Feeder: 7F2

Date	Time of Event	Feeder	Cause of Interruption as per OEB (refer to Note below)	Description and Location	Outage Duration (mins)
				Average Outage Duration	0

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2013 Outage Information (Including Ice Storm)

Station: MS7
Feeder: 7F2

Date	Time of Event	Feeder	Cause of Interruption as per OEB (refer to Note below)	Description and Location	Outage Duration (mins)
22-Dec	04:14	7F2	Adverse Weather	Ice Storm	1
23-Dec	00:10	7F2	Adverse Weather	Ice Storm	642
				Average Outage Duration	322

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2013 Outage Information (Excluding Ice Storm)

Station: MS7
Feeder: 7F3

Date	Time of Event	Feeder	Cause of Interruption as per OEB (refer to Note below)	Description and Location	Outage Duration (mins)
19-Feb	09:35	7F3	Defective Equipment	broken switch 199 Taunton Rd W - hold off in effect	35
10-Mar	14:04	7F3	Defective Equipment	broken switch Taunton & Chippewa	65
				Average Outage Duration	50

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2013 Outage Information (Including Ice Storm)

Station: MS7
Feeder: 7F3

Date	Time of Event	Feeder	Cause of Interruption as per OEB (refer to Note below)	Description and Location	Outage Duration (mins)
19-Feb	09:35	7F3	Defective Equipment	broken switch 199 Taunton Rd W - hold off in effect	35
10-Mar	14:04	7F3	Defective Equipment	broken switch Taunton & Chippewa	65
				Average Outage Duration	50

2013 Outage Information (Excluding Ice Storm)

Station: MS7
Feeder: 7F4

Date	Time of Event	Feeder	Cause of Interruption as per OEB	Description and Location	Outage Duration (mins)
20-Jan	03:30	7F4	Tree Contacts	Tree Limb South of 4360 Simcoe St N	300
27-Feb	00:58	7F4	Adverse Weather	feeder patrolled nothing found heavy snow & rain at the time	197
27-Feb	07:56	7F4	Unknown/Other	section on Stevenson patrolled nothing found	105
28-Feb	09:01	7F4	Unknown/Other	feeder tripped- hold off in effect closed and held OK	4
22-Jun	13:15	7F4	Tree Contacts	vines grew into primary on Given Rd	120
04-Jul	23:24	7F4	Unknown/Other	outage on Columbus - no cause found	57
19-Jul	16:21	7F4	Tree Contacts	tree limb into primary Thornton Rd N	69
20-Jul	14:04	7F4	Tree Contacts	tree limb on primary Hurd St	116
19-Aug	15:39	7F4	Unknown/Other	cause not found	2
				Average Outage Duration	108

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2013 Outage Information (Including Ice Storm)

Station: MS7
Feeder: 7F4

Date	Time of Event	Feeder	Cause of Interruption as per OEB	Description and Location	Outage Duration (mins)
20-Jan	03:30	7F4	Tree Contacts	Tree Limb South of 4360 Simcoe St N	300
27-Feb	00:58	7F4	Adverse Weather	feeder patrolled nothing found heavy snow & rain at the time	197
27-Feb	07:56	7F4	Unknown/Other	section on Stevenson patrolled nothing found	105
28-Feb	09:01	7F4	Unknown/Other	feeder tripped- hold off in effect closed and held OK	4
22-Jun	13:15	7F4	Tree Contacts	vines grew into primary on Given Rd	120
04-Jul	23:24	7F4	Unknown/Other	outage on Columbus - no cause found	57
19-Jul	16:21	7F4	Tree Contacts	tree limb into primary Thornton Rd N	69
20-Jul	14:04	7F4	Tree Contacts	tree limb on primary Hurd St	116
19-Aug	15:39	7F4	Unknown/Other	cause not found	2
				Average Outage Duration	108

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2013 Outage Information (Excluding Ice Storm)

Station: MS7
Feeder: 7F5

Date	Time of Event	Feeder	Cause of Interruption as per OEB (refer to Note below)	Description and Location	Outage Duration (mins)
20-Nov	10:44	7F5	Human Element	squirrel contact 1140 Mary St N	42
				Average Outage Duration	42

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2013 Outage Information (Including Ice Storm)

Station: MS7
Feeder: 7F5

Date	Time of Event	Feeder	Cause of Interruption as per OEB (refer to Note below)	Description and Location	Outage Duration (mins)
20-Nov	10:44	7F5	Human Element	squirrel contact 1140 Mary St N	42
				Average Outage Duration	42

2013 Outage Information (Excluding Ice Storm)

Station: MS7
Feeder: 7F6

Date	Time of Event	Feeder	Cause of Interruption as per OEB (refer to Note below)	Description and Location	Outage Duration (mins)
				Average Outage Duration	0

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2013 Outage Information (Including Ice Storm)

Station: MS7
Feeder: 7F6

Date	Time of Event	Feeder	Cause of Interruption as per OEB (refer to Note below)	Description and Location	Outage Duration (mins)
22-Dec	21:36	7F6	Adverse Weather	Ice Storm	464
23-Dec	10:13	7F6	Adverse Weather	Ice Storm	3
26-Dec	11:14	7F6	Adverse Weather	Ice Storm	44
26-Dec	13:01	7F6	Adverse Weather	Ice Storm	45
				Average Outage Duration	139

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2013 Outage Information (Excluding Ice Storm)

Station: MS10
Feeder: 10F1

Date	Time of Event	Feeder	Cause of Interruption as per OEB (refer to Note below)	Description and Location	Outage Duration (mins)
19-Apr	16:12	10F1	Defective Equipment	pole fire on Wakefield	558
				Average Outage Duration	558

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2013 Outage Information (Including Ice Storm)

Station: MS10
Feeder: 10F1

Date	Time of Event	Feeder	Cause of Interruption as per OEB (refer to Note below)	Description and Location	Outage Duration (mins)
19-Apr	16:12	10F1	Defective Equipment	pole fire on Wakefield	558
22-Dec	03:05	10F1	Adverse Weather	Ice Storm	855
26-Dec	12:20	10F1	Adverse Weather	Ice Storm	27
				Average Outage Duration	480

