

**Ontario Energy Board**

**IN THE MATTER OF** the *Ontario Energy Board Act, 1998*,  
S.O. 1998, c. 15, (Schedule B);

**AND IN THE MATTER OF** an application by Hydro Ottawa  
Limited for an order approving just and reasonable rates and  
other charges for electricity distribution to be effective January  
1, 2012.

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ENERGY PROBE RESEARCH FOUNDATION  
("ENERGY PROBE")  
CROSS-EXAMINATION COMPENDIUM

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## 2.2 Long Term Debt

Hydro Ottawa currently has \$312.185M of long term debt in the form of promissory notes issued to the Holding Company at a weighted cost of 5.321% compared to the 5.258% rate approved in the 2008 Electricity Distribution Rate Application. As noted in section 1.0, a \$45M increase in long term debt has been forecast for the 2011 bridge year and a \$15M increase in long term debt has been forecast for the 2012 test year bringing the weighted cost of long term debt to 5.39%. Long term interest rates are expected to rise from their current levels during the bridge and test years. A summary of the notes and the weighted average cost calculation is shown in Table 1.

**Table 1 – Weighted Average Cost of Long Term Debt**

| Description                                  | Date of Issuance  | Principal (\$000's) | Interest Rate (%) | Weighted Debt Rate Cost |
|--|-------------------|---------------------|-------------------|-------------------------|
| Promissory Note to Hydro Ottawa Holding Inc. | July 1, 2005      | \$ 200,000          | 5.140%            | 2.7621%                 |
| Promissory Note to Hydro Ottawa Holding Inc. | July 1, 2005      | 32,185              | 5.900%            | 0.5102%                 |
| Promissory Note to Hydro Ottawa Holding Inc. | December 20, 2006 | 50,000              | 5.318%            | 0.7144%                 |
| Promissory Note to Hydro Ottawa Holding Inc. | December 21, 2009 | 15,000              | 5.85%             | 0.2357%                 |
| Promissory Note to Hydro Ottawa Holding Inc. | April 1, 2010     | 15,000              | 5.97%             | 0.2406%                 |
| Promissory Note to Hydro Ottawa Holding Inc. | July 5, 2011      | 15,000              | 5.65%             | 0.2277%                 |
| Promissory Note to Hydro Ottawa Holding Inc. | September 1, 2011 | 15,000              | 5.75%             | 0.2317%                 |
| Promissory Note to Hydro Ottawa Holding Inc. | December 1, 2011  | 15,000              | 5.75%             | 0.2317%                 |
| Promissory Note to Hydro Ottawa Holding Inc. | July 1, 2012      | 15,000              | 5.75%             | 0.2317%                 |
|  |                   | <u>\$ 372,185</u>   |                   | <u>5.39%</u>            |

**Ontario Energy Board**

**EB-2009-0084**

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# **Report of the Board**

**on the Cost of Capital for Ontario's Regulated  
Utilities**

December 11, 2009

reiterate that the onus is on the distributor that is making an application for rates to document the actual amount and cost of embedded long-term debt and, in a forward test year, forecast the amount and cost of new long-term debt to be obtained during the test year to support the reasonableness of the respective debt rates and terms.

The following guidelines are relevant with respect to the determination of the amount and cost of long-term debt for electricity distribution utilities.

**The Board will primarily rely on the embedded or actual cost for existing long-term debt instruments.** The Board is of the view that electricity distribution utilities should be motivated to make rational decisions for commercial “arms-length” debt arrangements, even with shareholders or affiliates.

In general, the Board is of the view that the onus is on the electricity distribution utility to forecast the amount and cost of new or renewed long-term debt. The electricity distribution utility also bears the burden of establishing the need for and prudence of the amount and cost of long-term debt, both embedded and new.

Third-party debt with a fixed rate will normally be afforded the actual or forecasted rate, which is presumed to be a “market rate”. However, the Board recognizes a deemed long-term debt rate continues to be required and this rate will be determined and published by the Board. **The deemed long-term debt rate will act as a proxy or ceiling for what would be considered to be a market-based rate by the Board in certain circumstances.** These circumstances include:

- For affiliate debt (i.e., debt held by an affiliated party as defined by the Ontario *Business Corporations Act, 1990*) with a fixed rate, the deemed long-term debt rate at the time of issuance will be used as a ceiling on the rate allowed for that debt.
- For debt that has a variable rate, the deemed long-term debt rate will be a ceiling on the rate allowed for that debt. This applies whether the debt holder is an affiliate or a third-party.

Ontario Energy Board

- The deemed long-term debt rate will be used where an electricity distribution utility has no actual debt.
- For debt that is callable on demand (within the test year period), the deemed long-term debt rate will be a ceiling on the rate allowed for that debt. Debt that is callable, but not within the period to the end of the test year, will have its debt cost considered as if it is not callable; that is the debt cost will be treated in accordance with other guidelines pertaining to actual, affiliated or variable-rate debt.
- A Board panel will determine the debt treatment, including the rate allowed based on the record before it and considering the Board's policy (these Guidelines) and practice. The onus will be on the utility to establish the need for and prudence of its actual and forecasted debt, including the cost of such debt.

*Deemed Long-term Debt Formula for Electricity Distributors*

While the Board is of the view that greater reliance should be placed on embedded debt, including forecasts of the amount and cost of new debt expected to be incurred during the test year, the Board recognizes that there is a continuing need for a deemed long-term debt rate.

While there were no specific suggestions for how the deemed long-term debt rate should be calculated, **the Board sees merit in modifying the formula in a manner consistent with the changes adopted for the ROE adjustment formula.**

Specifically, the Board considers that **the deemed long-term debt rate for the test year should be an estimate based on the long (30-year) Government of Canada bond yield forecast plus the average spread between an A-rated Canadian utility bond yield and 30-year Government of Canada bond yield for all business days in the month three (3) months in advance of the (proposed) effective date for the rate changes.** This change is only in the source of the data, in the following ways:

COPY

**DEMAND PROMISSORY NOTE**

|  |   |
|--|---|
| Principal: \$200,000,000<br>lawful money of Canada | Made and delivered at Ottawa<br>on this 1st day of July, 2005 |
|--|---|

As partial consideration for the assumption by **Hydro Ottawa Holding Inc.** of two hundred million (\$200,000,000) of the obligations pursuant to the promissory note dated December 31, 2004, with the principal amount of two hundred and thirty-two million, one hundred and eighty-five thousand dollars (\$232,185,000) owing by **Hydro Ottawa Limited**, a corporation incorporated pursuant to the laws of the Province of Ontario, hereby unconditionally promises to pay to or to the order of **Hydro Ottawa Holding Inc.** on demand at Ottawa, Canada the principal amount of two hundred million dollars (\$200,000,000) (the "Principal Amount") in lawful money of Canada and interest thereon upon the terms and subject to the conditions set forth below.

1. **INTEREST RATE**

The rate of interest payable on the Principal Amount or the amount remaining unpaid from time to time on this Demand Promissory Note shall be 5.14% per annum.

2. **TERMS OF PAYMENT**

The interest payable hereunder shall be payable on the first day of each month, both before and after demand, default and judgment. **Hydro Ottawa Limited** shall pay to **Hydro Ottawa Holding Inc.**, on demand, interest on overdue interest at the rate described in section 1 hereof compounded on each date for the payment of interest on this Demand Promissory Note before and after judgment.

3. **PREPAYMENT**

**Hydro Ottawa Limited** may, at any time, without penalty, repay in whole or in part the Principal Amount or the amount remaining unpaid from time to time on this Demand Promissory Note and interest owing under this Demand Promissory Note. Any prepayment shall be applied first to interest until it has been paid in full and then to the Principal Amount.

4. **SUBORDINATION**

The obligation of **Hydro Ottawa Limited** to pay the Principal Amount or the amount remaining unpaid from time to time on this Demand Promissory Note, together with interest thereon in accordance with and pursuant to this Demand Promissory Note and all present are subordinated and postponed to the obligations of **Hydro Ottawa Limited** to a third party for the payment in full of any secured

indebtedness and all security interests granted to secure such obligations of **Hydro Ottawa Limited**.

5. **CONVERSION**

This Demand Promissory Note is convertible into fully paid and non-assessable Class A shares of **Hydro Ottawa Limited** as more specifically provided for in Schedule "A" attached hereto, which Schedule forms part of this Demand Promissory Note.

6. **WAIVER OF NOTICE IN EVENT OF DEFAULT**

**Hydro Ottawa Limited** hereby waives presentment, protest and notice of any kind in the enforcement of this Demand Promissory Note. **Hydro Ottawa Limited** further agrees to pay all costs of collection, including legal fees on a solicitor and client basis, in case the Principal Amount, or the amount remaining unpaid from time to time on this Demand Promissory Note, or any payment of interest thereon is not made when due.

7. **RIGHTS AND REMEDIES IN EVENT OF DEFAULT**

The rights and remedies of **Hydro Ottawa Holding Inc.** under this Demand Promissory Note which it may have at law or in equity against **Hydro Ottawa Limited** shall be distinct, separate and cumulative, and shall not be deemed inconsistent with one another, and none of the said rights, whether or not exercised by **Hydro Ottawa Holding Inc.**, shall be deemed to be to the exclusion of any other, and any one or more of said rights and remedies may be exercised at the same time. The obligations of **Hydro Ottawa Limited** under this Demand Promissory Note shall continue until the entire debt evidenced hereby is paid, notwithstanding any court action or actions taken by **Hydro Ottawa Holding Inc.** which may be brought to recover any amounts due and payable under this Demand Promissory Note. No delay or failure by **Hydro Ottawa Holding Inc.** in the enforcement of any covenant, promise or agreement of **Hydro Ottawa Limited** hereunder shall constitute or be deemed to constitute a waiver of such right. Any waivers of **Hydro Ottawa Holding Inc.** shall only occur and be valid when set forth in writing by **Hydro Ottawa Holding Inc.** No waiver of any event of default shall discharge or release any person at any time liable for the payment of this Demand Promissory Note from such liability. No single or partial exercise of any of **Hydro Ottawa Holding Inc.**'s powers hereunder shall preclude other and further exercise thereof or the exercise of any other power.

8. **BALANCE OF CONSIDERATION**

As consideration for the remaining balance of thirty two million, one hundred and eighty five thousand dollars (\$32,185,000) owing under the Demand Promissory Note dated December 31, 2004, **Hydro Ottawa Limited** has issued a further interest bearing Demand Promissory Note dated **July 1<sup>st</sup>, 2005**.

9. **ASSIGNMENT**

This Demand Promissory Note may not be assigned by **Hydro Ottawa Limited** without the written consent of **Hydro Ottawa Holding Inc.**

10. **GOVERNING LAW**

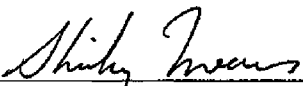
This Demand Promissory Note shall be governed by the laws of the Province of Ontario and the laws of Canada applicable therein.

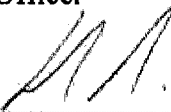
11. **CANCELLATION OF PREVIOUS NOTE**

This interest bearing Demand Promissory Note in the amount of two hundred million dollars (\$200,000,000) and the interest bearing Demand Promissory Note in the amount of thirty two million, one hundred and eighty five thousand dollars (\$32,185,000), dated **July 1<sup>st</sup> 2005** replace the Demand Promissory Note dated **December 31, 2004** in the amount of two hundred and thirty two million, one hundred and eighty five thousand (\$232,185,000) made between **Hydro Ottawa Limited** and **Hydro Ottawa Holding Inc.**

**IN WITNESS WHEREOF** **Hydro Ottawa Limited** has duly executed this Demand Promissory Note on the date first appearing above.

