ERIE THAMES POWERLINES

Your Home Town Utility

May 4, 2011

Via Web Portal and Courier

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

Dear Ms. Walli:

Re: Responses to the Board Staff and Hydro One Networks Inc Interrogatory Questions
Application for Service Area Amendment EB-2011-0085
Erie Thames Powerlines Corporation

Please find enclosed Erie Thames Powerlines Corporation responses to the Board Staff Interrogatories for the above mentioned proceeding.

Regards

Original signed by

Chris White
President
Erie Thames Powerlines Corporation

Cc: Andrew Skalski, Hydro One Networks Inc.
Yoon Kim, Hydro One Networks Inc.
Matthew Robertson, Sifton Properties Limited
James Timlin, Town of Ingersoll

Erie Thames Powerlines Corporation
Application for Service Area Amendment
Board File # EB-2011-0085

RE: Response to Board Staff Interrogatories

Question:

1. Reference: Page 2, Section 7.1 and Page 8, Section 7.1.6

ETPC states that future phases of Sifton Lands development will include residential single and multi-family block as well as commercial development. Based on the evidence provided, ETPC is only seeking inclusion of Phase 1 and Phase II of residential development in its service territory. ETPC has not identified any future plans to supply power to commercial developments.

a) Please provide reasons for ETPC not seeking the future expansion of its service territory in relation of this commercial development that is adjacent to the area that is subject of this SAA application.

ETPC has submitted its application at this time in order to meet the developer's timelines (i.e. commence Phase I residential development in June 2011.)

ETPC is not currently seeking future expansion of its service territory to include the commercial development because the site plan for the commercial development has not been provided to ETPC. ETPC understands that the developer still requires a zoning change to allow the subject area to be developed as commercial. Therefore, ETPC has not been able to analyze the servicing requirements to determine the cost to provide the service to the proposed commercial development, and whether doing so would be in the best interests of the customers. Upon the receipt and analysis of a commercial development site plan, ETPC will make the determination of whether another service area amendment application is prudent for the proposed commercial development.

As demonstrated in its application, ETPC is confident at this point in time that it can provide an efficient, reliable, low cost connection for Phases I and II based on the information provided by the developer. (ETPC notes that, although the site plan for Phase II has not received final approval from the Town of Ingersoll, a materially completed plan has been provided to ETPC . This point is addressed further in response to Interrogatory No. 5a) below.)

b) If Hydro One was to provide connection to future commercial development, would this connection be downstream of the retail point of supply. If yes, please explain how ETPC is planning to address any potential system reliability issues that may arise as a result of this connection.

As stated above, ETPC will consider an application to service the future commercial development once adequate information is available. ETPC's preference would be to connect

the commercial development if it is in the best interests of ratepayers and it represents an efficient rationalization of the distribution system. However, if Hydro One was to provide connection to the future commercial development, the connection would be downstream of the retail point of supply.

As ETPC has no control or knowledge of the customer connections in Hydro One's service territory and information about the commercial development is largely unavailable, ETPC is limited in its ability to provide an exhaustive response to this interrogatory. However, if Hydro One ultimately connects the commercial development and system reliability issues become a concern, ETPC would take all steps required to mitigate the risk to its customers (e.g. meet with Hydro One to discuss the installation of reclosures at an approximate cost of $50,000.)

ETPC also notes that the concern raised in this interrogatory is generic to all customers connected downstream of the retail point of supply. As Hydro One expands their system downstream of the retail point of supply, reliability concerns related to ETPC customers increase.

2. Reference: Page 5, Section 7.1.2

ETPC states "Board approval of this application would provide a favourable impact on rates for Erie Thames existing 14,459 residential and commercial customers."

Please quantify the impact on rates for ETPC's existing customers as a result of the proposed service area amendment.

ETPC is unable to quantify a precise dollar impact on the rates of its existing customers at this point in time. However, as approval of this application would add approximately 54 to 100 customers to ETPC's customer base, with negligible change to rate base, the proposed service area amendment would spread ETPC's revenue requirement across more customers resulting in lower per customer distribution costs. Although the financial implications for ETPC's existing customers would be admittedly minor (an estimate of $2.50 per customer per year gives an idea of the potential impact), ETPC submits that this positive impact would exceed the same impact for Hydro One's customers given its significantly larger customer base.

3. Reference: Page 5, Section 7.1.2

ETPC states: "The frequency and duration of power outages on the 38M50 in Hydro One's service territory negatively impacts Erie Thames customers."

a) Please provide details of the negative impact on ETPC customers of power outages occurring on the 38M50 circuit in Hydro One service territory.

In short, the primary negative impact on ETPC customers related to power outages in Hydro One's territory occurring on the 38M50 circuit are longer interruptions due to Hydro One's protracted response times.

As introduced in sections 7.1.2 and 7.2 of the service area amendment application, Hydro One has designated the subject area within the Town of Ingersoll as rural and, accordingly, Hydro One's emergency response time is 120 minutes. Contrarily, ETPC's response time for the adjacent area within the Town of Ingersoll is 60 minutes as it has designated the area as urban. Given this disparity between mandated response times, outages in Hydro One service territory can cause longer interruptions for ETPC's customers and customers located in the subject area serviced by the 38M50 feeder due to waiting time for Hydro One's crews to arrive.

b) Please explain how the existing situation with power outages would improve if ETPC was to supply the development.

If ETPC was to supply the development, future customers in the subject area would benefit from the more expeditious response times described in response to Interrogatory No. 3a) above. In addition, ETPC's operations centre in the Town of Ingersoll (2.61 kms) is approximately three times closer than Hydro One's closest operation centre in the Village of Beachville (8.65 kms).

Furthermore, customers within the development would benefit from ETPC's plan to create a parallel feed for the subject area which would allow the development to be supplied from two different ETPC feeders (see sections 7.1, 7.1.2, 7.2 and 7.2.1(f) of the service area amendment application.) Parallel feeders would provide an alternative source of supply and a back-up system for outages caused by feeder maintenance and emergency situations. ETPC notes that, in the event of an outage on the 38M50 circuit, Hydro One does not have the capability to backfeed the development with their radial feed.

Unfortunately, some impacts caused solely by delays in Hydro One's response to an outage within their service area will continue to be an issue for ETPC customers. However, ETPC submits that denying the service area amendment would escalate its customers' exposure to such impacts by expanding the number of Hydro One customers downstream of the retail supply point which would increase the likelihood for potential for delays in Hydro One response times.

4. Reference: Pages 8, Section 7.2

ETPC states "…capital plan includes the conversion of an existing customer located on the west side of Harris Street. Erie Thames would coordinate this project with the connection of development subject to this application".

a) Please provide details of the customer conversion project.

The customer conversion project involves the conversion of a water pumping station from 4kV to 27.6kV as a means to improve system reliability, reduce distribution losses and enhance the development of a modern distribution system. This project is a continuation of ETPC's five year capital plan designed to enhance the distribution system and reduce losses.

b) Please indicate whether there would be any financial impact on the project if the proposed development would be supplied by the incumbent distributor. If yes, please provide details.

The customer conversion project is included ETPC's capital plan and it would continue regardless of the outcome of this service area amendment application. However, if the application was approved, some costs of the customer conversion project would be shared.

c) Please indicate whether ETPC's customer conversion project is contingent upon the proposed service area amendment. If yes, please provide details.

ETPC's customer conversion project is not contingent upon the proposed service amendment.

5. Reference: Page 11, Section 7.2.1 (c)

ETPC states: "…design drawings from the Developer have not been received for Phase II. The cost to supply Phase II has not been included in this SAA application."

a) In light of the above statement, please explain how can ETPC demonstrate that it is better positioned than Hydro One to serve Phase II of the proposed amendment from the perspective of 1) economic (cost) efficiency, 2) system planning, 3) safety and reliability and 4) rate impact on existing customers?

The developer has provided ETPLC with a draft plan of subdivision. ETPC understands that the draft plan is materially complete and the parties are awaiting site plan approval from the Town of Ingersoll. Until the final site plan is received, ETPC has refrained from preparing detailed costing for Phase II.

Nonetheless, based on its review of the draft Phase II plan (and given that Phase II is the second stage of a residential development thereby making it relatively straightforward to

extrapolate the requirements for Phase II from Phase I), ETPC submits that it is better positioned than Hydro One to serve Phase II from the following perspectives:

- Economic (Cost) Efficiency – As Phase II is an extension of Phase I, the history of the costing for Phase I would be consistent with Phase II. Accordingly, the economic (cost) efficiency benefits associated with ETPC servicing Phase II are materially similar to the Phase I benefits described in the application. In particular, ETPC's connection costs are lower per lot than Hydro One's. Additionally, the costs associated with connecting Phase II to the distribution system are already included in Phase I and, therefore, it is reasonable to assume that the ETPC's connection costs per lot in Phase II may be slightly lower than Phase I.

- System Planning – Similar to Phase I, the subject area would lie along and be a contiguous extension to ETPC's robust, well-developed electricity distribution system. Phase II would be naturally extended off the Phase I infrastructure which will be designed to satisfy the requirements of the proposed development. Also similar to Phase I, ETPC has redundancy and operating flexibility within its distribution system to supply the subject area via a parallel feed that can be used to provide the development with an alternate backup supply from another feeder in emergency situation that would benefit the new customers in the subject Phase I and Phase II development.

- Safety and Reliability – As Phase II is an extension of Phase I, the summary of the safety and reliability benefits related to Phase I described in the application is applicable to Phase II. No new safety or reliability concerns arise in connection with Phase II.

- Rate Impact on Existing Customers – Like Phase I, servicing Phase II would not result in negative rate impacts to ETPC's existing customers. Additional customers would be added to ETPC's residential rate base in servicing Phase II which would result in the sharing of costs across more customers, which may ultimately lead to marginally beneficial rate impacts to ETPC's existing customers.

b) Please provide details regarding Phase II of the development including anticipated timelines for completion of Phase II.

The developer has advised ETPC that the timing of Phase II will be market driven and no fixed time frame has been attached to Phase II. However, the developer has estimated that it will commence in Summer 2012.

6. Reference: Pages 15, Section 7.3.8

Section 7.3.8 asks for a description of any existing load transfers or retail point of supply that will be eliminated. ETPC states: "approval of this application will avoid the use of retail point of supply in this area."

a) Please confirm that the existing retail point of supply will be eliminated as a result of the proposed service area amendment.

The retail point of supply will not be eliminated for the existing Hydro One customers that are downstream of the retail point. The area referenced in section 7.3.8 of the application is the proposed development (i.e. Phases I and II). If the application is approved, no new customers in the proposed development will be added to the retail point of supply.

b) Please explain how existing customers that are currently supplied through this retail point of supply would be connected to the distribution system.

Not applicable (see response to Interrogatory No. 6a) above.)

7. Reference: Pages 16, Section 7.5.3

Section 7.5.3 asks for any financial evaluations carried out in accordance with Appendix B of the Distribution System Code. In addition to costs associated with the connection, applicants are required to provide the present value of incremental OM&A costs and incremental taxes as well as expected incremental revenue, the amount of revenue shortfall and the capital contribution requested.

This filing requirement has not been met by ETPC. Please provide detailed economic evaluation in accordance with Appendix B of the Distribution System Code including relevant assumptions.