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2013 Outage Information (Excluding Ice Storm)

Station: MS10
Feeder: 10F2

Date	Time of Event	Feeder	Cause of Interruption as per OEB (refer to Note below)	Description and Location	Outage Duration (mins)
30-Oct	10:54	10F2	Unknown/Other	no cause found	2
				Average Outage Duration	2

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2013 Outage Information (Including Ice Storm)

Station: MS10
Feeder: 10F2

Date	Time of Event	Feeder	Cause of Interruption as per OEB (refer to Note below)	Description and Location	Outage Duration (mins)
30-Oct	10:54	10F2	Unknown/Other	no cause found	2
22-Dec	03:50	10F2	Adverse Weather	Ice Storm	681
				Average Outage Duration	342

2013 Outage Information (Excluding Ice Storm)

Station: MS10
Feeder: 10F3

Date	Time of Event	Feeder	Cause of Interruption as per OEB (refer to Note below)	Description and Location	Outage Duration (mins)
27-Feb	00:11	10F3	Defective Equipment	broken insulator 171 Harmony Rd S	230
16-Oct	13:40	10F3	Foreign Interference	MVA Olive and Grandview	5
23-Oct	14:15	10F3	Defective Equipment	broken insulator Denise Dr	2
				Average Outage Duration	79

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2013 Outage Information (Including Ice Storm)

Station: MS10
Feeder: 10F3

Date	Time of Event	Feeder	Cause of Interruption as per OEB (refer to Note below)	Description and Location	Outage Duration (mins)
27-Feb	00:11	10F3	Defective Equipment	broken insulator 171 Harmony Rd S	230
16-Oct	13:40	10F3	Foreign Interference	MVA Olive and Grandview	5
23-Oct	14:15	10F3	Defective Equipment	broken insulator Denise Dr	2
22-Dec	02:54	10F3	Adverse Weather	Ice Storm	687
22-Dec	15:40	10F3	Adverse Weather	Ice Storm	4
27-Dec	15:01	10F3	Adverse Weather	Ice Storm	49
28-Dec	17:11	10F3	Adverse Weather	Ice Storm	23
				Average Outage Duration	143

2013 Outage Information (Excluding Ice Storm)

Station: MS10
Feeder: 10F4

Date	Time of Event	Feeder	Cause of Interruption as per OEB (refer to Note below)	Description and Location	Outage Duration (mins)
04-Jul	16:25	10F4	Defective Equipment	primary cable fault - 947 Adelaide	587
27-Jul	22:07	10F4	Defective Equipment	primary cable fault Adelaide	158
				Average Outage Duration	373

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2013 Outage Information (Including Ice Storm)

Station: MS10
Feeder: 10F4

Date	Time of Event	Feeder	Cause of Interruption as per OEB (refer to Note below)	Description and Location	Outage Duration (mins)
04-Jul	16:25	10F4	Defective Equipment	primary cable fault - 947 Adelaide	587
27-Jul	22:07	10F4	Defective Equipment	primary cable fault Adelaide	158
				Average Outage Duration	373

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2013 Outage Information (Excluding Ice Storm)

Station: MS10
Feeder: 10F5

Date	Time of Event	Feeder	Cause of Interruption as per OEB (refer to Note below)	Description and Location	Outage Duration (mins)
22-Jun	15:24	10F5	Foreign Interference	squirrel contact - 270 Acadia	156
03-Jul	06:39	10F5	Foreign Interference	squirrel contact 243 Arden	41
13-Oct	07:46	10F5	Foreign Interference	Squirrel Contact Loc 1036 - Dover St	94
				Average Outage Duration	97

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2013 Outage Information (Including Ice Storm)

Station: MS10
Feeder: 10F5

Date	Time of Event	Feeder	Cause of Interruption as per OEB (refer to Note below)	Description and Location	Outage Duration (mins)
22-Jun	15:24	10F5	Foreign Interference	squirrel contact - 270 Acadia	156
03-Jul	06:39	10F5	Foreign Interference	squirrel contact 243 Arden	41
13-Oct	07:46	10F5	Foreign Interference	Squirrel Contact Loc 1036 - Dover St	94
22-Dec	12:19	10F5	Adverse Weather	Ice Storm	247
				Average Outage Duration	135

2013 Outage Information (Excluding Ice Storm)

Station: MS10
Feeder: 10F6

Date	Time of Event	Feeder	Cause of Interruption as per OEB (refer to Note below)	Description and Location	Outage Duration (mins)
19-Mar	03:47	10F6	Defective Equipment	quick sleeve pulled apart Harmony and Taunton	6
21-Apr	06:58	10F6	Foreign Interference	squirrel contact 675 King St E	40
				Average Outage Duration	23

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2013 Outage Information (Including Ice Storm)

Station: MS10
Feeder: 10F6

Date	Time of Event	Feeder	Cause of Interruption as per OEB (refer to Note below)	Description and Location	Outage Duration (mins)
19-Mar	03:47	10F6	Defective Equipment	quick sleeve pulled apart Harmony and Taunton	6
21-Apr	06:58	10F6	Foreign Interference	squirrel contact 675 King St E	40
22-Dec	04:09	10F6	Adverse Weather	Ice Storm	646
				Average Outage Duration	231

2013 Outage Information (Excluding Ice Storm)

Station: MS11
Feeder: 11F1

Date	Time of Event	Feeder	Cause of Interruption as per OEB	Description and Location	Outage Duration (mins)
7-May	05:21	11F1	Unknown/Other	blown fuse at 876 Thornton Rd S no cause found	40
18-Jun	09:58	11F1	Foreign Interference	bird contact Boundry Rd, burnt off tap at MS11	62
24-Jun	11:49	11F1	Defective Equipment	broken insulator - Skae and Phillip Murray (hold off in effect)	9
29-Oct	23:13	11F1	Defective Equipment	broken sw1152 - Bloor east of Stevenson	287
06-Nov	06:56	11F1	Foreign Interference	squirrel contact on Oxford	45
				Average Outage Duration	89