**HYDRO OTTAWA LIMITED**

Per:   
Name: Shirley Mears  
Title: Senior Vice President & Chief  
Financial Officer

Per:   
Name: Mike Grue  
Title: Treasurer



**SCHEDULE "A"**

**CONVERSION RIGHTS**

1. At any time and from time to time after the date hereof, Hydro Ottawa Holding Inc. shall have the right to convert any or all of the Principal Amount owing or outstanding from time to time under this Demand Promissory Note into fully paid and non-assessable Class A shares of Hydro Ottawa Limited at a conversion rate equal to one (1) Class A share for each \$1.00 of the Principal Amount so converted. Such conversion will take effect upon the surrender of this Demand Promissory Note accompanied by a written instrument of surrender signed by Hydro Ottawa Holding Inc. notifying Hydro Ottawa Limited as to the exercise of the right of conversion and specifying the amount of principal hereunder in respect of which this Demand Promissory Note is converted.
2. As promptly as practicable after the surrender of this Demand Promissory Note for conversion, but in any event no later than one (1) month after such surrender, Hydro Ottawa Limited shall issue to Hydro Ottawa Holding Inc. a certificate representing the number of fully paid and non-assessable Class A shares into which all or any portion of the Principal Amount hereunder has been converted and, in the event that any amount remains outstanding hereunder after giving effect to such conversion, Hydro Ottawa Holding Inc. shall issue a new promissory note, in form and substance identical to this Demand Promissory Note, in principal amount equal to the amount of such unconverted principal and interest.
3. The conversion of this Demand Promissory Note shall be deemed to have been made at the close of business on the date on which this Demand Promissory Note is surrendered for conversion, and Hydro Ottawa Holding Inc. shall be treated as having become the holder of record of such shares at such time.
4. If Hydro Ottawa Limited at any time subdivides or consolidates the shares issuable upon conversion, Hydro Ottawa Holding Inc. shall thereafter be entitled on conversion to receive the shares to which it was before such subdivision or consolidation entitled, as subdivided or consolidated, and the conversion rate of the Principal Amount shall be adjusted accordingly. Any such adjustment shall become effective on the date and at the time that such subdivision or consolidation becomes effective.
5. In case of:
  - a. Any reclassification or change of shares issuable upon conversion;
  - b. Any consolidation, merger or amalgamation of Hydro Ottawa Limited with or into another corporation or corporations;
  - c. The sale of all or substantially all of the properties and assets of Hydro Ottawa Limited to any other corporation or corporations; or
  - d. The sale of all or substantially all of the properties and assets of Hydro Ottawa Limited to another person or persons in exchange for securities in or of such other person or persons or any affiliate thereof;

Hydro Ottawa Holding Inc. shall have the right thereafter to convert the Principal Amount of this Demand Promissory Note (or any portion thereof) into the kind and amount of shares or other securities and property (or the applicable portion thereof) receivable on such reclassification, change, consolidation, merger, amalgamation or sale that Hydro Ottawa Holding Inc. would have been entitled to receive thereupon had Hydro Ottawa Holding Inc. been the registered holder of the number of shares into which the Principal Amount under this Demand Promissory Note might have been converted immediately prior thereto. The provisions of this section shall similarly apply to successive reclassifications and changes of shares into successive consolidations, mergers, amalgamations and sales.

COPY

**DEMAND PROMISSORY NOTE**

|   |   |
|---|---|
| Principal: \$32,185,000<br>lawful money of Canada | Made and delivered at Ottawa<br>on this 1st day of July, 2005 |
|---|---|

As partial consideration for the assumption by **Hydro Ottawa Holding Inc.** of thirty two million, one hundred and eighty five thousand dollars (\$32,185,000) of the obligations pursuant to the promissory note dated December 31, 2004 with the principal amount of two hundred and thirty-two million, one hundred and eighty-five thousand dollars (\$232,185,000) owing by **Hydro Ottawa Limited**, a corporation incorporated pursuant to the laws of the Province of Ontario hereby unconditionally promises to pay to or to the order of **Hydro Ottawa Holding Inc.** on demand at Ottawa, Canada the principal amount of thirty two million, one hundred and eighty five thousand dollars (\$32,185,000) (the "Principal Amount") in lawful money of Canada and interest thereon upon the terms and subject to the conditions set forth below:

1. **INTEREST RATE**

The rate of interest payable on the Principal Amount or the amount remaining unpaid from time to time on this Demand Promissory Note shall be 5.9% per annum.

2. **TERMS OF PAYMENT**

The interest payable hereunder shall be payable on the first day of each month, both before and after demand, default and judgment. **Hydro Ottawa Limited** shall pay to **Hydro Ottawa Holding Inc.**, on demand, interest on overdue interest at the rate described in section 1 hereof compounded on each date for the payment of interest on this Demand Promissory Note before and after judgment.

3. **PREPAYMENT**

**Hydro Ottawa Limited** may, at any time, without penalty, repay in whole or in part the Principal Amount or the amount remaining unpaid from time to time on this Demand Promissory Note and interest owing under this Demand Promissory Note. Any prepayment shall be applied first to interest until it has been paid in full and then to the Principal Amount.

4. **SUBORDINATION**

The obligation of **Hydro Ottawa Limited** to pay the Principal Amount or the amount remaining unpaid from time to time on this Demand Promissory Note, together with interest thereon in accordance with and pursuant to this Demand Promissory Note and all present are subordinated and postponed to the obligations

of **Hydro Ottawa Limited** to a third party for the payment in full of any secured indebtedness and all security interests granted to secure such obligations of **Hydro Ottawa Limited**.

5. **CONVERSION**

This Demand Promissory Note is convertible into fully paid and non-assessable Class A shares of **Hydro Ottawa Limited** as more specifically provided for in Schedule "A" attached hereto, which Schedule forms part of this Demand Promissory Note.

6. **WAIVER OF NOTICE IN EVENT OF DEFAULT**

**Hydro Ottawa Limited** hereby waives presentment, protest and notice of any kind in the enforcement of this Demand Promissory Note. **Hydro Ottawa Limited** further agrees to pay all costs of collection, including legal fees on a solicitor and client basis, in case the Principal Amount, or the amount remaining unpaid from time to time on this Demand Promissory Note, or any payment of interest thereon is not made when due.

7. **RIGHTS AND REMEDIES IN EVENT OF DEFAULT**

The rights and remedies of **Hydro Ottawa Holding Inc.** under this Demand Promissory Note which it may have at law or in equity against **Hydro Ottawa Limited** shall be distinct, separate and cumulative, and shall not be deemed inconsistent with one another, and none of the said rights, whether or not exercised by **Hydro Ottawa Holding Inc.**, shall be deemed to be to the exclusion of any other, and any one or more of said rights and remedies may be exercised at the same time. The obligations of **Hydro Ottawa Limited** under this Demand Promissory Note shall continue until the entire debt evidenced hereby is paid, notwithstanding any court action or actions taken by **Hydro Ottawa Holding Inc.** which may be brought to recover any amounts due and payable under this Demand Promissory Note. No delay or failure by **Hydro Ottawa Holding Inc.** in the enforcement of any covenant, promise or agreement of **Hydro Ottawa Limited** hereunder shall constitute or be deemed to constitute a waiver of such right. Any waivers of **Hydro Ottawa Holding Inc.** shall only occur and be valid when set forth in writing by **Hydro Ottawa Holding Inc.** No waiver of any event of default shall discharge or release any person at any time liable for the payment of this Demand Promissory Note from such liability. No single or partial exercise of any of **Hydro Ottawa Holding Inc.**'s powers hereunder shall preclude other and further exercise thereof or the exercise of any other power.

8. **BALANCE OF CONSIDERATION**

As consideration for the remaining balance of two hundred million dollars (\$200,000,000) owing on the Demand Promissory Note dated December 31, 2004, **Hydro Ottawa Limited** has issued a further interest bearing Demand Promissory Note dated **July 1<sup>st</sup>, 2005**.

9. **ASSIGNMENT**

This Demand Promissory Note may not be assigned by **Hydro Ottawa Limited** without the written consent of **Hydro Ottawa Holding Inc.**

10. **GOVERNING LAW**

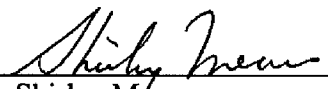
This Demand Promissory Note shall be governed by the laws of the Province of Ontario and the laws of Canada applicable therein.


11. **CANCELLATION OF PREVIOUS NOTE**

This interest bearing Demand Promissory Note in the amount of thirty-two million, one hundred and eighty-five thousand dollars (\$32,185,000) and the interest bearing Demand Promissory Note in the amount of in the amount of two hundred million dollars (\$200,000,000), dated **July 1<sup>st</sup> 2005** replace the Demand Promissory Note dated **December 31, 2004** in the amount of two hundred and thirty two million, one hundred and eighty five thousand (\$232,185,000) made between **Hydro Ottawa Limited** and **Hydro Ottawa Holding Inc.**

**IN WITNESS WHEREOF Hydro Ottawa Limited** has duly executed this Demand Promissory Note on the date first appearing above.

**HYDRO OTTAWA LIMITED**

Per:   
Name: Shirley Mears  
Title: Senior Vice President & Chief  
Financial Officer

Per:   
Name: Mike Grue  
Title: Treasurer

**SCHEDULE "A"**  
**CONVERSION RIGHTS**

1. At any time and from time to time after the date hereof, Hydro Ottawa Holding Inc. shall have the right to convert any or all of the Principal Amount owing or outstanding from time to time under this Demand Promissory Note into fully paid and non-assessable Class A shares of Hydro Ottawa Limited at a conversion rate equal to one (1) Class A share for each \$1.00 of the Principal Amount so converted. Such conversion will take effect upon the surrender of this Demand Promissory Note accompanied by a written instrument of surrender signed by Hydro Ottawa Holding Inc. notifying Hydro Ottawa Limited as to the exercise of the right of conversion and specifying the amount of principal hereunder in respect of which this Demand Promissory Note is converted.
2. As promptly as practicable after the surrender of this Demand Promissory Note for conversion, but in any event no later than one (1) month after such surrender, Hydro Ottawa Limited shall issue to Hydro Ottawa Holding Inc. a certificate representing the number of fully paid and non-assessable Class A shares into which all or any portion of the Principal Amount hereunder has been converted and, in the event that any amount remains outstanding hereunder after giving effect to such conversion, Hydro Ottawa Holding Inc. shall issue a new promissory note, in form and substance identical to this Demand Promissory Note, in principal amount equal to the amount of such unconverted principal and interest.
3. The conversion of this Demand Promissory Note shall be deemed to have been made at the close of business on the date on which this Demand Promissory Note is surrendered for conversion, and Hydro Ottawa Holding Inc. shall be treated as having become the holder of record of such shares at such time.
4. If Hydro Ottawa Limited at any time subdivides or consolidates the shares issuable upon conversion, Hydro Ottawa Holding Inc. shall thereafter be entitled on conversion to receive the shares to which it was before such subdivision or consolidation entitled, as subdivided or consolidated, and the conversion rate of the Principal Amount shall be adjusted accordingly. Any such adjustment shall become effective on the date and at the time that such subdivision or consolidation becomes effective.
5. In case of:
  - a. Any reclassification or change of shares issuable upon conversion;
  - b. Any consolidation, merger or amalgamation of Hydro Ottawa Limited with or into another corporation or corporations;
  - c. The sale of all or substantially all of the properties and assets of Hydro Ottawa Limited to any other corporation or corporations; or
  - d. The sale of all or substantially all of the properties and assets of Hydro Ottawa Limited to another person or persons in exchange for securities in or of such other person or persons or any affiliate thereof;

Hydro Ottawa Holding Inc. shall have the right thereafter to convert the Principal Amount of this Demand Promissory Note (or any portion thereof) into the kind and amount of shares or other securities and property (or the applicable portion thereof) receivable on such reclassification, change, consolidation, merger, amalgamation or sale that Hydro Ottawa Holding Inc. would have been entitled to receive thereupon had Hydro Ottawa Holding Inc. been the registered holder of the number of shares into which the Principal Amount under this Demand Promissory Note might have been converted immediately prior thereto. The provisions of this section shall similarly apply to successive reclassifications and changes of shares into successive consolidations, mergers, amalgamations and sales.