The economic evaluation was prepared in accordance with Appendix B of the Distribution System Code before submitting the application, and a copy of the evaluation was provided to the developer. However, ETPC only provided outputs in the service amendment application and administration fees were not broken out. A complete copy of the economic evaluation is provided with this response to board staff interrogatories.

Erie Thames Economic Evaluation Model

Version 3

INDEX

Instructions on Using CHEC Group Economic Evaluation Model

According to section 3.2.1 of the Distribution System Code (DSC), when an local distribution company ("LDC") needs to expand its distribution system to connect new customer(s) an economic evaluation of the expansion project needs to be conducted to determine if future revenue from the customer(s) will pay for the capital cost and on-going costs of the expansion.

In accordance with Appendix B of the DSC an economic evaluation model ('the model') has been developed. The model determines the level of investment that can be made by a LDC in accordance with the CHEC Group's capital contribution policy. The model is an Excel spreadsheet. Appendix B of the DSC does not mention that adjustments for inflation should be included in the analysis. This in turn means that revenues and costs should not be adjusted for inflation.

The following instructions will assist a user of the model to conduct an economic evaluation. The user will need to become familiar with two worksheets in the Excel spreadsheet. The first worksheet is titled 'Inputs' and the second is named 'Summary'. These instructions will outline the data to be entered in the 'Input' worksheet and how to use the results of the 'Summary' worksheet to complete the analysis.

BEFORE STARTING, GO TO "TOOLS, "OPTIONS", "CALCULATION" AND MAKE SURE THAT THE "ITERATION" BOX IS TICKED.

1. Input Worksheet

All the assumptions to be used in the model are entered in the 'Input' worksheet. The assumptions that need to be entered are highlighted in yellow. The follow steps provide the user with the directions on how to enter the highlighted data items.

Step 1: First Year of Analysis

In cell C5 enter the first year of the analysis. If the expansion project has actual customer(s) connected in one year then enter that year in cell C5. If the expansion project has actual customers connected over a number of years, up to five years, then enter in cell C5 the year the first customer is connected.

Step 2: Naming Conventions for Capital Classes

In cells B11 to B20 enter the capital categories used in the expansion project. Ten categories of capital are allowed but not all ten need to be used. The user For example, one expansion project could use lines and poles. In this case the word 'Lines' would be entered in cell B11 and the word 'Poles' would be entered in cell B12. Cells B13 to B20 would be left blank.

In another expansion project, lines, poles, transformers and hardware could be used. In this case, the word 'Lines' would be entered in cell B11; the word 'Poles' would be entered in cell B12; the word 'Transformers' would be entered in cell

For example, one expansion project could use lines and poles. In this case the word 'Lines' would be entered in cell B11 and the word 'Poles' would be entered in cell B12. Cells B13 to B20 would be left blank.

In another expansion project, lines, poles, transformers and hardware could be used. In this case, the word 'Lines' would be entered in cell B11; the word 'Poles' would be entered in cell B12; the word 'Transformers' would be entered in cell B13 and the word 'Hardware' would be entered in cell B14. Cells B15 and B20 would be left blank.

Step 3: Naming Conventions for Rate Classes

In cells B27 to B36 enter the names of rate classes that apply to the customers to be connected by the expansion project. Ten rate classes are allowed but not all ten need to be used.

For example, the expansion project could connect customers that are in the residential and general service less than 50 kW rate classes. In this case the word 'Residential' would be entered in cell B27 and 'General Service < 50 kW' would be typed in cell B28. Cells B29 to B36 would be left blank.

In another case, the expansion project could connect customers that are in the residential, general service less than 50 kW, general service greater than 50 kW and general service greater than 50 kW time-of-use rate classes. In this case the word 'Residential' would be entered in cell B27; 'General Service < 50 kW' would be typed in cell B28; 'General Service > 50 kW' would be entered in cell B29 and 'General Service > 50 kW (TOU)' would be typed in cell B30. Cells B31 to B36 would be left blank.

Step 4: Distribution Rates

In cells B45 to D106, the user has the option to input different distribution rates for each year of the customer connection horizon for each defined rate class. If distribution rates are not entered for a particular year the model will assume the distribution rates of the previous year should be used. It is recommended the distribution rates used in the analysis should exclude the recovery of transition and Z factor costs since the rate adjustment associated with these costs is designed to be collected from existing customers only.

Step 5: Monthly Consumption

In cells B113 to C174 enter the assumption for average monthly consumption that applies to the distribution volumetric rate for each defined rate class. This assumption could be based on historical usage or any other supportable source consumption levels for each year of the customer connection horizon for each defined rate class. If a consumption level is not entered for a particular year the model will assume the consumption level of the previous year should be used.

Step 6: Vacancy Rate

In order to address the risk of permanent disconnection before the 25 years are completed, the model has been designed to apply a vacancy rate to the evaluation. The vacancy rate will reduce the level of revenue collected to support

consumption levels for each year of the customer connection horizon for each defined rate class. If a consumption level is not entered for a particular year the model will assume the consumption level of the previous year should be used.

Step 6: Vacancy Rate

In order to address the risk of permanent disconnection before the 25 years are completed, the model has been designed to apply a vacancy rate to the evaluation. The vacancy rate will reduce the level of revenue collected to support the expansion. The vacancy rate for each defined rate class will be entered in cells D113 to D174 of the model. The local municipal office should be able to provide vacancy rates for various customer types. If a vacancy rate is not entered for a particular year the model will assume the vacancy rate of the previous year should be used.

Step 7: Actual Customer Connections

In cells B179 to F188 the actual number of customers connected are entered by year and by defined rate class. Data entered in these cells should represent actually customers connected. The user should refer to the discussion under section "2. Summary Worksheet" to better understand how actual customer connections should be entered.

However, in the process of preparing an 'Offer to Connect' the user may need to estimate the level of expansion that can be supported by the payment of distribution rates from the estimated new connections. In this case, the estimated connections would be entered in cells B179 to F188 for the appropriate rate class and year.

Step 8: Actual Capital Costs

In cells B196 to F206, enter the actual full (i.e. direct and indirect) capital cost by defined category and year. Please note that 'Land' is a fixed capital category since it is handled differently than the other capital items. It is the only capital cost to attract municipal tax. In addition, land does not depreciation for accounting or income tax purposes. If you do not have land in the project then leave the input field blank.

Step 9: Incremental Operations and Maintenance (O&M) Expense

In cells B214 to F216 the user has the option to enter incremental O&M expense for the expansion project on a customer, kWh or kW basis for each year of the customer connection horizon. If the increment O & M expense information is not

It is recommended the best available information be used to determine the data to be entered in the incremental O&M categories. One approach to determine reasonable numbers would be to review the historical O&M expense for the LDC. From the historical amount, determine the amount that relates to serving customers and the amount associated with serving load (i.e. kWhs or kWs). For the amount that relates to customers, divide this amount by the total number of customers served in the LDC and use this as the "Annual Incremental O&M Cost per Customer".

For the historical O &M expense associated with load allocate this amount to each rate class on a kWh basis based on the total kWhs sold in each rate class. For those rate classes that have a distribution volumetric rate that is charged on a

to be entered in the incremental O&M categories. One approach to determine reasonable numbers would be to review the historical O&M expense for the LDC. From the historical amount, determine the amount that relates to serving customers and the amount associated with serving load (i.e. kWhs or kWs). For the amount that relates to customers, divide this amount by the total number of customers served in the LDC and use this as the "Annual Incremental O&M Cost per Customer".

For the historical O &M expense associated with load allocate this amount to each rate class on a kWh basis based on the total kWhs sold in each rate class. For those rate classes that have a distribution volumetric rate that is charged on a kWh basis, add together the allocated O&M expense for these classes and divide by the total kWhs sold. Enter the result as the "Annual Incremental O&M Cost per kWh". For those rate classes that have a distribution volumetric rate that is charged on a kW basis, add together the allocated O & M expense for these classes and divide by the total kWs sold. Enter the result as the "Annual Incremental O&M Cost per kW".

Step 10: Depreciation Rates

In cells B223 to B232 enter the straight-line depreciation rates for each defined capital category. A rate of 4% is entered as 4.

Step 11: Capital Cost Allowance

In cells C223 to C232 enter the declining balance capital cost allowance rates for each defined capital category used in the calculation of Payment in Lieu of taxes (PILs). A rate of 4% is entered as 4.

Step 12: Debt Ratio

In cells B240 to F240 enter the LDC debt ratio assumed in the distribution rates provided under step 4. A debt ratio of 50% is entered as 50. The user has the option to input a different debt ratio for each year of the customer connection horizon. If debt ratio is not entered for a particular year the model will assume the debt ratio of the previous year should be used.

Step 13: Rates of Return

In cells B242 to F242 enter the deemed debt rate of return assumed in the distribution rates. A debt rate of return of 7.25% is entered as 7.25.

In cells B243 to F243 enter the deemed equity rate of return assumed in the

If a debt or equity rate is not entered for a particular year the model will assume the debt or equity rate of the previous year should be used.

Step 14: Tax Rates

In cells B246 to F246 enter the municipal tax rate assumed in the calculation of property taxes. A municipal tax rate of 2% is entered as 2.

In cells B248 to F248 enter the capital tax rate, both Federal and Provincial, assumed in the calculation of PILs. A capital tax rate of 0.5250% is entered as 0.5250.

In cells B250 to F250 enter the income tax rate assumed in the calculation of PILs. An income tax rate of 38.62% is entered as 38.62.

Step 14: Tax Rates

In cells B246 to F246 enter the municipal tax rate assumed in the calculation of property taxes. A municipal tax rate of 2% is entered as 2.

In cells B248 to F248 enter the capital tax rate, both Federal and Provincial, assumed in the calculation of PILs. A capital tax rate of 0.5250% is entered as 0.5250.

In cells B250 to F250 enter the income tax rate assumed in the calculation of PILs. An income tax rate of 38.62% is entered as 38.62.

If a tax rate is not entered for a particular year the model will assume the tax rate of the previous year.

1. Summary Worksheet

For expansion projects that have new connections in multiple years, the following example will be used to explain the instructions.

Example:

Year	Actual Connections
1	200
2	300
3	100

The model has been design to determine the investment a LDC can provide to a customer or developer on a year-to-year basis once the actual new connections are known.

First Year

In the first year of the project, the user would only enter new connection information in the first year column (i.e. cells B179 to B188) of the 'Input' sheet of the model. Using the example above, the first year new connections would be 200. With this information the model will calculate the required investment for the LDC for the first year. The annual investment is shown in cell D28 of the 'Summary' sheet.

'Hard code' the same number into cell E28. Then the user would change the reference in cell E29 to be equal to cell D23. This needs to be done since the model calculates the accumulated LDC investment up to the year being reviewed. The investment in each year, after the first year, will be determined by subtracting the accumulated investments of the previous year from the accumulated investments of the year in review.

Second Year

In the second year of the project, the user would enter 300 actual new connections in second year column (i.e. cells C179 to C188) of the 'Inputs' sheet. With this information the model will calculate the accumulated LDC investments for the first and second year. The accumulated investments will be outlined in cell E29 of the 'Summary' sheet.

The investment for the second year will be the difference between cell E29 and E28. This difference is provided in cell D29. When the user is satisfied with the

Second Year

In the second year of the project, the user would enter 300 actual new connections in second year column (i.e. cells C179 to C188) of the 'Inputs' sheet. With this information the model will calculate the accumulated LDC investments for the first and second year. The accumulated investments will be outlined in cell E29 of the 'Summary' sheet.

