# Board Staff Interrogatories
# 2009 Electricity Distribution Rates
# Thunder Bay Hydro Electricity Distribution Inc. ("Thunder Bay")
# EB-2008-0245

## ECONOMIC ASSUMPTIONS

**1. Ref: N/A**

a. Given the general economic situation in Ontario has Thunder Bay assessed the situation and identified any specific issues that may have a material impact on its load and revenue forecasts and bad debt expense forecast?

b. If so, please indicate if Thunder Bay will be updating its current application, in whole or in part, to address any material impacts. If yes, please provide an estimate of the timing of the update.

**2. Ref: E 2 / T 3 / S 1 and E 4 / T 2 / S 2**

a. Please provide a list of criteria and the rationale that Thunder Bay has used in the prioritization and selection of 2009 maintenance and capital projects in its application.

b. Please identify, individually, maintenance and capital programs, if any, that Thunder Bay may consider as a candidate for a deferral, cut, or partial adjustment, given the current economic situation. Please identify these programs, if any, in a ranking order that Thunder Bay would consider, using a ranking of "1" as the first suitable candidate, ranking of "2" as the second suitable candidate, ranking of "3" as the third suitable candidate, etc.

c. Please identify the rationale for the selection of these maintenance and capital programs and projects.

d. Please describe the expected impacts on Thunder Bay's revenue requirement, operations and service quality and reliability to customers if the identified programs are reduced, deferred or cut during the economic downturn.

## OPERATING COSTS

### *General*

### 3. Ref: E 4 / T 1 / S 1

The figures in the table below are taken directly from the public information filing in the Reporting and Record-keeping Requirements ("RRR") initiative of the OEB. The figures are available on the OEB's public website. Please confirm the utility's agreement with the numbers for OM&A, which are summarized in the table below.

| | 2002 | 2003 | 2004 | 2005 |
|---|---|---|---|---|
| | | | | |
| **Operation** | $2,609,542 | $2,349,569 | $2,011,898 | $2,552,705 |
| **Maintenance** | $2,394,892 | $2,971,401 | $2,977,751 | $2,414,855 |
| **Billing and Collection** | $2,638,395 | $2,598,019 | $2,690,686 | $2,452,585 |
| **Community Relations** | $236,085 | $200,394 | $196,518 | $537,694 |
| **Administrative and General Expenses** | $2,700,078 | $2,921,724 | $2,830,919 | $2,679,539 |
| **Total OM&A Expenses** | **$ 10,578,992** | **$ 11,041,107** | **$ 10,707,772** | **$ 10,637,379** |

### 4. Ref: E1 / T2 / S1 / p5

Please identify the inflation rate used for the 2009 OM&A forecast and the source document for the inflation assumptions.

### 5. Ref: E4 / T2 / S1

Do the 2008 and 2009 OM&A forecasts include costs for the change to International Financial Reporting Standards? If so, please provide the total amount included.

### 6. Ref: E4 / T 2 / S1

Do the 2008 or 2009 OM&A forecasts include a provision for a Winter Warmth program or other assistance to low income customers? If so, please indicate the amount

### 7. Ref: E4 / T2 / S4 / p1-7

Thunder Bay indicates that it is addressing the challenges of an aging workforce by introducing an apprentice program and through the strategic hiring of technical staff (the "plan"). In 2009 Thunder Bay is forecasting that it will be adding two management/non supervisory positions and seven unionized positions of which two and five respectively are due to the plan.

a. Please identify the approximate dollar amount in the 2009 OM&A forecast related to the plan.

b. In which year after 2009, will these additional positions no longer be required?

### 8. Ref: E1 / T2 / S1 /p5

Thunder Bay states that a consideration of cost and efficiency is an important part of expenditure decisions.

a. Are there any cost efficiency programs (e.g. investing in a technology or new program today that will reduce operating costs, say, over the next 5 years) at the utility that are in place now or contemplated in the test year?

b. If so, please describe the programs and include a cost benefit analysis.

**9. Ref: E1 / T2 / S3 / p6-8**

The evidence indicates that Environment Canada has proposed revisions to the existing Chlorobiphenyl Regulations and the Storage of PCB Material Regulations of the *Canadian Environmental Protection Act, 1999* (CEPA1999) that would set specific dates for the complete destruction of all PCBs in service and storage. In this regard, Thunder Bay indicated that its long term plan ("plan") to address "outstanding" transformers would cost about $3 million and of this $403,281 would be spent in 2009. Thunder Bay also advised that "should the legislation come into force and Thunder Bay's present plan not ensure compliance, the plan will have to be accelerated and a variance account created…."

a. Please confirm whether the $3 million pertains solely to meeting the PCB destruction dates in the proposed legislation. If not, please indicate whether this money is also targeted to address new "PPM" standards, as compared to what is required under existing legislation.