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2013 Outage Information (Including Ice Storm)

Station: MS11
Feeder: 11F1

Date	Time of Event	Feeder	Cause of Interruption as per OEB	Description and Location	Outage Duration (mins)
7-May	05:21	11F1	Unknown/Other	blown fuse at 876 Thornton Rd S no cause found	40
18-Jun	09:58	11F1	Foreign Interference	bird contact Boundry Rd, burnt off tap at MS11	62
24-Jun	11:49	11F1	Defective Equipment	broken insulator - Skae and Phillip Murray (hold off in effect)	9
29-Oct	23:13	11F1	Defective Equipment	broken sw1152 - Bloor east of Stevenson	287
06-Nov	06:56	11F1	Foreign Interference	squirrel contact on Oxford	45
22-Dec	02:45	11F1	Adverse Weather	Ice Storm	2
22-Dec	03:11	11F1	Adverse Weather	Ice Storm	742
25-Dec	23:06	11F1	Adverse Weather	Ice Storm	285
26-Dec	11:44	11F1	Adverse Weather	Ice Storm	254
26-Dec	17:21	11F1	Adverse Weather	Ice Storm	3
27-Dec	15:35	11F1	Adverse Weather	Ice Storm	2
				Average Outage Duration	157

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2013 Outage Information (Excluding Ice Storm)

Station: MS11
Feeder: 11F2

Date	Time of Event	Feeder	Cause of Interruption as per OEB (refer to Note below)	Description and Location	Outage Duration (mins)
21-Oct	11:33	11F2	Foreign Interference	squirrel contact - Cartier	1
				Average Outage Duration	1

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2013 Outage Information (Including Ice Storm)

Station: MS11
Feeder: 11F2

Date	Time of Event	Feeder	Cause of Interruption as per OEB (refer to Note below)	Description and Location	Outage Duration (mins)
21-Oct	11:33	11F2	Foreign Interference	squirrel contact - Cartier	1
				Average Outage Duration	1

2013 Outage Information (Excluding Ice Storm)

Station: MS11
Feeder: 11F4

Date	Time of Event	Feeder	Cause of Interruption as per OEB (refer to Note below)	Description and Location	Outage Duration (mins)
29-Jan	16:31	11F4	Defective Equipment	blown dips on Champlain	222
30-Oct	01:19	11F4	Defective Equipment	feeder open to pick up 11F1 (13F1) load	6
20-Dec	06:31	11F4	Adverse Environment	Pole Fire Thornton&Bloor St	79
				Average Outage Duration	102

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2013 Outage Information (Including Ice Storm)

Station: MS11
Feeder: 11F4

Date	Time of Event	Feeder	Cause of Interruption as per OEB (refer to Note below)	Description and Location	Outage Duration (mins)
29-Jan	16:31	11F4	Defective Equipment	blown dips on Champlain	222
30-Oct	01:19	11F4	Defective Equipment	feeder open to pick up 11F1 (13F1) load	6
20-Dec	06:31	11F4	Adverse Environment	Pole Fire Thornton&Bloor St	79
22-Dec	07:52	11F4	Adverse Weather	Ice Storm	45
26-Dec	16:19	11F4	Adverse Weather	Ice Storm	2
				Average Outage Duration	71

2013 Outage Information (Excluding Ice Storm)

Station: MS11
Feeder: 11F5

Date	Time of Event	Feeder	Cause of Interruption as per OEB (refer to Note below)	Description and Location	Outage Duration (mins)
18-Jun	10:58	11F5	Defective Equipment	breaker opened to pick up the 11F1 feeder	2
05-Jul	06:43	11F5	Foreign Interference	squirrel contact 290 Cordova	75
09-Nov	10:23	11F5	Foreign Interference	squirrel contact Cordova	142
04-Dec	22:32	11F5	Defective Equipment	primary cable fault on Glen St	224
				Average Outage Duration	111

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2013 Outage Information (Including Ice Storm)

Station: MS11
Feeder: 11F5

Date	Time of Event	Feeder	Cause of Interruption as per OEB (refer to Note below)	Description and Location	Outage Duration (mins)
18-Jun	10:58	11F5	Defective Equipment	breaker opened to pick up the 11F1 feeder	2
05-Jul	06:43	11F5	Foreign Interference	squirrel contact 290 Cordova	75
09-Nov	10:23	11F5	Foreign Interference	squirrel contact Cordova	142
04-Dec	22:32	11F5	Defective Equipment	primary cable fault on Glen St	224
26-Dec	14:06	11F5	Adverse Weather	Ice Storm	18
26-Dec	21:41	11F5	Adverse Weather	Ice Storm	3
				Average Outage Duration	77

2013 Outage Information (Excluding Ice Storm)

Station: MS11
Feeder: 11F6

Date	Time of Event	Feeder	Cause of Interruption as per OEB (refer to Note below)	Description and Location	Outage Duration (mins)
10-May	09:00	11F6	Scheduled Outage	pole repacement 300-400 Grenfell	120
30-May	09:18	11F6	Foreign Interference	squirrel contact 321 Marland Dr	60
23-Jun	08:35	11F6	Foreign Interference	squirrel contact 431 Centre St	130
21-Aug	08:19	11F6	Foreign Interference	bird contact Montrave	41
27-Oct	10:12	11F6	Foreign Interference	squirrel contact Capreol Crt	48
				Average Outage Duration	80

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2013 Outage Information (Including Ice Storm)

Station: MS11
Feeder: 11F6

Date	Time of Event	Feeder	Cause of Interruption as per OEB (refer to Note below)	Description and Location	Outage Duration (mins)
10-May	09:00	11F6	Scheduled Outage	pole repacement 300-400 Grenfell	120
30-May	09:18	11F6	Foreign Interference	squirrel contact 321 Marland Dr	60
23-Jun	08:35	11F6	Foreign Interference	squirrel contact 431 Centre St	130
21-Aug	08:19	11F6	Foreign Interference	bird contact Montrave	41
27-Oct	10:12	11F6	Foreign Interference	squirrel contact Capreol Crt	48
22-Dec	03:17	11F6	Adverse Weather	Ice Storm	251
				Average Outage Duration	108