The investment for the second year will be the difference between cell E29 and E28. This difference is provided in cell D29. When the user is satisfied with the analysis in the second year, they would take the value in cell E29 and manually overwrite or 'hard code' the same number into cell E29. Then the user would change the reference in cell E30 to be equal to cell D23.

Third Year

In the third year of the project, the user would enter 100 actual new connections in the third year column (i.e. cells D179 to D188) of the 'Inputs' sheet. With this information the model will calculate the accumulated LDC investments for the first, second and third year. The accumulated investments will be provided in cell E30 of the 'Summary' sheet. The LDC investment for the third year will be the difference between cell E30 and E29. This difference is provided in cell D30.

Under this example, the economic evaluation for this project would be complete and the user would save and store the results of capital investment model for future reference. However, if the project had more than 3 years the process outlined above would be extended for the additional years.

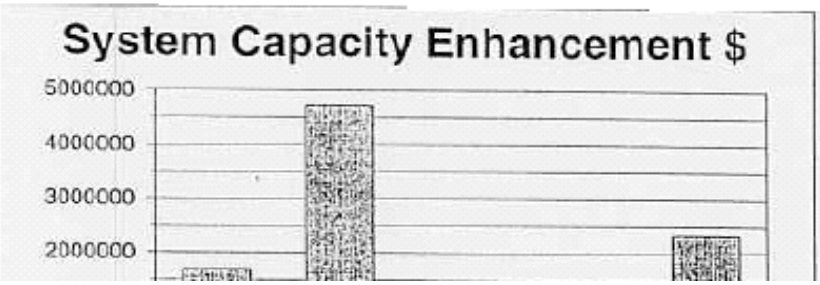
If you have any questions regarding these instructions please call Bruce Bacon at Econalysis Consulting Service at (416) 348-0640 ext 32 or (416) 825-4144 (cell).

Proposal for Including Up-Stream Capital Costs in Financial Evaluations of Expansio

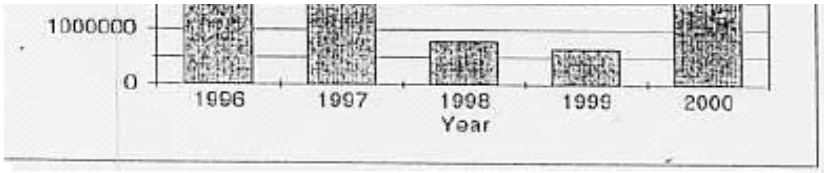
	1996	1997	1998	1999	2000
System Capacity Enhancement $	1680000	4722000	787000	632000	2361000
kW of New Customer Load	15000	22500	17500	12400	23000
$ / kW	$112.00	$209.87	$44.97	$50.97	$102.65

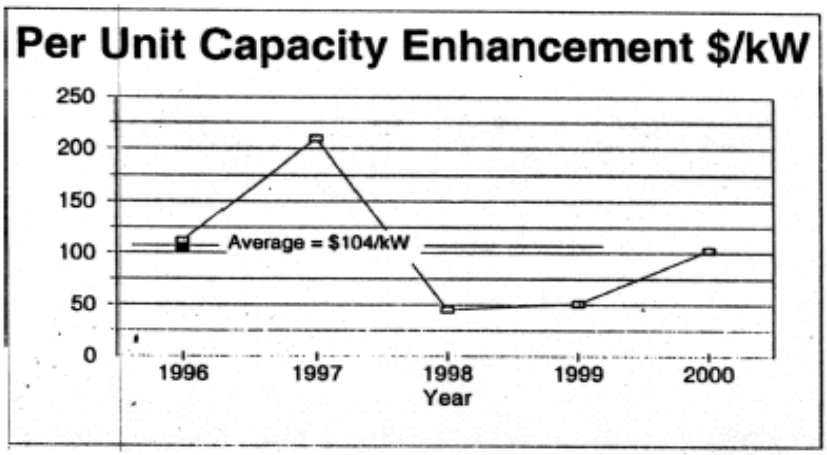
Average $/kW = $104.09

Board S
For Dis



Due to the typical "lumpines
timing of system capacity e
there is a risk of over or unc
to specific expansion projec
it is recommended that thes
on an appropriate allocatior
distributor's annual system
costs. This could be accom
each of the past five years,
enhancement dollars) to (k)





enhancement dollars) to (K
The five-year average capa
would then be used to dete
amount of up-stream capita
evaluation based on the siz
proposed for the expansion

In the example shown, the
enhancement cost equals $
value would be used for all
2001. The amount of up-str
financial evaluation would b
amount of load involved in t

In 2002, the average syster
cost would change to a nev
capacity expenditures from

ns

taff Proposal
cussion Only

ss" associated with the
nhancement expenditures,
der allocating these costs
ts. To avoid this problem,
e cost estimates be based
of a rolling average of the
capacity enhancement
plished by determining, for
the ratio of (capacity

w of new customer load).
city enhancement $/kW
rmine the appropriate
l to include in the financial
e (kW) of the new load
.

average system capacity
$104/kW. This per-unit
expansion projects in
eam capital included in the
e dependent on the
he expansion.

n capacity enhancement
v value based on system
1997 - 2001.

Erie Thames Economic Evaluation Model

Inputs For Project Sifton Subdivision

First Year of Analysis 2010

Naming Conventions

Capital Classes

Capital Class 1	Buildings and Fixtures
Capital Class 2	Transformer Equipment
Capital Class 3	Poles Towers and Fixtures
Capital Class 4	O/H Conductors
Capital Class 5	U/G Conduit
Capital Class 6	U/G Conductors
Capital Class 7	Line transformers
Capital Class 8	Services
Capital Class 9	Unmetered Load
Capital Class 10	

Please Note: As outlined below Land is a 'hard coded' capital category because it is the only capital cost to attract municipal tax.

Rate Classes

Rate Class 1	Residential
Rate Class 2	GS< 50
Rate Class 3	GS> 50
Rate Class 4	Intermediate
Rate Class 5	Large Use
Rate Class 6	Sentinel Light
Rate Class 7	Street Light
Rate Class 8	Unmetered Load
Rate Class 9	
Rate Class 10	

Revenue Forecasting Inputs

Distribution Rates Excluding Transition or Z Factor Cost Recovery

2010	Monthly Service Charge ($/Customer)	Volumetric Charge ($/kWh)	Volumetric Charge ($/kW)
Residential	$14.19	$0.0144	
GS< 50	$23.80	$0.0120	
GS> 50	$349.36		$1.1760
Intermediate	$6,397.14		$1.2349
Large Use	$12,978.09		$0.5752
Sentinel Light	$1.50		$6.3758
Street Light	$0.48		$1.0645
Unmetered Load	$5.00	$0.0300	
0			
0			

2011	Monthly Service Charge ($/Customer)	Volumetric Charge ($/kWh)	Volumetric Charge ($/kW)
Residential	$14.19	$0.0144	
GS< 50	$23.80	$0.0120	
GS> 50	$349.36		$1.1760
Intermediate	$6,397.14		$1.2349
Large Use	$12,978.09		$0.5752
Sentinel Light	$1.50		$6.3758
Street Light	$0.48		$1.0645
Unmetered Load	$5.00	$0.0300	
0			
0			

2012	Monthly Service Charge ($/Customer)	Volumetric Charge ($/kWh)	Volumetric Charge ($/kW)
Residential	$14.19	$0.0144	
GS< 50	$23.80	$0.0120	
GS> 50	$349.36		$1.1760
Intermediate	$6,397.14		$1.2349
Large Use	$12,978.09		$0.5752
Sentinel Light	$1.50		$6.3758
Street Light	$0.48		$1.0645
Unmetered Load	$5.00	$0.0300	
0			
0			

2013	Monthly Service Charge ($/Customer)	Volumetric Charge ($/kWh)	Volumetric Charge ($/kW)
Residential	$14.19	$0.0144	

GS< 50	$23.80	$0.0120	
GS> 50	$349.36		$1.1760
Intermediate	$6,397.14		$1.2349
Large Use	$12,978.09		$0.5752
Sentinel Light	$1.50		$6.3758
Street Light	$0.48		$1.0645
Unmetered Load	$5.00	$0.0300	
0			
0			

2014	Monthly Service Charge ($/Customer)	Volumetric Charge ($/kWh)	($/kW)
Residential			
GS< 50			
GS> 50			
Intermediate			
Large Use			
Sentinel Light			
Street Light			
Unmetered Load			
0			
0			

Monthly Consumption and Vacancy Rate Assumptions

2010	Average Monthly Consumption (kWh)	(kW)	Vacancy Rate %
Residential	750		0
GS< 50			
GS> 50			
Intermediate			
Large Use			
Sentinel Light			
Street Light			
Unmetered Load			
0			
0			

2011	Average Monthly Consumption (kWh)	(kW)	Vacancy Rate %
Residential	750		
GS< 50			
GS> 50			
Intermediate			
Large Use			
Sentinel Light			
Street Light			
Unmetered Load			
0			
0			

2012	Average Monthly Consumption (kWh)	(kW)	Vacancy Rate %
Residential	750		
GS< 50			
GS> 50			
Intermediate			
Large Use			
Sentinel Light			
Street Light			
Unmetered Load			
0			
0			

2013	Average Monthly Consumption (kWh)	(kW)	Vacancy Rate %
Residential	750		
GS< 50			
GS> 50			
Intermediate			
Large Use			
Sentinel Light			
Street Light			
Unmetered Load			
0			
0			

2014	Average Monthly Consumption (kWh)	(kW)	Vacancy Rate %
Residential	750		
GS< 50			
GS> 50			

Intermediate	
Large Use	
Sentinel Light	
Street Light	
Unmetered Load	
0	
0	

Actual Customer Connection

	2010	2011	2012	2013	2014
Residential	11	11	11	11	10
GS< 50					
GS> 50					
Intermediate					
Large Use					
Sentinel Light					
Street Light					
Unmetered Load					
0					
0					
Total	11	11	11	11	10

Capital Cost Inputs

Actual Capital Costs

	2010	2011	2012	2013	2014
Buildings and Fixtures	$222,816				
Transformer Equipment					
Poles Towers and Fixtures					
O/H Conductors					
U/G Conduit					
U/G Conductors					
Line transformers					
Services					
Unmetered Load					
0					
Land					
Total	$222,816	$0	$0	$0	$0

Please Note: Land is a fixed capital category because it is the only capital cost to attract municipal tax
In addition, Land does not depreciation for accounting or income tax purposes. If you do not have Land in the project then leave the input field blank.