b. Will the entire $3 million in plan costs be charged to OM&A over the 2008 to 2014 period? If not, please identify by year the amounts that would be charged to capital.

c. Board staff notes that the proposed PCB regulations noted in the evidence was enacted on September 5, 2008. Does Thunder Bay's PCB plan comply with the newly enacted regulations? Please update the evidence on pages 6-8, including the table on page 8, if the enacted legislation differs from your understanding at the time the evidence was prepared.

d. On page 8 lines 11-13 Thunder Bay indicates that should legislation come into force and Thunder Bay's present plan does not ensure compliance, a variance account will have to be created to track all costs above the existing plan replacements. Given the enacted legislation, is Thunder Bay seeking Board approval for the establishment of a PCB variance account? If so, please indicate the approximate amount it expects to record in the account and over what period.

*e.* What is the proposed accounting treatment for in-service transformers s to be removed and / or retired from service under this plan? Are any potential write offs or stranded costs proposed for recovery in rates? If so, please explain the proposed method of recovery and the amounts.

***Capitalization***

**10. Ref: E4 / T2 / S2 / p2 and E4 / T2 / S4**

The evidence indicates that between 2006 EDR and 2009 forecast there is a decrease of $134,093 in Supervision and Engineering (accounts 5505 and 5105). The decrease is

described as "… mainly attributable to the increased capital work resulting in a large base to allocate the overheads."

a. Please provide a copy of the methodology Thunder Bay uses to calculate the amount of gross OM&A that should be allocated to Capital.

b. Please provide the actual calculations that underpin the overheads capitalized in the 2007 actuals, 2008 forecast and 2009 forecast.

c. Table 3 in the first reference above indicates that in 2008 total compensation amounts to $10,773,951 and that total salary, wages and benefits that are charged to OM&A total $5,939,265. On the basis of these amounts, it appears that 45% of Thunder Bay's compensation costs are "capitalized" and, on this basis, the capitalization rates for 2006, 2007 and 2009 appear to be 44%, 41% and 46% respectively. Please confirm these rates. If these rates are not correct, please provide the correct compensation capitalization rates.

***Forestry Management***

**11. Ref: E1 / T2 / S3 / p3**

The evidence indicates the following Forestry Management related expenditures. The evidence also notes that increased funding in 2009 is needed to address current vegetation issues:

| | |
|---|---|
| 2006 Actual | $286,445 |
| 2007 Actual | $545,858 |
| 2009 Forecast | $767,000. |

a. Please provide the amounts for 2006 EDR and 2008 Forecast.

b. Assuming the 2009 Forecast is approved, in what year will the Forestry Management budget revert back to the $518,000 level? This level was identified in evidence as the estimated costs to maintain a sustainable 7 year cycle.

***Bad Debt Expense***

**12. Ref: E4 / T2 / S1 p34**

The evidence indicates the following expenditure patterns for Bad Debt Expense:

| | |
|---|---|
| 2006 EDR Approved | $146,686 |
| 2006 Actual | $105,590 |
| 2007 Actual | $80,362 |
| 2008 Forecast | $160,000 |
| 2009 Forecast | $160,000 |

a. Please provide the bad debt expense actuals for 2003, 2004 and 2005.

b. Please provide the reasons for the (i) 28% decrease between 2006 EDR and 2006 actual and (ii) the 99% increase between 2007 actual and 2008 forecast.

***Conservation***

**13. Ref: E4 / T2 / S2 / p2-3**

The evidence indicates that the OPA is now funding Thunder Bay's CDM programs and this accounts for the decrease in forecasted expenditures in the Energy Conservation Account (5415) i.e. 2007 actual is $381,627; 2008 forecast is $58,431; 2009 forecast is $78,732.

Please identify and provide a description of the program(s) in account 5415 that are funded in the amounts of $58,431 and $78,732 for 2008 and 2009 respectively.

***Compensation***

**14. Ref: E4 / T2 / S2 / p6-7**

The evidence indicates that Thunder Bay's Board of Directors decided that members of the executive team should be compensated at levels consistent with the mean of the surveyed comparable; and that this resulted in an annual increase in compensation of about $75,000.

a. Please provide a copy of the annual Management Salary Survey completed by the Mearie Group which is stated to have aided Thunder Bay's Board of Directors in its consideration of executive compensation.

b. Please describe the "outside consultant expertise" which is stated to have aided Thunder Bay's Board in its consideration of executive compensation.

**15. Ref: E4 /T2 / S4 / p11**

Please provide the base salary percentage increases budgeted for 2008 and 2009 broken down by major employee grouping (e.g., executive, management, unionized workers).