**COPY****DEMAND PROMISSORY NOTE**

|   |  |
|---|--|
| Principal: \$50,000,000<br>lawful money of Canada | Made and delivered at Ottawa<br>on this 20th day of December, 2006 |
|---|--|

As consideration for the transfer of funds by **Hydro Ottawa Holding Inc.** necessary to support the capital asset management plan of **Hydro Ottawa Limited**, a corporation incorporated pursuant to the laws of the Province of Ontario, in the amount of fifty million dollars (\$50,000,000), **Hydro Ottawa Limited**, hereby unconditionally promises to pay to or to the order of **Hydro Ottawa Holding Inc.** on demand at Ottawa, Canada the principal amount of fifty million, dollars (\$50,000,000) (the "Principal Amount") in lawful money of Canada and interest thereon upon the terms and subject to the conditions set forth below:

1. **INTEREST RATE**

The rate of interest payable on the Principal Amount or the amount remaining unpaid from time to time on this Demand Promissory Note shall be 5.318% per annum.

2. **TERMS OF PAYMENT**

The interest payable hereunder shall be payable on the first day of each month, both before and after demand, default and judgment. **Hydro Ottawa Limited** shall pay to **Hydro Ottawa Holding Inc.**, on demand, interest on overdue interest at the rate described in section 1 hereof compounded on each date for the payment of interest on this Demand Promissory Note before and after judgment.

3. **PREPAYMENT**

**Hydro Ottawa Limited** may, at any time, without penalty, repay in whole or in part the Principal Amount or the amount remaining unpaid from time to time on this Demand Promissory Note and interest owing under this Demand Promissory Note. Any prepayment shall be applied first to interest until it has been paid in full and then to the Principal Amount.

4. **SUBORDINATION**

The obligation of **Hydro Ottawa Limited** to pay the Principal Amount or the amount remaining unpaid from time to time on this Demand Promissory Note, together with interest thereon in accordance with and pursuant to this Demand Promissory Note and all present are subordinated and postponed to the obligations of **Hydro Ottawa Limited** to a third party for the payment in full of any secured



indebtedness and all security interests granted to secure such obligations of **Hydro Ottawa Limited**.

5. **CONVERSION**

This Demand Promissory Note is convertible into fully paid and non-assessable Class A shares of **Hydro Ottawa Limited** as more specifically provided for in Schedule "A" attached hereto, which Schedule forms part of this Demand Promissory Note.

6. **WAIVER OF NOTICE IN EVENT OF DEFAULT**

**Hydro Ottawa Limited** hereby waives presentment, protest and notice of any kind in the enforcement of this Demand Promissory Note. **Hydro Ottawa Limited** further agrees to pay all costs of collection, including legal fees on a solicitor and client basis, in case the Principal Amount, or the amount remaining unpaid from time to time on this Demand Promissory Note, or any payment of interest thereon is not made when due.

7. **RIGHTS AND REMEDIES IN EVENT OF DEFAULT**

The rights and remedies of **Hydro Ottawa Holding Inc.** under this Demand Promissory Note which it may have at law or in equity against **Hydro Ottawa Limited** shall be distinct, separate and cumulative, and shall not be deemed inconsistent with one another, and none of the said rights, whether or not exercised by **Hydro Ottawa Holding Inc.**, shall be deemed to be to the exclusion of any other, and any one or more of said rights and remedies may be exercised at the same time. The obligations of **Hydro Ottawa Limited** under this Demand Promissory Note shall continue until the entire debt evidenced hereby is paid, notwithstanding any court action or actions taken by **Hydro Ottawa Holding Inc.** which may be brought to recover any amounts due and payable under this Demand Promissory Note. No delay or failure by **Hydro Ottawa Holding Inc.** in the enforcement of any covenant, promise or agreement of **Hydro Ottawa Limited** hereunder shall constitute or be deemed to constitute a waiver of such right. Any waivers of **Hydro Ottawa Holding Inc.** shall only occur and be valid when set forth in writing by **Hydro Ottawa Holding Inc.** No waiver of any event of default shall discharge or release any person at any time liable for the payment of this Demand Promissory Note from such liability. No single or partial exercise of any of **Hydro Ottawa Holding Inc.**'s powers hereunder shall preclude other and further exercise thereof or the exercise of any other power.

8. **ASSIGNMENT**

This Demand Promissory Note may not be assigned by **Hydro Ottawa Limited** without the written consent of **Hydro Ottawa Holding Inc.**


9. **GOVERNING LAW**

This Demand Promissory Note shall be governed by the laws of the Province of Ontario and the laws of Canada applicable therein.

**IN WITNESS WHEREOF** **Hydro Ottawa Limited** has duly executed this Demand Promissory Note on the date first appearing above.

**HYDRO OTTAWA LIMITED**

Per:   
Name: Wojciech Zielonka  
Title: Chief Financial Officer

Per:   
Name: Rosemarie T. Leclair  
Title: President & Chief Executive Officer

**SCHEDULE "A"**  
**CONVERSION RIGHTS**

1. At any time and from time to time after the date hereof, Hydro Ottawa Holding Inc. shall have the right to convert any or all of the Principal Amount owing or outstanding from time to time under this Demand Promissory Note into fully paid and non-assessable Class A shares of Hydro Ottawa Limited at a conversion rate equal to one (1) Class A share for each \$1.00 of the Principal Amount so converted. Such conversion will take effect upon the surrender of this Demand Promissory Note accompanied by a written instrument of surrender signed by Hydro Ottawa Holding Inc. notifying Hydro Ottawa Limited as to the exercise of the right of conversion and specifying the amount of principal hereunder in respect of which this Demand Promissory Note is converted.
2. As promptly as practicable after the surrender of this Demand Promissory Note for conversion, but in any event no later than one (1) month after such surrender, Hydro Ottawa Limited shall issue to Hydro Ottawa Holding Inc. a certificate representing the number of fully paid and non-assessable Class A shares into which all or any portion of the Principal Amount hereunder has been converted and, in the event that any amount remains outstanding hereunder after giving effect to such conversion, Hydro Ottawa Holding Inc. shall issue a new promissory note, in form and substance identical to this Demand Promissory Note, in principal amount equal to the amount of such unconverted principal and interest.
3. The conversion of this Demand Promissory Note shall be deemed to have been made at the close of business on the date on which this Demand Promissory Note is surrendered for conversion, and Hydro Ottawa Holding Inc. shall be treated as having become the holder of record of such shares at such time.
4. If Hydro Ottawa Limited at any time subdivides or consolidates the shares issuable upon conversion, Hydro Ottawa Holding Inc. shall thereafter be entitled on conversion to receive the shares to which it was before such subdivision or consolidation entitled, as subdivided or consolidated, and the conversion rate of the Principal Amount shall be adjusted accordingly. Any such adjustment shall become effective on the date and at the time that such subdivision or consolidation becomes effective.
5. In case of:
  - a. Any reclassification or change of shares issuable upon conversion;
  - b. Any consolidation, merger or amalgamation of Hydro Ottawa Limited with or into another corporation or corporations;
  - c. The sale of all or substantially all of the properties and assets of Hydro Ottawa Limited to any other corporation or corporations; or
  - d. The sale of all or substantially all of the properties and assets of Hydro Ottawa Limited to another person or persons in exchange for securities in or of such other person or persons or any affiliate thereof;

Hydro Ottawa Holding Inc. shall have the right thereafter to convert the Principal Amount of this Demand Promissory Note (or any portion thereof) into the kind and amount of shares or other securities and property (or the applicable portion thereof) receivable on such reclassification, change, consolidation, merger, amalgamation or sale that Hydro Ottawa Holding Inc. would have been entitled to receive thereupon had Hydro Ottawa Holding Inc. been the registered holder of the number of shares into which the Principal Amount under this Demand Promissory Note might have been converted immediately prior thereto. The provisions of this section shall similarly apply to successive reclassifications and changes of shares into successive consolidations, mergers, amalgamations and sales.

**GRID PROMISSORY NOTE**

Effective the 1st day of January 2009.

As consideration for the transfer of funds by Hydro Ottawa Holding Inc. to Hydro Ottawa Limited, **Hydro Ottawa Limited**, (the "Borrower"), a corporation incorporated pursuant to the laws of the Province of Ontario, hereby unconditionally promises to pay to or to the order of **Hydro Ottawa Holding Inc.** (the "Lender") at Ottawa, Canada the principal amount advanced under this grid promissory note (the "Principal") together with interest at a rate specified below ("Interest") on the amount of Principal from time to time outstanding in lawful money of Canada upon the terms and subject to the conditions set forth below.

This Note is a negotiable instrument.

The following are the terms and conditions of the Note:

1. **PRINCIPAL**

- (1) The total amount authorized will not exceed \$75,000,000.00 CDN.
- (2) Advances of Principal may be made in tranches to meet business requirements.
- (3) The liability of the Borrower and of any guarantor of the Borrower ("Guarantor") or endorser in respect of Principal shall not exceed the outstanding amount of Principal.
- (4) Advances shall be deemed conclusively to have been made to and for the benefit of the Borrower when,
  - (a) deposited or credited to the account of the Borrower by the Lender; or
  - (b) made in accordance with the instructions of the Borrower.
- (5) All advances of Principal under this Note shall be evidenced by endorsement upon the grid attached to this Note as Schedule A (the "Grid").
- (6) The Lender's Chief Financial Officer, President and Chief Executive Officer and Treasurer are authorized to endorse the Grid, including any continuation Grid that may be attached to this Note, the date and amount of each advance and together with the unpaid balance of the Principal and each endorsement shall be prima facie evidence of the amounts so advanced and the balance of principal outstanding under this Note.

2. **INTEREST RATE**

- (1) Interest shall be payable upon the amounts advanced under this Note at a fixed rate of interest payable monthly in arrears on a mutually agreed date. The rate established for long term debt will be based on either of two methods:
- a) If available, the actual cost of external long term debt, including issuance costs, issued to a 3<sup>rd</sup> party of which the proceeds, in part or total, flow through to Hydro Ottawa Limited or;
  - b) An estimated "deemed interest rate" which will be based on the underlying methodology outlined in the Ontario Energy Board's "Report of the Board" on the Cost of Capital for Ontario's Regulated Utilities EB-2009-0084 dated December 11, 2009. The rate will be determined from available information at the time of the advancement using indicative rates as provided to Hydro Ottawa Limited. The rate will also include estimated issuance costs that would be associated with an issuance. The rate that is in effect when the advance was made will be used for the duration of the advance as per the Term and Payment section. .
  - c) All changes to interest rates under this Note shall be evidenced by endorsement upon the Grid attached as Schedule A.

3. **ADMINISTRATIVE FEE**

An administrative charge will be added to the rate of interest charged on Long Term Debt advances at the rate of 0.10% per annum.

4. **TERM AND REPAYMENT**

- (1) The Principal and any accrued and outstanding Interest payable under this Note shall be payable in full on February 9, 2015 unless otherwise agreed by Hydro Ottawa Holding Inc. and Hydro Ottawa Limited.
- (2) **Hydro Ottawa Limited** may, at any time, repay the full Principal amount outstanding from time to time on this Note. In addition to any other amount then payable by the Borrower pursuant to the terms hereof (including, without limitation, accrued interest) in respect to the repayment, the Borrower shall pay to the Lender an amount equal to three months simple interest on the full Principal amount being repaid.
- (3) **Hydro Ottawa Holding Inc.** may require that **Hydro Ottawa Limited** repay the Principal and Interest payable within 30 days following a change of control of **Hydro Ottawa Limited**. For the purpose of this sub-section control means with respect to **Hydro Ottawa Limited** at any time (i) holding, as owner or other beneficiary – other than solely as beneficiary of an unrealized security interest – directly or indirectly, securities or ownership interests of **Hydro Ottawa Limited**

carrying votes or ownership interests sufficient to elect or appoint the majority of individuals who are responsible for the supervision or management of **Hydro Ottawa Limited**, or (ii) the exercise of de facto control of **Hydro Ottawa Limited**, whether direct or indirect and whether through the ownership of securities or ownership interests, by contract, trust or otherwise.