	2010	2011	2012	2013	2014
Annual O&M Cost per Customer	$113.04	$113.04	$113.04	$113.04	$113.04
Annual O&M Cost per kWh					
Annual O&M Cost per kW					
Upstream Costs per Customer					

Financial Assumptions

	Depreciation Rates %	Capital Cost Allowance Rates %
Buildings and Fixtures	4	4
Transformer Equipment	4	4
Poles Towers and Fixtures	4	4
O/H Conductors	4	4
U/G Conduit	4	4
U/G Conductors	4	4
Line transformers	4	4
Services	4	4
Unmetered Load	4	4
0		
Land		

Please Note: Land will not have a depreciation or CCA rate applied to it because it is a non depreciating asset. However, provision for a capital overhead rate on Land has been provided if required for evaluation purposes

	2010	2011	2012	2013	2014
LDC Debt Ratio (%)	60	60	60	60	60
Debt Rate (%)	6.15	6.15	6.15	6.15	6.15
Equity Rate (%)	8.15	8.15	8.15	8.15	8.15

Erie Thames Economic Evaluation Model

Summary of Results For Sifton Subdivision

Capital Costs	Total Expansion Cost	%	LDC Investment
Cost of Electrical Installation	$222,816.43	100%	$81,636
Total	$222,816.43	100%	$81,636

LDC Capital Investment $81,636

LDC Record of Investments

	New Connections	Annual Investment	Accumulated Investment		***Price Per Lot Paid by Powerlines***
2010	11	$19,385	$19,385.00	**2010**	$1,762.27
2011	11	$17,745	$17,745.00	**2011**	$1,613.18
2012	11	$16,478	$16,478.00	**2012**	$1,498.00
2013	11	$15,239	$15,239.00	**2013**	$1,385.36
2014	10	$12,789	$12,788.79	**2014**	$1,278.88
Total	54	$81,636			

Customer Capital Contribution

$141,181

Adjustment For Capacity Enhancements (Upstream) Costs

	Annual Investment	Upstream Costs	Due to Customer
2010	$19,385	$0	$19,385
2011	$17,745	$0	$17,745
2012	$16,478	$0	$16,478
2013	$15,239	$0	$15,239
2014	$12,789	$0	$12,789

Erie Thames Economic Evaluation Model

Distribution Revenue Model

Rate Class: Residential

	Monthly Service Charge	Volumetric Charge	
	($/Customer)	($/kWh)	($/kW)
2010	$14.19	$0.0144	$0.0000
2011	$14.19	$0.0144	$0.0000
2012	$14.19	$0.0144	$0.0000
2013	$14.19	$0.0144	$0.0000
2014	$14.19	$0.0144	$0.0000

	Average Monthly Consumption		Vacancy Rate
	(kWh)	(kW)	%
2010	750	0	0
2011	750	0	0
2012	750	0	0
2013	750	0	0
2014	750	0	0

	Annual Connections	Accum. Connections	Monthly Energy (kWh)	Monthly Demand (kW)	Annual Service Charge Revenue	Annual Energy Charge Revenue	Annual Demand Charge Revenue	Total Revenue	Vacancy Rate	Total Revenue Adjusted for Vacancy
2010	11	11	8,250	0	$1,873	$1,426	$0	$3,299	0%	$3,299
2011	11	22	16,500	0	$3,746	$2,851	$0	$6,597	0%	$6,597
2012	11	33	24,750	0	$5,619	$4,277	$0	$9,896	0%	$9,896
2013	11	44	33,000	0	$7,492	$5,702	$0	$13,195	0%	$13,195
2014	10	54	40,500	0	$9,195	$6,998	$0	$16,194	0%	$16,194

Rate Class: GS< 50

	Monthly Service Charge	Volumetric Charge	
	($/Customer)	($/kWh)	($/kW)
2010	$23.80	$0.0120	$0.0000
2011	$23.80	$0.0120	$0.0000
2012	$23.80	$0.0120	$0.0000
2013	$23.80	$0.0120	$0.0000
2014	$23.80	$0.0120	$0.0000

	Average Monthly Consumption		Vacancy Rate
	(kWh)	(kW)	%
2010	0	0	0

2011	0	0	0
2012	0	0	0
2013	0	0	0
2014	0	0	0

	Annual Connections	Accum. Connections	Monthly Energy (kWh)	Monthly Demand (kW)	Annual Service Charge Revenue	Annual Energy Charge Revenue	Annual Demand Charge Revenue	Total Revenue	Vacancy Rate	Total Revenue Adjusted for Vacancy
2010	0	0	0	0	$0	$0	$0	$0	0%	$0
2011	0	0	0	0	$0	$0	$0	$0	0%	$0
2012	0	0	0	0	$0	$0	$0	$0	0%	$0
2013	0	0	0	0	$0	$0	$0	$0	0%	$0
2014	0	0	0	0	$0	$0	$0	$0	0%	$0

Rate Class: GS> 50

	Monthly Service Charge ($/Customer)	Volumetric Charge ($/kWh)	Volumetric Charge ($/kW)
2010	$349.36	$0.00	$1.18
2011	$349.36	$0.00	$1.18
2012	$349.36	$0.00	$1.18
2013	$349.36	$0.00	$1.18
2014	$349.36	$0.00	$1.18

	Average Monthly Consumption (kWh)	Average Monthly Consumption (kW)	Vacancy Rate %
2010	0	0	0
2011	0	0	0
2012	0	0	0
2013	0	0	0
2014	0	0	0

	Annual Connections	Accum. Connections	Monthly Energy (kWh)	Monthly Demand (kW)	Annual Service Charge Revenue	Annual Energy Charge Revenue	Annual Demand Charge Revenue	Total Revenue	Vacancy Rate	Total Revenue Adjusted for Vacancy
2010	0	0	0	0	$0	$0	$0	$0	0%	$0
2011	0	0	0	0	$0	$0	$0	$0	0%	$0
2012	0	0	0	0	$0	$0	$0	$0	0%	$0
2013	0	0	0	0	$0	$0	$0	$0	0%	$0
2014	0	0	0	0	$0	$0	$0	$0	0%	$0

Rate Class: Intermediate

	Monthly Service Charge	Volumetric Charge	
	($/Customer)	($/kWh)	($/kW)
2010	$6,397.14	$0.00	$1.23
2011	$6,397.14	$0.00	$1.23
2012	$6,397.14	$0.00	$1.23
2013	$6,397.14	$0.00	$1.23
2014	$6,397.14	$0.00	$1.23

	Average Monthly Consumption		Vacancy Rate
	(kWh)	(kW)	%
2010	0	0	0
2011	0	0	0
2012	0	0	0
2013	0	0	0
2014	0	0	0

	Annual Connections	Accum. Connections	Monthly Energy (kWh)	Monthly Demand (kW)	Annual Service Charge Revenue	Annual Energy Charge Revenue	Annual Demand Charge Revenue	Total Revenue	Vacancy Rate	Total Revenue Adjusted for Vacancy
2010	0	0	0	0	$0	$0	$0	$0	0%	$0
2011	0	0	0	0	$0	$0	$0	$0	0%	$0
2012	0	0	0	0	$0	$0	$0	$0	0%	$0
2013	0	0	0	0	$0	$0	$0	$0	0%	$0
2014	0	0	0	0	$0	$0	$0	$0	0%	$0

Rate Class: Large Use

	Monthly Service Charge	Volumetric Charge	
	($/Customer)	($/kWh)	($/kW)
2010	$12,978.09	$0.00	$0.58
2011	$12,978.09	$0.00	$0.58
2012	$12,978.09	$0.00	$0.58
2013	$12,978.09	$0.00	$0.58
2014	$12,978.09	$0.00	$0.58

	Average Monthly Consumption		Vacancy Rate
	(kWh)	(kW)	%
2010	0	0	0
2011	0	0	0
2012	0	0	0
2013	0	0	0
2014	0	0	0

					Annual	Annual	Annual			Total

	Annual Connections	Accum. Connections	Monthly Energy (kWh)	Monthly Demand (kW)	Service Charge Revenue	Energy Charge Revenue	Demand Charge Revenue	Total Revenue	Vacancy Rate	Revenue Adjusted for Vacancy
2010	0	0	0	0	$0	$0	$0	$0	0%	$0
2011	0	0	0	0	$0	$0	$0	$0	0%	$0
2012	0	0	0	0	$0	$0	$0	$0	0%	$0
2013	0	0	0	0	$0	$0	$0	$0	0%	$0
2014	0	0	0	0	$0	$0	$0	$0	0%	$0

Rate Class: Sentinel Light

	Monthly Service Charge	Volumetric Charge	
	($/Customer)	($/kWh)	($/kW)
2010	$1.50	$0.00	$6.38
2011	$1.50	$0.00	$6.38
2012	$1.50	$0.00	$6.38
2013	$1.50	$0.00	$6.38
2014	$1.50	$0.00	$6.38

	Average Monthly Consumption		Vacancy Rate
	(kWh)	(kW)	%
2010	0	0	0
2011	0	0	0
2012	0	0	0
2013	0	0	0
2014	0	0	0

	Annual Connections	Accum. Connections	Monthly Energy (kWh)	Monthly Demand (kW)	Annual Service Charge Revenue	Annual Energy Charge Revenue	Annual Demand Charge Revenue	Total Revenue	Vacancy Rate	Total Revenue Adjusted for Vacancy
2010	0	0	0	0	$0	$0	$0	$0	0%	$0
2011	0	0	0	0	$0	$0	$0	$0	0%	$0
2012	0	0	0	0	$0	$0	$0	$0	0%	$0
2013	0	0	0	0	$0	$0	$0	$0	0%	$0
2014	0	0	0	0	$0	$0	$0	$0	0%	$0

Rate Class: Street Light

	Monthly Service Charge	Volumetric Charge	
	($/Customer)	($/kWh)	($/kW)
2010	$0.48	$0.00	$1.06
2011	$0.48	$0.00	$1.06
2012	$0.48	$0.00	$1.06

2013	$0.48	$0.00	$1.06
2014	$0.48	$0.00	$1.06

	Average Monthly Consumption		Vacancy Rate
	(kWh)	(kW)	%
2010	0	0	0
2011	0	0	0
2012	0	0	0
2013	0	0	0
2014	0	0	0

	Annual Connections	Accum. Connections	Monthly Energy (kWh)	Monthly Demand (kW)	Annual Service Charge Revenue	Annual Energy Charge Revenue	Annual Demand Charge Revenue	Total Revenue	Vacancy Rate	Total Revenue Adjusted for Vacancy
2010	0	0	0	0	$0	$0	$0	$0	0%	$0
2011	0	0	0	0	$0	$0	$0	$0	0%	$0
2012	0	0	0	0	$0	$0	$0	$0	0%	$0
2013	0	0	0	0	$0	$0	$0	$0	0%	$0
2014	0	0	0	0	$0	$0	$0	$0	0%	$0

Rate Class: Unmetered Load

	Monthly Service Charge	Volumetric Charge	
	($/Customer)	($/kWh)	($/kW)
2010	$5.00	$0.03	$0.00
2011	$5.00	$0.03	$0.00
2012	$5.00	$0.03	$0.00
2013	$5.00	$0.03	$0.00
2014	$5.00	$0.03	$0.00

	Average Monthly Consumption		Vacancy Rate
	(kWh)	(kW)	%
2010	0	0	0
2011	0	0	0
2012	0	0	0
2013	0	0	0
2014	0	0	0

	Annual Connections	Accum. Connections	Monthly Energy (kWh)	Monthly Demand (kW)	Annual Service Charge Revenue	Annual Energy Charge Revenue	Annual Demand Charge Revenue	Total Revenue	Vacancy Rate	Total Revenue Adjusted for Vacancy
2010	0	0	0	0	$0	$0	$0	$0	0%	$0
2011	0	0	0	0	$0	$0	$0	$0	0%	$0

2012	0	0	0	0	$0	$0	$0	$0	0%	$0
2013	0	0	0	0	$0	$0	$0	$0	0%	$0
2014	0	0	0	0	$0	$0	$0	$0	0%	$0