***Purchased Services***

**16. Ref: E4 / T2 / S3**

The above reference identifies services provided by Thunder Bay to its affiliates. There appear to be no services that are purchased by Thunder Bay from its affiliates. However, there appears to be no evidence (as required by the *Filing Requirements for Transmission and Distribution Applications* dated November 14, 2006) regarding the purchase of services by Thunder Bay from third parties.

For services purchased or to be purchased from other parties in excess of $50,000 per annum, please identify the services, the vendors and the costs of each service for each of the years 2006 actual, 2007 actual, 2008 forecast and 2009 forecast. Please include a brief description of the specific methodology used in determining the price of each service.

***Shared Services***

**17. Ref: E4 / T2 / S3 / p4 and E3 / T3 / S1**

The evidence indicates that Thunder Bay provides services to Thunder Bay Hydro Utility Services Inc. and to Thunder Bay Hydro Energy Services Inc. Per Tables 1 and 2 in the first reference above, "Services Billed" are forecast to total $193,000 in 2008 and $63,000 in 2009.

a. Please confirm whether or not costs that will be directly or indirectly incurred by Thunder Bay in providing these "Billed Services" are included in Thunder Bay's 2008 and 2009 OM&A forecast i.e. $11,919,481 and $12,340,964 respectively. If so, please identify the amounts.

b. Please confirm whether or not costs directly or indirectly incurred by Thunder Bay in providing these "Billed Services" in 2007 are included in Thunder Bay's total OM&A expenditures of $12,051,634. If so please identify the amounts.

c. Please provide the calculations used to derive the "Billed Services" amounts of $193,000 and $63,000.

d. The table presented in the second reference above provides a Summary of "Other Distribution Revenue". Please identify the four digit account which records the forecasted "Billed Services" proceeds of $193,000 and $63,000.

***Non-Recurring Items***

**18. Ref: E4 / T 2 / S1**

Please identify any non-recurring expenditure items (in excess of $50,000) that are included in the 2009 OM&A forecast.

***Regulatory Costs***

**19. Ref: E1 / T3/ S2**

The pro-forma account (Regulatory Exepnses-5655) for 2009 does not appear to include an amount for regulatory expenses.

a. Does the 2009 forecasted OM&A include an amount for regulatory expenses? If so, please provide the amount, and the account in which it is recorded.

b. Please provide a break-out of the items or components that comprise the amount.

c. Please complete the following regarding regulatory expenses:

| | |
|---|---|
| 2006 actual: | $ |
| 2007 actual: | $ |
| 2008 forecast | $ |

## RATE BASE AND CAPITAL EXPENDITURES

### *General*

**20. Ref: E2**

Please provide information for the period 2006 to 2009 in the following table format:

| | **2006 Actual** | **2007 Actual** | **2008 Bridge** | **2009 Test** |
|---|---|---|---|---|
| Allowed Return on Equity (%) on the regulated rate base | | | | |
| Actual Return on Equity (%) on the regulated rate base | | | | |
| Retained Earnings | | | | |
| Dividends paid to shareholders | | | | |
| Sustaining capital expenditures (excluding smart meters) | | | | |
| Development capital expenditures (excluding smart meters) | | | | |
| Operations capital expenditures | | | | |
| Smart Meters capital expenditures | | | | |
| Other capital expenditures (please specify) | | | | |
| Total capital expenditures (including smart meter meters) | | | | |
| Total capital expenditures (excluding smart meters) | | | | |
| Depreciation expense | | | | |
| Construction Work in Progress | | | | |
| Rate Base | | | | |
| Number of Customer Additions (total) | | | | |
| - Residential | | | | |
| - General Service < 50 kW | | | | |
| - General Service > 50 kW, Intermediate and Large Use | | | | |
| Number of Customers (total, December 31) | | | | |
| - Residential | | | | |
| - General Service < 50 kW | | | | |
| - General Service > 50 kW, Intermediate and Large Use | | | | |

**21. Ref: E2**

Thunder Bay has discussed at some length the need for increased capital expenditures to refurbish and replace its distribution network, following a cycle of cost minimization from1994 to 2006. Please provide, if possible, a break out of 2007 actual, 2008 bridge and 2009 test year capital expenditures, with respect to the capital expenditures needed to catch up, and that necessary on a sustained basis, including normal growth. Please provide this break down in dollar and percentage terms.

***Historical Capital Expenditures***

**22. Ref: E2 / T3 / S1 / Appendix A**

a. Please provide the annual capital expenditure data shown in the graph at the above reference from 1980 actual to 2009 test year.

b. Please provide the mathematical basis for the increasing "extended trend" shown as the red line in the graph.

c. Please explain the logic behind this forecast.