5. **SUBORDINATION**

The obligation of **Hydro Ottawa Limited** to pay the Principal Amount or the amount remaining unpaid from time to time on this Grid Promissory Note are subordinated and postponed to the obligations of **Hydro Ottawa Limited** to a third party for the payment in full of any secured indebtedness and all security interests granted to secure such obligations of **Hydro Ottawa Limited**.

a. **WAIVER OF NOTICE IN EVENT OF DEFAULT**

**Hydro Ottawa Limited** hereby waives presentment, protest and notice of any kind in the enforcement of this Grid Promissory Note. **Hydro Ottawa Limited** further agrees to pay all costs of collection, including legal fees on a solicitor and client basis, in case the Principal Amount, or the amount remaining unpaid from time to time on this Grid Promissory Note, is not made when due.

b. **RIGHTS AND REMEDIES IN EVENT OF DEFAULT**

The rights and remedies of **Hydro Ottawa Holding Inc.** under this Grid Promissory Note which it may have at law or in equity against **Hydro Ottawa Limited** shall be distinct, separate and cumulative, and shall not be deemed inconsistent with one another, and none of the said rights, whether or not exercised by **Hydro Ottawa Holding Inc.**, shall be deemed to be to the exclusion of any other, and any one or more of said rights and remedies may be exercised at the same time. The obligations of **Hydro Ottawa Limited** under this Grid Promissory Note shall continue until the entire debt evidenced hereby is paid, notwithstanding any court action or actions taken by **Hydro Ottawa Holding Inc.** which may be brought to recover any amounts due and payable under this Grid Promissory Note. No delay or failure by **Hydro Ottawa Holding Inc.** in the enforcement of any covenant, promise or agreement of **Hydro Ottawa Limited** hereunder shall constitute or be deemed to constitute a waiver of such right. Any waivers of **Hydro Ottawa Holding Inc.** shall only occur and be valid when set forth in writing by **Hydro Ottawa Holding Inc.** No waiver of any event of default shall discharge or release any person at any time liable for the payment of this Grid Promissory Note from such liability. No single or partial

exercise of any of **Hydro Ottawa Holding Inc.**'s powers hereunder shall preclude other and further exercise thereof or the exercise of any other power.

c. **ASSIGNMENT**

This Grid Promissory Note may not be assigned by **Hydro Ottawa Holding Inc.** or **Hydro Ottawa Limited**.

d. **GOVERNING LAW**

This Grid Promissory Note shall be governed by the laws of the Province of Ontario and the laws of Canada applicable therein.

**IN WITNESS WHEREOF** Hydro Ottawa Limited has duly executed this Grid Promissory Note on the date first appearing above.

**HYDRO OTTAWA LIMITED**

Per: 

Name: Rosemarie T. Leclair

Title: President and Chief Executive Officer

Per: 

Name: Alan Hovord

Title: Chief Financial Officer



[illegible]



**Table 13 – 2010 Payroll and Benefit Expense Lead**

| Lead (Days)      | Payroll and withholdings | Benefits    | WSIB      | Total        |
|------------------|--------------------------|-------------|-----------|--------------|
| Expense          | \$46,496,277             | \$3,115,417 | \$394,118 | \$50,005,813 |
| Service Lead     | 6.32                     | (30.42)     | 14.04     | (10.06)      |
| Payment Lead     | 10.64                    | (16.38)     | 30.42     | 24.68        |
| Total Lead       | 16.96                    | (16.38)     | 44.46     | 45.04        |
| Weighting Factor | 92.98%                   | 6.23%       | 0.79%     | 100.00%      |
| Weighted Lead    | 15.77                    | (1.02)      | 0.35      | 15.10        |

### 3.2.2 Consulting and Contracts

Expenses included in this category are on-going contractual expenses Hydro Ottawa has with outside vendors. It includes consulting and contract staff, outside services, rental and lease payments, professional services (legal, audit and consulting), information technology ("IT") maintenance contracts, telephone lines and airtime, and membership and professional dues, including regulatory assessments. The 2009 and 2010 accounts payable data was retrieved from Hydro Ottawa's financial system JD Edwards ("JDE"). Each vendor has a payment term in JDE, and the vendor is paid based on that term. Based on this information and the analysis on actual accounts payable data, a weighted payment term is derived for each payment. Generally, vendors are paid between 15 to 30 days after the goods and services are invoiced. As a result of prepaid expenses (e.g. OEB cost assessments, IT maintenance contracts, and insurance), the average expense lead for 2009 is 7.96 days and for 2010 is 7.22 days.

### 3.2.3 Property Taxes

Property taxes are prepaid twice a year. Based on the actual payments made in 2009 and 2010, the average expense lead for 2009 is a credit of 61.39 days and for 2010 is a credit of 74.83 days.



1 **Table 2 - Revenue Lag from Residential and General Service Customers**

| Revenue Lag Component                 | Days         |              |
|---------------------------------------|--------------|--------------|
|                                       | 2009         | 2010         |
| Service Lag                           | 30.24        | 30.24        |
| Billing Lag                           | 18.11        | 18.24        |
| Collections Lag                       | 25.47        | 25.36        |
| Payment Processing and Bank Float Lag | 1.15         | 1.13         |
| <b>TOTAL</b>                          | <b>74.97</b> | <b>74.97</b> |

2

3 **2.1.1 Service Lag**

4

5 Service lag is the number of days between when service is provided to a customer and  
 6 when the customer's meter is read. Residential and general service < 50kW customers'  
 7 meters are read on a bi-monthly basis, and other classes of customers' meters are read  
 8 monthly. Based on this information and using the number of customers in each class, a  
 9 weighted average service lag of 30.24 is determined for 2009 and 2010. Table 3 and  
 10 Table 4 show the details.

11

12 **Table 3 - 2009 Service Lag – Residential and General Service Customers**

| Customer Type            | Average # of Customers | Frequency of Meter Read | Mid Point of Service Period | Customer Weight | Service Lag  |
|--------------------------|------------------------|-------------------------|-----------------------------|-----------------|--------------|
| Residential              | 267,225                | Bi-monthly              | 30.42                       | 90.88%          | 27.65        |
| General Service < 50 kW  | 23,312                 | Bi-monthly              | 30.42                       | 7.93%           | 2.41         |
| GS 50 – 1,499 kW         | 3,279                  | Monthly                 | 15.21                       | 1.12%           | 0.17         |
| GS 1,500 – 4,999 kW      | 67                     | Monthly                 | 15.21                       | 0.02%           | -            |
| Large Users              | 11                     | Monthly                 | 15.21                       | 0.00%           | -            |
| Street Lighting          | 8                      | Monthly                 | 15.21                       | 0.00%           | -            |
| Unmetered Scattered Load | 143                    | Monthly                 | 15.21                       | 0.05%           | 0.01         |
| <b>TOTAL</b>             | <b>294,045</b>         |                         |                             | <b>100.00%</b>  | <b>30.24</b> |

13



1 **Table 4 - 2010 Service Lag – Residential and General Service Customers**

| Customer Type            | Average #<br>of<br>Customers | Frequency<br>of Meter<br>Read | Mid Point of<br>Service<br>Period | Customer<br>Weight | Service<br>Lag |
|--------------------------|------------------------------|-------------------------------|-----------------------------------|--------------------|----------------|
| Residential              | 271,603                      | Bi-monthly                    | 30.42                             | 90.98%             | 27.68          |
| General Service < 50 kW  | 23,434                       | Bi-monthly                    | 30.42                             | 7.85%              | 2.39           |
| GS 50 – 1,499 kW         | 3,279                        | Monthly                       | 15.21                             | 1.10%              | 0.16           |
| GS 1,500 – 4,999 kW      | 66                           | Monthly                       | 15.21                             | 0.02%              | -              |
| Large Users              | 12                           | Monthly                       | 15.21                             | 0.00%              | -              |
| Street Lighting          | 8                            | Monthly                       | 15.21                             | 0.00%              | -              |
| Unmetered Scattered Load | 129                          | Monthly                       | 15.21                             | 0.04%              | 0.01           |
| TOTAL                    | 298,531                      |                               |                                   | 100.00%            | 30.24          |

2

3 **2.1.2 Billing Lag**

4

5 Billing lag is the number of days between when a customer's meter is read and the date  
 6 the customer is billed. This data is available from Hydro Ottawa's customer information  
 7 system ("CIS") for each customer class. A query was generated from the CIS database  
 8 to measure the average number of days between meter reads and billing date for all  
 9 customers by class in 2009 and 2010.

10

11 With Hydro Ottawa's CIS, bills are produced once the spot market price is available (10  
 12 business days after the service period end date,) even for those that are on the fixed  
 13 regulated price plan. The system needs to calculate the difference between what would  
 14 have been billed at the spot market price and billed at the fixed rate for the purposes of  
 15 filing claims with the Independent Electricity System Operation ("IESO") each month.  
 16 The system also needs to calculate the difference between what would have been billed  
 17 at the spot market price and what is billed based on a retail contract for the purposes of  
 18 settlement. All of this must happen before the bill is finalized.

19

20 The weighted average billing lag for 2009 is 18.11 days, and for 2010 is 18.24 days.

21 Table 5 and Table 6 show the details.

22

23

24



**Table 5 - 2009 Billing Lag**

| Customer Type            | Average # of Customers | Sales                | Weight         | Number of days between Meter Read & Billing (Regular Read) | Weighted Lag |
|--------------------------|------------------------|----------------------|----------------|--|--------------|
| Residential              | 267,225                | \$252,919,083        | 34.54%         | 20.33  | 7.02         |
| General Service < 50 kW  | 23,312                 | 77,002,452           | 10.52%         | 20.08  | 2.11         |
| GS 50 – 1,499 kW         | 3,279                  | 272,554,577          | 37.22%         | 17.21  | 6.41         |
| GS 1,500 – 4,999 kW      | 67                     | 72,377,217           | 9.88%          | 15.00  | 1.48         |
| Large Users              | 11                     | 53,233,888           | 7.27%          | 13.83  | 1.01         |
| Street Lighting          | 8                      | 3,613,935            | 0.49%          | 16.83  | 0.08         |
| Unmetered Scattered Load | 143                    | 495,355              | 0.07%          | 0.00   | 0.00         |
| <b>TOTAL</b>             | <b>294,045</b>         | <b>\$732,196,507</b> | <b>100.00%</b> | <b>14.76</b>   | <b>18.11</b> |

**Table 6 - 2010 Billing Lag**

| Customer Type            | Average # of Customers | Sales                | Weight         | Number of days between Meter Read & Billing (Regular Read) | Weighted Lag |
|--------------------------|------------------------|----------------------|----------------|--|--------------|
| Residential              | 271,603                | \$267,560,504        | 34.71%         | 20.08  | 6.97         |
| General Service < 50 kW  | 23,434                 | 82,536,260           | 10.71%         | 20.33  | 2.18         |
| GS 50 – 1,499 kW         | 3,279                  | 283,209,918          | 36.74%         | 17.69  | 6.50         |
| GS 1,500 – 4,999 kW      | 66                     | 73,990,275           | 9.60%          | 15.42  | 1.48         |
| Large Users              | 12                     | 59,628,830           | 7.74%          | 13.17  | 1.02         |
| Street Lighting          | 8                      | 3,935,758            | 0.51%          | 17.50  | 0.09         |
| Unmetered Scattered Load | 129                    | (28,092)             | 0.00%          | 0.00   | 0.00         |
| <b>TOTAL</b>             | <b>298,531</b>         | <b>\$770,833,453</b> | <b>100.00%</b> | <b>14.88</b>   | <b>18.24</b> |

### 2.1.3 Collections Lag

Collections lag is the number of days between when a customer is billed and when that payment is received from the customer. The collection lag for residential and general service customers was derived from an aged accounts receivable report by calculating the Days Sales Outstanding. The average collection lag for 2009 is 25.47 days and for 2010 is 25.36 days. Table 7 and Table 8 show the details.