Rate Class: 0

	Monthly Service Charge	Volumetric Charge	
	($/Customer)	($/kWh)	($/kW)
2010	$0.00	$0.00	$0.00
2011	$0.00	$0.00	$0.00
2012	$0.00	$0.00	$0.00
2013	$0.00	$0.00	$0.00
2014	$0.00	$0.00	$0.00

	Average Monthly Consumption		Vacancy Rate
	(kWh)	(kW)	%
2010	0	0	0
2011	0	0	0
2012	0	0	0
2013	0	0	0
2014	0	0	0

	Annual Connections	Accum. Connections	Monthly Energy (kWh)	Monthly Demand (kW)	Annual Service Charge Revenue	Annual Energy Charge Revenue	Annual Demand Charge Revenue	Total Revenue	Vacancy Rate	Total Revenue Adjusted for Vacancy
2010	0	0	0	0	$0	$0	$0	$0	0%	$0
2011	0	0	0	0	$0	$0	$0	$0	0%	$0
2012	0	0	0	0	$0	$0	$0	$0	0%	$0
2013	0	0	0	0	$0	$0	$0	$0	0%	$0
2014	0	0	0	0	$0	$0	$0	$0	0%	$0

Rate Class: 0

	Monthly Service Charge	Volumetric Charge	
	($/Customer)	($/kWh)	($/kW)
2010	$0.00	$0.00	$0.00
2011	$0.00	$0.00	$0.00
2012	$0.00	$0.00	$0.00
2013	$0.00	$0.00	$0.00
2014	$0.00	$0.00	$0.00

	Average Monthly Consumption		Vacancy Rate
	(kWh)	(kW)	%

2010	0	0	0
2011	0	0	0
2012	0	0	0
2013	0	0	0
2014	0	0	0

	Annual Connections	Accum. Connections	Monthly Energy (kWh)	Monthly Demand (kW)	Annual Service Charge Revenue	Annual Energy Charge Revenue	Annual Demand Charge Revenue	Total Revenue	Vacancy Rate	Total Revenue Adjusted for Vacancy
2010	0	0	0	0	$0	$0	$0	$0	0%	$0
2011	0	0	0	0	$0	$0	$0	$0	0%	$0
2012	0	0	0	0	$0	$0	$0	$0	0%	$0
2013	0	0	0	0	$0	$0	$0	$0	0%	$0
2014	0	0	0	0	$0	$0	$0	$0	0%	$0

Summary

	Residential	GS< 50	GS> 50	Intermediate	Large Use	Sentinel Light	Street Light	nmetered Lo	0	0	Total	Annual
Revenue												
2010	$3,299	$0	$0	$0	$0	$0	$0	$0	$0	$0	$3,299	
2011	$6,597	$0	$0	$0	$0	$0	$0	$0	$0	$0	$6,597	
2012	$9,896	$0	$0	$0	$0	$0	$0	$0	$0	$0	$9,896	
2013	$13,195	$0	$0	$0	$0	$0	$0	$0	$0	$0	$13,195	
2014	$16,194	$0	$0	$0	$0	$0	$0	$0	$0	$0	$16,194	
Accumulated Connections												
2010	11	0	0	0	0	0	0	0	0	0	11	
2011	22	0	0	0	0	0	0	0	0	0	22	
2012	33	0	0	0	0	0	0	0	0	0	33	
2013	44	0	0	0	0	0	0	0	0	0	44	
2014	54	0	0	0	0	0	0	0	0	0	54	
Accumulated kWh												
2010	8,250	0	0	0	0	0	0	0	0	0	8,250	99,000
2011	16,500	0	0	0	0	0	0	0	0	0	16,500	198,000
2012	24,750	0	0	0	0	0	0	0	0	0	24,750	297,000
2013	33,000	0	0	0	0	0	0	0	0	0	33,000	396,000
2014	40,500	0	0	0	0	0	0	0	0	0	40,500	486,000
Accumulated kW												
2010	0	0	0	0	0	0	0	0	0	0	0	0
2011	0	0	0	0	0	0	0	0	0	0	0	0
2012	0	0	0	0	0	0	0	0	0	0	0	0
2013	0	0	0	0	0	0	0	0	0	0	0	0
2014	0	0	0	0	0	0	0	0	0	0	0	0

Erie Thames Economic Evaluation Model

O & M Calculation

Year	O&M per Customer	New Customers	Accum O&M on per Customer Basis	O&M per kWh	New Annual kWhs	Accum O&M on per kWh Basis	O&M per kW	New Annual kW	Accum O&M on per kW Basis	Total O&M
2010	$113.04	11	$1,243	$0.00	99,000	$0	$0.00	0	$0	$1,243
2011	$113.04	11	$2,487	$0.00	99,000	$0	$0.00	0	$0	$2,487
2012	$113.04	11	$3,730	$0.00	99,000	$0	$0.00	0	$0	$3,730
2013	$113.04	11	$4,974	$0.00	99,000	$0	$0.00	0	$0	$4,974
2014	$113.04	10	$6,104	$0.00	90,000	$0	$0.00	0	$0	$6,104

Erie Thames Economic Evaluation Model

Municipal Tax Calculations

	Land Capital Costs	Accum Land Costs	Municipal Tax Rate	Municipal Taxes
2010	$0	$0	0%	$0
2011	$0	$0	0%	$0
2012	$0	$0	0%	$0
2013	$0	$0	0%	$0
2014	$0	$0	0%	$0

Erie Thames Economic Evaluation Model

Capital Cost Allowance and Capital Tax Calculation

Total Capital Costs

	Cost of Electrical Installation			Transformer Equipment			Poles Towers and Fixtures			O/H Conductors		
2010	$19,385			$0			$0			$0		
2011	$17,745			$0			$0			$0		
2012	$16,478			$0			$0			$0		
2013	$15,239			$0			$0			$0		
2014	$12,789			$0			$0			$0		
	Opening UCC	CCA	Closing UCC	Opening UCC	CCA	Closing UCC	Opening UCC	CCA	Closing UCC	Opening UCC	CCA	Closing UCC
2010	$19,385	$388	$18,997	$0	$0	$0	$0	$0	$0	$0	$0	$0
2011	$36,742	$1,115	$35,628	$0	$0	$0	$0	$0	$0	$0	$0	$0
2012	$52,106	$1,755	$50,351	$0	$0	$0	$0	$0	$0	$0	$0	$0
2013	$65,590	$2,319	$63,271	$0	$0	$0	$0	$0	$0	$0	$0	$0
2014	$76,060	$2,787	$73,273	$0	$0	$0	$0	$0	$0	$0	$0	$0
2015	$73,273	$2,931	$70,342	$0	$0	$0	$0	$0	$0	$0	$0	$0
2016	$70,342	$2,814	$67,529	$0	$0	$0	$0	$0	$0	$0	$0	$0
2017	$67,529	$2,701	$64,827	$0	$0	$0	$0	$0	$0	$0	$0	$0
2018	$64,827	$2,593	$62,234	$0	$0	$0	$0	$0	$0	$0	$0	$0
2019	$62,234	$2,489	$59,745	$0	$0	$0	$0	$0	$0	$0	$0	$0
2020	$59,745	$2,390	$57,355	$0	$0	$0	$0	$0	$0	$0	$0	$0
2021	$57,355	$2,294	$55,061	$0	$0	$0	$0	$0	$0	$0	$0	$0
2022	$55,061	$2,202	$52,859	$0	$0	$0	$0	$0	$0	$0	$0	$0
2023	$52,859	$2,114	$50,744	$0	$0	$0	$0	$0	$0	$0	$0	$0
2024	$50,744	$2,030	$48,714	$0	$0	$0	$0	$0	$0	$0	$0	$0
2025	$48,714	$1,949	$46,766	$0	$0	$0	$0	$0	$0	$0	$0	$0
2026	$46,766	$1,871	$44,895	$0	$0	$0	$0	$0	$0	$0	$0	$0
2027	$44,895	$1,796	$43,099	$0	$0	$0	$0	$0	$0	$0	$0	$0
2028	$43,099	$1,724	$41,375	$0	$0	$0	$0	$0	$0	$0	$0	$0
2029	$41,375	$1,655	$39,720	$0	$0	$0	$0	$0	$0	$0	$0	$0
2030	$39,720	$1,589	$38,132	$0	$0	$0	$0	$0	$0	$0	$0	$0
2031	$38,132	$1,525	$36,606	$0	$0	$0	$0	$0	$0	$0	$0	$0
2032	$36,606	$1,464	$35,142	$0	$0	$0	$0	$0	$0	$0	$0	$0
2033	$35,142	$1,406	$33,736	$0	$0	$0	$0	$0	$0	$0	$0	$0
2034	$33,736	$1,349	$32,387	$0	$0	$0	$0	$0	$0	$0	$0	$0

U/G Conduit			U/G Conductors			Line transformers			Services			U
$0			$0			$0			$0			
$0			$0			$0			$0			
$0			$0			$0			$0			
$0			$0			$0			$0			
$0			$0			$0			$0			
Opening UCC	CCA	Closing UCC	Opening UCC	CCA	Closing UCC	Opening UCC	CCA	Closing UCC	Opening UCC	CCA	Closing UCC	
$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	

Unmetered Load			0								
$0			$0								
$0			$0								
$0			$0								
$0			$0								
$0			$0								
Opening UCC	CCA	Closing UCC	Opening UCC	CCA	Closing UCC	Total CCA	Total Closing UCC	Capital Cost of Land	Total Tax Base for Capital Tax	Capital Tax Rate	Capital Tax
$0	$0	$0	$0	$0	$0	$388	$18,997	$0	$18,997	3.0000%	$570
$0	$0	$0	$0	$0	$0	$1,115	$35,628	$0	$35,628	3.0000%	$1,069
$0	$0	$0	$0	$0	$0	$1,755	$50,351	$0	$50,351	3.0000%	$1,511
$0	$0	$0	$0	$0	$0	$2,319	$63,271	$0	$63,271	3.0000%	$1,898
$0	$0	$0	$0	$0	$0	$2,787	$73,273	$0	$73,273	3.0000%	$2,198
$0	$0	$0	$0	$0	$0	$2,931	$70,342	$0	$70,342	3.0000%	$2,110
$0	$0	$0	$0	$0	$0	$2,814	$67,529	$0	$67,529	3.0000%	$2,026
$0	$0	$0	$0	$0	$0	$2,701	$64,827	$0	$64,827	3.0000%	$1,945
$0	$0	$0	$0	$0	$0	$2,593	$62,234	$0	$62,234	3.0000%	$1,867
$0	$0	$0	$0	$0	$0	$2,489	$59,745	$0	$59,745	3.0000%	$1,792
$0	$0	$0	$0	$0	$0	$2,390	$57,355	$0	$57,355	3.0000%	$1,721
$0	$0	$0	$0	$0	$0	$2,294	$55,061	$0	$55,061	3.0000%	$1,652
$0	$0	$0	$0	$0	$0	$2,202	$52,859	$0	$52,859	3.0000%	$1,586
$0	$0	$0	$0	$0	$0	$2,114	$50,744	$0	$50,744	3.0000%	$1,522
$0	$0	$0	$0	$0	$0	$2,030	$48,714	$0	$48,714	3.0000%	$1,461
$0	$0	$0	$0	$0	$0	$1,949	$46,766	$0	$46,766	3.0000%	$1,403
$0	$0	$0	$0	$0	$0	$1,871	$44,895	$0	$44,895	3.0000%	$1,347
$0	$0	$0	$0	$0	$0	$1,796	$43,099	$0	$43,099	3.0000%	$1,293
$0	$0	$0	$0	$0	$0	$1,724	$41,375	$0	$41,375	3.0000%	$1,241
$0	$0	$0	$0	$0	$0	$1,655	$39,720	$0	$39,720	3.0000%	$1,192
$0	$0	$0	$0	$0	$0	$1,589	$38,132	$0	$38,132	3.0000%	$1,144
$0	$0	$0	$0	$0	$0	$1,525	$36,606	$0	$36,606	3.0000%	$1,098
$0	$0	$0	$0	$0	$0	$1,464	$35,142	$0	$35,142	3.0000%	$1,054
$0	$0	$0	$0	$0	$0	$1,406	$33,736	$0	$33,736	3.0000%	$1,012
$0	$0	$0	$0	$0	$0	$1,349	$32,387	$0	$32,387	3.0000%	$972