***Meter Capital Expenditures***

**23. Ref: E2 / T2 / S3 / Table 1**

In Table 1, Thunder Bay shows $589,309 for capital expenditures in Account 1860 – Meters.

a. Please provide details of 2008 meter expenditures by:
   i) Wholesale meters;
   ii) Interval meters for General Service, Intermediate and Large Use customers; and
   iii) Residential and General Service non-interval meters.

b. Please identify the meter capital expenditures for residential non-interval meters that are due to verification of expired seals.

c. Please identify any efforts that Thunder Bay has considered or undertaken to defer replacement of meters with expired seals until Thunder Bay begins smart meter deployment in 2009.

***Working Capital Allowance***

**24. Ref: E2 / T4 / S1**

a. Please provide the derivation of the components of Cost of Power, shown in the table on page 3 of the exhibit, for each of the 2008 Bridge and 2009 Test years.

b. Please identify the commodity price, and wholesale market service and retail transmission charges used.

c. Does Thunder Bay concur that the working capital allowance should be updated at the time of the Board's decision based on the most current RPP price then available? If not, please explain.

***Depreciation Expense***

**25. Ref: E1 / T1 / S1, E2 / T2 / S1 and E4 / T1 / S1**

Thunder Bay provides the following data with respect to gross fixed assets, net fixed assets, accumulated depreciation and depreciation expense. Board staff has calculated the geometric average annual growth rate from 2006 actuals to 2009 test. Thunder

Bay's application shows depreciation expense increasing less than either gross fixed assets or net fixed assets.

| Description | 2006 Board-approved | 2006 Actual | 2007 Actual | 2008 Bridge | 2009 Test | *Annual % change 2006 actual to 2009 test* |
|---|---|---|---|---|---|---|
| ***(E1/T1/S1/ page 1/Table 1)*** | | | | | | |
| Gross Fixed Assets | $ 117,366,079 | $ 128,359,838 | $ 132,593,627 | $ 137,977,953 | $ 145,434,516 | 4.25% |
| Accumulated Depreciation | $ 58,223,541 | $ 68,017,440 | $ 71,981,194 | $ 76,881,949 | $ 81,830,062 | 6.36% |
| Net Book Value | $ 59,142,538 | $ 60,342,398 | $ 60,612,433 | $ 61,096,004 | $ 63,604,454 | 1.77% |
| ***(E4/T1/S1)*** | | | | | | |
| Depreciation Expense | $ 4,056,140 | $ 4,382,390 | $ 4,564,773 | $ 4,526,557 | $ 4,573,436 | 1.43% |

A detailed derivation of the depreciation expense for each of 2006 actual, 2007 actual, 2008 bridge and 2009 test years is provided in the Tables 1, 2, 3 and 4, respectively, in Exhibit 2 / Tab 2 / Schedule 1.

Board staff is unclear about a number of entries in these continuity schedules, where there appears to be a mismatch between additions and disposals with respect to gross fixed assets and depreciation for specific accounts. The following are certain examples identified for the purpose of this interrogatory. The list is not meant to be exhaustive:

- For all years, for account 1935 – Stores Equipment, the Gross Fixed assets are $63,417.16 and opening accumulated depreciation is $62,835.45, but there is no addition to depreciation expense for the year.
- In Table 3 (2008 bridge year), for account 1950 – Power Operated Equipment, Thunder Bay shows an opening balance of gross assets of $3,583.39 and additions during the year of $10,000, but the accumulated depreciation has an opening balance of $2,550.36 and no depreciation expense during the year.
- Under Table 1 (2006 actual), for account 1850 – Line Transformers, there is a disposal under accumulated depreciation of $173,864.45 but no disposal under gross fixed assets.
- Also in Table 1, for Account 1860 – Meters, there is a disposal of $78,547.38 under gross fixed assets but a disposal of $274,265.76 under depreciation.

a. Please provide, if available, Tables 1 to 4 inclusive from Exhibit 2 / Tab 2 / Schedule 1 in working Excel spreadsheet format.

b. Please provide the depreciation rate used for each account shown in Exhibit 2 / Tab 2 / Schedule 1. Please confirm that the depreciation rate corresponds with those documented in Appendix B of the 2006 Electricity Distribution Rate Handbook. If the rates differ, please explain the basis for Thunder Bay's depreciation rate.

c. Please provide a detailed explanation of why the depreciation expense shows a lower annual growth rate than either gross fixed assets or net fixed assets.

## COST OF CAPITAL

### *Capital Structure*

**26. Ref: E5 / T1 / S2**

In the table shown in this exhibit for the 2008 Bridge year, Thunder Bay shows deemed capitalization of $39,219,834 for each of long-term debt and equity, despite a total capitalization of $73,583,178 and a deemed capital structure of 53.3% long-term debt and 46.7% equity. Please confirm or correct the 2008 deemed capital structure shown in this exhibit.