**2. RATE BASE**

**Issue 2.2 - Is the working capital allowance for the test year appropriate?**

Energy Probe Question #15 - Ref: Exhibit B4, Tab 2, Schedule 1

- a) Please provide a revised Table 3 and Table 4 that uses sales dollars as the weighting factor to calculate the service lag in the same way billing lag is calculated in Tables 5 and 6.
- b) Please show the calculations used to determine the Days Sales Outstanding in Tables 7 and 8. In particular, please show the calculation of 26.38 days in Table 7 in the month of January and the assumptions used.
- c) Please provide a version of Tables 7 and 8 that calculates the collection lag in both years separately for the customers that are billed monthly and for the customers that are billed bi-monthly.
- d) Please show the calculation of the number of days for each the forms of payment processing noted on page 8 for 2009 and 2010, along with the weighting assigned to each form in each of 2009 and 2010 that was used to calculate the weighted average of 1.15 days in 2009 and 1.13 days in 2010.
- e) Please provide the data, assumptions and calculations used to calculate the each of the lags shown in Table 10.

**Response**

- a) Please find Table 3 and 4 of Exhibit B4-2-1 with sales dollars as the weighting factor. Please note that weighting by sales dollars has not been the generally accepted method for service lag.



1 **Table 3 - 2009 Service Lag – Residential and General Service Customers**

| Customer Type            | Average # of Customers | Frequency of Meter Read | Mid Point of Service Period | Customer Weight | Service Lag  |
|--------------------------|------------------------|-------------------------|-----------------------------|-----------------|--------------|
| Residential              | 252,919,083            | Bi-monthly              | 30.42                       | 34.54%          | 10.51        |
| General Service < 50 kW  | 77,002,452             | Bi-monthly              | 30.42                       | 10.52%          | 3.2          |
| GS 50 – 1,499 kW         | 272,554,577            | Monthly                 | 15.21                       | 37.22%          | 5.66         |
| GS 1,500 – 4,999 kW      | 72,377,217             | Monthly                 | 15.21                       | 9.89%           | 1.5          |
| Large Users              | 53,233,888             | Monthly                 | 15.21                       | 7.27%           | 1.11         |
| Street Lighting          | 3,613,935              | Monthly                 | 15.21                       | 0.49%           | 0.08         |
| Unmetered Scattered Load | 495,355                | Monthly                 | 15.21                       | 0.07%           | 0.01         |
| <b>TOTAL</b>             | <b>732,196,506</b>     |                         |                             | <b>100.00%</b>  | <b>22.07</b> |

2

3 **Table 4 - 2010 Service Lag – Residential and General Service Customers**

| Customer Type            | Average # of Customers | Frequency of Meter Read | Mid Point of Service Period | Customer Weight | Service Lag  |
|--------------------------|------------------------|-------------------------|-----------------------------|-----------------|--------------|
| Residential              | 267,560,504            | Bi-monthly              | 30.42                       | 34.71%          | 10.56        |
| General Service < 50 kW  | 82,536,260             | Bi-monthly              | 30.42                       | 10.71%          | 3.26         |
| GS 50 – 1,499 kW         | 283,209,918            | Monthly                 | 15.21                       | 36.74%          | 5.59         |
| GS 1,500 – 4,999 kW      | 73,990,275             | Monthly                 | 15.21                       | 9.60%           | 1.46         |
| Large Users              | 59,628,830             | Monthly                 | 15.21                       | 7.74%           | 1.18         |
| Street Lighting          | 3,935,758              | Monthly                 | 15.21                       | 0.51%           | 0.08         |
| Unmetered Scattered Load | (28,092)               | Monthly                 | 15.21                       | 0.00%           | 0            |
| <b>TOTAL</b>             | <b>770,833,454</b>     |                         |                             | <b>100.00%</b>  | <b>22.13</b> |

4

5 b) The Days Sales Outstanding (“DSO”) in Tables 7 and 8, of Exhibit B4-2-1, is based  
 6 on data from Hydro Ottawa Limited’s (“Hydro Ottawa”) customer information system  
 7 (“CIS”). It gathers all receivables not yet paid and determines how long the  
 8 receivables have been outstanding. For example, if the customer invoice is billed  
 9 January 30, 2009 and the report is run January 31 the receivable would go into the  
 10 1-17 days DSO bucket. No additional calculations on the bucket data was performed  
 11 other than to summarise it in Tables 7 and 8.

12

13 The total column adds each bucket to get the total DSO for that month. Using  
 14 January 2009 as the example, dollars are in thousands:

15

16 
$$44,143 + 4,980 + 5,024 + 1,502 + 830 + 984 = 57,465^1$$

<sup>1</sup> Totals is out due to rounding



1 Total Sales for each month is taken from a CIS report, no further calculations are  
 2 required.

3  
 4 The final DSO is calculated by the following formula:

$$\frac{\text{Total DSO Buckets}}{(\text{Days in the month}) \times (\text{Sales for that Month})}$$

5  
 6  
 7  
 8  
 9 Using January 2009 as the example, dollars in thousands;

$$10 \quad 57,465 / 67,524 \times 31 = 26.38^1 \text{ days}$$

11  
 12  
 13 c) Provided below are DSO Tables 7 and 8 separated by monthly and bi-monthly  
 14 customers.

15  
 16 **Table 7 - 2009 Collection Lag – Monthly Billed Customers (\$000)<sup>2</sup>**

| Month | 1-17<br>Days | 18-30<br>Days | 31-60<br>Days | 61-90<br>Days | 91-120<br>Days | Over<br>121<br>Days | Total     | # of Days<br>in Month | Sales     | Days<br>Sales<br>Outstanding |
|-------|--------------|---------------|---------------|---------------|----------------|---------------------|-----------|-----------------------|-----------|------------------------------|
| Jan   | \$26,473     | \$1,235       | \$1,517       | \$53          | \$18           | \$87                | \$29,383  | 31                    | \$37,177  | 24.50                        |
| Feb   | 24,405       | 898           | 603           | 20            | 12             | 79                  | 26,018    | 28                    | 36,582    | 19.91                        |
| Mar   | 10,601       | 3,920         | 547           | 333           | 11             | 83                  | 15,495    | 31                    | 36,799    | 13.05                        |
| Apr   | 21,003       | 604           | 345           | 32            | 5              | 76                  | 22,066    | 30                    | 27,095    | 24.43                        |
| May   | 19,780       | 1,016         | 671           | 158           | 13             | 78                  | 21,715    | 31                    | 25,704    | 26.19                        |
| Jun   | 10,964       | 3,162         | 541           | 143           | 105            | 63                  | 14,979    | 30                    | 33,368    | 13.47                        |
| Jul   | 20,029       | 597           | 497           | 97            | 62             | 106                 | 21,387    | 31                    | 26,708    | 24.82                        |
| Aug   | 19,071       | 634           | 411           | 110           | 55             | 159                 | 20,440    | 31                    | 30,059    | 21.08                        |
| Sep   | 25,989       | 1,032         | 295           | 95            | 18             | 91                  | 27,520    | 30                    | 36,277    | 22.76                        |
| Oct   | 20,842       | 639           | 404           | 65            | 34             | 34                  | 22,018    | 31                    | 27,958    | 24.41                        |
| Nov   | 24,089       | 882           | 337           | 53            | 41             | 59                  | 25,462    | 30                    | 32,102    | 23.79                        |
| Dec   | 21,804       | 691           | 439           | 46            | 15             | 44                  | 23,039    | 31                    | 30,482    | 23.43                        |
| TOTAL | \$245,053    | \$15,311      | \$6,606       | \$1,205       | \$388          | \$958               | \$269,522 | 365                   | \$380,311 | 21.82                        |

17  
 18  
<sup>2</sup> Totals can be out due to rounding

<sup>3</sup> This is from a report of all sales from the CIS in the year and does not include any accruals.



**Service Lag Calculation Illustrative Example**

|         | Customers | Revenue<br>Per<br>Customer | Revenues  | Monthly<br>or<br>Bimonthly | Service<br>Lag | Customer<br>Weighted<br>Lag | Revenue<br>Weighted<br>Lag |
|---------|-----------|----------------------------|-----------|----------------------------|----------------|-----------------------------|----------------------------|
| Class 1 | 99        | 1                          | 99        | B                          | 30.4           | 30.096                      | 15.200                     |
| Class 2 | <u>1</u>  | 99                         | <u>99</u> | M                          | 15.2           | <u>0.152</u>                | <u>7.600</u>               |
| TOTAL   | 100       |                            | 198       |                            |                | 30.248                      | 22.800                     |
|         |           |                            |           |                            |                | 15.352                      |                            |



**1 Table 7 - 2009 Collection Lag – Residential and General Service Customers (\$000)**

| Month        | 1-17<br>Days   | 18-30<br>Days | 31-60<br>Days | 61-90<br>Days | 91-120<br>Days | Over<br>121<br>Days | Total          | # of<br>Days in<br>Month | Sales          | Days<br>Sales<br>Outstanding |
|--------------|----------------|---------------|---------------|---------------|----------------|---------------------|----------------|--------------------------|----------------|------------------------------|
| Jan          | 44,143         | 4,980         | 5,024         | 1,502         | 830            | 984                 | 57,465         | 31                       | 67,524         | 26.38                        |
| Feb          | 44,637         | 3,628         | 5,480         | 977           | 659            | 1,112               | 56,493         | 28                       | 63,933         | 24.74                        |
| Mar          | 26,991         | 9,793         | 4,024         | 1,983         | 469            | 1,089               | 44,350         | 31                       | 73,921         | 18.60                        |
| Apr          | 38,880         | 2,221         | 4,519         | 1,273         | 728            | 966                 | 48,587         | 30                       | 51,230         | 28.45                        |
| May          | 34,920         | 5,264         | 4,306         | 2,050         | 677            | 1,032               | 48,248         | 31                       | 52,983         | 28.23                        |
| Jun          | 24,224         | 6,141         | 4,488         | 1,589         | 1,089          | 1,015               | 38,547         | 30                       | 56,823         | 20.35                        |
| Jul          | 33,422         | 3,299         | 3,786         | 1,785         | 902            | 1,254               | 44,449         | 31                       | 51,386         | 26.82                        |
| Aug          | 34,636         | 3,173         | 3,777         | 1,549         | 973            | 1,345               | 45,453         | 31                       | 54,308         | 25.95                        |
| Sep          | 42,740         | 5,377         | 3,243         | 1,444         | 652            | 1,275               | 54,731         | 30                       | 67,025         | 24.50                        |
| Oct          | 42,037         | 2,387         | 4,161         | 1,341         | 605            | 1,124               | 51,655         | 31                       | 54,345         | 29.47                        |
| Nov          | 37,811         | 4,304         | 4,059         | 1,464         | 557            | 1,026               | 49,220         | 30                       | 55,950         | 26.39                        |
| Dec          | 36,023         | 3,154         | 3,802         | 1,560         | 612            | 918                 | 46,068         | 31                       | 55,516         | 25.72                        |
| <b>TOTAL</b> | <b>440,464</b> | <b>53,720</b> | <b>50,668</b> | <b>18,517</b> | <b>8,753</b>   | <b>13,143</b>       | <b>585,266</b> | <b>365</b>               | <b>704,944</b> | <b>25.47</b>                 |