Erie Thames Economic Evaluation Model

Depreciation and Interest Calculations

Total Capital Costs

	Cost of Electrical Installation				Transformer Equipment				Poles Towers and Fixtures				O/H Conductors				U/G Conduit
2010	$19,385				$0				$0				$0				$0
2011	$17,745				$0				$0				$0				$0
2012	$16,478				$0				$0				$0				$0
2013	$15,239				$0				$0				$0				$0
2014	$12,789				$0				$0				$0				$0
	Gross Plant	Depreciation	Accumulated Depreciation	Net Plant	Gross Plant	Depreciation	Accumulated Depreciation	Net Plant	Gross Plant	Depreciation	Accumulated Depreciation	Net Plant	Gross Plant	Depreciation	Accumulated Depreciation	Net Plant	Gross Plant
2010	$19,385	$388	$388	$18,997	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
2011	$37,130	$1,130	$1,518	$35,612	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
2012	$53,608	$1,815	$3,333	$50,275	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
2013	$68,847	$2,449	$5,782	$63,065	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
2014	$81,636	$3,010	$8,792	$72,844	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
2015	$81,636	$3,265	$12,057	$69,579	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
2016	$81,636	$3,265	$15,322	$66,313	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
2017	$81,636	$3,265	$18,588	$63,048	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
2018	$81,636	$3,265	$21,853	$59,783	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
2019	$81,636	$3,265	$25,119	$56,517	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
2020	$81,636	$3,265	$28,384	$53,252	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
2021	$81,636	$3,265	$31,650	$49,986	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
2022	$81,636	$3,265	$34,915	$46,721	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
2023	$81,636	$3,265	$38,180	$43,455	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
2024	$81,636	$3,265	$41,446	$40,190	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
2025	$81,636	$3,265	$44,711	$36,925	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
2026	$81,636	$3,265	$47,977	$33,659	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
2027	$81,636	$3,265	$51,242	$30,394	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
2028	$81,636	$3,265	$54,508	$27,128	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
2029	$81,636	$3,265	$57,773	$23,863	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
2030	$81,636	$3,265	$61,038	$20,597	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
2031	$81,636	$3,265	$64,304	$17,332	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
2032	$81,636	$3,265	$67,569	$14,067	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
2033	$81,636	$3,265	$70,835	$10,801	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
2034	$81,636	$3,265	$74,100	$7,536	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0

			U/G Conductors				Line transformers				Services				Unmetered Load	
			$0				$0				$0				$0	
			$0				$0				$0				$0	
			$0				$0				$0				$0	
			$0				$0				$0				$0	
			$0				$0				$0				$0	
Depreciation	Accumulated Depreciation	Net Plant	Gross Plant	Depreciation	Accumulated Depreciation	Net Plant	Gross Plant	Depreciation	Accumulated Depreciation	Net Plant	Gross Plant	Depreciation	Accumulated Depreciation	Net Plant	Gross Plant	Depreciation
$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0

0

$0
$0
$0
$0
$0

Accumulated Depreciation	Net Plant	Gross Plant	Depreciation	Accumulated Depreciation	Net Plant	Gross Plant	Depreciation	Accumulated Depreciation	Net Plant Excl Land	Land	Net Plant Incl Land	Debt Ratio	Debt Component	Interest Rate	Interest Cost
$0	$0	$0	$0	$0	$0	$19,385	$388	$388	$18,997	$0	$18,997	60%	$11,398	6.15%	$701
$0	$0	$0	$0	$0	$0	$37,130	$1,130	$1,518	$35,612	$0	$35,612	60%	$21,367	6.15%	$1,314
$0	$0	$0	$0	$0	$0	$53,608	$1,815	$3,333	$50,275	$0	$50,275	60%	$30,165	6.15%	$1,855
$0	$0	$0	$0	$0	$0	$68,847	$2,449	$5,782	$63,065	$0	$63,065	60%	$37,839	6.15%	$2,327
$0	$0	$0	$0	$0	$0	$81,636	$3,010	$8,792	$72,844	$0	$72,844	60%	$43,707	6.15%	$2,688
$0	$0	$0	$0	$0	$0	$81,636	$3,265	$12,057	$69,579	$0	$69,579	60%	$41,747	6.15%	$2,567
$0	$0	$0	$0	$0	$0	$81,636	$3,265	$15,322	$66,313	$0	$66,313	60%	$39,788	6.15%	$2,447
$0	$0	$0	$0	$0	$0	$81,636	$3,265	$18,588	$63,048	$0	$63,048	60%	$37,829	6.15%	$2,326
$0	$0	$0	$0	$0	$0	$81,636	$3,265	$21,853	$59,783	$0	$59,783	60%	$35,870	6.15%	$2,206
$0	$0	$0	$0	$0	$0	$81,636	$3,265	$25,119	$56,517	$0	$56,517	60%	$33,910	6.15%	$2,085
$0	$0	$0	$0	$0	$0	$81,636	$3,265	$28,384	$53,252	$0	$53,252	60%	$31,951	6.15%	$1,965
$0	$0	$0	$0	$0	$0	$81,636	$3,265	$31,650	$49,986	$0	$49,986	60%	$29,992	6.15%	$1,844
$0	$0	$0	$0	$0	$0	$81,636	$3,265	$34,915	$46,721	$0	$46,721	60%	$28,032	6.15%	$1,724
$0	$0	$0	$0	$0	$0	$81,636	$3,265	$38,180	$43,455	$0	$43,455	60%	$26,073	6.15%	$1,604
$0	$0	$0	$0	$0	$0	$81,636	$3,265	$41,446	$40,190	$0	$40,190	60%	$24,114	6.15%	$1,483
$0	$0	$0	$0	$0	$0	$81,636	$3,265	$44,711	$36,925	$0	$36,925	60%	$22,155	6.15%	$1,363
$0	$0	$0	$0	$0	$0	$81,636	$3,265	$47,977	$33,659	$0	$33,659	60%	$20,195	6.15%	$1,242
$0	$0	$0	$0	$0	$0	$81,636	$3,265	$51,242	$30,394	$0	$30,394	60%	$18,236	6.15%	$1,122
$0	$0	$0	$0	$0	$0	$81,636	$3,265	$54,508	$27,128	$0	$27,128	60%	$16,277	6.15%	$1,001
$0	$0	$0	$0	$0	$0	$81,636	$3,265	$57,773	$23,863	$0	$23,863	60%	$14,318	6.15%	$881
$0	$0	$0	$0	$0	$0	$81,636	$3,265	$61,038	$20,597	$0	$20,597	60%	$12,358	6.15%	$760
$0	$0	$0	$0	$0	$0	$81,636	$3,265	$64,304	$17,332	$0	$17,332	60%	$10,399	6.15%	$640
$0	$0	$0	$0	$0	$0	$81,636	$3,265	$67,569	$14,067	$0	$14,067	60%	$8,440	6.15%	$519
$0	$0	$0	$0	$0	$0	$81,636	$3,265	$70,835	$10,801	$0	$10,801	60%	$6,481	6.15%	$399
$0	$0	$0	$0	$0	$0	$81,636	$3,265	$74,100	$7,536	$0	$7,536	60%	$4,521	6.15%	$278

Erie Thames Economic Evaluation Model

Income Tax Calculations

Year	Revenue	O&M	Municipal Tax	Capital Tax	Interest	CCA	Taxable Income	Tax Rate	Taxes Payable
2010	$3,299	$1,243	$0	$570	$701	$388	$397	32.00%	$127
2011	$6,597	$2,487	$0	$1,069	$1,314	$1,115	$613	32.00%	$196
2012	$9,896	$3,730	$0	$1,511	$1,855	$1,755	$1,045	32.00%	$335
2013	$13,195	$4,974	$0	$1,898	$2,327	$2,319	$1,677	32.00%	$537
2014	$16,194	$6,104	$0	$2,198	$2,688	$2,787	$2,417	32.00%	$773
2015	$16,194	$6,104	$0	$2,110	$2,567	$2,931	$2,481	32.00%	$794
2016	$16,194	$6,104	$0	$2,026	$2,447	$2,814	$2,803	32.00%	$897
2017	$16,194	$6,104	$0	$1,945	$2,326	$2,701	$3,117	32.00%	$997
2018	$16,194	$6,104	$0	$1,867	$2,206	$2,593	$3,423	32.00%	$1,095
2019	$16,194	$6,104	$0	$1,792	$2,085	$2,489	$3,722	32.00%	$1,191
2020	$16,194	$6,104	$0	$1,721	$1,965	$2,390	$4,014	32.00%	$1,284
2021	$16,194	$6,104	$0	$1,652	$1,844	$2,294	$4,299	32.00%	$1,376
2022	$16,194	$6,104	$0	$1,586	$1,724	$2,202	$4,577	32.00%	$1,465
2023	$16,194	$6,104	$0	$1,522	$1,604	$2,114	$4,849	32.00%	$1,552
2024	$16,194	$6,104	$0	$1,461	$1,483	$2,030	$5,115	32.00%	$1,637
2025	$16,194	$6,104	$0	$1,403	$1,363	$1,949	$5,375	32.00%	$1,720
2026	$16,194	$6,104	$0	$1,347	$1,242	$1,871	$5,630	32.00%	$1,802
2027	$16,194	$6,104	$0	$1,293	$1,122	$1,796	$5,879	32.00%	$1,881
2028	$16,194	$6,104	$0	$1,241	$1,001	$1,724	$6,123	32.00%	$1,959
2029	$16,194	$6,104	$0	$1,192	$881	$1,655	$6,362	32.00%	$2,036
2030	$16,194	$6,104	$0	$1,144	$760	$1,589	$6,597	32.00%	$2,111
2031	$16,194	$6,104	$0	$1,098	$640	$1,525	$6,826	32.00%	$2,184
2032	$16,194	$6,104	$0	$1,054	$519	$1,464	$7,052	32.00%	$2,257
2033	$16,194	$6,104	$0	$1,012	$399	$1,406	$7,273	32.00%	$2,327
2034	$16,194	$6,104	$0	$972	$278	$1,349	$7,490	32.00%	$2,397