2013 Outage Information (Excluding Ice Storm)

Station: MS13
Feeder: 13F1

Date	Time of Event	Feeder	Cause of Interruption as per OEB	Description and Location	Outage Duration (mins)
26-Feb	23:36	13F1	Unknown/Other	blown fuses Philip Murray and Oxford	298
13-Apr	17:41	13F1	Defective Equipment	primary cable fault on Cedar St	169
12-May	14:19	13F1	Defective Equipment	primary cable fault Chaleur	201
18-Jul	21:51	13F1	Defective Equipment	blown transformer 1420 Bala	31
20-Jul	14:09	13F1	Defective Equipment	primary cable fault Chaleur	171
22-Jul	07:28	13F1	Foreign Interference	bird contact Byng Ave.	43
22-Sep	08:00	13F1	Foreign Interference	squirrel contact Oxford and Philip Murray	84
22-Oct	08:22	13F1	Defective Equipment	quick sleeve pulled apart Nelson south of Wentworth	49
				Average Outage Duration	131

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2013 Outage Information (Including Ice Storm)

Station: MS13
Feeder: 13F1

Date	Time of Event	Feeder	Cause of Interruption as per OEB	Description and Location	Outage Duration (mins)
26-Feb	23:36	13F1	Unknown/Other	blown fuses Philip Murray and Oxford	298
13-Apr	17:41	13F1	Defective Equipment	primary cable fault on Cedar St	169
12-May	14:19	13F1	Defective Equipment	primary cable fault Chaleur	201
18-Jul	21:51	13F1	Defective Equipment	blown transformer 1420 Bala	31
20-Jul	14:09	13F1	Defective Equipment	primary cable fault Chaleur	171
22-Jul	07:28	13F1	Foreign Interference	bird contact Byng Ave.	43
22-Sep	08:00	13F1	Foreign Interference	squirrel contact Oxford and Philip Murray	84
22-Oct	08:22	13F1	Defective Equipment	quick sleeve pulled apart Nelson south of Wentworth	49
				Average Outage Duration	131

2013 Outage Information (Excluding Ice Storm)

Station: MS13
Feeder: 13F2

Date	Time of Event	Feeder	Cause of Interruption as per OEB (refer to Note below)	Description and Location	Outage Duration (mins)
03-Aug	13:23	13F2	Foreign Interference	MVA Tennyson	112
20-Aug	07:58	13F2	Foreign Interference	squirrel contact Dean Ave	55
11-Oct	09:52	13F2	Foreign Interference	Bird Contact - Dean and Wilson	38
				Average Outage Duration	68

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2013 Outage Information (Including Ice Storm)

Station: MS13
Feeder: 13F2

Date	Time of Event	Feeder	Cause of Interruption as per OEB (refer to Note below)	Description and Location	Outage Duration (mins)
03-Aug	13:23	13F2	Foreign Interference	MVA Tennyson	112
20-Aug	07:58	13F2	Foreign Interference	squirrel contact Dean Ave	55
11-Oct	09:52	13F2	Foreign Interference	Bird Contact - Dean and Wilson	38
				Average Outage Duration	68

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2013 Outage Information (Excluding Ice Storm)

Station: MS13
Feeder: 13F3

Date	Time of Event	Feeder	Cause of Interruption as per OEB (refer to Note below)	Description and Location	Outage Duration (mins)
31-Aug	15:18	13F3	Unknown/Other	Annis, Daniel area patrolled no cause found	87
				Average Outage Duration	87

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2013 Outage Information (Including Ice Storm)

Station: MS13
Feeder: 13F3

Date	Time of Event	Feeder	Cause of Interruption as per OEB (refer to Note below)	Description and Location	Outage Duration (mins)
31-Aug	15:18	13F3	Unknown/Other	Annis, Daniel area patrolled no cause found	87
				Average Outage Duration	87

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2013 Outage Information (Excluding Ice Storm)

Station: MS13
Feeder: 13F4

Date	Time of Event	Feeder	Cause of Interruption as per OEB (refer to Note below)	Description and Location	Outage Duration (mins)
28-Aug	07:04	13F4	Foreign Interference	squirrel contact Cedar St	134
4-Oct	11:37	13F4	Foreign Interference	Squirrel Contact - Cedar St	52
				Average Outage Duration	93

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2013 Outage Information (Including Ice Storm)

Station: MS13
Feeder: 13F4

Date	Time of Event	Feeder	Cause of Interruption as per OEB (refer to Note below)	Description and Location	Outage Duration (mins)
28-Aug	07:04	13F4	Foreign Interference	squirrel contact Cedar St	134
4-Oct	11:37	13F4	Foreign Interference	Squirrel Contact - Cedar St	52
				Average Outage Duration	93

2013 Outage Information (Excluding Ice Storm)

Station: MS13
Feeder: 13F5

Date	Time of Event	Feeder	Cause of Interruption as per OEB (refer to Note below)	Description and Location	Outage Duration (mins)
10-Sep	08:33	13F5	Unknown/Other	Vconant and Nelson - no cause found	35
26-Sep	09:23	13F5	Defective Equipment	broken switch - Conant & Daniel	78
5-Oct	07:55	13F5	Foreign Interference	Squirrel Contact - Gifford	65
				Average Outage Duration	59

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2013 Outage Information (Including Ice Storm)

Station: MS13
Feeder: 13F5

Date	Time of Event	Feeder	Cause of Interruption as per OEB (refer to Note below)	Description and Location	Outage Duration (mins)
10-Sep	08:33	13F5	Unknown/Other	Vconant and Nelson - no cause found	35
26-Sep	09:23	13F5	Defective Equipment	broken switch - Conant & Daniel	78
5-Oct	07:55	13F5	Foreign Interference	Squirrel Contact - Gifford	65
				Average Outage Duration	59