### *Long Term Debt*

**27. Ref: E5 / T1 / S3**

In this exhibit, Thunder Bay provides a table showing its long-term debt for each year from 2006 actual to 2009 test. Thunder Bay identifies the principal and rates for three debt instruments but provides no other documentation on the nature of each, including new debt identified for the 2009 test year with a principal of $1,153,142 and a calculated cost rate of 6.0%.

a. Please provide further information on each debt instrument as shown in the above reference, including:

    i. starting date and term of debt instrument;
    ii. whether the rate is fixed or variable;
    iii. any terms for re-negotiability; and
    iv. whether the debt holder is affiliated with Thunder Bay or not.

b. For each debt instrument please describe how the terms and rate shown on Exhibit 5 / Tab 1 / Schedule 3 conform with the guideline documented in section 2.2.1 of the *Report of the Board on Cost of Capital and 2nd Generation Incentive Regulation for Ontario's Electricity Distributors*, issued December 11, 2006.

c. Please describe the purpose of the new debt of $1,153,142 to be incurred in 2009.

d. Please provide a copy of the Promissory Note due to the City of Thunder Bay.

## SMART METERS

### *Smart Meter Program*

**28. Ref: E2 / T3 / S1 and E8 / T1 / S1**

On October 22, 2008, the Board issued *Guideline G-2008-0002 Smart Meter Funding and Cost Recovery*. Section 1.4 of the Guideline specifies filing requirements to support a request for a utility-specific funding adder. Thunder Bay currently has a smart meter adder of $0.27 per month per metered customer. For 2009, Thunder Bay has requested a utility-specific funding adder of $1.25 per month per metered customer.

a. Please provide:

   i) a detailed smart meter plan which includes the number of meters to be installed and a monthly installation schedule during which the proposed smart meter funding adder is expected to be in effect;

   ii) a business plan supporting any smart meter or AMI costs that are incurred to support functionality that exceeds the minimum functionality adopted in O. Reg. 426/06, and an estimate of those costs;

   iii) a statement as to whether Thunder Bay has incurred or expects to incur costs associated with functions for which the Smart Metering Entity has the exclusive authority to carry out pursuant to O. Reg. 393/07, and an estimate of any such costs; and

   iv) copies of documentation, such as letters from the Fairness Commissioner, affirming that Thunder Bay is authorized to deploy smart meters pursuant to O. Reg. 427/06 as amended by O. Reg. 235/08.

b. Please indicate if the smart meters and AMI infrastructure being deployed by Thunder Bay are capable of two-way communication.

***Smart Meter Rate Model***

**29. Ref: E8 / T1 / S1 / p8-17**

a. Please identify the balance of smart meter funding adder revenues as recorded in Account 1555 to April 30, 2009, including applicable interest charges.

b. Please explain how funding adder revenues recovered to April 30, 2009 are factored into the calculation of the recovery of smart meter costs and the proposed funding adder of $1.25.

## TAXES AND PAYMENTS IN LIEU OF INCOME TAXES ("PILS")

***PILs Calculation***

**30. Ref: E4 / T3 / S1 / Table 2**

a. Please provide Table 2 – Tax Calculations in working Excel spreadsheet format, including calculations for 2006 actual and 2007 actual.

b. Please provide the derivation of the 2009 test year "Utility Income Before Taxes" of $2,021,239.

c. Under "Calculation of Ontario Capital Tax", please provide the derivation of the "Total Rate Base" of $90,318,279.

d. Thunder Bay shows an addition to Accounting Income of $40,000 for 2008 and $59,524 for 2009 with Apprenticeship Tax Credit tax rate reductions of 1.93% for

2008 and 2.28354% for 2009. Please explain further the tax treatment used by Thunder Bay.

## LOAD AND REVENUE FORECAST

### *Customer Forecast*

**31. Ref: E3/ T2 /S4**

a. Please explain if Thunder Bay's test year customer count forecast is consistent with one or more external forecasts (such as Housing Outlook reports from CMHC or the Canadian Chartered Banks). Please provide the reports/forecasts used and explain how these forecasts support Thunder Bay's projections for customer additions in the test year. If the external reports/forecasts do not support Thunder Bay's proposed customer forecast, please explain the reasons for any variances.

b. Please prepare a test year customer forecast using a linear trend method applied to historical customer data from 1999 to 2007. Please also provide the impact on the proposed test year (Billed KWh) load and revenue forecast if this alternate customer forecast is adopted.

### *Weather Normalization*

**32. Ref: E3/ T2 /S1**

At page 8 of the above reference, Thunder Bay states, "In order to incorporate weather normal conditions, the average monthly heating degree days and cooling degree days which have occurred from 1996 to 2007 is applied in the prediction formula".