Erie Thames Economic Evaluation Model

Net Present Value Cash Flow Analysis

Year	Revenue	O&M	Municipal Tax	Capital Tax	Income Taxes	After Tax Cash Flow	PV Factor utilizing mid year discounting	PV of After Tax Cash Flow	Cumulative Net Present Value
2010	$3,299	$1,243	$0	$570	$127	1,358	1.028846	1,320	1,320
2011	$6,597	$2,487	$0	$1,069	$196	2,846	1.088202	2,615	3,935
2012	$9,896	$3,730	$0	$1,511	$335	4,321	1.150983	3,754	7,689
2013	$13,195	$4,974	$0	$1,898	$537	5,786	1.217385	4,753	12,442
2014	$16,194	$6,104	$0	$2,198	$773	7,118	1.287619	5,528	17,970
2015	$16,194	$6,104	$0	$2,110	$794	7,185	1.361904	5,276	23,246
2016	$16,194	$6,104	$0	$2,026	$897	7,167	1.440475	4,975	28,221
2017	$16,194	$6,104	$0	$1,945	$997	7,147	1.523579	4,691	32,912
2018	$16,194	$6,104	$0	$1,867	$1,095	7,127	1.611477	4,423	37,335
2019	$16,194	$6,104	$0	$1,792	$1,191	7,106	1.704446	4,169	41,504
2020	$16,194	$6,104	$0	$1,721	$1,284	7,084	1.802779	3,930	45,433
2021	$16,194	$6,104	$0	$1,652	$1,376	7,062	1.906785	3,704	49,137
2022	$16,194	$6,104	$0	$1,586	$1,465	7,039	2.016792	3,490	52,627
2023	$16,194	$6,104	$0	$1,522	$1,552	7,015	2.133144	3,289	55,916
2024	$16,194	$6,104	$0	$1,461	$1,637	6,991	2.256210	3,099	59,014
2025	$16,194	$6,104	$0	$1,403	$1,720	6,966	2.386375	2,919	61,934
2026	$16,194	$6,104	$0	$1,347	$1,802	6,941	2.524050	2,750	64,684
2027	$16,194	$6,104	$0	$1,293	$1,881	6,915	2.669667	2,590	67,274
2028	$16,194	$6,104	$0	$1,241	$1,959	6,889	2.823686	2,440	69,713
2029	$16,194	$6,104	$0	$1,192	$2,036	6,862	2.986590	2,298	72,011
2030	$16,194	$6,104	$0	$1,144	$2,111	6,835	3.158892	2,164	74,175
2031	$16,194	$6,104	$0	$1,098	$2,184	6,807	3.341135	2,037	76,212
2032	$16,194	$6,104	$0	$1,054	$2,257	6,779	3.533891	1,918	78,130
2033	$16,194	$6,104	$0	$1,012	$2,327	6,750	3.737769	1,806	79,936
2034	$16,194	$6,104	$0	$972	$2,397	6,721	3.953408	1,700	**81,636**

Erie Thames Economic Evaluation Model

Mid Year Present Value Factor Calculations

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Equity %	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%
Debt %	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
Cost of Equity	8.15%	8.15%	8.15%	8.15%	8.15%	8.15%	8.15%	8.15%	8.15%	8.15%	8.15%	8.15%
Cost of Debt	6.15%	6.15%	6.15%	6.15%	6.15%	6.15%	6.15%	6.15%	6.15%	6.15%	6.15%	6.15%
Tax Rate	32.00%	32.00%	32.00%	32.00%	32.00%	32.00%	32.00%	32.00%	32.00%	32.00%	32.00%	32.00%
Cost of Capital after tax	2.88%	5.77%	5.77%	5.77%	5.77%	5.77%	5.77%	5.77%	5.77%	5.77%	5.77%	5.77%
Discount Factor	1.0288	1.0882	1.1510	1.2174	1.2876	1.3619	1.4405	1.5236	1.6115	1.7044	1.8028	1.9068

2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%
60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
8.15%	8.15%	8.15%	8.15%	8.15%	8.15%	8.15%	8.15%	8.15%	8.15%	8.15%	8.15%	8.15%
6.15%	6.15%	6.15%	6.15%	6.15%	6.15%	6.15%	6.15%	6.15%	6.15%	6.15%	6.15%	6.15%
32.00%	32.00%	32.00%	32.00%	32.00%	32.00%	32.00%	32.00%	32.00%	32.00%	32.00%	32.00%	32.00%
5.77%	5.77%	5.77%	5.77%	5.77%	5.77%	5.77%	5.77%	5.77%	5.77%	5.77%	5.77%	5.77%
2.0168	2.1331	2.2562	2.3864	2.5240	2.6697	2.8237	2.9866	3.1589	3.3411	3.5339	3.7378	3.9534

Erie Thames Powerlines Corporation
Application for Service Area Amendment
Board File # EB-2011-0085

RE: Response to Hydro One Networks Inc. Interrogatoires

1. Reference: Erie Thames Application Section 7.1.2 and 7.2.1

a) Please describe the route that Erie Thames purposes to follow, including any easements required, to connect the development.

Erie Thames has an existing reliable 27.6kV overhead distribution line running along the east side of Harris Street adequate to supply the proposed development. Erie Thames capital plan includes the conversion of an existing Erie Thames customer (Oxford County Water Pumping Station) located on the west side of Harris Street to 27.6kV. This conversion project involves routing the primary line overhead from the east side to the west side of Harris Street. In order to connect the proposed development, Erie Thames proposes to extend the 27.6kV overhead distribution line south by one pole span and then proceed underground approximately 40 meters south before entering the subject area underground via a municipal water and sanitary easement.

Alternatively, Erie Thames can enter the proposed development from the water pumping station that is the subject of the above-referenced conversion project. A municipal easement would have to be obtained in the event Erie Thames connected the development via this alternative route. Erie Thames submits that obtaining such easements would not be an issue but it would be a minimal additional cost to the developer. Some additional tree trimming would also be required under this option.

b) Please provide the estimated cost of obtaining any such easements.

As approved by the developer, Erie Thames' proposed electrical connection will use the developer's easement for water and sanitary so there will be no additional easement costs to connect the proposed development. In the event that the developer is required to enter the development from the water pumping station, the developer will be responsible for the minimal costs (e.g. approximately $2,000) associated with obtaining a municipal easement.

c) Please confirm if Erie Thames intends to ask for a permit for joint use in Hydro One's service territory along Harris St. to feed the Sifton subdivision.

Erie Thames will not require a joint use permit as Erie Thames proposes that the primary feed to the development will be underground.

d) ***If a joint use permit is not requested, is Erie Thames intending to build plant in Hydro One's current service territory?***

Yes. Erie Thames has proposed a connection for the development that will involve the primary feed running underground approximately 40 meters in front of 302 and 304 Harris Street, both of which are Hydro One customers. However, Hydro One only has overhead secondary distribution lines at this location.

As discussed in Interrogatory 1a) above, Erie Thames can alternatively service the proposed development from the water pumping station at 280 Harris Street.

e) ***Hydro One currently has facilities at the entrance to this subdivision. Is it Erie Thames' intention to put a pole right beside Hydro One's facilities?***

Erie Thames intends to service the proposed development underground and it will not require any poles near Hydro One's lines. In any event, Erie Thames does not propose to connect the subject area via the entrance to the proposed development but instead through a municipal easement closer to Erie Thames' service territory.

2. ***Reference:*** ***Erie Thames Application Appendix:***
Reference 1: Tab 8 'Harris View Phase 1' Cost Comparison Table
Reference 2: Tab 8 Offer to Connect, Schedule 3, page 2
Reference 3: Tab 8 Economic Evaluation Model

In the comparison table (Reference 1) the Connection Rebates amount is $95,162.58 (54 connections x 2010 credit of $1,762.27). However, as described in the Offer to Connect and presented in the economic evaluation model ("EEM") (Reference 2), the connections will take place over a 5-year period and the rebate per connection declines each year. The total actual rebates shown in the EEM total $81,636 in current dollars (Reference 3), the present value of those rebates will be somewhat lower.

a) ***Please confirm which rebate amount is correct. The $95,163 in Reference 1, or the $81,636 in Reference 3?***

The correct connection rebate is for $95,162.58 in Reference 1 (54 lots x $1,762.27).

b) ***If the correct rebate is $81,636, please update the comparison table in Reference 1 and other elements of the filing to reflect the present value of the actual rebates expected.***

As described in response to Interrogatory No. 2a), the correct connection rebate is for $95,162.58 and, therefore, no updates are required.

c) If the correct rebate amount is $95,163, please explain why the EEM model shows $81,636.

The economic evaluation model (EEM) employed by Erie Thames is provided by The MEARIE Group. The EEM is based on a five-year horizon and a discounted cash flow model. Accordingly, the connection rebates reduce in each subsequent year following the connection of the proposed development by Erie Thames. The reason that the EEM shows a total of $81,636.00 is due to the fact the amounts input into the model are the number of lots divided by the number of in years in the horizon, and the total is shown as an average of lots per each year. The developer intends to construct the proposed development as expeditiously as possible to maximize the return on their investment and receive the largest connections rebates possible from Erie Thames. Accordingly, the rebate of $95,163.00 assumes that all lots in Phase I are energized within the first year.

3. Reference: Erie Thames Application Appendix, Tab 8, Schedule 4, page 2

In Schedule 4, Erie Thames indicates that "If Erie Thames Powerlines Corporation is chosen to complete the contestable portion of the installation; there will be no inspection charges. However, if another contractor is chosen to complete the installation, inspection charges of $87.64 per hour plus H.S.T. will be applied."

The Distribution System Code, Section 3.2.9, indicates that the offer to connect should include an "amount for any additional costs that will occur as a result of the alternative bid option being chosen (including, but not limited to, inspection costs)."

a) Please provide a total cost estimate for these inspection or any other charges should the developer choose to utilize a contractor other than Erie Thames.

Section 2.6.4 of Erie Thames' Connection Agreement (attached at Tab 8 to Erie Thames' service area amendment application) clearly references the requirements from the Distribution System Code (DSC). Erie Thames' Offer to Connect: Schedule 4 – Contestable Electrical Plant Installation then describes that the additional costs relating to an alternative bid option as follows:

> *"If Erie Thames Powerlines Corporation is chosen to complete the contestable portion of the installation, there will be no connection charges. However if another contractor is chosen to complete the installation, inspection charges of $87.64 per hour plus H.S.T. will be applied."*

As stated above, the additional charges for inspection is $87.64 per hour plus H.S.T. Erie Thames submits that this information satisfies its requirements under section 3.2.9 of the DSC. It is difficult to provide a total cost estimate for inspection charges as the inspection fee is based on a per hourly rate and Erie Thames cannot predict which third party contractor would be selected by the developer or the amount of inspection time required. This is dependent on the length of time or the or number of days required for the contractor to do the work, however Erie Thames estimates the inspection time to be between 20 to 30 hours maximum.

4. Reference: Erie Thames Application Appendix, Tab 8, Schedule 4, page 2

In Schedule 4, Erie Thames indicates that "Additional charges of $360.00 + tax (2010 price) per service installation will be applied as per Erie Thames Powerlines Typical Residential Service Entrance specification."

a) Please describe the service provided for this charge and indicate where the total charges are included in the offer to connect.

Residential subdivision installations will include secondary service cable from the transformer to the meter base of each residential unit. The typical methods of servicing large developments involves installing a secondary conductor to the property line of each lot and either (a) leave a coil of secondary cable at the property line to be installed to the building by the electrical contractor at a later date or (b) stub the secondary cable at the property line and, when the electrical contractor is ready to connect the unit, Erie Thames provides and splices the remaining cable to reach the building for a fee. With the rising price of base metals there have been an increasing number of thefts of secondary cable resulting in increased costs to developers and electrical contractors. Given this, Erie Thames standard is (b) above which involves stubbing the secondary cable at the property line and supplying and splicing the remaining cable at a later date.