2013 Outage Information (Excluding Ice Storm)

Station: MS13
Feeder: 13F6

Date	Time of Event	Feeder	Cause of Interruption as per OEB (refer to Note below)	Description and Location	Outage Duration (mins)
29-May	07:33	13F6	Foreign Interference	squirrel contact Baldwin and Olive	38
11-Aug	06:26	13F6	Foreign Interference	squirrel contact - Chesterton	109
06-Sep	08:56	13F6	Foreign Interference	squirrel contact - Chesterton	20
7-Oct	09:02	13F6	Defective Equipment	Primary Cable Fault - Tennyson Crt	78
13-Oct	04:29	13F6	Unknown/Other	919 Farewell St - no cause found	646
				Average Outage Duration	178

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2013 Outage Information (Including Ice Storm)

Station: MS13
Feeder: 13F6

Date	Time of Event	Feeder	Cause of Interruption as per OEB (refer to Note below)	Description and Location	Outage Duration (mins)
29-May	07:33	13F6	Foreign Interference	squirrel contact Baldwin and Olive	38
11-Aug	06:26	13F6	Foreign Interference	squirrel contact - Chesterton	109
06-Sep	08:56	13F6	Foreign Interference	squirrel contact - Chesterton	20
7-Oct	09:02	13F6	Defective Equipment	Primary Cable Fault - Tennyson Crt	78
13-Oct	04:29	13F6	Unknown/Other	919 Farewell St - no cause found	646
				Average Outage Duration	178

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2013 Outage Information (Excluding Ice Storm)

Station: MS14
Feeder: 14F1

Date	Time of Event	Feeder	Cause of Interruption as per OEB (refer to Note below)	Description and Location	Outage Duration (mins)
24-Jul	06:22	14F1	Foreign Interference	Squirell Contact Arthur St	60
				Average Outage Duration	60

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2013 Outage Information (Including Ice Storm)

Station: MS14
Feeder: 14F1

Date	Time of Event	Feeder	Cause of Interruption as per OEB (refer to Note below)	Description and Location	Outage Duration (mins)
24-Jul	06:22	14F1	Foreign Interference	Squirell Contact Arthur St	60
22-Dec	05:52	14F1	Adverse Weather	Ice Storm	791
22-Dec	20:12	14F1	Adverse Weather	Ice Storm	618
23-Dec	08:06	14F1	Adverse Weather	Ice Storm	191
				Average Outage Duration	415

2013 Outage Information (Excluding Ice Storm)

Station: MS14
Feeder: 14F2

Date	Time of Event	Feeder	Cause of Interruption as per OEB	Description and Location	Outage Duration (mins)
28-Apr	07:01	14F2	Foreign Interference	squirrel contact 145 Albert St	194
02-Jul	23:40	14F2	Defective Equipment	broken switch 208 Burk St	60
26-Sep	16:00	14F2	Unknown/Other	blown transformer fuse - 80 Fisher	70
21-Oct	22:37	14F2	Defective Equipment	pole fire - Fairbanks St	401
29-Oct	18:05	14F2	Defective Equipment	blown arrestor Nassau St loc 2066	72
10-Nov	07:04	14F2	Foreign Interference	wildlife contact 245 Simcoe St S	311
21-Nov	10:33	14F2	Foreign Interference	squirrel contact Robson & Whithing	26
				Average Outage Duration	162

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2013 Outage Information (Including Ice Storm)

Station: MS14
Feeder: 14F2

Date	Time of Event	Feeder	Cause of Interruption as per OEB	Description and Location	Outage Duration (mins)
28-Apr	07:01	14F2	Foreign Interference	squirrel contact 145 Albert St	194
02-Jul	23:40	14F2	Defective Equipment	broken switch 208 Burk St	60
26-Sep	16:00	14F2	Unknown/Other	blown transformer fuse - 80 Fisher	70
21-Oct	22:37	14F2	Defective Equipment	pole fire - Fairbanks St	401
29-Oct	18:05	14F2	Defective Equipment	blown arrestor Nassau St loc 2066	72
10-Nov	07:04	14F2	Foreign Interference	wildlife contact 245 Simcoe St S	311
21-Nov	10:33	14F2	Foreign Interference	squirrel contact Robson & Whithing	26
22-Dec	02:50	14F2	Adverse Weather	Ice Storm	1
22-Dec	06:40	14F2	Adverse Weather	Ice Storm	158
				Average Outage Duration	144

2013 Outage Information (Excluding Ice Storm)

Station: MS14
Feeder: 14F3

Date	Time of Event	Feeder	Cause of Interruption as per OEB (refer to Note below)	Description and Location	Outage Duration (mins)
				Average Outage Duration	0

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2013 Outage Information (Including Ice Storm)

Station: MS14
Feeder: 14F3

Date	Time of Event	Feeder	Cause of Interruption as per OEB (refer to Note below)	Description and Location	Outage Duration (mins)
22-Dec	06:40	14F3	Adverse Weather	Ice Storm	158
				Average Outage Duration	158

2013 Outage Information (Excluding Ice Storm)

Station: MS14
Feeder: 14F4

Date	Time of Event	Feeder	Cause of Interruption as per OEB (refer to Note below)	Description and Location	Outage Duration (mins)
15-Jun	07:17	14F4	Foreign Interference	squirrel contact Oshawa Blvd N & Mitchell	49
19-Jul	14:05	14F4	Defective Equipment	blown transformer Monash loc 3178	445
29-Aug	07:51	14F4	Foreign Interference	squirrel contact Drew and Toronto	71
31-Aug	06:43	14F4	Adverse Weather	lightning storm, loc 1586 McNaughton	257
04-Sep	10:12	14F4	Unknown/Other	Mitchell and Oshawa Blvd S - no cause found	33
9-Oct	18:00	14F4	Foreign Interference	Squirrel Contact - Fouth St	160
13-Nov	09:47	14F4	Foreign Interference	squirrel contact Drew St	22
17-Dec	14:49	14F4	Unknown/Other	Loc 3173 blown Tx Fuse no cause found	105
				Average Outage Duration	143