Similar to the method used to develop the test year weather normal forecast, please provide the following "back-cast" scenarios:

a. Assuming Thunder Bay is preparing a forecast for test year 2006, please develop a weather normal forecast using 12-years of historical weather data from 1993-2004 and compare this forecast to actual observed weather in 2006. Please calculate the variance and percent variance from actual observed weather.

b. Assuming Thunder Bay is preparing a forecast for test year 2007, please develop a weather normal forecast using 12-years of historical data from 1994-2005 and compare this forecast to actual observed weather in 2007. Please calculate the variance and percent variance from actual observed weather.

c. Assuming Thunder Bay is preparing a forecast for test year 2008, please develop a weather normal forecast using 12-years of historical data from 1995-2006 and compare this forecast to actual year-to-date observed weather in 2008. Please calculate the variance and percent variance from actual observed weather

**33. Ref: E3/ T2 /S1**

Similar to the scenarios described above, please provide the following "back-cast" scenario's using a linear trend method based on 20-years of historical weather data.

a. Assuming Thunder Bay is preparing a forecast for test year 2006, please develop a weather normal forecast for the 2006 test year using historical weather data from 1985-2004 and compare this forecast to actual observed weather in 2006. Please calculate the variance and percentage variance from actual observed weather.

b. Assuming Thunder Bay is preparing a forecast for test year 2007, please develop a weather normal forecast for the 2007 test year using historical weather data from 1986-2005 and compare this forecast to actual observed weather in 2007. Please calculate the variance and percentage variance from actual observed weather.

c. Assuming Thunder Bay is preparing a forecast for test year 2008, please develop a weather normal forecast for the 2008 test year using historical weather data from 1987-2006 and compare the forecast to actual observed weather in 2008. Please calculate the variance and percentage variance from actual observed weather.

***Load and Revenue Forecast***

**34. Ref: E3 / T2 / S1**

At page 5 of the above reference, Thunder Bay states "Using stepwise regression techniques different explanatory variables were tested with the ultimate model being determined both by model statistics and by forecast accuracy".

a. Please identify any other explanatory variables that were tested. Please explain the reasons for rejecting these variables.

b. Please explain the rationale for not using price or number of customers as explanatory variables in the proposed linear regression equations.

c. Please prepare a Purchased KWh forecast using the regression equation: Purchased kWh=f(Total customers, HDD, CDD, Ontario Real GDP Monthly Index, Number of Days in the Month, Spring Fall Flag)+constant. If customer data is not available in the format required for the regression analysis, please make a reasonable assumption for the purposes of completing the interrogatory.

d. Please provide the statistical results of the above equation and the proposed equation and update Table 4 (Ex 3/T2/S1/page 8).

e. What is the impact on the proposed Purchased KWh and Billed KWh forecast if the above regression equation were used?

**35. Ref: N/A**

Please provide the following information regarding the accuracy of previous load forecasts:

a. The forecast error (i.e. variance between total normalized actual 2004 load versus forecast 2004 load) of the 2004 Purchased KWh and Billed KWh load forecast.

b. The forecast error (i.e. variance between total normalized actual 2005 load versus forecast 2005 load) of the 2005 Purchased KWh and Billed KWh load forecast.

c. The forecast error (i.e. variance between total normalized actual 2006 load versus forecast 2006 load) of the 2006 Purchased KWh and Billed KWh load forecast.

d. The forecast error (i.e. variance between total normalized actual 2007 load versus forecast 2007 load) of the 2007 Purchased KWh and Billed KWh load forecast.

e. The year-to-date (Jan-08 to Aug-08) forecast error (i.e. variance between total normalized actual 2008 load versus forecast 2008 load) of the 2008 Bridge year Purchased KWh and Billed KWh load forecast.

**36. Ref: E3 / T2 / S1 /p8**

At the above reference, Thunder Bay states, "In order to incorporate weather normal conditions, the average monthly heating degree days and cooling degree days which have occurred from 1996 to 2007 is applied in the prediction formula".

a. Please prepare a weather normal forecast for test year 2009 using a linear trend method based on 20 years of historical weather data (1988-2007).

b. Please prepare a (Purchased KWh and Billed KWh) load and revenue forecast for test year 2009 by applying this weather normal forecast to the prediction formula.

**37. Ref: E3 / T2 / S1 /p19**

At the above reference, Thunder Bay states, "It is Thunder Bay Hydro's view that CDM programs that were offered prior to June 2006 have impacted the historical usage per customer but programs that have been initiated after June 2006 have not impacted the historical usage per customer.... Consequently, a manual adjustment *[12.9 Gwh]* to the forecast has been made to reflect the savings in energy since June 2006 resulting from the CDM programs initiated after June 2006".

a. Please advise whether historical load data used in the regression model included the effect of CDM programs.

b. If your answer to a. is affirmative, please explain the reasons for the proposed additional reduction to the test year load forecast of 12.9 GWh, when the historic load data already includes the impact of CDM programs.

c. Please provide detailed calculations showing the derivation of the proposed 12.9 GWh CDM impact. Please also identify the impacts of programs, delivered by the distributor and effects caused by other activities.