The service charge of $360.00 (plus tax) is the fee Erie Thames charged developers/electrical contractors in 2010 for the supply and splicing of secondary cable. This fee will increase or decrease each year based on the price for the secondary cable and applicable labour rates. For 2011, this service charge is unchanged.

Under Erie Thames offer to connect, the developer's upfront costs for the secondary installation are initially lower than Hydro One while the upstream costs related to the supply and splicing of secondary cable is slightly higher. (The above statement assumes that there is no theft or damage to secondary cables at the property line. In the event that the secondary cables are damaged by construction or theft occurs, the overall cost of the secondary cable would be higher.)

b) Does this charge cover the cost of secondary cable from the splice point to the meter base? If not, please indicate where in the offer to connect those costs have been included.

Yes. The charge of $360.00 (plus tax) does cover the cost of the secondary cable from the splice point to the meter base.

5. Reference: Erie Thames Application Appendix, Tab 8 'Harris View Phase 1' Cost comparison table

The Distribution System Code, Section 3.2.9, indicates that the offer to connect should include the cost of overheads and administration.

a) Please indicate the amount of overhead and administration costs, for both contestable and non-contestable work, that have been included in the Erie Thames' offer to connect. If no costs have been included, please indicate the reasons why.

Erie Thames' offer to connect included the cost of overhead (which includes administration costs) in the form of burden rates applying to each line item in the contestable and non-contestable portions of the offer to connect. The burden rates used by Erie Thames to capture the overhead costs (which include administration costs) include:

- Labour 100%
- Materials 15%
- Equipment 40%
- Accounts Payable 15%

The developer is aware that the overhead (including administration) costs are captured via burden rates and the developer is satisfied with this approach. In the event that specific dollar amounts are required for these costs, such amounts can be provided.

b) Please indicate in what line item they appear in the above-referenced comparison table.

Please see response to Interrogatory No. 5a) above.

c) Please provide a cost comparison table similar to that referenced above that shows non-contestable work only, and includes any credits and adjustments to costs based on the responses to this and other interrogatory questions (Questions 2-5)

Schedules 3 and 4 of Erie Thames' Offer to Connect include the estimate for contestable and non-contestable work for the proposed development, and the cost comparison table at Tab 8 includes a price breakdown for non-contestable work.

6. Reference: Erie Thames Application Section 7.1.2, page 5

Erie Thames contends that "approval of this application would reduce customer confusion and provide for consistency in the provision of CDM Programs within the community".

a) Apart from OPA-contracted province wide programs, what regional or local CDM programs have Erie Thames had approved by the OEB.

No. Erie Thames has not had any regional or local CDM programs approved by the OEB. However, Erie Thames has been actively involved in less formal local CDM partnership initiatives with its customers (e.g. Canadian Tire Spring Event in May 2011.) In delivering OPA-contracted programs or local CDM initiatives not requiring approval from the OEB – or promoting the Province of Ontario's CDM goals generally – Erie Thames is regarded by residents of the Town of Ingersoll as the local, consistent presence delivering and educating customers regarding of conservation.

b) If the response to part a) is none, does Erie Thames intend to apply for and run its own LDC-funded CDM programs?

Yes.

7. Reference: Erie Thames Application Section 7.1.2, page 5, Section 7.2, page 9

The applicant discusses the reliability issues on 38M50 and how they negatively impact Erie Thames customers.

a) Please explain how Erie Thames' reliability, feeding from the 38M50 feeder, could differ from Hydro One's reliability since both companies will use that same feeder to serve the Sifton development?

Erie Thames is concerned that future reliability issues will arise from adding additional distribution exposure to the existing 38M50 feeder downstream of the retail supply point (e.g. the Sifton development). Erie Thames submits that such additional exposure downstream may adversely effect on the performance of the 38M50 feeder, result in capacity constraints, and ultimately impacting Erie Thames' existing customers upstream and future growth in Erie Thames' service area.

b) In the above mentioned reference on lines 29-30, Erie Thames wrote "incidents on the 38M50 in Hydro One's service area have in the past caused interruption to Erie Thames customers." Please specify if these 'incidents' were upstream or downstream of Erie Thames' service territory (see Tab 6, Diagram of Existing Circuit).

The above-referenced statement focused on downstream events. Events that occur in Hydro One's territory that are near Erie Thames' boundary causes confusion regarding which party should respond and this leads to a delayed response and prolonged outages.

c) If the incidents were downstream, how could this impact reliability in Erie Thames' service territory?

Please see response to Interrogatory Nos. 7a) and 7b) above.

In addition, Erie Thames' customers are impacted by power outages occurring downstream in Hydro One's territory due to protracted interruptions caused by Hydro One's longer mandated response times. As introduced in sections 7.1.2 and 7.2 of the service area amendment application, Hydro One has designated the subject area within the Town of Ingersoll as rural and, accordingly, Hydro One's emergency response time is 120 minutes. Contrarily, ETPC's response time for the adjacent area within the Town of Ingersoll is 60 minutes (as ETPC has designated the area as urban.) Given this disparity between mandated response times, outages in Hydro One service territory can cause longer interruptions for Erie Thames' customers due to added waiting times for Hydro One's crews to arrive.

d) If an upstream incident were to occur, please confirm that reliability for the Sifton subdivision would be the same if either Hydro One or Erie Thames provided service to it.

Erie Thames agrees that an upstream incident would impact reliability for the proposed development in the same manner if either Erie Thames or Hydro One provided service to the development.

e) Is Erie Thames planning to build another 27.6 kV feeder to the end of their service territory to connect this development, rather than use the M50? If so, what are the costs and where have they been included in the application?

Erie Thames is not planning to build another 27.6 kV feeder to the end of their service territory, however Erie Thames' existing conversion plan will see an alternate feeder (38M49) supply point available on the west side of the development. The system plan creates a more robust operating system for existing and new customers in and around the subject area.

8. Reference: Erie Thames Application Section 7.1.2, page 5, lines 34-37

"Due to the location of the subject area and the fact that Erie Thames has an operation centre within the municipal boundaries of the Town of Ingersoll, Erie Thames crews would respond to any emergency outages in the subject area within 20 minutes"

a) Please confirm that Hydro One has a service centre in Beachville which is approximately 10 kms from the proposed development.

Erie Thames can confirm that Hydro One has a service centre in Beachville, approximately 10 kms from the proposed development, and Erie Thames has a service centre in Ingersoll, approximately 3 kms from the proposed development.

b) Please indicate the type of service truck (i.e. pick-up truck or bucket truck) and the number of crew and their qualifications that Erie Thames sends out as first response to emergency calls.

As first response to emergency calls, Erie Thames sends out two licensed journeyman lineman and a bucket truck.

9. Reference: Erie Thames Application Section 7.1.2, page 9, lines 32-36

"Erie Thames has an aggressive 3 year cycle vegetation maintenance program. Hydro One's vegetation management cycle is 7 years. Timely outages are usually the result of severe wind storms that take down trees and snapped poles. The frequency of Erie Thames' maintenance program reduces the risk of an outage."

a) Please confirm that if Erie Thames used the 38M50 feeder to access the subdivision, it would be subject to the same outages caused from vegetation management practices as would Hydro One, if Hydro One served the subdivision.

Yes. However, Erie Thames' vegetation management program in and around the subject area is more proactive than Hydro One's. In Hydro One's rural territory, the 38M50 is more exposed to the elements than in Erie Thames' urban service area. The urban customers in the proposed development would be exposed to the same risks as rural customers if Hydro One connects the development. Protective devices can be installed on Erie Thames' system that could mitigate the risk to Erie Thames' customers being impacted by vegetation incidents that occur downstream in Hydro One's service territory.

b) Please confirm whether the distribution lines to be installed by Erie Thames in the new subdivision will be overhead or underground, and if underground, that vegetation management practices within the subdivision are not relevant to this application.

The distribution lines within the proposed development will be underground and, accordingly, vegetation management practices are not relevant within the subdivision itself. However, the loss of supply to the new subdivision is relevant. Hydro One has overhead lines downstream and their less robust vegetative management practices may negatively impact supply to the new subdivision.

10. Reference: Erie Thames Application, page 6, lines 23 – 24
Erie Thames Application, Tab 4, Map 4

Page 6 of the application lines 23-24 read, "If Hydro One connects the subject area, customers would be added rather than eliminating load transfer arrangements."

Further on Map 4, Tab 4 Erie Thames has identified existing long term load transfer customers.

a) Please confirm whether there will be any existing LTLTs eliminated if Erie Thames' application is approved, and if so identify them and how they would be eliminated.

There will be no existing LTLTs eliminated if Erie Thames' service area amendment application is approved. Please note, however, that the statement from the application referenced above is not meant to indicate that existing LTLTs will be eliminated. Instead, this statement is intended to reflect that load will be increased through the retail supply point if Hydro One connects the proposed development. If the application is approved and Erie Thames connects the development, the new customer will be connected directly to Erie Thames's distribution system which will result in a zero load increase to the retail supply point.

11. Reference: Erie Thames Application, page 6, lines 21-24

In the above reference, Erie Thames equates retail point of supply with load transfer arrangements.

a) Please confirm that retail point of supply (RPS) and load transfers are not the same, and if Hydro One connects the subdivision through RPS using the 38M50 feeder there would be no difference between Hydro One's quality of service at the subdivision and Erie Thames'.

RPS and load transfers are not the same. However, Erie Thames submits that connecting customers through a RPS has the same effect as load transfer arrangements. It is Erie Thames' opinion that the only material difference between RPS and load transfer arrangements is that settlement is done monthly on one retail meter rather than annually on a number of individual meters.

Erie Thames does not agree that there will be no difference in the quality of service at the proposed subdivision. Erie Thames respectfully submits that its faster emergency response times, local presence, lower rates and better system planning for the area would result in a higher quality of service for the proposed development if connected by Erie Thames.

b) Please confirm that there is no OEB prohibition on using RPS for new connections.

To the best of Erie Thames' knowledge, there is no explicit OEB prohibition on using RPS for new connections. However, in its Decision RP-2003-0044 dated February 27, 2004, the OEB discouraged the creation of new RPS to facilitate the distribution of electricity to new customers

by an incumbent distributor when a bordering or contiguous distributor can provide the same distribution service more efficiently. Although no new RPS are being created in this situation, additional load would be added downstream of a RPS if Hydro One connects the proposed development. Erie Thames submits that the OEB's concern stated above can be reasonably extended to apply to adding load downstream of RPS and such a step would be discouraged if a contiguous distributor can provide the same service more efficiently. Erie Thames is a contiguous distributor and it submits that its service area amendment application establishes that it can provide the service in a more efficient manner that is in the best interests of the customer.

c) Please confirm that using RPS for new connections is common practice within Ontario.

Erie Thames does not have the information to confirm and disconfirm the above statement. It is Erie Thames' understanding, however, that using RPS for new connections is common practice for Hydro One.

d) Please confirm (see Tab 6, Diagram of Existing Circuit) that Erie Thames is itself supplied through a RPS on the 38M50 and 38M49 feeders from Hydro One's Ingersoll TS, which first passes through Hydro One Distribution's service area before reaching Erie Thames service area, at which point there are primary meters (PME-38M49 and PME-38M50)

All of Erie Thames' supply points are Wholesale Primary Metered, including the 38M50 and 38M49 points.