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2013 Outage Information (Including Ice Storm)

Station: MS14
Feeder: 14F4

Date	Time of Event	Feeder	Cause of Interruption as per OEB (refer to Note below)	Description and Location	Outage Duration (mins)
15-Jun	07:17	14F4	Foreign Interference	squirrel contact Oshawa Blvd N & Mitchell	49
19-Jul	14:05	14F4	Defective Equipment	blown transformer Monash loc 3178	445
29-Aug	07:51	14F4	Foreign Interference	squirrel contact Drew and Toronto	71
31-Aug	06:43	14F4	Adverse Weather	lightning storm, loc 1586 McNaughton	257
04-Sep	10:12	14F4	Unknown/Other	Mitchell and Oshawa Blvd S - no cause found	33
9-Oct	18:00	14F4	Foreign Interference	Squirrel Contact - Fouth St	160
13-Nov	09:47	14F4	Foreign Interference	squirrel contact Drew St	22
17-Dec	14:49	14F4	Unknown/Other	Loc 3173 blown Tx Fuse no cause found	105
22-Dec	02:43	14F4	Adverse Weather	Ice Storm	6
22-Dec	06:40	14F4	Adverse Weather	Ice Storm	276
22-Dec	14:44	14F4	Adverse Weather	Ice Storm	559
23-Dec	03:05	14F4	Adverse Weather	Ice Storm	120
				Average Outage Duration	175

2013 Outage Information (Excluding Ice Storm)

Station: MS14
Feeder: 14F5

Date	Time of Event	Feeder	Cause of Interruption as per OEB (refer to Note below)	Description and Location	Outage Duration (mins)
08-Dec	03:03	14F5	Scheduled Outage	put new Athol vault into service	420
				Average Outage Duration	420

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2013 Outage Information (Including Ice Storm)

Station: MS14
Feeder: 14F5

Date	Time of Event	Feeder	Cause of Interruption as per OEB (refer to Note below)	Description and Location	Outage Duration (mins)
08-Dec	03:03	14F5	Scheduled Outage	put new Athol vault into service	420
22-Dec	06:40	14F5	Adverse Weather	Ice Storm	175
				Average Outage Duration	298

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2013 Outage Information (Excluding Ice Storm)

Station: MS14
Feeder: 14F6

Date	Time of Event	Feeder	Cause of Interruption as per OEB (refer to Note below)	Description and Location	Outage Duration (mins)
				Average Outage Duration	0

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2013 Outage Information (Including Ice Storm)

Station: MS14
Feeder: 14F6

Date	Time of Event	Feeder	Cause of Interruption as per OEB (refer to Note below)	Description and Location	Outage Duration (mins)
22-Dec	06:40	14F6	Adverse Weather	Ice Storm	175
				Average Outage Duration	175

2013 Outage Information (Excluding Ice Storm)

Station: MS15
Feeder: 15F1

Date	Time of Event	Feeder	Cause of Interruption as per OEB (refer to Note below)	Description and Location	Outage Duration (mins)
22-Feb	11:18	15F1	Defective Equipment	primary cable fault Grandview and Salmers	43
11-Nov	11:47	15F1	Foreign Interference	squirrel contact 15T1 caused transformer differential trip	15
				Average Outage Duration	29

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2013 Outage Information (Including Ice Storm)

Station: MS15
Feeder: 15F1

Date	Time of Event	Feeder	Cause of Interruption as per OEB (refer to Note below)	Description and Location	Outage Duration (mins)
22-Feb	11:18	15F1	Defective Equipment	primary cable fault Grandview and Salmers	43
11-Nov	11:47	15F1	Foreign Interference	squirrel contact 15T1 caused transformer differential trip	15
				Average Outage Duration	29

2013 Outage Information (Excluding Ice Storm)

Station: MS15
Feeder: 15F2

Date	Time of Event	Feeder	Cause of Interruption as per OEB (refer to Note below)	Description and Location	Outage Duration (mins)
27-Feb	10:56	15F2	Defective Equipment	broken guy 1220 Conlin Rd E	124
19-Mar	01:03	15F2	Adverse Weather	heavy snow storm at the time, feeder patrolled nothing found	280
7-Apr	01:30	15F2	Tree Contacts	tree into primary Grandview St N	195
22-Jun	07:30	15F2	Defective Equipment	blown transformer - 1416 Clearbrook	300
28-Jun	16:29	15F2	Defective Equipment	pole fire 2660 Ritson Rd N	241
29-Aug	22:51	15F2	Defective Equipment	lead burnt off sw037 - Harmony and Columbus	150
11-Nov	11:47	15F2	Foreign Interference	squirrel contact 15T1 caused transformer differential trip	27
				Average Outage Duration	188

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2013 Outage Information (Including Ice Storm)

Station: MS15
Feeder: 15F2

Date	Time of Event	Feeder	Cause of Interruption as per OEB (refer to Note below)	Description and Location	Outage Duration (mins)
27-Feb	10:56	15F2	Defective Equipment	broken guy 1220 Conlin Rd E	124
19-Mar	01:03	15F2	Adverse Weather	heavy snow storm at the time, feeder patrolled nothing found	280
7-Apr	01:30	15F2	Tree Contacts	tree into primary Grandview St N	195
22-Jun	07:30	15F2	Defective Equipment	blown transformer - 1416 Clearbrook	300
28-Jun	16:29	15F2	Defective Equipment	pole fire 2660 Ritson Rd N	241
29-Aug	22:51	15F2	Defective Equipment	lead burnt off sw037 - Harmony and Columbus	150
11-Nov	11:47	15F2	Foreign Interference	squirrel contact 15T1 caused transformer differential trip	27
				Average Outage Duration	188