2

**3 Table 8 - 2010 Collection Lag – Residential and General Service Customers (\$000)**

| Month        | 1-17<br>Days   | 18-30<br>Days | 31-60<br>Days | 61-90<br>Days | 91-120<br>Days | Over<br>121<br>Days | Total          | # of<br>Days in<br>Month | Sales          | Days<br>Sales<br>Outstanding |
|--------------|----------------|---------------|---------------|---------------|----------------|---------------------|----------------|--------------------------|----------------|------------------------------|
| Jan          | 48,796         | 5,729         | 4,009         | 1,449         | 567            | 876                 | 61,426         | 31                       | 65,733         | 28.97                        |
| Feb          | 47,108         | 5,065         | 4,727         | 935           | 526            | 856                 | 59,217         | 28                       | 61,591         | 26.92                        |
| Mar          | 41,541         | 5,999         | 3,848         | 1,414         | 368            | 739                 | 53,910         | 31                       | 73,330         | 22.79                        |
| Apr          | 39,369         | 1,937         | 4,687         | 1,365         | 555            | 656                 | 48,570         | 30                       | 53,084         | 27.45                        |
| May          | 35,652         | 5,353         | 4,812         | 1,666         | 522            | 659                 | 48,664         | 31                       | 60,462         | 24.95                        |
| Jun          | 37,570         | 2,515         | 3,483         | 1,394         | 621            | 691                 | 46,276         | 30                       | 59,355         | 23.39                        |
| Jul          | 38,735         | 3,617         | 3,405         | 1,359         | 524            | 804                 | 48,444         | 31                       | 58,386         | 25.72                        |
| Aug          | 50,042         | 3,346         | 3,453         | 1,170         | 568            | 728                 | 59,306         | 31                       | 76,143         | 24.14                        |
| Sep          | 40,436         | 4,428         | 3,779         | 1,090         | 394            | 743                 | 50,871         | 30                       | 67,115         | 22.74                        |
| Oct          | 41,941         | 3,908         | 4,306         | 1,504         | 397            | 721                 | 52,776         | 31                       | 56,454         | 28.98                        |
| Nov          | 38,328         | 4,018         | 3,943         | 1,280         | 422            | 628                 | 48,619         | 30                       | 63,245         | 23.06                        |
| Dec          | 46,872         | 3,313         | 4,312         | 1,337         | 473            | 575                 | 56,882         | 31                       | 69,871         | 25.24                        |
| <b>TOTAL</b> | <b>506,390</b> | <b>49,229</b> | <b>48,764</b> | <b>15,963</b> | <b>5,937</b>   | <b>8,676</b>        | <b>634,959</b> | <b>365</b>               | <b>764,770</b> | <b>25.36</b>                 |

4

5

<sup>1</sup> This is from a report of all sales from the CIS in the year and does not include any accruals.



**Undertaking**

**Undertaking LT1.2**

To respond to Energy Probe Technical Conference Question Number 8, providing revised calculations for tables 7 and 8 in Exhibit B4, Tab 2, Schedule 1 that reflect the dollar-weighted average of day sales outstanding using the midpoint of each of the DSO buckets shown, with respect to a midpoint of 8.5 days, as well as another calculation with respect to a midpoint as selected by Hydro Ottawa.

**Response**

Please find below the average of days sales outstanding Tables 7 and 8 from Hydro Ottawa Limited's ("Hydro Ottawa") Lead Lag Study, Exhibit B4-2-1, using the average aging days that Hydro Ottawa would use if required to use a midpoint method, as well as the midpoint tables that Energy Probe requested. In Hydro Ottawa opinion a midpoint method does not properly reflects the cash impact of average days sales outstanding.

Please note that Hydro Ottawa could further separate its aging category of more than 121 days into two separate aging categories, namely 121 to 365 days and more than 365 days. This shows that the midpoint for the more than 121 days is greater than the 150 days requested to be used by Energy Probe.

Below is the explanation of the difference between Hydro Ottawa's average aging days versus Energy Probe's mid points:

- The difference between Hydro Ottawa's and Energy Probe's calculations for the midpoint of 18 to 120 days was minimal; as a result Hydro Ottawa has adopted Energy Probe's midpoint to make the comparison easier.
- Hydro Ottawa has adopted the same midpoint formula for the 121 to 365 days as used for the other aging categories.



- 1        • For the 1 to 17 days Hydro Ottawa has chosen a conservative average day of  
2        11.5. This uses the same midpoint formula used for the other aging categories  
3        and reflects that a postage delay of 3 days occurs, which is recognized by the  
4        Ontario Energy Board's July 2, 2010 customer service code amendments.

5  
6        The following Charts represent Hydro Ottawa's average aging days.

7  
8        **2009 Collection Lag – Residential and General Service Customers (\$000)**

| Month                       | 1-17<br>Days | 18-30<br>Days | 31-60<br>Days | 61-90<br>Days | 91-120<br>Days | 121-365<br>Days | Over<br>365<br>Days | Total     |
|-----------------------------|--------------|---------------|---------------|---------------|----------------|-----------------|---------------------|-----------|
| January                     | \$44,143     | \$4,980       | \$5,024       | \$1,502       | \$830          | \$746           | \$239               | \$57,465  |
| February                    | 44,637       | 3,628         | 5,480         | 977           | 659            | 885             | 227                 | 56,493    |
| March                       | 26,991       | 9,793         | 4,024         | 1,983         | 469            | 854             | 235                 | 44,350    |
| April                       | 38,880       | 2,221         | 4,519         | 1,273         | 728            | 733             | 233                 | 48,587    |
| May                         | 34,920       | 5,264         | 4,306         | 2,050         | 677            | 812             | 220                 | 48,248    |
| June                        | 24,224       | 6,141         | 4,488         | 1,589         | 1,089          | 803             | 212                 | 38,547    |
| July                        | 33,422       | 3,299         | 3,786         | 1,785         | 902            | 1,042           | 213                 | 44,449    |
| August                      | 34,636       | 3,173         | 3,777         | 1,549         | 973            | 1,143           | 202                 | 45,453    |
| September                   | 42,740       | 5,377         | 3,243         | 1,444         | 652            | 1,102           | 173                 | 54,731    |
| October                     | 42,037       | 2,387         | 4,161         | 1,341         | 605            | 946             | 178                 | 51,655    |
| November                    | 37,811       | 4,304         | 4,059         | 1,464         | 557            | 839             | 187                 | 49,220    |
| December                    | 36,023       | 3,154         | 3,802         | 1,560         | 612            | 729             | 190                 | 46,068    |
| Total                       | \$440,464    | \$53,720      | \$50,668      | \$18,517      | \$8,753        | \$10,633        | \$2,509             | \$585,266 |
| Mid Point of Aging<br>Days  | 11.5         | 23.5          | 45.5          | 75.5          | 105.5          | 242.5           | 408.5               |           |
| Weighting Factor            | 75%          | 9%            | 9%            | 3%            | 1%             | 2%              | 0%                  | 100%      |
| Weighted Lag<br>Time (Days) | 8.65         | 2.16          | 3.94          | 2.39          | 1.58           | 4.41            | 1.75                | 24.88     |

**1 2010 Collection Lag – Residential and General Service Customers (\$000)**

| Month                    | 1-17<br>Days | 18-30<br>Days | 31-60<br>Days | 61-90<br>Days | 91-120<br>Days | 121-365<br>Days | Over<br>365<br>Days | Total     |
|--------------------------|--------------|---------------|---------------|---------------|----------------|-----------------|---------------------|-----------|
| January                  | \$48,796     | \$5,729       | \$4,009       | \$1,449       | \$567          | \$671           | \$205               | \$61,426  |
| February                 | 47,108       | 5,065         | 4,727         | 935           | 526            | 642             | 214                 | 59,217    |
| March                    | 41,541       | 5,999         | 3,848         | 1,414         | 368            | 531             | 208                 | 53,910    |
| April                    | 39,369       | 1,937         | 4,687         | 1,365         | 555            | 449             | 207                 | 48,570    |
| May                      | 35,652       | 5,353         | 4,812         | 1,666         | 522            | 425             | 234                 | 48,664    |
| June                     | 37,570       | 2,515         | 3,483         | 1,394         | 621            | 460             | 231                 | 46,276    |
| July                     | 38,735       | 3,617         | 3,405         | 1,359         | 524            | 566             | 239                 | 48,444    |
| August                   | 50,042       | 3,346         | 3,453         | 1,170         | 568            | 492             | 235                 | 59,306    |
| September                | 40,436       | 4,428         | 3,779         | 1,090         | 394            | 503             | 240                 | 50,871    |
| October                  | 41,941       | 3,908         | 4,306         | 1,504         | 397            | 480             | 241                 | 52,776    |
| November                 | 38,328       | 4,018         | 3,943         | 1,280         | 422            | 407             | 221                 | 48,619    |
| December                 | 46,872       | 3,313         | 4,312         | 1,337         | 473            | 359             | 216                 | 56,882    |
| Total                    | \$506,390    | \$49,229      | \$48,764      | \$15,963      | \$5,937        | \$5,985         | \$2,691             | \$634,959 |
| Mid Point of Aging Days  | 11.5         | 23.5          | 45.5          | 75.5          | 105.5          | 242.5           | 408.5               |           |
| Weighting Factor         | 80%          | 8%            | 8%            | 3%            | 1%             | 1%              | 0%                  | 100%      |
| Weighted Lag Time (Days) | 9.17         | 1.82          | 3.49          | 1.90          | 0.99           | 2.29            | 1.73                | 21.39     |

2

3 The following Charts represent Energy Probe's requested midpoint days.

4

**5 2009 Collection Lag – Residential and General Service Customers (\$000)**

| Month                    | 1-17<br>Days | 18-30<br>Days | 31-60<br>Days | 61-90<br>Days | 91-120<br>Days | Over<br>121<br>Days | Total     |
|--------------------------|--------------|---------------|---------------|---------------|----------------|---------------------|-----------|
| January                  | \$44,143     | \$4,980       | \$5,024       | \$1,502       | \$830          | \$984               | \$57,465  |
| February                 | 44,637       | 3,628         | 5,480         | 977           | 659            | 1,112               | 56,493    |
| March                    | 26,991       | 9,793         | 4,024         | 1,983         | 469            | 1,089               | 44,350    |
| April                    | 38,880       | 2,221         | 4,519         | 1,273         | 728            | 966                 | 48,587    |
| May                      | 34,920       | 5,264         | 4,306         | 2,050         | 677            | 1,032               | 48,248    |
| June                     | 24,224       | 6,141         | 4,488         | 1,589         | 1,089          | 1,015               | 38,547    |
| July                     | 33,422       | 3,299         | 3,786         | 1,785         | 902            | 1,254               | 44,449    |
| August                   | 34,636       | 3,173         | 3,777         | 1,549         | 973            | 1,345               | 45,453    |
| September                | 42,740       | 5,377         | 3,243         | 1,444         | 652            | 1,275               | 54,731    |
| October                  | 42,037       | 2,387         | 4,161         | 1,341         | 605            | 1,124               | 51,655    |
| November                 | 37,811       | 4,304         | 4,059         | 1,464         | 557            | 1,026               | 49,220    |
| December                 | 36,023       | 3,154         | 3,802         | 1,560         | 612            | 918                 | 46,068    |
| Total                    | \$440,464    | \$53,720      | \$50,668      | \$18,517      | \$8,753        | \$13,143            | \$585,266 |
| Mid Point of Aging Days  | 8.5          | 23.5          | 45.5          | 75.5          | 105.5          | 150                 |           |
| Weighting Factor         | 75%          | 9%            | 9%            | 3%            | 1%             | 2%                  | 100%      |
| Weighted Lag Time (Days) | 6.40         | 2.16          | 3.94          | 2.39          | 1.58           | 3.37                | 19.84     |