**38. Ref: E3 / T2 / S1 /p12**

At the above reference, Thunder Bay states, "The geometric mean approach provides the average growth rate on a compounding basis".

a. Please explain the rationale for using geometric mean for the purposes of estimating the test year use per customer forecast. Please explain why it is appropriate to use this method for forecasting use per customer rather than an arithmetic mean method or a simple linear trend of historical consumption method.

b. Please prepare a test year use per customer forecast using the arithmetic mean method based on historical growth in use per customer from 2000 to 2007. Please update (the Billed kWh) load and identify the impact of this alternate method on the proposed load and revenue forecast.

c. Please prepare a test year use per customer forecast using a simple linear trend applied to historical use per customer data from 2000 to 2007. Please update (the Billed kWh) load and identify the impact of this alternate method on the proposed load and revenue forecast.

**39. Ref: N/A**

For the purposes of a sensitivity analysis, please provide the load and revenue impact of the following:

a. 1% change in proposed number of customers on the Billed KWh load forecast.

b. 1% change in proposed use per customer on the Billed KWh load forecast

c. 1% change in the proposed weather normal forecast on the Purchased kWh and Billed KWh load forecast.

***Revenue Offsets***

**40. Ref: E3 / T3 / S1**

a. Please provide a brief explanation of the nature of "non-utility operations" for which the revenues and expenses are recorded in Accounts 4375 and 4380 respectively. Include a discussion of the apparent contradiction of including the net revenue from non-utility operations in "Other Distribution Revenue"

b. Please describe the change in non-utility operations that is forecast to decrease revenue by $130,000 and expenses by approximately $65,000 in 2009.

## COST ALLOCATION AND RATE DESIGN

### *Cost Allocation*

**41. Ref: Information Filing EB-2007-0001**

Please provide for the record of this application an electronic copy of the Informational Filing EB-2007-0001 of Thunder Bay's revised cost allocation study (Run 2).

**42. Ref: E7 / T1 / S2 / p3 and E9 / T1 / S9 / Appendix A**

The proposed revenue to cost ratios for the following classes are proposed to remain unchanged from the corrected Informational Filing: GS< 50 kW, Sentinel Lighting, and Unmetered Scattered Load ("USL"). The calculated impacts for the Distribution Cost sub-totals in Exhibit 8 show a range from 9 – 12% for the GS<50 kW class, approximately 9% for Sentinel Lighting, but a range from about 50% - 70% for USL. Please provide an explanation of this apparent inconsistency between the USL impacts and the impacts on the other two classes.

### *Rate Design*

**43. Ref: E8 / T1 / S1 / Tables 5, 6 and E8 / T1 / S9 / Appendix A / p9**

The proportion of revenue derived from the Monthly Service Charge for the GS 1000 – 4999 kW class is intended to stay constant at 44.1% of the class total revenue. However, the proposed Monthly Service Charge is 26.72% higher than the current approved charge, whereas the proposed volumetric rate is 15.67% higher than the current rate. Please explain this apparent inconsistency, or alternatively propose rates that would retain a constant proportion of fixed and variable revenue from this class.

### *Specific Service Charges*

**44. Ref: E1 / T1 / S16 / Appendix A and E8 / T1 / S7**

Please confirm that the Service Call – Vacancy Reconnects charges shown in the Conditions of Service should be included in the Proposed Schedule of Rates and Charges.

**45. Ref: E1 / T1 / S5, E3 / T3 / S1, E8 / T1 / S5 / p6 and E8 / T1 / S7 / p3**

Thunder Bay is proposing to remove three Temporary Service charges from its Tariff of Rates and Charges. Going forward, it appears that Thunder Bay would be charging for these services on a cost recovery basis as per Thunder Bay's Conditions of Service.

a. Please explain why Thunder Bay wishes to make this change.

b. Does Thunder Bay have an estimate of the effect on its revenues due to changing these charges from a uniform rate to a cost recovery basis?

c. If the change is not negligible, please confirm that the difference ought to be reflected in the forecast of Account 4235 'Miscellaneous Service Revenues' in the referenced table in Exhibit 3.

***Retail Transmission Rates***

**46. Ref: E8 / T1 / S3 / p9-10 (Tables 6 and 7), E3 / T2 / S1 / p13 (Table 10) and p19 (Table 19)**

Thunder Bay has calculated retail transmission service rates ("RTSRs") that reflect the Uniform Transmission Rates that will come into effect January 1, 2009. The rates also reflect an adjustment to the 2008 retail rates which worsened the variances by continuing to be based on the 2006 approved rates which in turn over-corrected a previous trend.