2013 Outage Information (Excluding Ice Storm)

Station: MS15
Feeder: 15F3

Date	Time of Event	Feeder	Cause of Interruption as per OEB (refer to Note below)	Description and Location	Outage Duration (mins)
19-Mar	03:47	15F3	Defective Equipment	quick sleeve pulled apart Harmony and Taunton	54
11-Nov	11:47	15F3	Foreign Interference	squirrel contact 15T1 caused transformer differential trip	27
				Average Outage Duration	41

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2013 Outage Information (Including Ice Storm)

Station: MS15
Feeder: 15F3

Date	Time of Event	Feeder	Cause of Interruption as per OEB (refer to Note below)	Description and Location	Outage Duration (mins)
19-Mar	03:47	15F3	Defective Equipment	quick sleeve pulled apart Harmony and Taunton	54
11-Nov	11:47	15F3	Foreign Interference	squirrel contact 15T1 caused transformer differential trip	27
				Average Outage Duration	41

2013 Outage Information (Excluding Ice Storm)

Station: MS15
Feeder: 15F4

Date	Time of Event	Feeder	Cause of Interruption as per OEB	Description and Location	Outage Duration (mins)
09-Jun	19:00	15F4	Defective Equipment	blown transformer - 972 Greenleaf	270
24-Jul	14:48	15F4	Unknown/Other	blown Sw Greenhill & Ormond	192
22-Nov	20:08	15F4	Defective Equipment	primary cable fault on Ormond	82
27-Nov	18:53	15F4	Defective Equipment	primary fault, broken bushing on Trowbridge	505
				Average Outage Duration	262

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2013 Outage Information (Including Ice Storm)

Station: MS15
Feeder: 15F4

Date	Time of Event	Feeder	Cause of Interruption as per OEB	Description and Location	Outage Duration (mins)
09-Jun	19:00	15F4	Defective Equipment	blown transformer - 972 Greenleaf	270
24-Jul	14:48	15F4	Unknown/Other	blown Sw Greenhill & Ormond	192
22-Nov	20:08	15F4	Defective Equipment	primary cable fault on Ormond	82
27-Nov	18:53	15F4	Defective Equipment	primary fault, broken bushing on Trowbridge	505
				Average Outage Duration	262

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2013 Outage Information (Excluding Ice Storm)

Station: MS15
Feeder: 15F5

Date	Time of Event	Feeder	Cause of Interruption as per OEB (refer to Note below)	Description and Location	Outage Duration (mins)
3-Mar	04:15	15F5	Defective Equipment	primary cable fault on Lavis Crt	225
05-Jun	08:44	15F5	Defective Equipment	primary cable fault 555 Rossland E	791
				Average Outage Duration	508

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2013 Outage Information (Including Ice Storm)

Station: MS15
Feeder: 15F5

Date	Time of Event	Feeder	Cause of Interruption as per OEB (refer to Note below)	Description and Location	Outage Duration (mins)
3-Mar	04:15	15F5	Defective Equipment	primary cable fault on Lavis Crt	225
05-Jun	08:44	15F5	Defective Equipment	primary cable fault 555 Rossland E	791
22-Dec	11:58	15F5	Adverse Weather	Ice Storm	26
				Average Outage Duration	347

2013 Outage Information (Excluding Ice Storm)

Station: MS15
Feeder: 15F6

Date	Time of Event	Feeder	Cause of Interruption as per OEB (refer to Note below)	Description and Location	Outage Duration (mins)
				Average Outage Duration	0

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2013 Outage Information (Including Ice Storm)

Station: MS15
Feeder: 15F6

Date	Time of Event	Feeder	Cause of Interruption as per OEB (refer to Note below)	Description and Location	Outage Duration (mins)
				Average Outage Duration	0

OSHAWA PUC NETWORKS INC.

Undertaking J3.4

To provide by rate class allocated and then on a per customer basis the increase.

Response:

The request was to quantify (provide a dollar impact of) the effect on rates of smoothing the impact of a September 1st implementation of 2015 rates (as proposed – i.e. effective January 1st) but over a 12 month period, including a description of how the amount would be allocated, by rate class.

The foregone revenue estimate occurring from January 1, 2015 through August 31, 2015, which assumes new rates effective September 1, 2015, is $1.8 million per the following table filed in the June 23rd update (now Exhibit K1.2).

No amounts have been included in rate calculations submitted to date for recovery of this foregone revenue.

Description	2015 Board Approved
Average fixed assets	**87,284**
Working capital allowance	**14,516**
Rate Base	**101,799**
Interest	2,505
Deemed Return on Equity (After Tax NI)	3,787
Corporate Income Taxes Payable	220
Deemed Distribution Revenue	**21,294**
Actual Distribution Revenue	**(19,890)**
Revenue (Sufficiency)/Deficiency After Tax	**1,404**
Revenue (Sufficiency)/Deficiency Before Tax	**1,793**
Return on deemed equity	**5.85%**
Expected return	**9.30%**
Difference	**(3.45%)**

Recovery over Twelve Month Period

The allocation by rate class, rate per customer and monthly charge per customer are illustrated in the following table. This calculation assumes amortization of the $1.8 million over a twelve month period from January 1, 2016 to December 31, 2016:

Customer Class	Total by Class	Charge Unit	2016 Rate Rider	Monthly Charge
Residential	$1,151,560	per kWh	0.0023	$1.84
GS Less Than 50 KW	$231,698	per kWh	0.0017	$3.40
GS 50 To 999 KW	$284,895	per kW	0.3262	$156.58
GS Intermediate 1,000 To 4,999 KW	$42,256	per kW	0.2001	$183.89
Large Use	$19,348	per kW	0.2005	$1,569.51
Street Lighting	$57,920	per kW	3.9568	$0.32
Sentinel Lighting	$187	per kW	1.9504	$0.78
Unmetered Scattered Load	$5,136	per kWh	0.0019	$1.43
	$1,793,000			

The 2016 impact on distribution charges is illustrated in the following table:

Customer Class	Distribution Charge 2016 Year over Year % Change		
	Before Rate Rider Applied	Including Rate Rider	Increase
Residential	7.1%	14.6%	7.4%
GS Less Than 50 KW	2.9%	9.0%	6.1%
GS 50 To 999 KW	2.9%	9.3%	6.4%
GS Intermediate 1,000 To 4,999 KW	3.9%	7.7%	3.8%
Large Use	5.2%	10.7%	5.5%
Street Lighting	(13.7)%	(7.6)%	6.1%
Sentinel Lighting	4.2%	12.5%	8.3%
Unmetered Scattered Load	10.7%	18.5%	7.8%

Recovery over Four Year Period

The impact of allocating the $1.8 million over the four year period January 1, 2016 to December 31, 2019 is illustrated in the following tables. The first table shows the rate riders by class for each year:

Customer Class		2016 Rate Rider	2017 Rate Rider	2018 Rate Rider	2019 Rate Rider
Residential	per kWh	0.0005	0.0005	0.0006	0.0006
GS Less Than 50 KW	per kWh	0.0004	0.0004	0.0004	0.0004
GS 50 To 999 KW	per kW	0.0752	0.0765	0.0811	0.0833
GS Intermediate 1,000 To 4,999 KW	per kW	0.0462	0.0468	0.0495	0.0507
Large Use	per kW	0.0462	0.0479	0.0518	0.0545
Street Lighting	per kW	0.9126	1.0124	1.0619	1.0795
Sentinel Lighting	per kW	0.4499	0.4861	0.5480	0.6009
Unmetered Scattered Load	per kWh	0.0004	0.0005	0.0005	0.0005

The following table shows the year over year smoothed bill impacts prior to the addition of the rate rider to recover foregone revenue for the period January 1, 2015 to August 31, 2015:

Customer Class		**Year over Year % Change**					**CAGR**
		2015	**2016**	**2017**	**2018**	**2019**	**2014-2019**
Sub-Total B - Distribution (includes DVA, Smart Meter rate riders & line loss on Cost of Power)							
Residential	800 kWh	7.4%	7.1%	7.1%	7.1%	7.5%	7.3%
GS Less Than 50 KW	2000 kWh	2.6%	2.9%	2.6%	2.9%	2.7%	2.7%
GS 50 To 999 KW	480 KW	2.9%	2.9%	3.1%	2.9%	2.9%	2.9%
GS 1,000 To 4,999 KW	919 KW	(6.8)%	3.9%	0.9%	3.1%	1.4%	0.4%
Large Use	7828 KW	(2.4)%	5.2%	1.2%	4.0%	1.8%	1.9%
Street Lighting	0.12/0.08 KW	3.8%	(13.7)%	1.6%	5.8%	2.4%	(0.3)%
Sentinel Lighting	0.4 KW	26.5%	4.2%	(16.4)%	5.5%	2.4%	3.5%
Unmetered Scattered Load	750 kWh	9.2%	10.7%	9.7%	10.0%	10.7%	10.1%

The following table shows the year over year smoothed bill impacts plus the rate rider to recover foregone revenue for the period January 1, 2015 to August 31, 2015:

Customer Class		Year over Year % Change					CAGR
		2015	2016	2017	2018	2019	2014-2019
Sub-Total B - Distribution (includes DVA, Smart Meter rate riders & line loss on Cost of Power)							
Residential	800 kWh	7.4%	8.7%	7.0%	7.3%	7.4%	7.6%
GS Less Than 50 KW	2000 kWh	2.6%	4.4%	2.6%	2.9%	2.6%	3.0%
GS 50 To 999 KW	480 KW	2.9%	4.3%	3.1%	3.0%	2.9%	3.2%
GS 1,000 To 4,999 KW	919 KW	(6.8)%	4.8%	0.9%	3.2%	1.4%	0.6%
Large Use	7828 KW	(2.4)%	6.4%	1.2%	4.1%	1.8%	2.2%
Street Lighting	0.12/0.08 KW	3.8%	(12.3)%	1.8%	5.8%	2.4%	0.1%
Sentinel Lighting	0.4 KW	26.5%	6.1%	(16.0)%	5.7%	2.5%	4.1%
Unmetered Scattered Load	750 kWh	9.2%	12.3%	9.9%	9.9%	10.5%	10.4%

The increase in the year over year % change resulting from the addition of the impact of the rate rider to recover foregone revenue for the period January 1, 2015 to August 31, 2015 is shown in the table below. Overall impact is an increase in the compound annual growth rate of 0.3% in the period 2014 to 2019:

Customer Class		Year over Year % Change					CAGR
		2015	2016	2017	2018	2019	2014-2019
Sub-Total B - Distribution (includes DVA, Smart Meter rate riders & line loss on Cost of Power)							
Residential	800 kWh	0.0%	1.6%	(0.1)%	0.2%	(0.1)%	0.3%
GS Less Than 50 KW	2000 kWh	0.0%	1.4%	(0.0)%	(0.0)%	(0.0)%	0.3%
GS 50 To 999 KW	480 KW	0.0%	1.5%	(0.0)%	0.0%	(0.0)%	0.3%
GS 1,000 To 4,999 KW	919 KW	0.0%	0.9%	0.0%	0.0%	0.0%	0.2%
Large Use	7828 KW	0.0%	1.3%	0.0%	0.1%	0.0%	0.3%
Street Lighting	0.12/0.08 KW	0.0%	1.4%	0.2%	(0.0)%	(0.0)%	0.3%
Sentinel Lighting	0.4 KW	0.0%	1.9%	0.4%	0.2%	0.2%	0.6%
Unmetered Scattered Load	750 kWh	0.0%	1.6%	0.2%	(0.2)%	(0.2)%	0.3%

OSHAWA PUC NETWORKS INC.

Undertaking J3.5

To update the table found at page 2 of the technical conference undertaking response 2.8 for more recent information from a report if one is received prior to next Thursday.

Response:

OPUCN has inquired of the City of Oshawa, and confirmed that an updated *Residential Subdivision Activity Map* is not available.