6



## 1 2010 Collection Lag – Residential and General Service Customers (\$000)

| Month                       | 1-17<br>Days | 18-30<br>Days | 31-60<br>Days | 61-90<br>Days | 91-120<br>Days | Over 121<br>Days | Total     |
|-----------------------------|--------------|---------------|---------------|---------------|----------------|------------------|-----------|
| January                     | \$48,796     | \$5,729       | \$4,009       | \$1,449       | 567            | \$876            | \$61,426  |
| February                    | 47,108       | 5,065         | 4,727         | 935           | 526            | 856              | 59,217    |
| March                       | 41,541       | 5,999         | 3,848         | 1,414         | 368            | 739              | 53,910    |
| April                       | 39,369       | 1,937         | 4,687         | 1,365         | 555            | 656              | 48,570    |
| May                         | 35,652       | 5,353         | 4,812         | 1,666         | 522            | 659              | 48,664    |
| June                        | 37,570       | 2,515         | 3,483         | 1,394         | 621            | 691              | 46,276    |
| July                        | 38,735       | 3,617         | 3,405         | 1,359         | 524            | 804              | 48,444    |
| August                      | 50,042       | 3,346         | 3,453         | 1,170         | 568            | 728              | 59,306    |
| September                   | 40,436       | 4,428         | 3,779         | 1,090         | 394            | 743              | 50,871    |
| October                     | 41,941       | 3,908         | 4,306         | 1,504         | 397            | 721              | 52,776    |
| November                    | 38,328       | 4,018         | 3,943         | 1,280         | 422            | 628              | 48,619    |
| December                    | 46,872       | 3,313         | 4,312         | 1,337         | 473            | 575              | 56,882    |
| Total                       | \$506,390    | \$49,229      | \$48,764      | \$15,963      | \$5,937        | \$8,676          | \$634,959 |
| Mid Point of Aging<br>Days  | 8.5          | 23.5          | 45.5          | 75.5          | 105.5          | 150              |           |
| Weighting Factor            | 80%          | 8%            | 8%            | 3%            | 1%             | 1%               | 100%      |
| Weighted Lag<br>Time (Days) | 6.78         | 1.82          | 3.49          | 1.90          | 0.99           | 2.05             | 17.03     |

2

3

TABLES FROM EXHIBIT B4, TAB 2, SCHEDULE 1

Table 2 - REVISED - Revenue Lag from Residential and General Service Customers

| Revenue Lag Component    | Days        |             |
|--------------------------|-------------|-------------|
|                          | 2009        | 2010        |
| Service Lag (1)          | 22.07       | 22.13       |
| Billing Lag              | 18.11       | 18.24       |
| Collections Lag (2)      | 24.88       | 21.39       |
| Payment Processing, etc. | <u>1.15</u> | <u>1.13</u> |
|                          | 66.21       | 62.89       |

(1) Exhibit K2, Issue 2.2, Interrogatory #5 (a)

(2) Undertaking LT1.2 - Hydro Ottawa's average aging days

Table 1 - REVISED - Revenue Lag

| Source of Revenues                               | 2009               |                  |                      | 2010               |                  |                      |
|--|--------------------|------------------|----------------------|--------------------|------------------|----------------------|
|  | Revenue Lag (Days) | Weighting Factor | Weighted Revenue Lag | Revenue Lag (Days) | Weighting Factor | Weighted Revenue Lag |
| Revenues from Residential and Business Customers | 66.21              | 98.42%           | 65.16                | 62.89              | 98.05%           | 61.66                |
| Revenues from Services to Retailers              | 32.9               | 0.05%            | 0.02                 | 30.15              | 0.04%            | 0.01                 |
| Revenues from Other Sources                      | 96.16              | 1.54%            | <u>1.48</u>          | 90.51              | 1.91%            | <u>1.73</u>          |
| TOTAL  |                    |                  | 66.65                |                    |                  | 63.40                |

Table 24 - REVISED - 2009 Working Capital Requirement Adjusted for HST

| Expense Item Description                          | Revenue Lag (Days) | Expense Lead (Days) | Net Lag (Lead) Days | Working Capital Factor | Expenses from Financial Statements | Working Capital Requirement |
|---|--------------------|---------------------|---------------------|------------------------|------------------------------------|-----------------------------|
|   | A                  | B                   | C = A-B             | D = F/E                | E                                  | F = E*C/365                 |
| Cost of Power                                     | 66.65              | 33.96               | 32.69               | 8.96%                  | 587,958,000                        | 52,665,251                  |
| OM&A Expense                                      | 66.65              | 11.28               | 55.37               | 15.17%                 | 53,828,665                         | 8,166,354                   |
| Interest on Long Term Debt                        | 66.65              | 45.63               | 21.02               | 5.76%                  | 14,642,000                         | 843,387                     |
| PILs  | 66.65              | 13.59               | 53.06               | 14.54%                 | 13,920,000                         | 2,023,709                   |
| Debr Retrieiment Charges                          | 66.65              | 33.82               | 32.83               | 9.00%                  | 52,464,792                         | 4,719,560                   |
| Sub-Total   |                    |                     |                     |                        | 722,813,457                        | 68,418,261                  |
| HST   |                    |                     |                     |                        | 16,723,956                         | 4,770,470                   |
| Capital Expense                                   |                    |                     | -21.40              |                        | 45,932,777                         | 350,096                     |
| TOTAL (Including HST)                             |                    |                     |                     |                        | 785,470,190                        | 73,538,827                  |
| Working Capital as a % of OM&A plus Cost of Power |                    |                     |                     |                        |                                    | 11.5%                       |

Table 25 - REVISED - 2010 Working Capital Requirement Adjusted for HST

| Expense Item Description                          | Revenue Lag (Days) | Expense Lead (Days) | Net Lag (Lead) Days | Working Capital Factor | Expenses from Financial Statements | Working Capital Requirement |
|---|--------------------|---------------------|---------------------|------------------------|------------------------------------|-----------------------------|
|   | A                  | B                   | C = A-B             | D = F/E                | E                                  | F = E*C/365                 |
| Cost of Power                                     | 63.40              | 33.67               | 29.73               | 8.15%                  | 621,842,000                        | 50,657,464                  |
| OM&A Expense                                      | 63.40              | 11.18               | 52.22               | 14.31%                 | 54,948,488                         | 7,862,030                   |
| Interest on Long Term Debt                        | 63.40              | 45.63               | 17.77               | 4.87%                  | 15,542,000                         | 756,840                     |
| PILs  | 63.40              | -3.31               | 66.71               | 18.28%                 | 13,773,000                         | 2,517,410                   |
| Debr Retrieiment Charges                          | 63.40              | 32.61               | 30.79               | 8.44%                  | 52,701,411                         | 4,446,295                   |
| Sub-Total   |                    |                     |                     |                        | 758,806,899                        | 66,240,039                  |
| HST   |                    |                     |                     |                        | 17,106,564                         | 4,770,470                   |
| Capital Expense                                   |                    |                     | -21.05              |                        | 50,050,932                         | 375,245                     |
| TOTAL (Including HST)                             |                    |                     |                     |                        | 825,964,395                        | 71,385,754                  |
| Working Capital as a % of OM&A plus Cost of Power |                    |                     |                     |                        |                                    | 10.5%                       |

Table 26 - REVISED - Working Capital Allowance for Test Year

|  | 2009  | 2010  | Average |
|--|-------|-------|---------|
| Working Capital as a % of Cost of Power and OM&A | 11.5% | 10.5% | 11.0%   |



1 **2. RATE BASE**

3 **Issue 2.2 - Is the working capital allowance for the test year appropriate?**

5 Board Staff Question #10 - Ref: Exh B4-2-1, p20

6 The evidence states that Hydro Ottawa will be changing to monthly billing for all  
7 customer classes in 2013. No adjustment has been made to the WCA in this regard as  
8 the impact of changing to monthly billing will not be seen until 2013. What is the  
9 expected impact on WCA when monthly billing is fully implemented?

11 **Response**

13 When monthly billing is fully implemented, Hydro Ottawa Limited's residential and  
14 general service customers' service lag will change from 30.24 days to 15.21 days. Using  
15 Hydro Ottawa's current lead-lag study as a base, this would result in a WCA of 9.6%, a  
16 decrease of 4.6%.

18 Hydro Ottawa plans to revisit its WCA once monthly billing has been fully implemented.

20 Please refer to Exhibit K2-2-19 (VECC # 17) for additional information on Hydro Ottawa's  
21 monthly billing plans.



Forecasted Sales by Rate Class with and without the Calibration Factor (MWh)

| With Calibration Factor Loss |                 |                 |             |                    |              |             |            |                   |                    |           |              |        |          |
|------------------------------|-----------------|-----------------|-------------|--------------------|--------------|-------------|------------|-------------------|--------------------|-----------|--------------|--------|----------|
| 2012                         | Adjusted        |                 | Loss Factor | Calibration Factor | Sum of Sales | Residential | GS < 50 kW | GS > 50 < 1500 kW | GS > 1500< 5000 kW | Large Use | Street Light | UMSL   | Dry Core |
|                              | System Forecast | System Forecast |             |                    |              |             |            |                   |                    |           |              |        |          |
| 1                            | 765,007         | 738,638         | 1.0357      | 1.01               | 738,638      | 233,662     | 76,653     | 292,978           | 72,500             | 56,512    | 4,572        | 1,502  | 259      |
| 2                            | 703,281         | 679,039         | 1.0357      | 0.97               | 679,039      | 213,926     | 70,915     | 269,028           | 67,875             | 51,511    | 4,097        | 1,440  | 248      |
| 3                            | 690,220         | 666,429         | 1.0357      | 0.98               | 666,429      | 202,520     | 68,255     | 266,582           | 69,442             | 54,178    | 3,744        | 1,456  | 251      |
| 4                            | 606,043         | 585,153         | 1.0357      | 0.94               | 585,153      | 168,537     | 59,020     | 235,162           | 65,377             | 52,103    | 3,309        | 1,403  | 242      |
| 5                            | 604,466         | 583,630         | 1.0357      | 0.98               | 583,630      | 160,277     | 57,541     | 236,423           | 68,740             | 56,030    | 2,904        | 1,464  | 252      |
| 6                            | 648,062         | 625,723         | 1.0357      | 0.99               | 625,723      | 181,461     | 60,847     | 247,511           | 72,063             | 59,443    | 2,679        | 1,467  | 253      |
| 7                            | 696,881         | 672,860         | 1.0357      | 1.00               | 672,860      | 200,698     | 64,657     | 263,975           | 76,052             | 63,797    | 1,942        | 1,482  | 256      |
| 8                            | 694,237         | 670,307         | 1.0357      | 1.00               | 670,307      | 199,000     | 64,412     | 263,380           | 75,991             | 63,671    | 2,105        | 1,490  | 257      |
| 9                            | 614,497         | 593,316         | 1.0357      | 1.00               | 593,316      | 163,890     | 58,271     | 238,795           | 70,186             | 57,319    | 3,116        | 1,484  | 256      |
| 10                           | 622,944         | 601,472         | 1.0357      | 0.97               | 601,472      | 169,686     | 59,901     | 242,885           | 68,214             | 55,178    | 3,910        | 1,448  | 250      |
| 11                           | 648,904         | 626,537         | 1.0357      | 0.96               | 626,537      | 184,765     | 63,590     | 250,876           | 67,573             | 53,631    | 4,419        | 1,436  | 248      |
| 12                           | 735,297         | 709,952         | 1.0357      | 1.00               | 709,952      | 219,392     | 72,959     | 282,942           | 71,607             | 56,502    | 4,812        | 1,483  | 256      |
| Total                        | 8,029,840       | 7,753,056       |             |                    | 7,753,056    | 2,297,816   | 777,019    | 3,090,538         | 845,619            | 679,874   | 41,611       | 17,553 | 3,026    |