The information provided in the application appears to meet the requirements of the *Electricity Distribution Retail Transmission Service Rates, Guideline G-2008-0001* issued by the Board on October 22.

However, the following information could aid in confirming that the adjustment proposed by Thunder Bay will have the effect of minimizing future growth in the variance accounts.

a. Please provide, for a convenient twelve month period, the wholesale charge determinants that determined the Network and Connection costs from the IESO shown in Table 6, and provide an adjustment to these quantities that would be consistent with Thunder Bay's load forecast for 2009.

b. Please provide a forecast of the wholesale costs of Network and Connection service in 2009 using these adjusted charge determinants and the new Uniform Transmissions Rates.

c. Please provide a calculation of retail revenues based on the proposed rates in Table 7 times the applicable billing quantities in the referenced Tables 10 and 19.

d. The absolute size of the variance account 1584, which is comprised of Network costs and revenues, is forecast to grow from $853,100 in 2008 to $895,773 in 2009 (Exhibit 1 / Tab 3 / Schedule 2 / Appendix A and B). Please discuss whether Thunder Bay believes that the proposed network RTSRs should be fine-tuned to eliminate this increase.

***Deferral and Variance Accounts***

**47. Ref: E1 / T3 / S2 / Appendix A and B**

Thunder Bay is not applying for disposition of the balance of any deferral or variance accounts. Thunder Bay has filed projected information on the balances in deferral and variance accounts for 2008 and 2009.

a. Please provide a continuity schedule for Thunder Bay's deferral and variance accounts using the Excel spreadsheet attached. (Please note that forecasting principal transactions beyond December 31, 2007 and the interest on those transactions in columns AM – AP is optional.)

b. The spreadsheet provides a sub-total for the accounts: 1508, 1518, 1525, 1548, 1570, 1571, 1572, 1574, 1582, 1592, 2425. Please calculate a set of rate riders that would dispose of the net balance of these accounts (excluding account 1592), and specify how many years the rate rider is assumed to be in effect. Please identify whether the balances are taken at the end of 2007, or at some

other time such as the projected balances shown in Appendix B. Please also provide details of how the individual balances would be allocated to customer classes, where possible using updated values of the same allocators as were used for the respective accounts in the 2006 model for regulatory asset recovery rate riders.

c. Please list and provide a brief description of all outstanding deferral and variance accounts noted in b. above. For account 1508 and related sub-accounts, please indicate when the recording of the principle amounts started and stopped in these accounts.

d. Please provide a table and explanatory notes similar to part b., assuming that all deferral and variance accounts would be cleared, except Accounts 1555, 1556, 1562,1563,1565,1566,1590 and 1592.

***Loss Factors***

**48. Ref: E4 / T2 / S6 and E8 / T1 / S7**

The calculations on page 2 of the first reference above show that the Distribution Loss Factor is 1.0478, and a Total Loss Factor of 1.0536. The latter includes a Supply Facility Loss Factor of 1.0055. The proposed Total Loss Factor in Exhibit 8 is 1.0478, i.e. it includes no Supply Facility Loss Factor.

a. Should the Supply Facility Loss Factor applicable to Thunder Bay differ from the provincial default value of 1.0045? If so, why?

b. Do the amounts shown in row A of Table 1 (p1 of the Exhibit 4 reference) include or exclude losses in the Supply Facilities (transformer stations) that serve Thunder Bay?

c. Which Total Loss Factor is correct: 1.0478 or 1.0536 (or other)?

***LRAM / SSM***

**49. Ref: E8 / T1 / S10 / p6**

Please explain why Thunder Bay calculated the LRAM amounts by a multiplier factor rather than load impacts on a year by year basis.

**50. Ref: E8 / T1 / S10 / p1-16**

Please identify any programs that include measures not Board approved and/or programs where the inputs and assumptions (e.g. energy savings, free rider rates, equipment life, etc.) used by Thunder Bay differ from those that are approved. For any such programs, please provide documentation supporting the inputs and assumptions used by Thunder Bay.

**51. Ref: E8 / T1 / S10 / p1-16**

a. Please provide the calculations, inputs and assumptions that were used to determine the LRAM amount. Please ensure that the free rider rates used for each program are included.

b. Please provide the calculations, inputs and assumptions that were used to determine the SSM amount. Please ensure that the free rider rates used for each program are included.

**52. Ref: E8 / T1 / S10 / p1-16**

The Board's *Guidelines for Electricity Distributor Conservation and Demand Management* issued on March 28, 2008, outlines in section 9 the information that is required when filing an application for LRAM or SSM. Please explain why the following has not been included in Thunder Bay's application:

a. For programs funded in 2007 and beyond an Evaluation Report, in accordance with the guidelines set out in section 7.4.

b. Verification of participation rates.