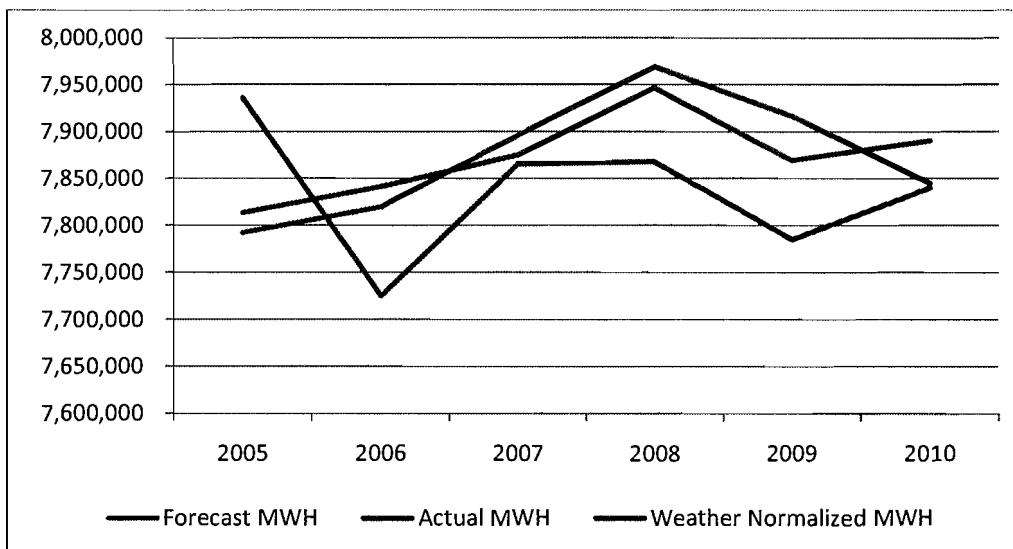
|       |                    | Without Calibration Factor<br>Loss |                | Calibration<br>Factor | Sum of    |             | GS < 50<br>kW | GS > 50 <<br>1500 kW | GS ><br>1500< |           | Street<br>Light | UMSL   | Dry Core |
|-------|--------------------|------------------------------------|----------------|-----------------------|-----------|-------------|---------------|----------------------|---------------|-----------|-----------------|--------|----------|
| 2012  | System<br>Forecast | Adjusted<br>System<br>Forecast     | Loss<br>Factor |                       | Sales     | Residential |               |                      | 5000 kW       | Large Use |                 |        |          |
|       | 1                  | 765,007                            | 738,638        |                       | 731,325   | 231,349     | 75,894        | 290,077              | 71,782        | 55,952    | 4,527           | 1,487  | 256      |
|       | 2                  | 703,281                            | 679,039        |                       | 700,040   | 220,542     | 73,108        | 277,348              | 69,974        | 53,105    | 4,223           | 1,484  | 256      |
|       | 3                  | 690,220                            | 666,429        |                       | 680,030   | 206,653     | 69,648        | 272,022              | 70,859        | 55,284    | 3,821           | 1,486  | 256      |
|       | 4                  | 606,043                            | 585,153        |                       | 622,503   | 179,295     | 62,787        | 250,173              | 69,550        | 55,428    | 3,521           | 1,492  | 257      |
|       | 5                  | 604,466                            | 583,630        |                       | 595,541   | 163,548     | 58,715        | 241,248              | 70,143        | 57,173    | 2,963           | 1,494  | 258      |
|       | 6                  | 648,062                            | 625,723        |                       | 632,044   | 183,294     | 61,461        | 250,011              | 72,791        | 60,043    | 2,706           | 1,481  | 255      |
|       | 7                  | 696,881                            | 672,860        |                       | 672,860   | 200,698     | 64,657        | 263,975              | 76,052        | 63,797    | 1,942           | 1,482  | 256      |
|       | 8                  | 694,237                            | 670,307        |                       | 670,307   | 199,000     | 64,412        | 263,380              | 75,991        | 63,671    | 2,105           | 1,490  | 257      |
|       | 9                  | 614,497                            | 593,316        |                       | 593,316   | 163,890     | 58,271        | 238,795              | 70,186        | 57,319    | 3,116           | 1,484  | 256      |
|       | 10                 | 622,944                            | 601,472        |                       | 620,074   | 174,934     | 61,754        | 250,397              | 70,324        | 56,884    | 4,031           | 1,493  | 257      |
|       | 11                 | 648,904                            | 626,537        |                       | 652,643   | 192,464     | 66,239        | 261,329              | 70,389        | 55,866    | 4,603           | 1,495  | 258      |
|       | 12                 | 735,297                            | 709,952        |                       | 709,952   | 219,392     | 72,959        | 282,942              | 71,607        | 56,502    | 4,812           | 1,483  | 256      |
| Total |                    | 8,029,840                          | 7,753,056      |                       | 7,880,634 | 2,335,060   | 789,905       | 3,141,698            | 859,647       | 691,024   | 42,371          | 17,851 | 3,078    |



**Table 1 – Forecast, Actual and Weather Normal Purchased MWh**

| Year | Forecast MWh | Actual MWh | Variance Actual to Forecast | Weather Normalized MWh | Variance Weather Normal to Forecast |
|------|--------------|------------|-----------------------------|------------------------|-------------------------------------|
| 2005 | 7,791,934    | 7,935,615  | 1.84%                       | 7,813,168              | 0.27%                               |
| 2006 | 7,819,252    | 7,724,426  | -1.21%                      | 7,840,902              | 0.28%                               |
| 2007 | 7,895,507    | 7,864,855  | -0.39%                      | 7,874,574              | -0.27%                              |
| 2008 | 7,968,944    | 7,867,414  | -1.27%                      | 7,946,312              | -0.28%                              |
| 2009 | 7,916,296    | 7,784,723  | -1.66%                      | 7,868,901              | -0.60%                              |
| 2010 | 7,844,173    | 7,839,761  | -0.06%                      | 7,890,157              | 0.59%                               |

**Figure 1 – Forecast, Actual and Weather Normal Purchased MWh**



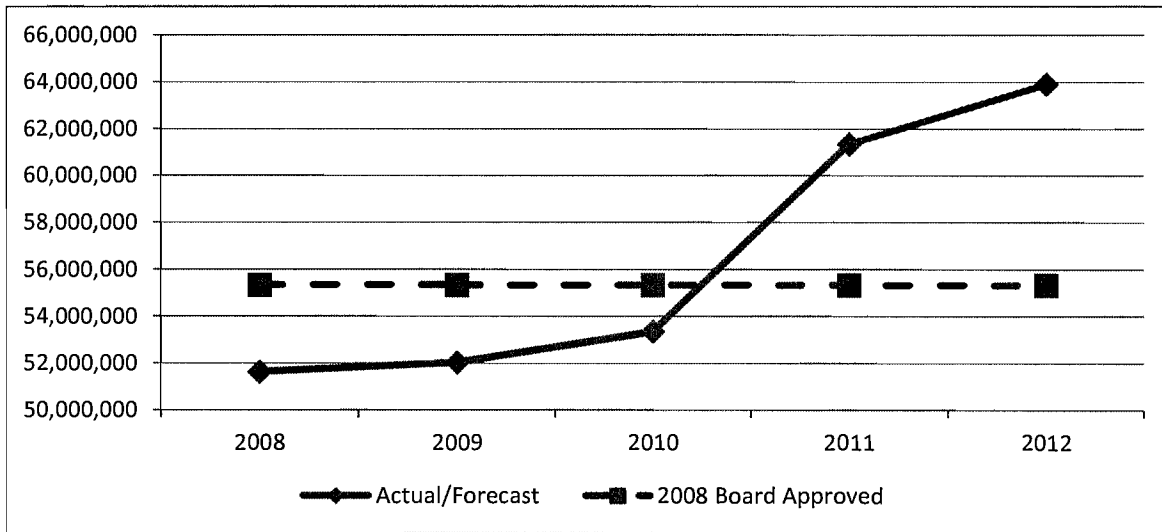
## 2.0 MODELLING PROCESS AND WEATHER NORMALIZATION

Hydro Ottawa's load forecast was developed using a series of regression models developed through a contract with the Load Forecasting group at Itron Inc. These models were produced using a statistical analysis software program called *MetrixND*. The following historical data was used as inputs into the models:

**OM&A SUMMARY - EXHIBIT D1, TAB 1, SCHEDULE 1, TABLE 1**

(EXCLUDES TAXES OTHER THAN INCOME TAXES)

|                     | BOARD             |                   |                   |                   |                   |                   |
|---------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
|                     | APPROVED          | ACTUAL            | ACTUAL            | ACTUAL            | BRIDGE            | TEST              |
|                     | 2008              | 2008              | 2009              | 2010              | 2011              | 2012              |
| OPERATIONS          | 13,062,448        | 11,752,560        | 11,364,065        | 11,971,416        | 12,061,906        | 11,883,322        |
| MAINTENANCE         | 5,111,153         | 5,183,949         | 5,171,079         | 5,663,033         | 8,462,994         | 9,274,548         |
| BILLING& COLLECTING | 11,716,819        | 10,365,089        | 10,233,636        | 9,142,479         | 11,925,750        | 12,085,194        |
| COMMUNITY RELATIONS | 4,759,852         | 4,588,888         | 4,594,942         | 4,932,698         | 6,093,455         | 6,911,671         |
| ADMIN & GENERAL     | <u>20,679,521</u> | <u>19,738,418</u> | <u>20,670,993</u> | <u>21,641,059</u> | <u>22,790,434</u> | <u>23,736,696</u> |
| TOTAL               | 55,329,793        | 51,628,904        | 52,034,715        | 53,350,685        | 61,334,539        | 63,891,431        |
| % CHANGE            |                   | -6.7%             | 0.8%              | 2.5%              | 15.0%             | 4.2%              |





## 5.0 OM&A COST PER CUSTOMER AND PER FTE

Table 4 summarizes OM&A costs year over year as it relates to the number of customers and the number of Full Time Equivalent Employees ("FTE").

**Table 4 - OM&A Cost per Customer and FTE**

|                        | 2008<br>Actual | 2009<br>Actual | 2010<br>Actual | 2011<br>Bridge Year | 2012<br>Test Year |
|------------------------|----------------|----------------|----------------|---------------------|-------------------|
| Number of Customers    | 291,639        | 297,007        | 300,664        | 307,189             | 311,918           |
| Total OM&A             | \$53,370,869   | \$53,828,667   | \$54,948,488   | \$63,105,234        | \$65,697,541      |
| OM&A cost per Customer | \$183.00       | \$181.24       | \$182.76       | \$205.43            | \$210.62          |
| Number of FTEs         | 536.6          | 557.1          | 552            | 558                 | 592               |
| Customers per FTE      | 543.5          | 533.1          | 544.7          | 550.5               | 526.9             |
| OM&A cost per FTE      | \$99,461       | \$96,623       | \$99,544       | \$113,092           | \$110,976         |

## 6.0 LOW-INCOME ENERGY CONSUMER PROGRAMS (LEAP)

Hydro Ottawa is committed to providing Conservation and Demand Management ("CDM") programs to its low-income customers and continues to follow provincial guidelines for the delivery of CDM programs. Hydro Ottawa will have a LEAP expense starting in 2011.

## 7.0 GREEN ENERGY AND GREEN ECONOMY (GEA)

Hydro Ottawa has included expenses in 2012 related to the *Green Energy Green Economy Act* that are ongoing for the five year plan. Please refer to Exhibit B1-2-2, Green Energy Act Plan for further details.